

**THE SUSTAINABILITY OF AGRICULTURAL PROJECTS IN ENHANCING RURAL
ECONOMIC DEVELOPMENT IN MSINGA LOCAL MUNICIPALITY**

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ECONOMIC DEVELOPMENT IN MSINGA LOCAL MUNICIPALITY**

BY

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**A dissertation submitted to the Faculty of Arts in fulfillment of the
requirements for the degree of Master of Arts in Development Studies in the
Department of Anthropology and Development Studies at the University of
Zululand**

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DECLARATION

I, Mfaniseni Wiseman Mbatha, hereby declare that this dissertation, titled “The sustainability of agricultural projects in enhancing rural economic development in Msinga Local Municipality” belongs to me, except where it is specified. This dissertation is submitted to fulfil the requirements for the master’s degree in Development Studies at the University of Zululand. This study has not been submitted for any degree or examination at any other university. I have ensured that each and every source employed in this dissertation has been acknowledged through the means of citations and comprehensive references.

Signature:

Date:

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I am very grateful for the privilege of undertaking this study under the perceptive and well-informed supervisor, Dr Mandla Mfundo Masuku. With his guidance and motivation in every part of the research I have been granted with a noteworthy opportunity to attain my goal and objective which is to complete this particular study.

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I would like to express my humble appreciation to my grandparents (Bonisiwe and Mtongathandwa Mbatha) for their support and motivation on my education career. They used their last cent of old age pension grant to ensure that I am not starving. To my brother, Mcebiseni Felix Mbatha, you have been too good to me. You sacrificed your career as you decided to invest almost everything you had to make sure that I have a bright future as your young brother, I really appreciate that. I am also grateful for the support and love I got from my young sister Phindile Mbatha.

DEDICATION

I am dedicating this dissertation to my mother, Khuphukile Dlungwane. Her prayers to the colossal Lord in heaven, love and inspiration have granted me the ability to complete this dissertation.

ABSTRACT

The South African government's target was to ensure a significant growth in rural economies through appropriate prioritisation of the agricultural sector. This study analyses the sustainability of agricultural projects in enhancing rural economic development in Msinga Local Municipality.

This study employed mixed methods approach with a convergent parallel design to analyse the sustainability of agricultural projects toward enhancing rural economic development. The participants of this study consisted of households (n=180), key informants (n=6) and focus groups (n=5). Data were collected through the use of document analysis, questionnaires, focus group discussion and semi-structured interviews. Content analysis and SPSS with descriptive statistics and cross tabulation were used to analyse and categorise the data in order to obtain the objectives of the study.

The study found that there is high level of community participation in subsistence agricultural sector within the study area. However, subsistence agriculture has shown to be unsustainable due to low productivity caused by adverse climate change conditions. Some aspects of the results specified that MLM is mostly dominated by subsistence farming. Subsistence farming is facing challenges that puts its sustainability in jeopardy. While on the one hand subsistence farming sector does not allow farmers to sell their produce to the market. On the other hand, it usually serves as a source of ensuring food availability at a household level.

The issue of climate change have a negative impact on the productivity of agricultural projects due to the inadequate rainfall and water scarcity for irrigation. The deficiency in infrastructural services has turned to be a constraint to small scale farmers in their quest to access the market. There is poor availability of transport facilities and market place where farmers can sell their produce. The results also showed that lack of skills, knowledge and information amongst farmers is a problem that destructively impacts on the ability of agriculture to contribute in improving rural economic development.

It is recommended that the Department of Agriculture provides adequate training to assist rural small scale farmers in order to maintain the sustainability of agricultural projects. The study also recommends that both local municipality and Department of

Agriculture should motivate subsistence farmers to engage in agricultural activities as corporations, so that these farmers cannot struggle in scouting financial resources. Lastly, further research should analyse challenges that constrain the transformation of rural subsistence farming sector to reach the level of small scale farming sector.

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LIST OF ACRONYMS

| | |
|--------------|---|
| CRDP | Comprehensive Rural Development Programme |
| DA | Department of Agriculture |
| GDP | Gross Domestic Product |
| GLOPP | Globalization and Livelihood Option of People Living in Poverty |
| IDP | Integrated Development Plan |
| ISRDS | Integrated Sustainable Rural Development Strategy |
| LED | Local Economic Development |
| MLM | Msinga Local Municipality |
| SA | South Africa |
| SLA | Sustainable Livelihood Approach |
| SPSS | Statistical Package for the Social Science |
| ZAR | South African Rand |

CHAPTER ONE

ORIENTATION OF THE STUDY

1.0. INTRODUCTION

Local government in South Africa brings great focus on rural economic development to improve sustainability of agricultural projects. Agriculture in rural areas has been seen as a vehicle that plays an important role in improving rural economy and households' food security (Abdu-Raheem & Worth, 2011). Hence, viable and sustainable agricultural projects have a noteworthy influence in ensuring a high level of food security and rural economy.

Record, Kumar, & Kandoole (2018) state rural economy is dependent on agricultural sector which is gradually declining. As a result, the majority of people in rural areas are suffering dearly from unemployment and economic stagnation. Thus, it is important to prioritise rural agriculture through the introduction of agricultural initiatives since they are the most powerful instrument towards enhancing rural livelihoods. Almost 70% of South African people live in rural areas (Gwanya 2010, Gomala & Baluchamy, 2018). In addition, in rural areas land is regarded as a pivotal asset and primary source of income. Most rural communities, however, do not have access to the ownership of land for agricultural purposes, particularly in South Africa. Shone, Demissie, Yohannes & Yohannis (2017) agree with Gomala & Baluchamy (2018) that poor communities have insufficient opportunities to be involved in agriculture and economic activities, specifically in rural areas. In order to address this, the South African government introduced the Comprehensive Rural Development Programme (CRDP) with a very lucid vision of creating vibrant, equitable and sustainable rural communities (CRDP, 2009).

However, the majority of people in rural areas, including those in Msinga area, are still suffering from absolute poverty as a result of low agricultural production and income (Barrett, Christiaensen, Sheahan & Shimeles, 2017). In Msinga area, agriculture is the main source of income. Nevertheless, it is still struggling to contribute to rural economic growth because it mostly serves subsistence farming purposes and is unable to serve commercial purposes.

1.1. STATEMENT OF THE PROBLEM

In spite of all processes put in place, studies (Davis & Terblanche, 2016; German, Thompson & Benton, 2017) have shown that a number of rural communities in South Africa are facing challenges in the sustainability of agricultural initiatives. Rural communities' experience limited agricultural resources and economic skills in stimulating rural economy. Statistics South Africa (2017) portrayed a decline of 13.8% in rural agricultural sector in South Africa as compared to 19.9% in 2011. Such decline indicates that rural agriculture is not sustainable and cannot enhance the growth of rural economy. The incapacity to deal with challenges such as climate change and low production has been experienced by farmers in outlying areas, particularly small scale farmers. The incidence of drought has crippled rural agricultural production, which has led to economic decline and food insecurity particularly at household level. In that respect, Wheaton & Kulshreshtha (2017) have provided evidence that natural disasters such as drought have a damaging impact on the sustainability of agricultural projects in South Africa.

Msinga area is dominated by subsistence agriculture with limited infrastructure that negatively affects this sector in terms of enhancing economic development in rural areas. The poor infrastructural development (roads, telecommunications and transport facilities) limits the ability of farmers in rural areas to have access in the market. Nonetheless, the area has certain opportunities for agricultural projects to succeed, which include selling the consumable agricultural products to local hospitals and general markets in nearby municipalities. However, Msinga area has appeared to be suffering from climate change conditions, limitation of land capacity for agricultural practise that negatively affect the sustainability and productivity of agricultural sector (Msinga Local Municipality IPD, 2017).

It is therefore, the intention of this study to analyse the sustainability of agricultural projects and constraints in enhancing rural economy. The study further analyses methods of improving rural economy through agricultural sector that enhance rural livelihoods.

1.2. AIM OF THE STUDY

The aim of the study is to analyse the sustainability of agricultural projects in enhancing rural economy in Msinga Local Municipality (MLM).

1.3. OBJECTIVES OF THE STUDY

Specific objectives of the study are as follow:

- 1.3.1. To Identify types of agricultural projects existing within the study area;
- 1.3.2. To analyse the sustainability of agricultural projects in enhancing rural economy;
- 1.3.3. To analyse challenges that hinder the sustainability of agricultural projects;
- 1.3.4. To recommend possible ways of improving sustainability of rural agriculture.

1.4. RESEARCH QUESTIONS

The specific questions of the study are as follow:

- 1.4.1. What types of agricultural projects exist within the study area?
- 1.4.2. What are the challenges that hinder the sustainability of agricultural projects?
- 1.4.3. How do agricultural projects enhance rural economy?
- 1.4.4. What are the possible ways that should be put in place in order to improve sustainability of rural agriculture?

1.5. RESEARCH ASSUMPTIONS

It is assumed that:

- 1.5.1. The sustainability of agricultural projects play a significance role towards improvement of rural economy.
- 1.5.2. The dysfunctional aspect of agricultural projects has negative impact in rural economy.
- 1.5.3. Community involvement in agricultural projects has a pivotal role in improving rural economy.

1.6. SIGNIFICANCE OF THE STUDY

The study contributes to the body of knowledge by demonstrating the worthiness of sustainable agricultural projects to ensure effective economic growth in rural areas. The significance is also to ensure that the local government is aware of the importance of prioritising the existence of rural agricultural initiatives toward ensuring their sustainability. This is due to the fact that agricultural sector can significantly contribute in improving economic development since the process of development commences in the local sphere of government. The study plays a significant role in the awareness of rural farmers to learn ways that can be taken into consideration towards addressing issues that serve as constraints to the sustainability of agricultural projects.

The study would meaningfully add to the developing literature on the sustainability of agriculture and its contribution to rural economic development. Findings and recommendations of this study contribute to local governments, more especially those that are in the same situation as MLM.

1.7. RESEARCH METHODOLOGY AND PROCEDURE

The study employed mixed methods approach with a convergent parallel design which was underpinned by the interpretivism. This approach helps understand the perceptions and experiences of participants on the sustainability of agricultural projects in the enhancement of rural economy. Data were collected in the form of both primary and secondary data using various instruments in order to achieve study objectives. Therefore, the key informants and focus groups were sampled by using purposive sampling and random sampling was used to sample households. For the purpose of data presentation and analysis content analysis was used for qualitative data, whereas SPSS was used to present statistical data and cover socio-economic information of households that was collected through the questionnaire.

1.8. LIMITATION OF THE STUDY

Msinga Local Municipality consists of a large number of households (37 723), which was not easy for the researcher to extract the population size of the study. Therefore, the researcher used random sampling to select 200 households; 20 households representative withdrew participation. Therefore, only 180 households representative

who took part in the study. The study involved only five (5) agricultural cooperatives and six (6) key informants (ward councillors, municipal officials and Department of Agriculture) whose responsibility was to ensure service delivery to community members to ensure the sustainability of agricultural projects. Other limiting influences include inadequate funds which forced the researcher to cover only three Traditional Authorities (namely, Qamu, Mabaso and Mthembu). Therefore, these traditional authorities represented the entire geographical area of Msinga Local Municipality since the researcher had a perception that the aforementioned traditional authorities could assist in providing their insight about the sustainability of rural agriculture and economy.

1.9. OPERATIONAL CONCEPTS

The concepts that need to be clarified for the reader to get better understanding of this study include sustainability and agricultural project. These concepts are regarded as a backbone of this study and there is a need to define them so that the reader cannot lose the content of the study.

1.9.1. Sustainability

In this study sustainability refers to the continuous functioning of an agricultural project towards improving rural economy and reasonably enhancing the standard of living for rural communities. Thus, sustainability of agricultural projects is measured by the productivity of activities undertaken in farming systems (von Wirén-Lehr, 2001).

1.9.2. Agricultural Projects

In this study, agricultural projects refer to the investment in farming activities including crop, livestock, irrigation etc. Hence, agricultural projects are regarded as the farming activities whereby scarce resources are being utilised to generate wealth assets that will benefit rural communities and improve rural economy (Mwali, 2014).

1.9.3. Rural Economy

Rural economy in this study is regarded as an arrangement or system at which commercialisation of agricultural sector is well organised and has the ability to improve the economy in rural areas. Meyer (2014) opines that the rural economy can be generated by the participation of rural farmers and other relevant stakeholders working

as team in order to bring improvement in the quality of life to all communities in that particular geographical area.

1.10. STRUCTURE OF THE RESEARCH

This study presented in six chapters which are structured as follow:

Chapter One – Orientation to the Study

The main focus of chapter one is to introduce the research study by providing a brief research background. This chapter outlines the problem statement, importance of the study, delimitation of the study, aim of the study, objectives of the study and assumptions of the study. The chapter also outlines the operational concepts of the study.

Chapter Two - Literature Review

This chapter presents literature review in relation to the topic of research and the research objectives. This chapter therefore cites works by other authors and link them to this study. This means that the researcher gets a chance to combine the work of different authors.

Chapter Three - Research Design and Methodology

Chapter three provides research methodology justifying the choice for research design, approach and also the method which was followed to the compartment of the study. It also provides information with regard to the instruments of data collection used to draw both primary and secondary data. The chapter also outlines other important information including targeted population, sampling and methods of analysis and ethical consideration.

Chapter Four - Quantitative Data Presentation

This chapter presents quantitative data based on what was collected in analysing the sustainability of agricultural projects in enhancing rural economic development. Therefore, the researcher applied critical thinking skills together with the use of literature review to analyse and interpret the findings of the study.

Chapter Five - Qualitative Data Presentation

This chapter presents qualitative data. Therefore, critical thinking skills were applied together with the use of literature review to analyse and interpret the findings of the study.

Chapter Six - Conclusion and Recommendation

In this chapter, the main focus is to conclude the research report by providing a summary of the findings and make recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0. INTRODUCTION

The key problem under investigation is that rural farmers are facing several challenges in the quest to ensure sustainability of rural agricultural sector and improving rural economy. Therefore, this chapter critically analyses the literature on the sustainability of agriculture and its contribution to economic development, specifically in rural areas. This chapter analyses the effectual measures that aim to measure the sustainability of agricultural projects in order to understand the causes of unsustainability in rural agricultural sector. It was therefore Modi (2003) and German *et.al*, (2017) who put forward that the sustainable agricultural projects should be viable and meet the economic needs of rural populace including rural households, rural labourers and rural farmers. The sustainability of agricultural projects is shown to be in a serious jeopardy due to the challenges that are faced by farmers in South Africa particularly in rural areas. The sustainability of rural agriculture is mostly threatened by the impact of climate conditions, which resulted to the low productivity of agricultural projects because of water scarcity and lack of rainfall.

Theoretical framework was employed to understand and provide an explanation on the setting of both rural agriculture and rural economy. The Sustainable Livelihood Approach (SLA) was adopted as a primary theoretical framework of the study. This Approach has a strength and positive orientation to enable poor rural people to be part of their economic, ecological and social development. Therefore, this chapter uses SLA to determine conceivable resolutions in addressing the issues that obstruct the sustainability of rural agriculture and rural economic development.

2.1. SOUTH AFRICAN RURAL ECONOMIC DEVELOPMENT

Rural economy in the South African development vision is influenced by significant improvement in farming sector through the adoption of optimistic mind-set by rural communities and re-concentration of the government institutional framework in rural based communities (Gauteng Department of Finance, 2010). Therefore, Omorogiwa *et al.* (2014) and Gomala & Baluchamy (2018) stressed that agricultural growth play a

pivotal role in rural economic development and to improve livelihoods in rural communities. Hence, Omorogiuwa *et al.* (2014) further mentioned that the availability of agriculture sector with proper and sustainable agricultural projects is auspicious because it creates plentiful employment opportunities for poor people in rural areas. Pienaar & Traub (2015) identified that in South Africa, there are different projects that have a great impact on every agricultural production which include cropping, livestock, fishery and forest sectoral systems and they play a significant role in improving economic development.

Abrahams (2018) states that rural economic development has gradually turned to be a pivotal element of the local government's major function since the agricultural sector is in the centre of both local municipality and Department of Agriculture towards addressing the issues of poverty and enhancing rural economies. The process of improving rural economy has existed for many years and it has been practised by all countries as the means of improving the standard of living and ensuring rural development by giving support to rural economic activities (Leigh & Blakely, 2016). However, the South African local government is currently experiencing challenges to improving the sustainable land that will play a significant role towards meeting the basic needs of poor rural communities and improve the standard of livelihood (Abrahams, 2018).

Hence, the Fare Panel Report (2013) is of the view that South African rural economy generally lacks an expanded economic base and is dependent on a restricted number of generators for economic growth and employment opportunities. Swanepoel, Van Niekerk, & D'Haese (2017) have an opinion that rural employment models indicate that households in most countries do not engage in agricultural activities but they gain income from non-agricultural economic sources in a form of full-time or part-time employment (Swanepoel *et al.*, 2017). In addition, this reduces the number of people who engage in agricultural activities and that alone puts in danger the sustainability of agricultural sector because people seem to pursue employment from other sectors of employment.

Barrett, Reardon & Webb (2001) and Lin, Mac & Ghail (2013) perceive that the expansion of rural income per household revolves on push or pull factors, where a push factor is a reason that leads to the lack of youth participation in agricultural

projects. On the other hand, pull factor can only be maintained by determining the strategic prospect among different agricultural production activities. Tadele & Gelle (2012) both support that the aim of achieving the accurate standard of rural economic development cannot be easily achieved because in nowadays, youth is not willing to live in rural areas and they do not see agriculture as a decent job for them.

2.2. EFFECTS OF APARTHEID ON AGRICULTURAL SECTOR

During the apartheid era, most Black South Africans were experiencing a devastating situation whereby rural communities were unable to meet their basic needs or improve their standard of living. Furthermore, Lemon (2016) pointed out that agricultural sector was regarded as a vital source of employment and income for poor rural communities since poor communities used to work for white farmers. Curran, Linton, Cooke & Schrank (2013) spelled out that during apartheid era, South African rural communities were left out by apartheid policies in order for them to have ownership over the land for agricultural practice and that alone left a small size of South African land to be owned by the massive black population.

Furthermore, there was inadequate development for rural communities since the agricultural sector was dominated by commercial agricultural activities through the ownership of white farmers (Curran *et al.*, 2013). Gwanya (2010) put forward that the struggle of improving rural economy, which is currently faced by South African rural areas can be accredited to the injustices of the apartheid regime. Additionally, apartheid regime created disparities between rural communities since economy was only accommodating few people while it was side-lining a large number of poor communities and left them trapped in absolute poverty (Hartman, Bradley, & Bond, 2016). In addition, black people were lacking the capacity to strengthen their participation in agriculture and they were unable even to ensure the productivity of their subsistence farming towards ensuring its sustainability, more especially in the former homelands.

Therefore, Kloppers & Pienaar (2014) advocate that during the earlier years of democracy, the South African government attempted to come up with some legislative processes with an aim of addressing disparities that were caused by the apartheid regime in the agricultural sector, which include improving the level of rural participation

in agriculture sector to address issues of inequality. However, Qobo (2018) states that the government legislations and policies continued to be biased with the primary domination of whites since most of the commercial agricultural projects were still belonging to the ownership of white people. In addition, Qobo (2018) also points out that those commercial agricultural projects were regarded as immense agricultural sector with enough mechanisation and widespread utilisation of agricultural products even though it was not benefiting the poor communities.

2.3. AGRICULTURAL DEVELOPMENT PROJECTS IN A RURAL AREAS

Agricultural development projects play a significant role in improving rural economy and provide huge sources of employment with an effective use of scarce natural resources (Xing, 2015). Tagar & Shah (2012) point out that agricultural development projects in rural areas are usually characterised by both crop and livestock farming. In addition, most of the South African agricultural projects adopted these forms of farming in order to solidify and improve rural economy (Tagar & Shah, 2012). Therefore, intervention of government in ensuring improvement on country's economy has created two types of agriculture projects (namely, small and large-scale agricultural projects) but it does not put more attention on subsistence agricultural projects (Hanf, 2014). The following are the three-pronged agricultural development projects that dominate most of developing countries for sustaining livelihoods and improving economy, particularly in rural areas.

2.3.1. Subsistence Farming in Rural Areas

Subsistence farming is the type of farming that is mostly undertaken by rural households in order to produce food for their own consumption (Lininger, 2011). Furthermore, Tibesigwa & Visser (2015) portray that subsistence farming is probably regarded as a strategy to improve livelihoods in rural communities. De Bon, Parrot & Moustier (2010); Sarkar *et al.* (2015) point out that subsistence farming can be undertaken in both rural and urban areas. However, in the rural context, subsistence farming is used more for household consumption, while in urban areas this type of agricultural development has two benefits, which is selling to the market and household consumption (Sarkar *et al.*, 2015). This statement has been supported by Tibesigwa & Visser (2015) who recognised that in most developing countries such as South Africa, households consume almost 80% of products from rural base

subsistence agricultural projects. While it is estimated that more than 40% of products in urban subsistence agricultural projects are usually sold to the local market.

Rural communities, especially in Msinga area, specialise on subsistence farming focusing more on crop and livestock systems since it serves as a source of income and ensuring the provision of food security for households (Lambertz, Chaikong, Maxa, Schlech , & Gauly, 2012). While Thornton & Herrero (2014) add that there is also mixed farming (crop-livestock) but this type of farming is not practised by most farmers. Lambertz *et al.* (2012) state that in Msinga area, crops system is dominated by farming of yam (amadumbe), maize, potatoes, dry beans and pumpkin, while on the other hand, livestock system is characterised by farming of goats, sheep, domestic chickens and cattle that can play a pivotal role in improving Msinga economy. Thornton and Herrero (2014) suggest that the expansion of crops and livestock can be used as a coping strategy between poor households who engage in subsistence agricultural development projects. Maratha and Badodiya (2018) stated that most participants in agricultural sector are women. Even though women are the key role players in agricultural sector, men are still responsible in making farm decisions.

2.3.1.1. Limitation in Subsistence farming sector

Chikazunga & Paradza (2012) perceive that subsistence farming has limited potential to contribute in rural economy because of the limited support systems from government. On the other side, Ayinke (2011) explains that this has become a problem for rural farmers to identify opportunities introduced by the government towards ensuring economic growth. This is due to the point that subsistence farmers do not receive adequate support from government as compared to small scale and commercial farming sectors.

Sarkar *et al.* (2015) are of the view that subsistence agricultural development projects are experiencing nonexistence of technological advancement and modernized tools of farming. Elzubeir (2014) echoes that there is nonexistence of technology since most rural farmers are still using traditional tools in farming and these tools were improved and adapted in the past from one generation to another with an aim of addressing social, economic and farming issues. In this point, Dercon & Christiaensen (2011) explain that rural areas experience the slow adoption of technology due to lack of

education as the agricultural sector is dominated by old age people who have insufficient knowledge on how to use technological materials or machines.

2.3.2. Small Scale Farming in Rural Areas

Tagar & Shah (2012) regarded small scale farming projects as a transformation from subsistence farming to large scale farming. In this point, rural farmers do not engage in agricultural sector with the aim of producing for their household consumption only but they also produce to sell the product to the market so they will be able to get money for other expenditures and wealth accumulation. Simelane (2017) states that small-scale farming is regarded as a practice where farmers in rural communities utilise traditional knowledge for their farm projects. Hence, Tagar & Shah (2012) state that small-scale farming is to engage on mixed farming (crops and livestock) as a first step towards ensuring a shift from subsistence farming to large scale farming.

Wiggins (2009) and Lininger (2011) stipulate that small-scale farming projects focus on crop and livestock production where farmers work in groups in a small portion of land. Mthembu (2008) agrees with the aforementioned that a group of farmers in Msinga areas engage on mixed farming, including both crop and livestock system in a very restricted land size to produce sufficient products that can be sold in the market. Hence, Siegmund-Schultze *et al.* (2013) have a view that livestock farming is usually incorporated with crop farming; however, the integration of crop-livestock farming is too low in production in a way that it does not contribute to the growth of rural economy.

2.3.2.1. Methods of farming in small scale farming sector

The sustainability of small scale farming is in danger due to the reason that rural farmers are struggling to adapt to modern technology (Simelane, 2017). Siegmund-Schultze *et al.* (2013) also identify inadequate fertilizers, feeding resources and limited land as problems that put in danger methods of farming in small-scale farming sector. For example, Modi (2003) found that some of the small scale and subsistence farmers in rural areas use rejected and burned remainder of crops to fertilise soil for the next planting of crops. In addition, other farmers use manure from the kraal as fertiliser but this is a disadvantage because in Msinga, they do not keep cows, goats and sheep in kraals most of the time. Therefore, the indigenous manure from the kraal is also limited (Modi, 2003). Nevertheless, some of the farmers are able to produce

sufficient food for their household's consumption and have little to sell in the market (Ortmann & King, 2006).

2.3.2.2. Limitations in small scale farming sector

The small scale agricultural development projects play a significant role in ensuring food security and reduction of poverty in rural communities (Lininger, 2011). However, Mthembu (2013) points out that small scale farming is not sustainable enough to contribute to the growth of rural economy due to constraints that are being experienced by rural farmers.

Mthembu (2008) also agrees that farmers participate in unsustainable markets by selling their products to other community members where the products are in high demand especially during the time of pension grants pay out; however, farmers continue to identify opportunities in bigger markets. Beckford & Barker (2007) further point out that those small scale farmers also having problems in accessing funds to extend their projects and there is a shortage of infrastructural development in rural communities. Inadequate funding and infrastructure have a bad impact on the sustainability of small-scale agricultural development projects because farmers are unable to set up well operating water schemes (Siegmond-Schultze et al., 2013). This is due to the reason that small-scale farmers are experiencing these problems because they do not receive sufficient support from the government. This has negative impact on the sustainability of small scale farmers because of low productivity in farms.

2.3.3. Large Scale Farming in Rural Areas

Large-scale farming sector is regarded as the most advanced stage in the agriculture sector. In most developing countries, large-scale farming sector is known as commercial farming sector. Tagar & Shah (2012) state that large-scale agricultural development projects are considered as the greatest progressive farming sector and these projects are mostly dominated by the availability of modern technologies. In addition, large-scale agricultural development projects play a very important role in enhancing both national and global market while it also improves the standard of living (Tagar & Shah, 2012). Large-scale agricultural development project receive full support from government as compared to subsistence and small-scale agricultural development projects (Hanf, 2014). Greenberg (2013) also pointed out that the

government of this century prioritises the country's economic growth by supporting large-scale agricultural development projects with a purpose of ensuring economic growth of the country. Hall, Scoones & Tsikata (2017) are of the view that large-scale agricultural projects are found in commercial farming areas and those development projects are outsized. In addition, large-scale agricultural development projects are not in the ownership of rural communities but they are usually owned by individuals or particular enterprises.

2.3.3.1. Contribution and limitations of large scale farming in rural areas

Smalley (2013) reveals that large scale farming projects play an important role in contributing to economic growth by creating job opportunities for rural communities. However, some people who worked in these projects do not acquire adequate skills and money to expand their subsistence farming projects. Therefore, this puts into jeopardy the sustainability of agriculture since farmers are unable to maintain their subsistence farms regardless of getting an experience from these large scale farms. In addition, Tagar & Shah (2012) emphasise that these development projects have a significant contribution in country's standard of living and they open ways for rural market. Furthermore, large-scale farmers only farm with a motive of gaining profit, not for household consumption. The large-scale agricultural development projects usually practise crop, livestock and fruit systems. These projects require abundant cultivated land in order to meet livelihoods' needs and improving rural economy for rural-urban communities (Tagar & Shah, 2012; Martellozzo *et al.*, 2014).

Economics Concept (2015) states that in most countries, large scale farming is regarded as formal business where farmers with amazing experiences are employed in order to sustain those development agricultural projects. However, Benis & Ferrão (2018) are of the opinion that large-scale agricultural development projects are facing regulatory restrictions at a local level where there is deficiency in strong policies that will contribute to the integration of growing industries, specifically agricultural sector within the country. However, Caputo (2012) has a different view that the practice of the large-scale farming is expanding and plays a pivotal role as a generator of food security, income and employment opportunity. Benis & Ferrão (2018) add that large-scale agricultural development projects have been globally regarded as primary role players in improving countries' economic development.

2.4. THE SUSTAINABILITY OF AGRICULTURAL PROJECTS IN RURAL AREAS

Modi (2003) emphasises that the sustainability of agricultural projects can be measured through high productivity in activities undertaken in rural farming systems. Hence, Allahyari *et al.* (2016) point out that the sustainability of agricultural projects entails numerous elements and measures which have a significant impact on its evaluation and the evaluation process has to take place in various stages. All the same, Roy & Chan (2012) perceive that the sustainability of agricultural projects in improving rural economy is necessary but uncertain since its assessment is influenced by different factors. Gaviglio, Bertocch *et al.* (2016) put forward that the sustainability of agricultural projects could be measured by using components and indicators.

2.4.1. Components and Indicators of sustainability of agricultural projects

The concept “sustainability” in agricultural projects consists of many different and connected parts and it has been identified that there is no single opinion from different scholars about assessing the sustainability of agricultural projects (Bachev, 2016). Hayati, Ranjbar & Karami (2010) and Bachev (2016) further suggested that the sustainability of agricultural projects should be assessed based on three components including environmental, economic and social. These components should be related to their indicators (Hayati, Ranjbar & Karami, 2010). In this respect, the sustainability of agricultural projects in rural areas can be assessed by using the summarized indicator as they appear on Table 2.1.

Latruffe, Diazabakana, Bockstaller, Desjeux & Finn (2016) state that it is very important to combine economic, social and environmental components in assessing the sustainability because these components are regarded as the main pillars in the sustainability of agricultural projects. This is because the sustainability of agricultural projects is regarded as an outcome of reciprocal action between the sustainability components (Gaviglio *et al.*, 2016) that are presented on Table 2.1. In order to ensure the sustainability of agricultural projects, it is essential to maintain positive outcomes in all sustainability components. Roy & Chan (2012) emphasise that indicators in ensuring sustainability are mostly understood as significant instruments in assessing whether agricultural projects are sustainable or not. Bachev (2017) adds that in accumulation of sufficient productivity and economic component, the sustainability of

rural agriculture is influenced by both environmental and social components, which are also substantial in an equal manner and it is a must that both of them are taken into consideration towards assessing the sustainability of agricultural projects in rural areas.

Table 2.1: Suggested strategy to assess the sustainability of agricultural projects in rural areas

| Components | Indicators |
|----------------------|---|
| ECONOMIC | <ul style="list-style-type: none"> ⇒ Productivity of land ⇒ Productivity of agricultural projects ⇒ Rural based market availability ⇒ Viability of agricultural projects |
| SOCIAL | <ul style="list-style-type: none"> ⇒ Employment opportunities ⇒ Availability of support services ⇒ Sufficient food per household |
| ENVIRONMENTAL | <ul style="list-style-type: none"> ⇒ Adapting on climate change conditions ⇒ Application of fertilizers (chemical and Manure) ⇒ Availability of water resource for rural agriculture |

Source: Hayati, Ranjbar & Karami (2010)

Furthermore, Hayati *et al.* (2010) point out that assessing the sustainability of agricultural projects can be varied and it can be undertaken with regard to their different spatiality. In addition, the ecology and socio-economic situations of rural areas are not similar in a way that indicators which are used in rural areas of a particular country may possibly not apply in rural areas of the other country (Hayati *et al.*, 2010). The following section discusses the components and indicators that can be employed in assessing the sustainability of agricultural projects in rural areas.

2.4.2 Sustainability of Economic Component

Wrzaszcz & Zegar (2016) state that assessing the sustainability of the economic component in the agricultural sector is crucial for the reason that it is part of the fundamental economic aim and objective of rural farmers. Hence, it drives farmers' economic activities while opening ways for agricultural projects to contribute to improving rural economy. The agricultural projects should ensure prosperous

condition of economic respects to the rural communities who participate on farming sector (Van Cauwenbergh, Biala, Bielders *et al.*, 2007; Latruffe *et al.*, 2016).

The sustainability of economic component in rural areas can be regarded as economically viable only if the agricultural projects can exist and function for a long period and effectively adapt in altering economic setting (Latruffe *et al.*, 2016). The following section fully discusses the indicators that are required in undertaking sustainability of economic component in rural areas.

2.4.2.1. Viability of agricultural projects

As it appears on Table 2.1, viability (ability to make profit) of agricultural projects is an important indicator in the sustainability of economic component whereby profitability can be determined through the income of the farm, productivity, and efficiency (Gómez-Limón & Sanchez-Fernandez, 2010). Hanrahan *et al.* (2014) state that an agricultural project is regarded as viable if it has a capacity to employ and pay at least the average agricultural salary or wage to the family or farm labour while managing to make available five percent return on assets that are regarded as non-land. However, Grande (2011) reveals that rural famers are facing challenges towards ensuring viability and profitability of their agricultural projects. Hanrahan *et al.* (2014) reveal as a challenge that the majority of agricultural projects that are economically viable have shown to decline while also the sustainability is also in danger because of climate change and other natural disasters.

Price (2017) perceives that the market orientation for agricultural sector in rural areas is poor due to the lack of support for rural famers to invest on the advancement of technology. Furthermore, the currently practised rural agricultural projects are struggling to offer any improvement in the rural market because of the unavailability of government support systems to help rural farmers, while farmers also lack information towards opening ways for market and scouting for support (Price, 2017). The City of Richmond (2003) has a perception that young people should be more hands-on in agricultural practice so that they can understand the key role played by agricultural projects within their communities.

2.4.2.2. Availability of rural based market

Table 2.1 shows the availability of rural based market as an indicator for economic sustainability. This indicator can be determined by the availability of infrastructural resource towards distributing and trading of agricultural product to the market (Khapayi & Celliers, 2016). The ability of farmers in accessing the market is key requirement that is needed by farmers in rural areas to make a contribution in improving rural economic development. In this point, Baloyi (2010) says that farmers in rural areas have limited access to the market. This has turned to be a pivotal constrain facing policy makers in countries that are still developing. This is due to the point that farmers in rural areas lack an information regarding marketing strategies. Therefore, farmers in these areas are being forced by the situation to sell the produced products to their neighbours at low prices because they are unable to transport their products to town since hiring vehicles is too costly (Baloyi, 2010).

Similarly, Mthembu (2008) argues that there is poor access to the market in most rural areas since rural farmers do not have adequate resources such as transport, roads, and telecommunications to access the market. The issue of accessing the market remains a problem to rural farmers due to the lack of infrastructural facilities that can grant rural farmers an ability to send their products to the market. Both Aung (2011) and Donkor (2015) perceive that those rural famers who are struggling to access the market have scarce chances of participating in agricultural projects that have an advantage to make profit as compared to famers that are located close to the urban areas. In this concern, Mbatha and Masuku (2018) suggest that the government institutions should assist rural farmers to develop market points.

2.4.2.3. Productivity of Land and agricultural projects

It is indicated on Table 2.1 that the productivity of land is one of the most important indicators in ensuring sustainability of economic component. Lys & Cachia (2017) point out that the productivity of land in rural areas can be assessed by checking the proportion between the value and gains in livestock and crops product and also the sum of land used for agricultural practice. In addition, the productivity of land can be determined by the produced product on a given space of land and it can be applicable to the agricultural projects that specialise on crop farming (Lebacq, Baret & Stilmant,

2013). Furthermore, it can also go to a point that it assesses agricultural projects that specialise on livestock farming by determining the size of land occupied by livestock.

Ikerd (2011) is of the opinion that sustainable agricultural projects should meet the economic necessities of rural communities (including rural famers, rural households and rural farm workforces). Hence, this should be accomplished through effectiveness in maintaining the productivity of land (Ikerd, 2011). Therefore, the productivity of agricultural projects is determined by the average output of production per project. For instance, the productivity should be determined by the product that is sold to the domestic market for consumption purpose and the products that are consumed by the farming households (Donkor, 2015). In addition, Lys & Cachia (2017) suggest that productivity of livestock projects in rural areas can be measured by the method of calculating the sum of herds. On the other hand, the productivity in crop projects can be assessed by the net of reaping damages in order to know the volume of product that is available to be sold in market (Lys & Cachia, 2017).

2.4.3. Sustainability of Social Component

Sustainability of social component in rural areas depends on both environment and economical component since these triple bottom lines are mutually dependent and interlink with one another (Louw & Ndanga 2010). Environment and economical sustainability ensure better availability of food and guarantee that rural communities are able to access resources and create employment chances, which can possibly play an essential role in improving social development. The sustainability of agricultural projects under social component should have a good social responsibility in improving standard of living for rural communities, famers, labours, farm households and also ensuring development of rural societies (Louw & Ndanga, 2010; Ikerd 2011; Bachev 2016; Zulfiqar & Thapa, 2017). The following section fully discusses the indicators that are required in undertaking sustainability of social component in rural areas.

2.4.3.1. Employment opportunities

Sustainability of agricultural projects can be assessed through the availability of employment opportunities for rural communities as an important indicator. This indicator is determined by the number of rural labour forces and high level of

community participation in agricultural projects as means of acquiring income for their households. Dube (2016) states that creation of employment opportunities in rural agriculture enables rural farmers to participate in the rural economic based market, so that they can gain an income to support their families and ensure sustainable livelihoods. Zulfiqar & Thapa (2017) point out that the majority of rural communities depends more on agricultural sector as an important provider of employment opportunities.

Moreover, the level of unemployment of rural communities is considered as an important indicator toward assessing the sustainability of social component because unemployment rate contemplates the capacity of agricultural projects to create employment opportunities for rural communities (Zulfiqar & Thapa, 2017). The study of Simbi & Aliber (2000) reveals that the rural agricultural sector is failing to provide full-time employment opportunities but there is little number of seasonal employments created by agricultural sector for rural people. The issue with rural agricultural sector is that it lacks procedures which can be used in identifying the number of seasonal labour forces who are employed in agricultural sector. Seasonal employment is regarded as an employment whereby workers are being paid based on the task they did at the end of that particular day (Hurst, Termine & Karl, 2005).

2.4.3.2. Sufficient food per household

Sufficient food per rural household is amongst the indicators to assess the sustainability of social component. This indicator is determined through the availability, access and affordability of nutritious and safe food from rural agricultural projects. Ramasawmy (2012); Burchi & De Muro, 2016) emphasise that rural households purchase food for consumption from different sources of food but a large amount of food is produced from community agricultural projects. These sources include household consumption from small-scale farming and backyard gardens, hunting and fishing, obtaining food as income for those who assist in some agricultural projects. Access to food determines whether rural households get sufficient food to feed their families.

Therefore, food access can be determined through community participation in agricultural projects either for subsistence or commercial purposes (Von Loeper, Musango, Brent & Drimie, 2016). Hence, Ramasawmy (2012) suggest that access to

rural food can be assessed in terms of obtaining sufficient income to purchase and barter more especially for food necessities to ensure that there is sufficient food per household. However, Baiphethi & Jacobs (2009) argue that there are imbalances in food accessibility since rural South Africans suffer more from food insecurity as compared to people who make their living in urban areas. This is because people in urban areas purchase food from stable market places as compared to rural communities where people have to ensure that they engage in subsistence farming in order to make sure that they are food secure. However, Sibhatu & Qaim (2017) identify that the productivity of sufficient food from subsistence agriculture is under threat due to issues of climate change that cause water scarcity for irrigation purposes since rural agriculture depends on the rainfall.

2.4.3.3. Availability of support services

The availability of support services towards assisting rural communities and rural farmers is an indicator in ensuring social sustainability. This indicator can be assessed through the input and intervention of government or other stakeholders in helping poor rural communities and farmers to strengthen their livelihoods through agricultural projects to improve rural economy (Abdu-Raheem & Worth, 2011). Machethe (2004) points out that in South African rural areas, government should intervene in assisting small-scale farmers to strengthen their agricultural projects with an intention of improving its production through the provision of ploughing materials and infrastructural services. The Australian Government (2018) emphasises that the government in rural areas should come up with measures to help rural farmers in addressing agricultural projects risks, which include issues of drought and assist farmers to ensure that they meet basic expenses of their households during hard times.

Ncube (2017) states that in South Africa, support services in rural areas have to involve the provision of technological support to farmers including irrigation systems, training on farming processes, marketing, tractors and so forth. However, the study of De Klerk, Fraser & Fullerton (2013) recognise an availability of financial support to rural farmers from government institutions but it seems as if farmers are unable to make effective utilisation of these financial services. However, Khapayi & Celliers (2016) find that the majority of farmers in rural areas does not have adequate knowledge with regards to the required procedures to access funds from government

institutions and this challenges farmers in requesting financial support from the local government.

2.4.4. Sustainability of Environmental component

Iwamura, Lambin, Silviu, Luzar & Fragoso (2016) describe sustainability of environment as a function of maintaining critical natural resources. Hence, it is also considered in terms of capacity to recover quickly from difficulties and environmental integrity, whereby social and environmental components have to survive on different changes and also manage to mitigate ecological reimbursements (Iwamura *et al.*, 2016). The sustainability of the environmental aspect has turned out to be a priority worldwide and particularly in South Africa. Following this perception, Louw & Ndanga (2010) point out that sustainability of environment focuses more on issue that involve the availability of water in rural areas, issues of climate change, availability and usage of land for rural agriculture.

Louw & Ndanga (2010) and Spence, Agyemang & Rinaldi (2012) emphasise that it is also fundamental to include social and economic sustainability components in this assessment because they both play a significant role in the sustainability of the environmental component. The following section fully discusses the indicators that are required in undertaking sustainability of the environmental component in rural areas.

2.4.4.1. Adapting on climate change conditions

Table 2.1 shows that the strategy of adapting to climate change conditions is an indicator that can be taken into consideration for assessing the sustainability of the environmental component. Therefore, this indicator can be determined by the availability of strategies used by rural communities and farmers to overcome and adapt to issues of climate change and make certain about the production and survival of their agricultural projects (Ojoyi *et al.*, 2017). Fadina & Barjolle (2018) stipulate that this indicator can be determined by the availability of strategies, which includes the diversification of crops, livestock and other suitable agricultural practices.

Strategies that are based on adapting to climate change conditions are spatially dependent (Fadina & Barjolle, 2018). This is because climate change affects countries such as South Africa in different ways. Filtane (2016) finds that the agricultural sector faces the danger of climate change specifically the incidence of drought and floods

negatively affected the productivity of both crops and livestock farming projects. Following this, Sekaleli & Sebusi (2013) stress that agricultural projects that are mostly dependent on rainfall have experienced floods and tragic failure in productivity in the previous years.

2.4.4.2. Application of fertilizers in rural agricultural sector

Table 2.1 also indicates that the utilisation and application of fertilizers is also an important indicator to assess the sustainability of environmental component. This indicator can be determined by the availability of chemical and organic fertilisers used by rural communities and farmers as to maintain the productivity of agricultural projects (Karim & Aktar, 2015). Therefore, Han, An, Hwang, Kim & Park (2016) perceive that the utilisation of both chemical and organic-manure fertilisers have good and bad influence on the productivity of land in terms of cultivating the soil and growing plants. For instance, Chen (2006) states that the usage of extra fertilisers may possibly cause problems on the environment itself; this includes the loss of nutrients, water pollution, increasing dangerous insects and so forth. Karim & Aktar (2015) find that there is a decline in soil fertility which is caused by the misuse of soil resources during the course of cultivation. Hence, the conditions of soil fertility in a country have an essential impact on the productivity of agricultural projects and improving livelihoods.

2.4.4.3. Availability of water resource for rural agriculture

Availability of water resource for rural agriculture can be used as an important indicator to assess the sustainability of environment component as it is shown on Table 2.1. This indicator can be determined through the availability of water, since water is regarded as a critical resource that can be used for irrigation purposes in crop farming sector and consumed by livestock to maintain the standard of productivity in rural agricultural sector. Mashele (2014) reveals that there the local government is struggling to ensure an effective water service delivery to poor communities which causes trouble to farmers since they are unable to access water for irrigation purposes. While, the sustainability of agricultural projects in rural areas is under threat since poor communities have decided to use water from farm windmills and dams for their drinking purposes. This has a negative impact because water scarcity on agricultural sector causes low productivity since crops and livestock are dying.

Moreover, Khan (2014) identifies problems in the sustainability of environment component, which include scarcity of water and inadequate irrigation scheme while farmers in most rural areas do not have enough money to buy irrigation facilities that should be used in streaming and conserving water. On the other side, Njuki & Bravo-Ureta (2016) add that the incidences of climate change and inadequate water infrastructure (including irrigation systems) have a negative impact on the increasing water scarcity and this has obstructed the growth of rural economy.

2.5. CHALLENGES ON SUSTAINABILITY OF AGRICULTURAL PROJECTS

Ikerd (2011) is of the opinion that the sustainable agricultural projects must be able to preserve land productivity and meet the social necessities of rural communities. Hence, sustainable agricultural projects should be viable and meet the economic necessities of rural people, including rural households, rural labourers and rural farmers (Ikerd, 2011). However, Middelberg (2013) identifies that there are challenges faced by the agricultural sector, which put in jeopardy the sustainability of agricultural projects. Antonaci, Demeke & Vezzani (2014) point out that the productivity of agricultural projects is in serious jeopardy, which is negatively affecting rural farmers and households that benefit from those agricultural projects. Khwidzhili & Worth (2017) identify that there is a lack of government support towards protecting rural farmers from the risks which they are facing in terms of safeguarding the productivity of their agricultural projects, improving the rural agricultural market base and also accessing financial support from available institutions.

2.5.1. Rural Infrastructural services

Bourguignon & Pleskovic (2008) state that the availability of rural infrastructural services within the environment has an important influence to the lives of poor communities since it can grant people an opportunity to improve their economy in deferent ways. Hence, investing on infrastructural services (such as electricity, water supplies, roads, telecommunications and others) can positively affect the sustainability of agricultural projects and its contribution to rural economic development (Khandker & Samad, 2018). This is due to the fact that farmers use these infrastructural services to open ways to the market such as using roads to transport their produce to sell at market places. In addition, the struggle to access the market due to the unavailability of infrastructural service causes problems to the agricultural sector since farmers

produce products that do not reach the market and end up consumed at household level.

Toringepi (2016) identifies that rural infrastructural services (more especially transport and irrigation facilities) that can facilitate agricultural projects in improving rural economy is very poor. These infrastructural services are discussed as follow:

2.5.1.1. Transport facilities and access to the market

Kapungu (2013) points out that market is very important because it plays a significant role in enhancing rural economic development. It ensures that products from agricultural projects reach the market. Rural farmers often struggling to access the market. This is because of cost and inadequate appropriate transport to take their products from farms to the market (Kapungu, 2013). Bourguignon and Pleskovic (2008) find that most rural areas in African countries are experiencing insufficient basic transport services and that alone brings difficulties for farmers to send products to domestic markets.

Mdemu, Mziray, Bjornlund & Kashaigili (2017) come to an understanding that transport facilities are inadequate in ensuring sustainability of agricultural projects in most rural areas around the world. Chirwa (2004) identifies that roads play an important role in connecting rural famers with the local market, and transfer of information, more especially telecommunication services, is poor but the problem is that roads still remain a problem in rural areas. The development of roads is very poor and other important facilities for the sustainability of agricultural projects are still not accessible to the rural communities and that limits rural people to contribute in improving their economy. Mthembu (2008) makes an example that farmers in Msinga area use their own vehicles to access market such as farmers from Izwi Lamadoda while farmers from KwaNxamalala do not have transport resources which include vehicles and roads are in poor condition. Therefore, this has a negative impact to their agricultural projects since they are struggling to access the market.

2.5.1.2. Irrigation systems in agricultural sector

Antunes, Santos, Cosme, Osann, Calera, De Ketelaere, Spiteri, Mejuto, Andreu, Momblanch & Nino (2017) state that irrigation system is a primary activity required in agricultural sector towards assessing the sustainability of agricultural projects and

strengthening a long term existence of the ecological system for rural people to effectively undertake their activities. In this regard, livestock and cropping systems depend more on availability of enough rainfall and effective irrigation systems. Nevertheless, rural areas are experiencing lack and improper functioning of irrigation systems to ensure sustainability of their agricultural projects (Moshia, Vedeld, Katani, Kajembe & Tarimo, 2018). In addition, farmers in rural areas are struggling to access water for irrigation, regardless of having a potential to access water from rivers. Moreover, the issue of irrigation systems is mostly facing subsistence farmer since they are mostly affected by the scarcity of water more especially in winter (dry season) and this puts both crops and livestock in danger (Mthembu, 2008). In this concern, van Rooyen, Ramshaw, Moyo, Stirzaker & Bjornlund (2017) have an opinion that the irrigation systems are unaffordable to rural farmers because they lack financial support and there are no institutions available to assist them.

2.5.2. Inadequate financial support services

The sustainability and growth of agricultural projects depend on the availability and accessibility of financial support. Ruete (2015) emphasises that ensuring sustainability of agricultural projects and transformation of subsistence to large scale agriculture needs funding, but in rural areas there is scarcity of financial support to help rural farmers. This is due to the fact that rural farmers are still facing problems of accessing infrastructural services since they are lacking in terms of financial assets to develop road networks which are based on the rural context (Chirwa (2004). Along the same points, Chikazunga & Paradza (2012) reveal that agricultural projects have little to offer in rural economy because of the unavailability of financial support system in order to assist poor rural farmers.

Van Rooyen *et al.* (2017) have an opinion that governments and benefactors focus more on assisting large-scale farmers by paying infrastructural services including storage and transport system while they do not support poor rural farmers to access the market. Hence, Siegmund-Schultze *et al.* (2013) point out that the lack of financial support is a tragic problem to rural farmers since they do not afford to buy adequate fertilizer and feeding resources for their crops and livestock systems. Additionally, this has a negative impact on the sustainability of agricultural projects and it hinders the agricultural sector to contribute to rural economic development. The failure of farmers

to access resources (fertilizers, vaccinations to protect animals and crops from diseases) that are required in ensuring the sustainability of their farms contribute to the low productivity of farms and affect crops and animals which are regarded as assets (FOA, 2016).

2.5.3. Impact of climate change on agricultural projects

Ojoyi, Mutanga, Kahinda, Odindi, & Abdel-Rahman (2017) state that in most countries, the agricultural projects are facing the issue of climate change since their farming systems are typically dependent on the availability of rainfall per season. The conditions of climate change are regarded as the global issue that puts the sustainability of agricultural projects, rural economy, the availability of water, availability of food and people's health in a serious jeopardy (Wu *et al.*, 2016). In this regard, Ojija *et al.* (2017) are of the opinion that countries are experiencing climate change conditions in different ways; some are experiencing it through the customary rainfall and changes in temperature forms. In addition, other countries are experiencing climate change through a decline in agricultural productivity, which may be the result of a high temperature, extreme drought occurrences and intensive waterfall characterised by floods (Ojija *et al.*, 2017). Qian, Wang & Liu (2014) add that climate change has a negative effect on the productivity of agricultural projects, since there is a tragic fall following the incidence of different natural disasters around the world.

Furthermore, Qian *et al.*, (2014) add that the agricultural sector has shown to be more susceptible to the incidence of climate change. Msinga Local Municipality IDP (2017) stipulates that in Msinga areas, the incidence of drought has led to inadequate water for irrigation during dry periods (most of the time in winter season). Climate change brings many fluctuations on the productivity of agricultural sector and such occurrence puts in threat the sustainability of agricultural projects and rural economy. Rowhani *et al.* (2011) emphasise that the conditions of climate change turn to be a threat on the sustainability of agricultural sector and other economic activities.

Kim (2008) states that climate change does not only affect the productivity and growth of crops in farms, it also affects the quality and time of harvesting. This is because there are crops which are perennials that can produce products for extended periods of time in one and the same place once they are well planted. Therefore, this signifies

that climate change conditions are factually affecting both the productivity and quality of crops (Kim, 2008). On the other side, Hristov *et al* (2018) put forward that in most countries, the impact of climate change on livestock farming has been observed in different circumstances, which include death of livestock through droughts and heat damages. On the other hand, Ren *et al.* (2018) and Hristov *et al* (2018) bring this understanding that the issue of climate change causes too much vulnerability on the productivity of both crop yields and livestock farming.

2.5.4. Technological Advancement in agricultural projects

The advancement of technology in agricultural projects has been considered as significant contributor to the increase on the productivity of agricultural projects in most developing countries in the previous decades (Overseas Development Institute (ODI), n.d.). However, the issue of food insecurity still exists more especially in African countries. ODI further emphasises that technological development played a crucial role in reducing the level of food insecurity worldwide. The availability of technology can provide employment opportunities to rural communities and rural farmers can modernise their subsistence agricultural sector to contribute to the growth of rural economy through the intervention of the government.

De Jong (2014) suggests that addressing issues of rural economy does not require the government to focus on the rural setting only. Therefore, it is important to take advantage of opportunities in the direction of linking rural areas to urban areas. Khapayi & Celliers (2016) stress that the development of the farming sector in this century is dominated by technological advancement, more especially in commercial farming. Therefore, technological advancement has to reach all rural farming sector including subsistence and small-scale farming sectors. This is due to the fact that currently, technological advancement does not reach rural areas since South Africa lacks information about the existence of smallholder and subsistence farming (Statistics South Africa, 2016).

2.6. DIVERSIFICATION OF RURAL AGRICULTURE AND ECONOMIC DEVELOPMENT

Thompson (2018) suggests that the vital strategy to open ways for rural economic development is to identify the most suitable agricultural projects that are in favour of

rural people and where the mechanism of farming economic base remains sustainable. In this regard, Mbali (2014) emphasised that this will help improve rural economy by growing the strength, spirit and adaptive dimension of rural communities to develop the economic performance in rural market. On the other hand, ILO (2017) suggests that in order to secure the standard of living and improve rural economy, it is pivotal to come up with strong strategies that will effectively align with the development of rural communities.

Therefore, the possibilities of diversifying rural economy to address issues of poverty, creation of decent job opportunities and improving rural economy should be undertaken based on three policy significances as suggested by Losch (2012) and ILO (2017).

Firstly, the focus should be on ensuring the strength of household farms rather than intensive agricultural sectors. This is because household base farms open employment opportunities for a massive number of poor communities in agricultural sector and generate a huge share of income for rural people. Therefore, vibrant expansion of household base farms has to be considered as the most powerful tool towards improving rural economy. On the other hand, household base farms rely more on the local economy for services, outputs and markets for their own production.

Secondly, develop a vibrant rural base market for crops and livestock and categorise negative impediments for the producers of livestock and crops. This will assist South African rural farmers to take opportunity of the growing market in a global development. ILO (2017) points out that food from livestock and crops is being processed easier in rural areas because rural communities depend on it to expand activities, create job opportunities for themselves and also in this instance, rural household-based farmers produce food for their personal consumption. Moreover, improving effective and functioning market in local government will play an important role in rural economic development.

Thirdly, the focus should be based on reinforcing a linkage between rural and urban areas. Thus, this needs to be undertaken by promoting and developing an operative service within rural villages and districts that were frequently disregarded in favour of urban areas. On the other hand, Losch (2012) suggests that this approach needs to

be executed as part of the rural development policies with an understanding of changing aspect of development in rural areas and solidify the process of decision making amongst rural people. The intervention of government sector and private sector will be required to invest in services that are important to grow and sustain agricultural projects towards improving rural economy.

2.7. POLICY IMPLICATIONS ON AGRICULTURE TOWARDS IMPROVING RURAL ECONOMY

The significant aim of agricultural projects is to ensure high productivity in rural agricultural sector towards contributing to the growth of rural, provincial and national economy. This can be achieved through proper implementation of rural development strategies. Those strategies can seek to improve the livelihood of rural communities through an effective production in agricultural sector. They can also achieve the possibility of economic growth that can benefit rural areas (Gwanya, 2010). Therefore, the South African government has established several strategies (including Reconstruction and Development Programme, Growth, Employment and Redistribution and others) in order to ensure that rural agricultural sector is sustainable enough to improve rural economic development.

However, Lemon (2016) argues that the establishment of such policies has never benefited the rural agricultural sector because rural economy continued to experience a range of major structural challenges, which caused the failure of agriculture sector to accommodate the entire rural areas including the former homelands. The following section reviews government policies that seek to contribute on rural economic development through agricultural projects.

2.7.1. The Integrated Sustainable Rural Development Strategy

The Integrated Sustainable Rural Development Strategy (ISRDS) was introduced by the South African government in 2001. Its aim was to come up with an operative attack in addressing the issues of poverty and underdevelopment in South Africa (ISRDS, 2001). This strategy focused on using agricultural sector as the key role player in ensuring food security and contributing to the growth of rural economy through an essential creation of employment opportunities to strength the sustainability of agricultural projects. Its indispensable aim was to form a social unity amongst

communities in rural areas and solidify the institutional viability and economic sustainability, while having an ability to captivate and keep a possession of people with skills and knowledge toward ensuring rural development.

The superiority of this government strategy is that it prioritised the communities in former homelands and tried to initiate the spatial focus in order to address the issues of poverty and underdevelopment (Gwanya, 2010). The strategy also tried to provide an insight into how the integration would take place through the provision of well-structured service, harbour of projects (more especially agricultural projects) that grant a special importance to connections and financial procedures. This intervention was expected to be a significant instrument in integrating agricultural development projects introduced by the government for poor communities in order to address poverty and improve rural economy.

The stumbling block of this intervention is that it failed to ensure the sustainability of agricultural projects in the former homelands. It lacked the ability to coordinate agricultural activities and projects that would possibly grant integrated provision of services, elimination of poverty and ensure that sustainable development takes place. Another failure of the ISRDS is that it was implemented at the district municipal level which caused difficulties to target the necessities of the poor communities at the local municipal level since it was anticipated that the process of service delivery in these communities would be undertaken through an incorporated planning and executive processes. However, the poor planning and cooperation amongst the local municipality and district municipalities have led to the failure of this intervention since it did not attain the expected outcome.

On the other hand, Mbali (2014) opines that the intervention has been unable to attain its objective of including local communities (more especially women and people with disabilities) on the implementation of projects but considered these people as legatees of the agricultural projects that were implemented by the government.

2.7.2. Comprehensive Rural Development Programme

The Comprehensive Rural Development Programme (CRDP) was established by the South African government in 2009. This government intervention was accompanied by a very lucid vision of creating vibrant, equitable and sustainable rural communities.

The main objective of this intervention is to eliminate the issues of poverty and food insecurity in rural areas through an effective utilisation of scarce natural resources. Gwanya (2010) reveals that the CRDP recognises the importance of addressing the injustices and disparities that have been caused by the apartheid era in order to enhance living standard and welfare of rural communities. This can be achieved through an intervention that seeks to abolish the disparities on the dissemination and personal possession of affluence and assets.

The significant value of the CRDP is that it recognised the distribution of land to poor communities as the panacea in addressing the issues of poverty, creation of employment opportunities and ensuring that rural people are food secured. Hence, this intervention prioritises to prepare rural communities to have skills in managing the productivity of agricultural projects towards the creation of employment opportunities and ensuring the sustainability of their livelihoods. The strategy put more focus on introducing a huge number of agricultural projects through the programme of agrarian reform, which aimed at ensuring that communities undertake agricultural activities in cooperation.

The CRDP is shown to have a potential in maintaining the sustainability of agricultural projects and rural economic development as compared to other policies and government strategies on rural development. This is due to the fact that this intervention prioritises agriculture as the key driver of rural development by putting rural communities in the centre of development. It plays a significant role in establishing agricultural industries with a rural based market in order to empower rural communities, more especially youth and women, to take control of their development.

2.8. THEORETICAL FRAMEWORK

The Sustainable Livelihood Approach (SLA) was adopted as a primary theoretical framework of the study. The SLA is adopted because of its strength and positive orientation to enable poor rural people to be part of their livelihood by ensuring economic, ecological and social development. It is based on developing critical thinking about how rural people make a living. The Sustainable livelihood Approach was adopted based on the fact that it grants an opportunity to link studies that adhere

to the sustainability of agriculture and it can be used in different types of rural development activities.

2.8.1. Origin of the Sustainable Livelihood Approach

Fisher (2002) puts forward that the Sustainable Livelihoods Approach (SLA) has been stimulated from the pivotal effort of Robert Chambers during the 1980s and it was supplementary advanced by the likes of Conway, Robert Chambers and many more during the 1990s. In 1992, both Robert Chambers and Conway emphasise that livelihood encompasses the activities, assets and capabilities that are necessary in order to make a living, particularly in rural areas. Njagi (2005) also points out that the sustainable livelihoods Approach has strength to assist rural people in making decisions about sustaining livelihood for themselves and their families. This is due to the fact that this approach is able to incorporate various strategies and prioritise the sustainability of agricultural projects for rural people (Njagi, 2005).

The Department of International Development (1999) regards SLA as a conducive strategy that can be used to place poor communities at the centre of every development through an increment of helpful development support. Carney (2003) expands in that this approach assists in the formulation of developmental activities, which are people-centred, responsive, participatory, and sustainable.

2.8.2. The overview of Sustainable Livelihood Approach

The concept “livelihood” has been described as the foundation at which rural communities are able to access at least a small aggregate of the following resources (human, financial, physical, natural and social), which can be put in place in order to develop strategies that can be used to improve livelihoods for rural communities (Chambers & Conway, 1992; Scoones, 1998). On the other side, Toringepi (2016) makes an example that those strategies which can be included towards improving livelihoods in rural areas include engaging on agricultural activities such as crop and livestock farming.

Toringepi (2016) declares that this approach has a significant role, which is to ensure that strategies to enhance livelihoods in rural communities are viable and sustainable. Furthermore, Chambers and Conway (1992) stated that agricultural projects can be regarded as sustainable only if they can cope with disasters. These disasters include

climate change condition, epidemic of livestock or crop diseases and ability to make progress from the strains of water scarcity, change in seasonality and collapse of economy without taking for granted the natural resource base.

Hence, Serrat (2008) clarifies that this approach does not replace other development approaches such as integrated rural development, participatory development and so forth. Instead, it assists in connecting rural communities with the environment that has the capacity to affect the outcomes of rural livelihoods development strategies by putting greater focus on the significance of policies and institutions that support poor rural people (Serrat, 2017). In addition, it goes to an extent of understanding the impending characteristics of rural people concerning their skills, ability to use both financial and physical resources towards influencing essential institutions.

2.8.3. Sustainable Livelihoods Approach Framework

In the context of this study, the sustainability of agricultural projects in enhancing rural economic development can be achieved by relying on the significant elements of Sustainable Livelihoods Approach as they appear on the following framework (Figure 2.1).

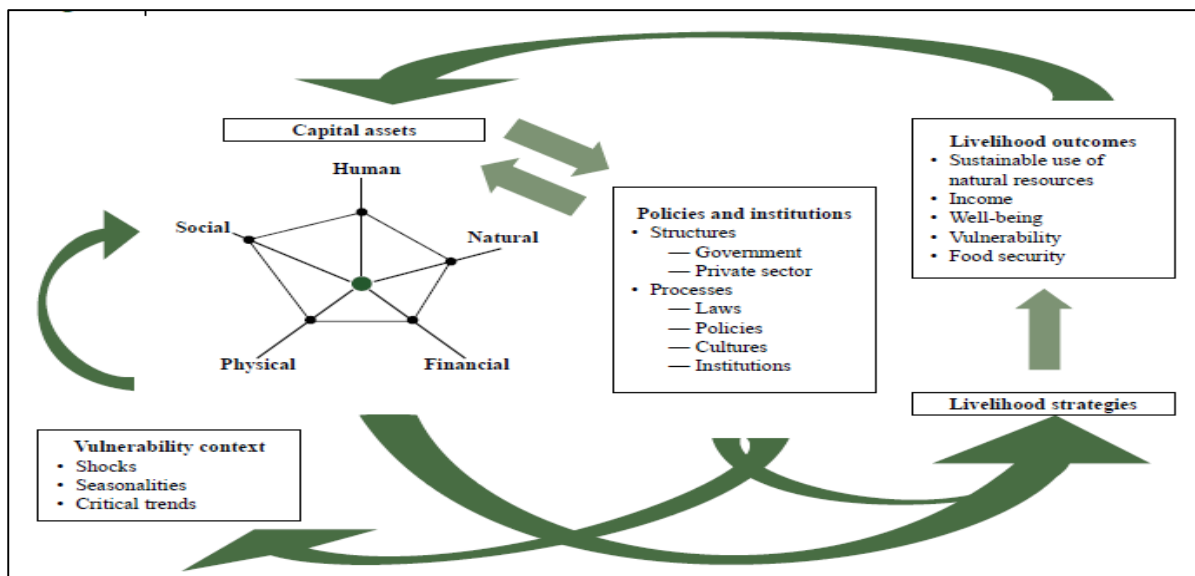


Figure 2.1: The Framework for Sustainable Livelihoods Approach

Source: Serrat (2008)

Figure 2.1 shows that rural communities function in a vulnerable situation but they have the ability to access certain capital assets (Globalisation and Livelihood Option of People Living in Poverty (GLOPP), 2008). Hence, assets usually obtain worth and value by relying on the prevailing organisational, institutional and social environment with effective policies and institutions being considered (GLOPP, 2008). This background outlines strategies of livelihood, which enables rural communities to pursue livelihood outcomes that are regarded as beneficial to them (Kollmair & Gamper, 2002).

2.8.4. Elements of SLA in ensuring Sustainability of Agriculture

Figure 2.1 shows that elements of SLA are very essential in ensuring that agricultural projects are sustainable enough to address the issues of poverty and improving economy in rural areas (Petersen, Michelle & Pedersen, 2010). Based on Figure 2.1, there are five basic elements that underpin rural SLA, namely, vulnerable context, capital assets, livelihoods strategies, livelihoods outcomes and institutional processes.

2.8.4.1. Vulnerability context

The vulnerability context of the SLA refers to a situation whereby rural communities are at risk of different external alterations that have negative impact on their action towards sustaining livelihoods, since they are struggling to take control of it (Fisher, 2002). Furthermore, Serrat (2017) states that the vulnerability context is affected by three factors, which are shocks, seasonality and critical trends. Firstly, shocks trend under the vulnerability context refers to the challenges faced by rural communities in ensuring sustainability and their participation in agricultural projects toward improving rural economy. These shocks include natural disasters (such as drought, floods etc.), illness of rural people, diseases and pests (Serrat, 2008).

Secondly, vulnerability context involves seasonality that is regarded as the dynamic change that might have an influence in the lives of rural people in a particular time of the season. In the context of this study, Fisher (2002) states that seasonality are those factors that are directly or indirectly associated with the agricultural projects such as employment opportunities, price increment on products, climate factors and so forth. Thirdly, vulnerable context involves the critical trends which are regarded as a long term alteration that may positively or negatively affect rural communities in sustaining

their livelihoods. These trends include change in rural demography, ecological, technological advancement and change in economy (Petersen, Michelle, & Pedersen, 2010). In order to improve rural economy, it is important to understand the vulnerability context of people in respect to their livelihoods. This is due to the point that this assists to plan required projects, which cut the harmful outcomes of the aforementioned factors of vulnerable context (Serrat, 2017). In addition, understanding these factors will allow those rural communities who are effectively secured to identify opportunities and take risks of engaging on agricultural projects as the strategy to improve their livelihoods.

2.8.4.2. Capital Assets

The framework for SLA (Figure 2.1) was fabricated on many beliefs including the belief that rural communities require particular assets in order to attain optimistic outcomes from agricultural projects toward enhancing their livelihoods and improving rural economy. Further explanation is that people in rural areas have many types of assets which they use towards sustaining their agricultural projects so as to improve livelihoods standards (Petersen, Michelle & Pedersen, 2010). Therefore, with an assistance of the SLA, rural people can be able to arrange all factors which may be regarded as either constrains or advantages in improving livelihoods prospects and also indicate their relations to each other (Serrat, 2017).

Human capital asset consists of the ability to have knowledge, application of skills, ability to work and having good health status that assists rural people to chase different strategies of livelihoods and agricultural projects in particular towards enhancing rural economic development. In addition, human capital asset is very important in making sure that other types of assets continue to exist (Krantz, 2001). Financial capital asset comprises the availability of economic resources that should be used to sustain agricultural projects as the strategy to chase rural livelihoods; these economic resources include availability of technology, equipment of production and availability of basic infrastructure (Serrat, 2008; Krantz, 2001; Serrat, 2017). Social capital asset is regarded as the availability of groups within the communities that work collaboratively to chase their objectives (such as engaging in agricultural projects) towards improving their livelihoods and enhancing rural economic development in particular (Martí *et al.*, 2008).

Physical capital assets are referred to as the aftermath and outcome of the processes that assist in the productivity of rural economy (Pons *et al.*, 2008). On the other hand, Petersen *et al.* (2010) and Serrat (2017) describe physical asset as the availability of infrastructural (roads, irrigation systems, transport etc.) services and technological (production equipment, fertilizers and so forth) advancement that are required to particularly ensure that agricultural projects are sustainable enough to contribute in improving rural livelihoods. Krantz (2001) point out that natural capital asset entails natural resources (including the accessibility of water, land and biological resources) that can assist rural people to pursue their livelihoods strategies. Hence, Pons *et al.* (2008) add that natural resources can keep on changing and can only be enhanced by the availability of human activities, for instance, agricultural projects are proficient to bringing an increase on the natural capital productivity.

2.8.4.3. Policies and institutions

It has been recognised that intervention of policies and institutions play a significant role in transforming capital assets in the sustainable livelihoods strategy (Pons *et al.*, 2008). The sustainability of agricultural projects requires a sustainable institutional sector, which can be obtained only if the current existing processes and structure possess amplitude in undertaking its task toward attaining the needs of community members and rural farmers (Masuku, 2018). On the other hand, Serrat (2017) states that strategies and outcomes of the livelihood do not only rely on the access to capital assets or challenged by the time when rural areas experience vulnerability context. However, the nature of processes and structures play a huge role in the transformation of strategies and outcomes of the livelihoods. Serrat (2008) mentions that structures are those existing organisations in public and private sectors which mostly assist in planning and implementing policies and legislations and control service delivery while at the same time undertaking almost all duties that are set to enhance livelihoods standards at all levels of government and particularly in rural areas.

Furthermore, processes include having right of ownership, norms and laws and operation agreements in rural areas. Structures are compared to the existence of departments and banks that assist rural farmers by giving them credits. In addition, processes and institutions allow rural communities to bring transformation of a single asset to another throughout the marketplace (Petersen *et al.*, 2010). On the other

hand, Serrat (2008) argues that rural people face some problems with regards to process, since the process that guides their livelihood would systemically bring limitations to them. However, government should manage to adopt policies that directly target the poor of the poor which could move slowly down in a successful manner to bring legislation to the lower levels of the poor rural people and even to the processes which are regarded as less formal (Serrat, 2008).

2.8.4.4. Livelihood Strategies and Outcomes

Livelihood strategies are regarded as the way that rural communities use in order to achieve their livelihoods standard and rural economy in particular (Petersen *et al.*, 2010). GLOPP (2008) points out that livelihood strategies can be referred to the vibrant procedures and processes which are undertaken by rural communities as they integrate different activities, including engaging on agricultural projects (livestock and cropping activities) to improve their livelihoods. Serrat (2017) emphasises that the accessibility of several assets by rural people has an impact on strategies that they undertake, while institutional processes generate potentials and challenges on the strategies that are undertaken by rural communities.

Moreover, Serrat (2018) states that livelihood outcomes are regarded as the accomplishment of rural community's livelihood strategies. However, Petersen *et al.* (2010) and Serrat (2017) stipulate that rural people can suitably describe livelihoods outcomes, since these outcomes involve many things, including improving their income, food security, human dignity, and sustainable utilisation of natural resources. On the other hand, it cannot be that easy for a person from outside rural areas to comprehend very well the things that rural people want to achieve and the reasons that make them want to achieve those particular outcomes. This is due to the fact that those outcomes are frequently influenced by local values, norms and culture.

2.8.5. Strengths and Limitations of SLA in this study

The study adopted the SLA based on the reason that it enables poor rural communities to be part of their economic growth through engaging in agricultural activities (Serrat, 2017). In addition, the sustainability of agricultural projects has been regarded as the most important strategy to ensure livelihoods in rural areas and agricultural projects are regarded as the main pillar in improving rural economy. Krantz (2001) points out

that this approach lately recognises that an extra focus should be based on several issues and factors that may both compel and improve the ability of rural people to create a sustainable economic, ecological and social living. Serrat (2008) expresses a view that the SLA plays a vital role in improving an understanding of the poorest of the poor. In addition, it assists in planning development activities and enables an assessment of the influence that current projects have made in ensuring livelihood sustainability.

Therefore, this approach plays a significant role in understanding the diversity of strategies that rural people use to ensure that agricultural projects are sustainable enough to improve their standard of living and economy. It further assists in understanding the impending characteristics of rural people concerning their skills, status, possessions and commence by analysing how people utilise those belongings towards enhancing rural economic development through agricultural projects.

The challenge with this approach is that it puts more focus on non-income facets of rural livelihood while it is problematic to measure the extent to which it reduces the vulnerability and access to assets (Toringepi, 2016). Nonetheless, these restrictions do not eliminate SLA as related to the context of this study and it remains as a primary theoretical framework of this study in analysing the sustainability of agricultural projects towards enhancing rural economic development.

2.9. SUMMARY OF THE CHAPTER

This chapter was based on reviewing the literature on the sustainability of agricultural projects and rural economic development. The main focus was to understand the sustainability of agricultural projects and challenges that hinder their contribution to rural economic development. The chapter also reviewed the theoretical framework that informs the sustainability of agricultural projects towards improving rural livelihoods and economic development. Historical background in South African agriculture shows that rural economy is experiencing a range of major structural challenges since the agriculture sector was not accommodating the entire rural areas, including the former homelands because government strategies towards ensuring transformation in rural agricultural sector are silent.

The literature shows that the productivity of agricultural projects is in serious jeopardy, which negatively affects rural farmers and households that benefit from these agricultural projects. This is due to the issues of climate change, poor infrastructural services in rural areas (such as irrigation systems, transport facilities and lack of access to market) and the inadequate financial support service. This is caused by the lack of government support in protecting rural farmers from the risks that they face in ensuring the productivity of agricultural projects. The SLA was taken into consideration with an intention of demonstrating the importance of the sustainability of agricultural projects and its contribution in improving rural livelihoods and economic development in particular.

The SLA is the most relevant theory in this study and its framework is convenient since it distinguishes the value of assets which are possessed by rural people. Furthermore, this approach brings more attention to competence rather than the frailness of rural farmers and communities at large, so this approach was employed in analyzing the findings of the study. The following chapter provides research design and methodology that was used to analyse the perceptions and experiences of participants on the sustainability of agricultural projects in enhancing rural economic development in Msinga Local Municipality.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.0. INTRODUCTION

This chapter presents the research design and methodology that was used for this study. This chapter provides an explanation on the motive behind the research design and methodology that were employed and further gives an explanation about processes and procedures that was taken into consideration in conducting this study. On the other hand, SLA assisted in terms of understanding factors that shape the context of rural areas this includes the institutions that play integral part in ensuring agricultural practice towards improving rural economic development. Therefore, sampling of the study population was determined by the SLA since it shows that community members or households and government institutions (Department of Agriculture and local municipality) are the key role players who are responsible for undertaking agricultural activities.

3.1. THE STUDY AREA

Msinga Local Municipality has a total population of approximately 177 577 and 37 723 households (Msinga Local Municipality IDP, 2017). Its Integrated Development Plan states that the municipality is situated at Tugela Ferry. The municipality is dominated by rural areas where subsistence agriculture is dominant. Msinga is composed of six Traditional Authority areas namely, Qamu, Mchunu, Bomvu, Ngome, Mabaso and Mthembu. The area is divided into 18 political wards with 36 Councillors. The municipality is dominated by rural areas, where 69% is Traditional Authority land held in trust by the Ingonyama Trust (Msinga Local Municipality IDP, 2017). The remaining 31% of land is commercial farmland, all of which is located to the north of Pomeroy (Msinga Local Municipality IDP, 2017). In 2017, the Msinga Local Municipality IDP estimated that 99% of the population lives in traditional areas as opposed to the formal towns of Pomeroy and the informal towns of Tugela Ferry and Keats Drift. Msinga Local Municipality is located in the northern part of KwaZulu-Natal province as indicated in Figure 3.1.



Figure 3.1: Map of Msinga Local Municipality

The area is experiencing low productivity on agricultural activities which makes it harder for agriculture to contribute to economic growth since agriculture is regarded as the main source of income. Therefore, MLM was chosen based on the fact that agriculture is regarded as the main source of income. Agriculture is however recognised as an informal sector since it mostly serves subsistence farming purposes and is unable to serve commercial purposes. Therefore, the study intended to analyse the sustainability of agricultural projects in improving rural economy in MLM.

3.2. RESEARCH DESIGN

This study adopted a mixed method approach with convergent parallel design to collect and analyse data on perceptions and experiences of participants on the sustainability of agricultural projects in enhancing rural economy. The integration involved merging the results from the quantitative and qualitative data so that a comparison could be made and a more complete understanding emerges than what was provided by quantitative or qualitative results alone (Guetterman, Fetters & Creswell, 2015). This design was used because it helped the researcher triangulate the methods by contrasting the results of qualitative instruments with the findings of the quantitative instrument for validation and comprehensive understanding of sustainable agricultural projects in enhancing rural development (Petrosyan, n.d.). On

the other hand, this design was employed as a tool to illustrate the results of quantitative findings through the findings of qualitative findings in order to create a broader understanding about the sustainability of agricultural projects in enhancing rural economic development. Figure 3.2 shows the mixed method approach with a convergent parallel design as it was adopted in this study.

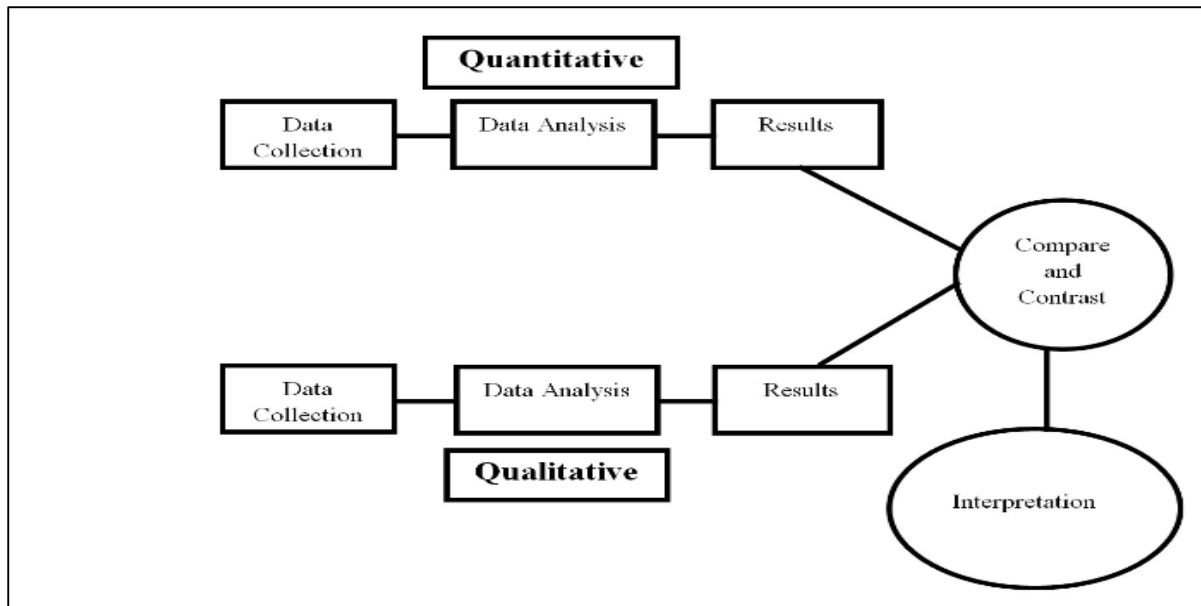


Figure 3.2: Mixed method approach with a convergent parallel design

Source: Opoku & Ahmed (2013)

On the other hand, the primary data were collected from participants in Msinga Local Municipality through the use of a questionnaire which was administered to households, focus group discussion with agricultural cooperatives and semi-structured interviews to get data from ward councillors, municipal officials and extension officers (from the Department of Agriculture) about their experiences and understanding of the sustainability of agricultural projects in enhancing rural economic development.

3.3. RESEARCH PARADIGM

Mac Naughton, Rolfe & Siraj-Blatchford (2010) describe the concept ‘paradigm’ in a research study as encompassing the following components: a belief regarding the atmosphere of knowledge, the methodology of the study and criteria that are in position for validation purposes. Therefore, this study adopted interpretivism as a research paradigm. The interpretivism paradigm enabled the researcher to approach the reality of participants in Msinga area regarding their experience and understanding

of the sustainability of agricultural projects in enhancing rural economic development. This study employed this paradigm to interpret the participant's subjective experience in sustainability of agricultural projects and their contribution to rural economy.

Willis, Jost & Nilakanta (2007) point out that most of the time interpretivism seeks to figure out the specific context and its core belief is that the reality is constructed in a social manner. Therefore, interpretivism research paradigm was positioned in relation to both ontological and epistemological views, since the reality is usually multiple and relative (Edirisingha, 2012). Thus, ontological view of interpretivism paradigm assisted the researcher to find reality about sustainability of agricultural projects in enhancing rural economic development in a social constructed manner (Thanh & Thanh, 2015). On the other hand, epistemological view of interpretivism paradigm helped the researcher understand different experiences in the sustainability of agricultural projects from participants' point of view. This is due to the fact that the researcher does not chase the responses for the research study in an inelastic behaviour but subjectively approaches the truth and reality from those people who have experiences and usually are from a particular culture or cluster (Willis *et al.*, 2007).

3.4. RESEARCH METHODOLOGY

Research methodology is a very important strategy that can be put in place to assist in solving a particular problem. Rajasekar, Philominathan & Chinnathambi (2006) assert that research methodology is a science that is usually used to study the way in which the research can be conducted. Hence, it includes different strategies and procedures which are used by the researcher to explain and predict their work while providing work plan for their research studies. The research methodology of this study includes data collection instrument, sampling method, sample size, method of data presentation and its analysis.

3.4.1. Sampling Method

The participants of this study were sampled from the population of MLM at Qamu, Mabaso and Mthembu Traditional Authorities. These participants were sampled as the most important role players in collecting both quantitative and qualitative data. The study followed both purposive sampling and simple-random sampling in order to sample the population. Therefore, the population from MLM was chosen based on a

reason that they have different experiences regarding the sustainability of agriculture and rural economic development. As a result, this population was regarded as the only reliable sample in providing the relevant and suitable information which plays a significant role in assisting the researcher to attain the objectives of this study. Table 3.1 presents the sample size of the study.

Table 3.1: Sample size of the study

| Target Population | Total Number | Sample Size |
|---|---------------------|--------------------|
| Households | 37 723 | 200 |
| Extension officers Department of Agriculture | 15 | 2 |
| Agricultural Cooperatives | Identified (11) | 5 |
| Ward councilors | 38 | 2 |
| Municipal officials (LED) | 3 | 2 |

3.4.2.1. Purposive Sampling Method

Purposive sampling was used to sample two (2) extension officers from the Department of Agriculture, two (2) municipal officials (LED) and two (2) ward councillors which makes six (6) participants. The aim was to hear their perceptions about the sustainability of agricultural projects in enhancing rural economy. The purposive sampling was employed because it granted the researcher with the justification to generalise from the sample that is being studied (Maree, 2007). Additionally, it also ensures that the information about sustainability of agricultural projects in enhancing rural economic development is correct and accurate.

The Department of Agriculture was sampled because it is responsible for giving support and for assisting communities to sustain their agricultural projects while municipal officials and ward councillors were sampled based on their responsibilities of ensuring that service delivery takes place in poor communities at a local level. Therefore, the availability and attitude of these participants are compatible with sustainability of agricultural projects in enhancing rural economic development and

their value was highly considered since it is their role and responsibility to ensure improvement in the standard of livelihood in rural areas.

On the other hand, the study sampled five (5) focus group discussions with agricultural cooperatives which were made of five (5) people per group with a total number of twenty five (25) participants. The sampling of agricultural cooperatives was based on the fact that they were involved in agricultural projects and their participation, experience and knowledge about agricultural projects and its contribution to rural economy played an important role in this study. Moreover, having five (5) participants per focus group helped to avoid unexpected conflicts, power struggle and other group factors that may interrupt a discussion.

3.4.2.2. Simple-Random Sampling Method

The study also employed simple random sampling because it is regarded as a method that is not biased toward the selection of rural households and participants in farming projects (agricultural cooperatives). Therefore, Msinga area consists of 37 723 households and eleven (11) identified agricultural projects (Msinga Local Municipality IDP, 2017). On the other hand, simple random sampling assisted the researcher with the selection of participants in a large number of sample identified and the average sample would accurately represent the population (Alvi, 2016). In addition, this sampling method provided the researcher with an advantage to randomly sample households and agricultural cooperatives.

As a result, two hundred (200) households were sampled in this study. This number of sampled households was based on the reason that the researcher wanted to get results that were sufficient and adequate to identify differences in households' perception, so that the researcher can be able to identify false information. This total number of households was also sampled based on a reason that households within Msinga area have experience and understanding about rural agriculture, since MLM is regarded as an area that is mostly dominated by agricultural practice.

3.4.2. Data Collection Instruments

The study employed a mixed method approach for data collection. Therefore, an integration of data collection techniques was also employed in this study; this includes semi-structured interviews, questionnaire, focus group discussions and

documentation review. These instruments assisted the researcher to collect data from participants in Msinga area in order to achieve the objectives of this study.

3.4.2.1. Semi-structured interviews

The study adopted semi-structured interviews with an open-ended questions. Semi-structured interviews were adopted based on the reason that they granted participants freedom to express their perceptions on the sustainability of agricultural projects in enhancing rural economic development by using their own terms. Open-ended questions allowed the participants to provide more information without being limited and the researcher was able to ask follow up questions (Kallio, 2016). The semi-structured interviews were used to collect primary data from two (2) municipality officials, two (2) ward councillors and two (2) extension officers from the Department of Agriculture with an intention of seeking information that is related to the first three objectives of the study. Therefore, the interviews consisted of a single session per participant and all participants took only 25-30 minutes.

Moreover, all questions of the semi-structured interviews were written and asked in English language but some of the participants were responded in both English and isiZulu.

3.4.2.2. Questionnaire

The study also employed survey closed-ended questions in order to fulfil the quantitative part of the study based on assessing the sustainability of agricultural projects in enhancing rural development. Therefore, it was necessary that the questionnaire to adopt both open-ended and close-ended questions with an aim of complementing these two types of questions with one another (Zohrabi, 2013). Furthermore, the closed-ended questions covered information based on the socio-demographic characteristics of participants and covered the first objective of the study that sought to identify types of agricultural projects existing within the study area. Consequently, the households answered questions that could be used as quantitative data such as questions that sought “yes or no” answers and also choosing correct answers while providing justification where applicable.

Open-ended questions were employed with the purpose of allowing participants to write as an option answers that were not provided on the survey questions with regards

to the sustainability of agricultural projects. In addition, Zohrabi (2013) states that the importance of open-ended questions is their precision in reflecting what the participants need to voice out. Therefore, a questionnaire was used to collect primary data from households' members. The Msinga Local Municipality IDP (2017) states that some people in the population have no schooling (approximately 63 313) and the population is dominated by Zulus. Therefore, the questionnaire was written in isiZulu. The questionnaires were in a format of self-admiration since the participants completed them without the involvement of the researcher. The researcher distributed 200 questionnaires to the randomly selected households from six traditional authorities (Qamu, Mabaso and Mthembu) with 66 questionnaires distributed per traditional authority. However, the researcher managed to collect data from only 180 participants with a total sum of 20 participants who decided to withdraw their participation from the study.

3.4.2.3. Focus group discussions

The study adopted focus group discussions to collect qualitative primary data from agricultural cooperatives. This instrument assisted the researcher to obtain more in-depth information from agricultural cooperatives regarding their perceptions and opinions in sustainability of agricultural projects and its contribution to rural economic development. Hence, this tool helped the researcher obtain data from the group of participants that was selected with the purpose rather than from a statistically representative sample of a wider population.

Hennink (2013) defines the focus group discussion as a reciprocal discussion between approximately six to eight participants who are being selected in advance before the meeting takes place. Therefore, five (5) groups were formulated each with a maximum of five (5) participants which gives a total number of 25 participants. This population was sampled in order to ensure that participants feel free to participate without the pressure of a massive number of participants per group (Hennink, 2013). However, two focus group discussions had 4 participants because some of the participants did not manage to attend the meeting. Therefore, there were only 23 participants who participated in this study during all focus group discussions. These participants were dominated by females since there were fourteen (14) and only nine (9) males across

all focus group discussions. The duration of discussions was 30 minutes across all focus groups except 2 that took less than 25 minutes (21 and 23 minutes respectively).

Moreover, the focus group discussion with agricultural cooperatives assisted the researcher to cover the objectives that sought to understand the types of agricultural projects available at Msinga Local Municipality, assessing the sustainability of agricultural projects and also analysing challenges that are faced by farmers.

3.4.2.4. Document review

The document review was employed as a tool of gathering information and data through the process of studying existing documents that are related to the research topic (Centres for Disease Control and Prevention, 2009). In this study, document review was used to collect secondary data that is related on the sustainability of agricultural projects and rural economic development. Hence, the researcher systemically identified all relevant documents and reviewed the information that was attained. Documentary data were collected from the government annual reports, official statistical abstracts, the data published in different books and peer reviewed articles, policy documents that are relevant to the research topic and objectives. This instrument was specifically used to collect data that covers chapter two and three of the study which is literature review and theoretical framework.

3.4.3. Method of Data Presentation and Analysis

The study was conducted using a mixed method data collection technique to analyse sustainability of agricultural projects in enhancing rural economic development in Msinga Local Municipality. Therefore, for the purpose of data presentation and analysis the researcher employed both content analysis and Statistical Package for the Social Sciences (SPSS).

Content analysis is regarded as a tool that assists researchers to analyse data which are in the form of text, interview records, books, websites and so forth with an intention of regulating the frequency of particular phenomena or notions (Krippendorff, 1980). Content analysis was used to analyse and categorise qualitative data on the bases of themes derived from the objectives of the study that was conducted through semi-structured interviews and focus group discussions. Hence, content analysis allowed the researcher to read the interviews carefully; afterwards the researcher was able to

identify and formulate several topics. Hence, the researcher was able to identify specific notions and trends of ideas that occurred within a particular group. In addition, it granted an opportunity for objective analysis of transcriptions and also identifies meaning from text data (Nkuna, 2017).

The study also employed SPSS to analyse and categorise quantitative variables. From this point, the researcher was able to present statistical data and to cover the information based on the demography and sustainability of agricultural projects that was collected with the use questionnaires. In this regard, descriptive statistics and chi-square test elements of the SPSS were used to analyse and categorise quantitative variables. The descriptive statistical method was employed because it granted the researcher with an opportunity to use tables, bar graph, pie chart and so forth in analysing collected quantitative data (Trochim, 2006). The Chi-Square Test was used in order to determine the relationships between the related variables towards assessing the sustainability of agricultural projects.

3.5. DATA QUALITY CONTROL

3.5.1. Reliability of Data

Reliability refers to whether scores to items on the data instruments are internally reliable, unchanging over time, and if there was a consistency in test administration and scoring (Creswell, 2013). Therefore, in order to test for the reliability of a data collection instrument, the researcher asked the same questions to all the participants and similar responses were expected. Babbie & Mouton (2007) propound that the reliability of data clearly signifies a situation whereby similar results will be obtained every time if the similar procedure is repeated to conduct the same study after a given period. Therefore, the anonymity and confidentiality of data helped to open ways for participants to offer the information that is based on the study purpose.

3.5.2. Validity of Data

Validity refers to the strengths of quantitative research and it focuses on defining whether the findings of the study are accurate from the perspective of the researcher, interviewee or the reader of a study (Creswell & Miller, 2000). Therefore, the validity of the study was provided by the powerful chain of evidence flowing through the study.

This means that the researcher checked for the accuracy of the findings by engaging the following crucial procedures.

Those procedures include undertaking a wide literature review to comprehend the suitable method in following a mixed method research to collect data from different sources. Another procedure to test the validity of data is that the construction of questionnaire statements was fully done in consultation with the supervisor. Likewise, the topic and the main objectives of this study were stipulated on the questionnaire. Finally, all participants were given assurance about anonymity and confidentiality of the data and that their personal information would not be published.

3.5.3. Credibility of Data

The credibility of data enabled the researcher to associate the findings with reality to determine the truth of the research findings (Shenton, 2004). Therefore, this was undertaken through triangulation and member checks, which were used to address credibility of the qualitative part. Triangulation commenced by posing similar research questions to different participants and collecting data from different sources using different methods (Devault, 2017). Furthermore, the researcher ensured member checks by asking participants to review the data that were collected by the interviewer and the researcher than interpreted that interview data. Participants were randomly sampled to assist as informants. This sampling method possibly neutralised the biasness of a researcher in the process of selecting participants (Shenton, 2004).

3.6. ETHICAL CONSIDERATIONS

The researcher considered the importance of ethics before commencing the research study. Thus, the research proposal was approved by the by Faculty Board of Arts, Higher Degrees Research Committee and the Research Ethics Committee of the University of Zululand. Interview questions for data collection were given to the Committee of the University for Ethical Clearance and the researcher ensured that questionnaires were translated to isiZulu since the study was collected from Msinga area with a high number of people who had not been to school. The Research Ethics Committee of the University of Zululand approved the research proposal and the project was registered with the following ethical clearance number: UZREC 171110-030 PGM 2018/514

Virtuously, it was warranted that all participants participated with an informed consent. Participants were informed about the aim of the study. The participants participated voluntarily so that they would possibly withdraw anytime if they wanted to. The anonymity of the participants was guaranteed and their confidentiality would not be desecrated. This also assured that the demographic data that were required on the interviews, more especially the part that involved names would not be available for publication purposes. It was also assured that all the information that was generated from participants would be treated confidentially

3.7. SUMMARY OF THE CHAPTER

This chapter presented the research methodology that was applied in conducting this study. The chapter began by the description of the study area (MLM), where the study was conducted. The researcher discussed the mixed method approach with the convergent parallel design, which was employed to analyse the sustainability of agricultural projects in enhancing rural economic development. The methodology of the study was also taken into consideration as the researcher integrated different techniques to collect data from different participants. These techniques included semi-structured interviews, questionnaire, focus group discussions and documentation review. The purposive sampling and simple-random sampling methods were also discussed. Moreover, the researcher further discussed the method of data analysis and presentation, which included both content analysis and Statistical Package for the Social Sciences.

The researcher concluded by discussing data quality control, whereby the data were validated; reliability was tested and credibility was undertaken with the use of triangulation and member checks. The researcher also employed ethics to ensure trustworthiness of the entire study with an intention of ensuring that the study does not cause any violation to the researcher or participants. The next chapter presents, analyses and interprets quantitative data on the sustainability of agricultural project and rural economic development from the perception and experience of households in Msinga Local Municipality.

CHAPTER FOUR

QUANTITATIVE DATA PRESENTATION

4.0. INTRODUCTION

This chapter presents the results of quantitative data that were collected through the use of questionnaire to households at MLM. This chapter sought to provide the socio-demographic characteristics of households. This significant aim of this chapter is to present, analyse and interpret data on the types of agricultural projects that exist in the study area. This chapter further assesses the sustainability of subsistence agricultural projects from the perspective of households. In this chapter, all data are presented and analysed through the use of cross tabulation, percentage, tables, graphs and charts with an intention of having a lucid interpretation and deliberations.

4.1. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF HOUSEHOLDS

The demographic characteristics which include age, gender, and employment status, households' source of income and level of education have an influence on the participation of household members in agricultural projects toward ensuring the economic growth in rural areas. The Chi- Square Test was used in order to check the relationship between these aspects and participation of households' members in agricultural projects.

4.1.1. Community Participation in Agricultural Projects

This section presents data on the participation of households in agricultural projects, distribution of gender in agricultural sector and determines the relationship between these two variables. Figure 4.1 shows that the majority of households were participating in agricultural projects. This indicates that households in MLM depend on agricultural sector as their livelihoods strategy.

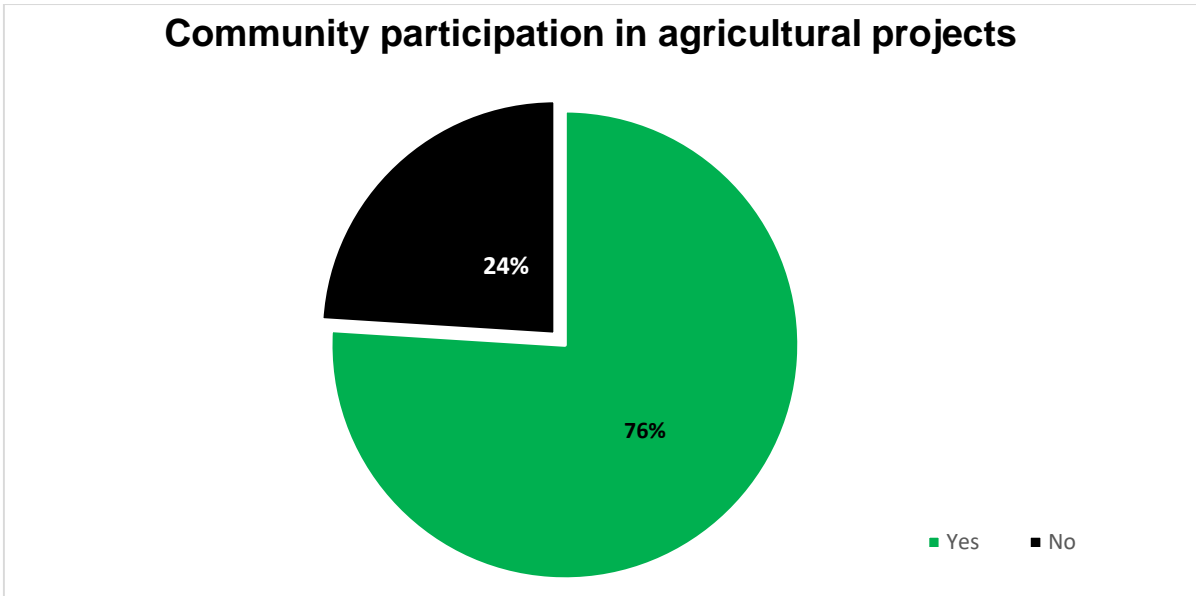


Figure 4.1: Community participation in agricultural projects

The results suggest that agriculture could be the key economic option for the majority (76%) of households in MLM and it could assist on the reduction of poverty. Where some of the households which depends on agriculture engage in marketization of their surplus as agricultural economies would mostly do. This could significantly improve local economy- especially with regard to generate social household's income. The challenge remains however that those kind of economies were mostly vulnerable because of many complexities which face them. For example, Krantz (2001) confirm that people in rural areas are living in vulnerable contexts where the agricultural sector is the key driver in addressing the issues of poverty and improving rural economy. Therefore, households used their agricultural projects as source of food for their personal consumption. This is due to the point that the agricultural sector is the only available sector within the study area, which has a potential to rescue poor communities from poverty and improve rural economy.

4.1.2. The distribution of gender in agricultural projects in Msinga

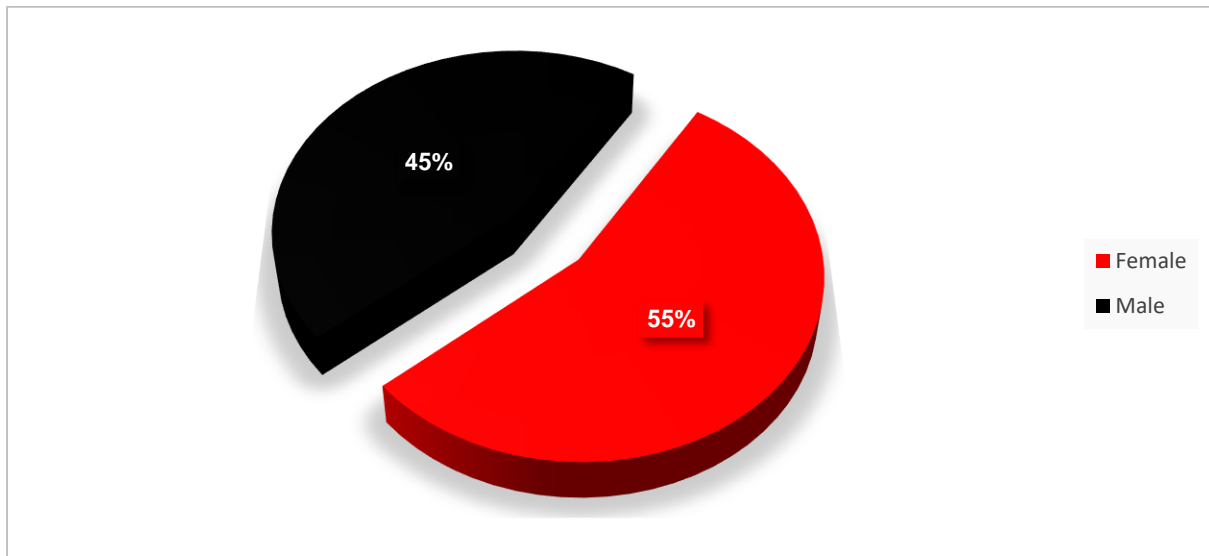


Figure 4.2: The distribution of gender in agricultural projects in Msinga

The results of this study revealed that 55% of participants in agricultural projects were females, while males constituted 45%. The reason for having more females than males participating in agricultural projects is mainly migration of males from the rural to urban areas. The household's representative mentioned that the migration of males from rural areas to scout for job opportunities in the cities (such Johannesburg) has a negative impact in the agricultural sector where females are seen as active participants. This is because women end up doing activities that are supposed to be undertaken by males. Maratha & Badodiya (2018) reveal that the participation of females in agricultural sector is dominating compared to males in most developing countries. The study findings indicated that females dominated in crop farming while males were more involved in livestock farming such as cattle, goats and sheep. Arora & Twyman (2018) points out that males have the significant ability of doing hard and traditional tasks in agricultural projects such as the management of pasture, taking care of livestock and the rotation of these livestock for grazing purposes.

4.1.3. Relationship between Gender and households Participation in Agricultural Projects

The Pearson Chi-Square and its footnote in Table 4.1 were used as a control variable toward determining the relationship between households and their participation in agricultural projects. Therefore, the gender aspect represents the household members

who participated in this study. Thus, the Person Chi- Square Test enabled the researcher to test if there is a relationship between the households and their participation in agricultural projects. Therefore, this statistical test was used based on the fact that these variables were nominal.

Table 4.1: Chi-Square Test of household’s members and participation in agricultural projects

| Chi-Square Tests | | | | | |
|--|--------------------|----|-----------------------------------|----------------------|----------------------|
| | Value | Df | Asymptotic Significance (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
| Pearson Chi-Square | 8.099 ^a | 1 | .004 | | |
| Continuity Correction ^b | 6.630 | 1 | .010 | | |
| Likelihood Ratio | 8.417 | 1 | .004 | | |
| Fisher's Exact Test | | | | .006 | .005 |
| N of Valid Cases | 180 | | | | |
| a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.75. | | | | | |
| b. Computed only for a 2x2 table | | | | | |

The important value of the Chi-Square Test was electronically identified as 8.099 which is the value that represents two tables of household members who provided their perception on whether they participated or not in agricultural projects. The footnote for this Chi-Square statistic pertaining to the expected cell count assumption is shown to be less than 5 with 6.75 regarded as a minimum of expected count. This has played a significant role in determining if there is any relationship between households and their participation in agricultural projects whereby the corresponding significance level (p-value) can be mathematically written as $p = 0.05$. Therefore, if the significance level is greater than 0.05 the researcher has to adopt the null assumption (which says that there is no relationship between household members and participation in agricultural projects) and if the significance level is less than 0.05 than the researcher can possibly reject the null hypothesis.

Based on the identified results in Table 4.1, it can be concluded by stipulating that the p-value of the current study shown to be 0.04 which is less than the picked level of significance ($p = 0.05$), as a result it is important not to consider the null assumption (which says that there is no relationship between households and participation in agricultural projects). Therefore, the Chi-Square results can be conclude by saying

that there is a significant relationship between households and their participation in agricultural projects since these results ($X^2 (1) = 8.099, p = 0.04$) were originated. The SLA has shown that the participation of community members in agricultural sector has a positive impact in improving their livelihoods; this includes their involvement in agricultural activities such as crop and livestock farming (Toringepi, 2016).

The current study reveals that the majority (76%) of households from MLM has mentioned that they engage in agricultural projects. Lambertz *et al.* (2012) state that community members in MLM participate in agricultural projects even though they engage more on subsistence farming with the motive of producing food for their households' consumption. Msinga Local Municipality IDP (2017) also indicated high level of community participation in subsistence agricultural projects within the study area.

4.1.4. Distribution of Age in Agricultural Projects

The important aim of this section is to understand the distribution of age of household members in the agricultural projects with an intention of assessing the sustainability of agricultural projects.

Figure 4.3 implies that there is low participation of youth (28%) in agricultural sector in Msinga Local Municipality. However, the households mentioned that the low participation of youth in agricultural sector is caused by the fact that people at this age are employed in other sectors of employment. This is due to the point that young people are migrating from MLM to find proper jobs in capital cities such as Johannesburg. Tadele & Gelle (2012) say that achieving the accurate standard of rural economic development cannot be easy because nowadays, youth is not willing to live in rural areas and they do not see agriculture as a decent job for them. Therefore, the low participation of youth in agricultural sector left people with the age of 36-49 with 42% as key role player in ensuring the sustainability of this sector. These household members prioritise investing on agricultural projects as the way of ensuring that they have sustainable source of food for their families since they find it problematic to get employment at their age.

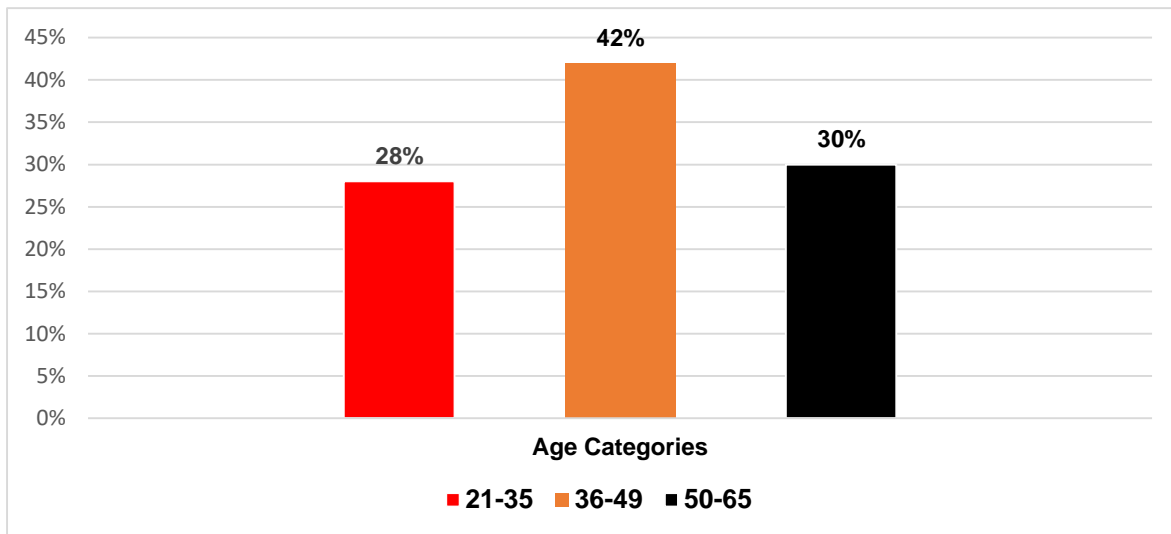


Figure 4.3: Distribution of Age in Agricultural Projects

Moreover, the findings imply a slow decline in participation of households in agricultural sector once people reach the age of 50-65. This decline is caused by that people at this age are being vulnerable and powerless because of the old age diseases. The findings further indicate that the agricultural sector in Msinga is also characterised by household members within the age of 50-65. Guo, Wen & Zhu (2015) support that people at this age are less productive to bring development in the agricultural sector compared to young people. In addition, once people reach the age of 50-65 they simply abandon agricultural sector in order to take care of their health.

The level of education also plays a significant role in ensuring the sustainability of the agricultural sector. Therefore, the following section sought to understand the distribution and impact of education in the agricultural sector in Msinga Local Municipality.

4.1.4. Education and Agricultural Projects

The distribution of education in agricultural sector is pivotal towards ensuring the sustainability of agricultural projects and improving rural economy. Oduro-Ofori, Aboagye & Acquaye (2014) assert that education plays a critical role in improving the productivity of agricultural projects by granting farmers the ability to make good decisions. The SLA explains that the sustainability of agricultural projects can be

maintained by possessing the human capabilities (including farmers with skills and education) towards performing agricultural activities effectively (Krantz, 2001).

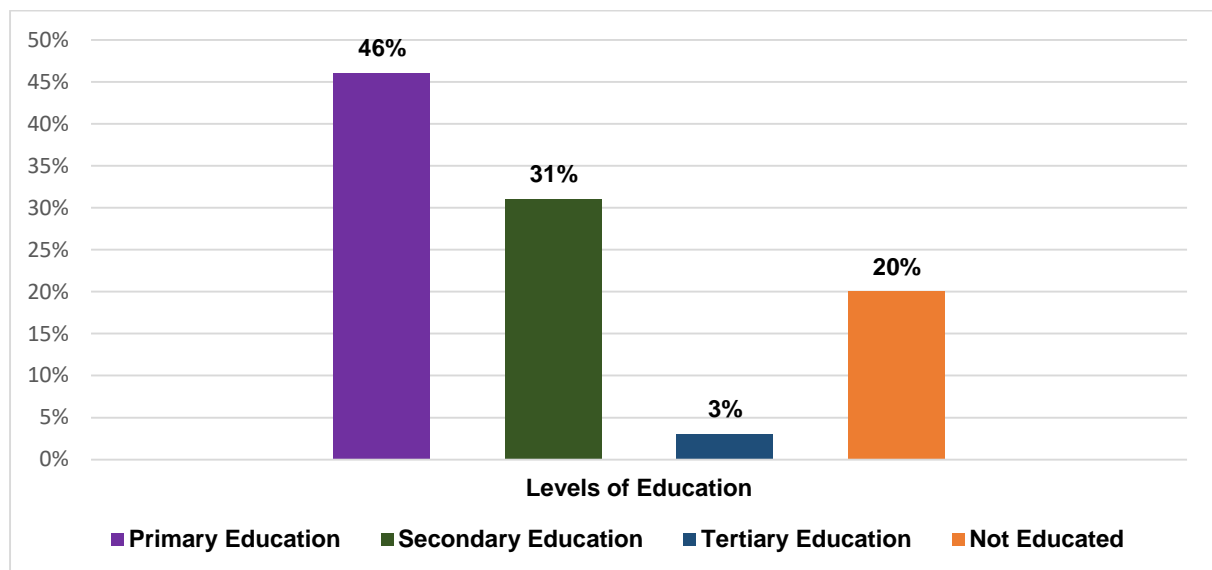


Figure 4.4: Participants Level of Education in Msinga

Figure 4.4 implies that the distribution of education in Msinga agricultural sector is too low since the sector is dominated by household members with primary education (46%). Hence, having primary education has forced household members to be hands-on in agricultural activities as a way of addressing the issues of food insecurity. The current study findings share similar sentiments with Liebenberg & Kirsten (2013) that the share of people who participate in agricultural sector is dominated by people with primary education, specifically grade seven and a little number of secondary education. These people have shown to have many years engaging in agricultural activities but the low of education makes it harder for them to understand the use of technological machineries.

Isidore, Cisabu & Murhebwa (2018) emphasised that most Africans recognise agriculture as a key role player in ensuring economic growth and it is important to take into consideration the impact of illiteracy rate towards ensuring the sustainability of agriculture and economic growth. Figure 4.4 implies that that there is distribution of people with illiteracy in Msinga Agricultural sector and these people find it very hard to learn about adapting in issues that hinder the growth of rural economy and sustainability of the agricultural sector. The SLA provides the importance of education (tertiary education) as an important role player in ensuring economic development by

formulating human capital, ensuring the availability of knowledge through research and ensuring that knowledge is being maintained and well transmitted amongst farmers (Pouris & Inglesi-Lotz, 2014). However, the current study also indicated the highest low distribution of tertiary education in Msinga agricultural sector. This, as a result, indicates that the agricultural projects within MLM are not sustainable enough since there is lack of people with the ability of formulating a strong human capital, ensuring the availability of knowledge about agriculture through research.

4.1.5. Distribution of Employment

Figure 4.5 depicts the employment status of household members in Msinga Local Municipality. The current study portrayed that MLM is dominated by high unemployment rate (60%). Therefore, these results indicate that the agricultural sector and other sectors do not create employment opportunities for people in MLM. Msinga Local Municipality IDP (2017) also shows that agricultural projects in MLM are unable to create sufficient and sustainable employment opportunities because agriculture is mostly practised for subsistence purposes.

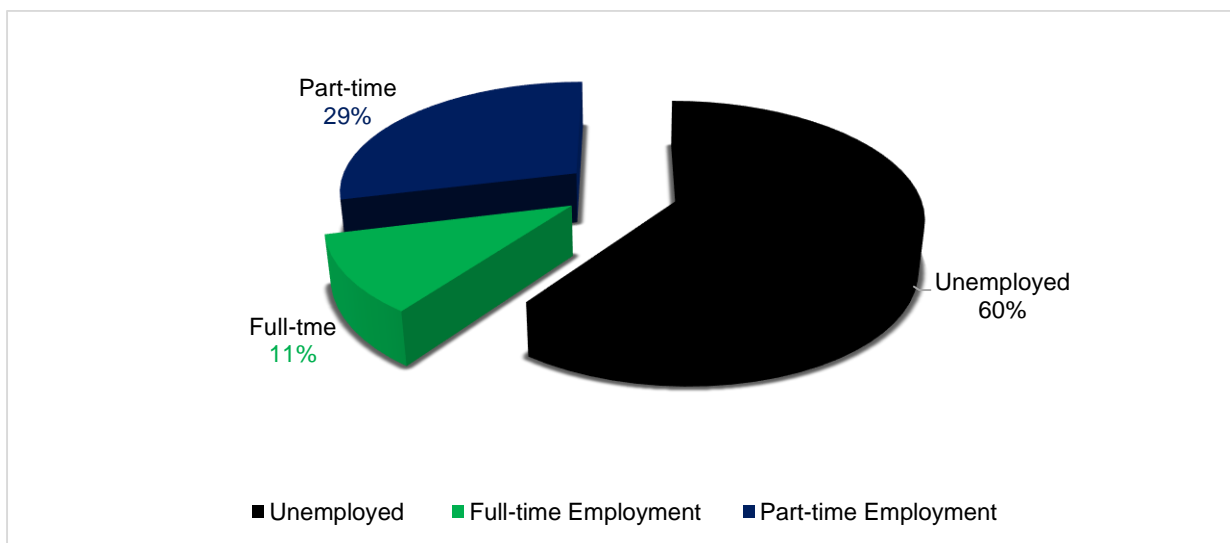


Figure 4.5: Households employment status in Msinga Local Municipality

The agricultural sector seems to fail to attain the mandate of the SLA through government institutions, which is to ensure the creation of employment opportunities for rural people (Krantz, 2001). This is because it only creates employment opportunities to a small percentage of people while the majority is failing to achieve their livelihoods through an effective accessibility of employment opportunities.

However, it does not create full-time employment; rather it creates part-time employment opportunities. Simbi & Aliber (2000) have the same view that there is a little number of part-time employments created by agricultural sector for rural people. In addition, they both clarified that part-time employment is only available during a certain period of time, more especially during weeding and harvesting. With the hiring of household members in commercial sector, employment has been reduced by the introduction of effective harvesting machineries.

The study further identified that there is no procedure that is in place to identify the number of part-time labour force that is employed in agricultural sector. Msinga Local Municipality IDP (2017) shows that almost 83% of the population within the municipality has no category of employment which leads to an assumption that there is high level of unemployment and existence of informal sector (including agriculture) within MLM. Therefore, this makes it hard to assess the contribution of agricultural projects to the growth of rural economy within the study area. The local municipality only managed to identify employed people only from small scale agricultural project which are registered in the local government data base.

4.1.6. Households Source of income and Amount of Income

The households amount of income was used as the row of interest or control variable in order to determine the extent at which the agricultural sector contributes to the household level. This has been done by comparing the agricultural sector (farming to sell) with other sources of income. Hence, these aspects (households' source of income and amount of income) play an integral part in assessing the contribution of agricultural projects in the growth of rural economy and determining the extent at which agricultural sector is sustainable.

Table 4.2 implies that the agricultural sector is struggling to generate sufficient income for households in Msinga area. This is due to the point that the purpose of farming to sell is the lowest contributor to the amount of income with 27% compared to old age pension grant that seems to be the main income generator to households within the study area. In this regard, Jacobs, Baiphethi, Ngcobo, & Hart (2010) discovered that the old age pension grant and social grant provided by government to people play an important role in supplementing rural livelihoods towards fighting their vulnerability to poverty related issues such food insecurity. Some of the households' social grants

recipients have invested some amount of their grants in ensuring the sustainability of their subsistence gardens. However, Jacobs *et al.* (2010) added that there is lack of recorded evidence which shows a statistic contribution of social and pension grant on agricultural projects and multiplier spin offs on rural economic growth.

Table 4.2: Cross tabulation for households source and amount of income

| Households amount of income in ZAR (p/m) * Households Source of Income Cross-tabulation | | | | | | | |
|--|-----------|-----------------------------|--------------|-----------------|-----------|-------|--------|
| % within Households amount of income in ZAR (p/m) | | | | | | | |
| | | Households Source of Income | | | | | Total |
| | | Pension Grant | Social Grant | Farming to sell | No Income | Other | |
| Households amount of income in ZAR (p/m) | -1400 | 65.0% | 10.0% | 23.0% | 2.0% | | 100.0% |
| | 1500-5000 | 3.0% | 57.6% | 37.9% | | 1.5% | 100.0% |
| | 6000-9000 | 7.1% | 7.1% | 7.1% | | 78.6% | 100.0% |
| Total | | 37.8% | 27.2% | 27.2% | 1.1% | 6.7% | 100.0% |

Table 4.2 further indicated that the agricultural sector is failing to contribute to rural economic growth since it only managed to generate an income amount of 37.9% in the income category of 1500-5000 per month, while social grant in this income category managed to generate an income of 57.6% per month. Therefore, the significant interpretation of these variables is that the agricultural projects are not adequately sustainable to contribute to the growth of Msinga economy. However, the household members have mentioned that even though they are struggling to sell their products to the market, they use agricultural projects as a primary source of food.

4.2. AVAILABILITY OF ARABLE LAND FOR AGRICULTURAL PRACTICE

In order to engage in agricultural activities and having sufficient productivity of agricultural projects, it is important to firstly have access and ownership of arable land. Therefore, households in MLM have provided their perceptions on the availability of arable land for them to engage in agricultural activities. Figure 4.6 depicts the nature of land that is available in Msinga Local Municipality. Figure 4.6 shows that 89% of households have access to an arable land which can be used for agricultural activities. These households have shown that they use their land for the purpose of subsistence farming. The households provided that they were unable to farm on their arable land

because of the lack of farming resources. In this regard, the SLA put forward that the institutions have a responsibility to facilitate access to livelihood resources so that rural people will be able to affect their livelihood strategies (Krantz, 2001).

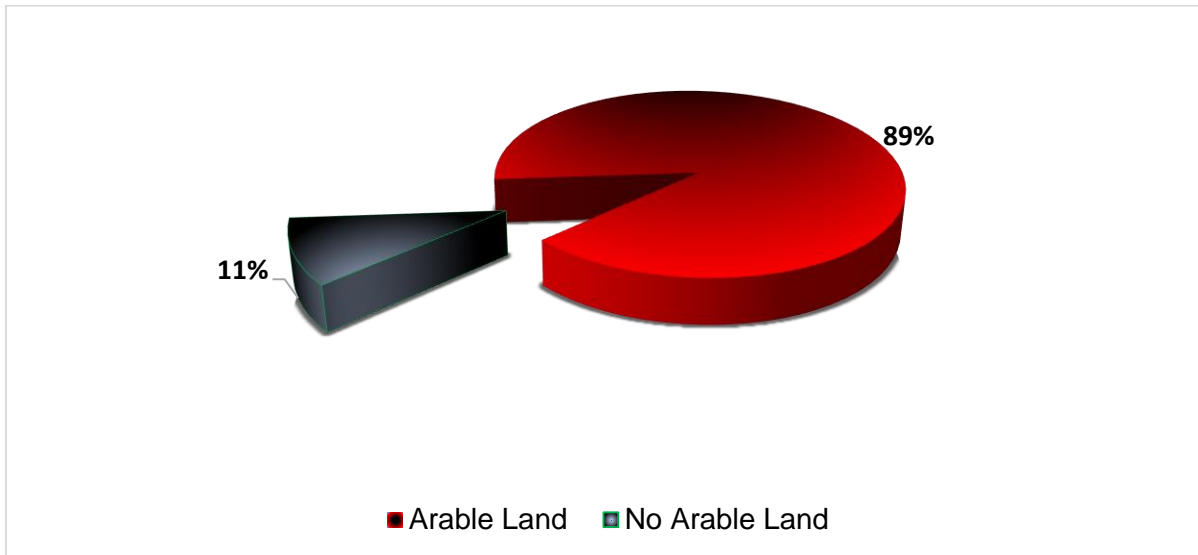


Figure 4.6: Availability of Arable Land in Msinga

However, this study identified that households, more especially those who engage in subsistence farming, do not receive assistance from government institutions towards making an effective use of their arable land. Martellozzo *et al.* (2014) emphasised that local government institutions have a critical role to play in the provision of resources to farmers at household level, since ensuring sufficient productivity in agricultural projects towards improving rural economic development and livelihood depends on the availability of arable and cultivated land.

The findings have shown that Msinga area consists of arable land that can be used in undertaking agricultural activities. Therefore, the following section discusses the types of farming that are being practised in Msinga.

4.3. TYPES OF FARMING IN MSINGA

The households provided their experiences on the types of farming that were mostly practised in MLM. Figure 4.7 depicts that the majority of households (53%) in Msinga Local Municipality are mostly engaged in both livestock and crop farming. Mthembu (2008) supports that livestock farming is usually integrated with crop farming in Msinga. The SLA expresses that the sustainable farming sector can effectively

function only if rural people utilise asset assortments to contribute to the growth of economy and food security (Serrat, 2008). Therefore, the study identifies that yam (amadumbe), maize, potatoes, dry beans, pumpkins, goats, sheep, domestic chickens and cattle were critical assets which were mostly produced in the mixed farming sector in Msinga. However, the findings of Siegmund-Schultze *et al.* (2013) reveal that the integration of both crops and livestock farming is too low in production in such a way that it does not contribute to the growth of rural economy.

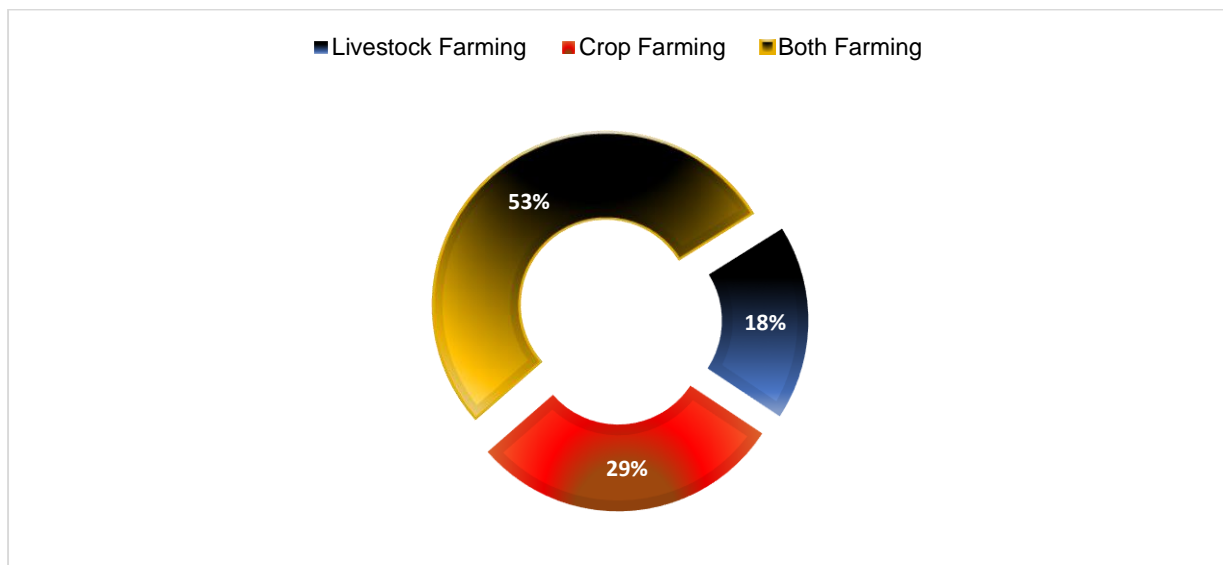


Figure 4.7: Types of Farming in Msinga

On the other hand, the farming of crops is better than livestock farming. This is owing to the point that women are mostly participating in crop farming in Msinga, and this makes crops farming more sustainable compared to livestock farming, which is mostly dominated by the participation of the men. Baiphethi & Jacobs (2009) have the same opinion that the responsibilities of crop farming are mostly undertaken by women in rural households and they produce more products to support families during the period of harvesting. Even though crop farming is practised with an intention of serving the subsistence purpose, it has the ability to contribute to the growth of Msinga economy.

4.4. AGRICULTURAL PROJECTS IN MSINGA LOCAL MUNICIPALITY

The households provided their notions on the reasons that make them engage in agricultural projects. Figure 4.8 depicts the results on the agricultural farming that is mostly practised in MLM. The majority of households were involved in subsistence

farming with a motive of producing sufficient products for their personal consumption. These households were engaging in subsistence farming because they were unable to commercialise their produce due to the low productivity of their agricultural projects. Sarkar *et al.* (2015) find almost similar results that most people in rural areas engage in subsistence farming because there are experiencing low productivity in their farms.

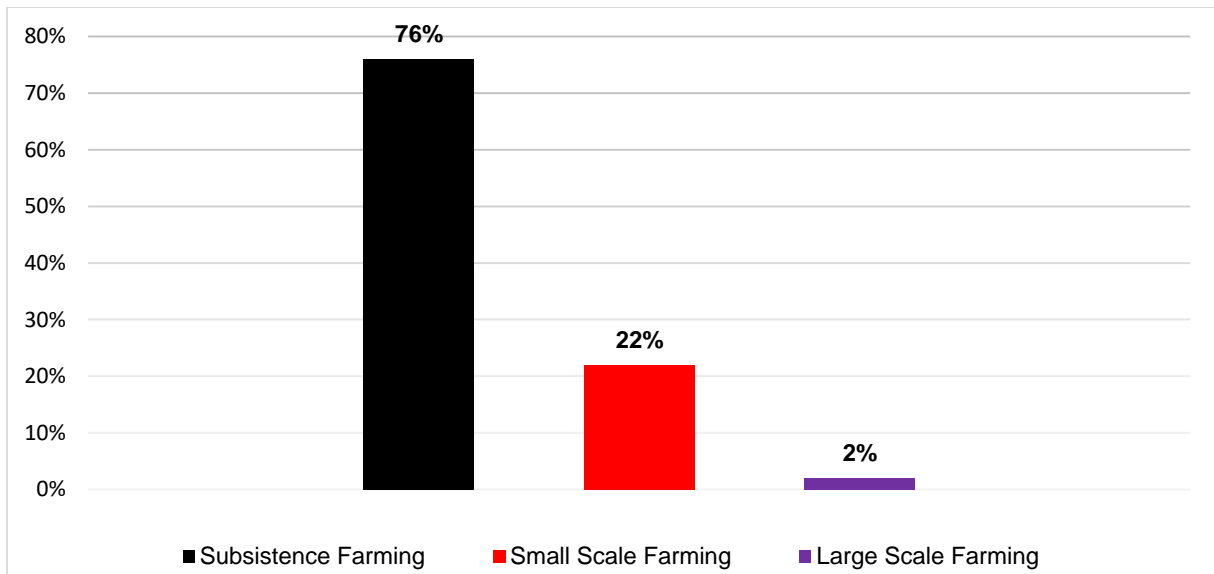


Figure 4.8: Agricultural Farming in Msinga

Hence, this type of farming is struggling to contribute to the growth of rural economy compared to urban subsistence farming that has the ability to contribute to market and household consumption. The small scale farming sector has shown to have a potential to contribute to the growth of Msinga economy. However, this sector is not sustainable enough to contribute to the growth of rural economy since farmers are participating in some unsustainable markets by selling their products to other community members.

4.5. PRODUCTIVITY OF AGRICULTURAL PROJECTS

The productivity of agricultural projects is regarded as the most important factor that determines if agricultural projects are sustainable. In this point, the productivity of agricultural projects is determined by the average output of production per farm. Therefore, the households in MLM provided their perspectives on the productivity of agricultural projects. Figure 4.9 implies that households in Msinga are experiencing a low productivity in their agricultural projects. Such low productivity is caused by

different challenges (including climate change conditions, inadequate infrastructural services and land issues) which are faced by the agricultural sector.

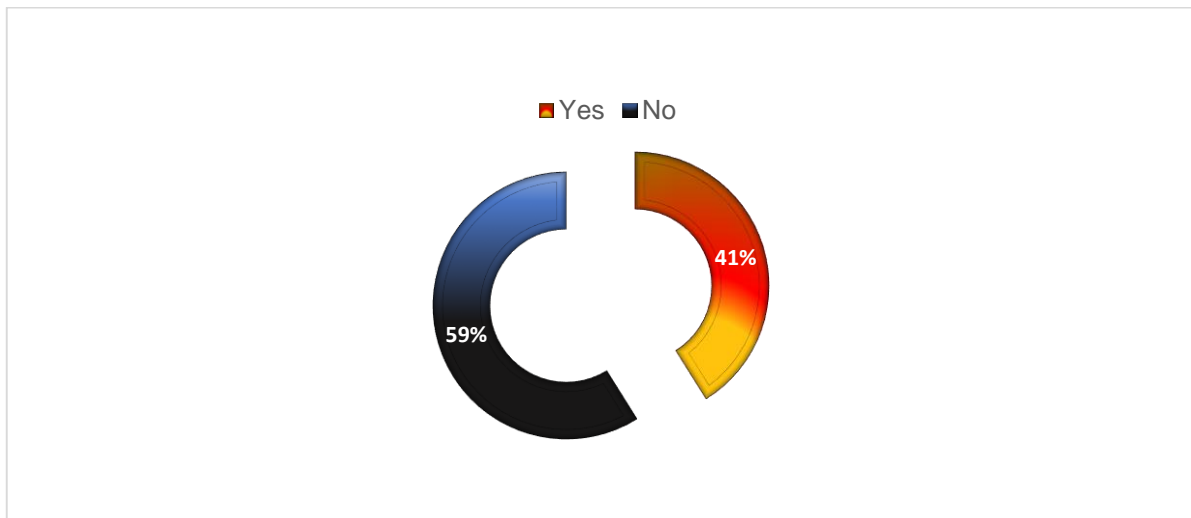


Figure 4.9: Productivity of Agricultural Projects

Adepoju & Salman (2013) support that there is low productivity in rural agriculture due to the reason that the majority of farmers are engaging more on the subsistence farming towards improving their livelihoods. Their findings also reveal the lack of infrastructure as the factor that constraints the productivity and ability of farms to generate income for rural farmers. Other households stated that since they are farming livestock, it is not easy for them to slaughter their several cattle, as a result farming livestock is not enough to produce sufficient products to be use by households.

4.6. AVAILABILITY OF AGRICULTURAL SUPPORT FOR SUBSISTENCE FARMERS

The households have shared their point of views on the availability of agricultural support from government institutions toward assisting them. Figure 4.10 provides types of agricultural support that were received by farmers in Msinga.

Figure 4.10 implies that households were mostly receiving seeds and scoops as an agricultural support from the Department of Agriculture. This support was rendered to them through the programme of one home, one garden, whereby the government institution was aiming to ensure that poor communities have the ability to address the issues of poverty and food insecurity anticipated to improve their livelihood. The SLA

states that it is the role of government institution to rescue poor communities from the vulnerable context by means of providing support and resources as to improve the rural livelihood standard (Serrat, 2008). However, the study identifies that the agricultural support that is rendered by government institutions to households is not sufficient since households mentioned that they had to pay money if they needed to access some of the ploughing materials (such as tractors and Hal plough). Aliber & Hall (2012) support although subsistence or household farmers in rural areas are regarded as the priority and are recognised by local government, they do not receive adequate support.

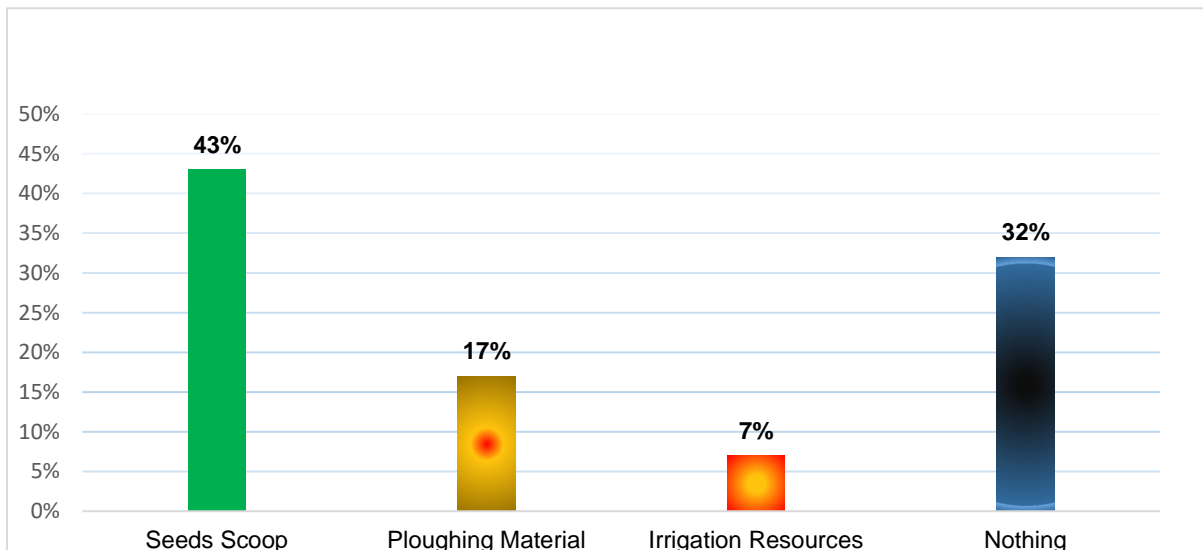


Figure 4.10: Availability of Agricultural Support for Subsistence Farmers

Other households who stated that they do not receive any assistance from either the Department of Agriculture or local municipality, these households feel that they are being neglected by local government when it comes to service delivery. This is due to the fact that even tap water that was installed way back within their communities has stop to function and the government is silent in terms of doing check-ups on those water taps. These households further stated that such situations make it hard for them to engage in agricultural activities towards ensuring that they address issues of food insecurity and improving the growth of economy.

4.8. SUMMARY OF THE CHAPTER

The socio-demographic information was provided and the relationship between households and their participation in agricultural activities was identified. While the second part was based on understanding the nature of agriculture and activities in MLM in order to assess if agricultural projects are sustainable and also analyse challenges faced by households in their agricultural projects. Therefore, the findings show that MLM is dominated by subsistence agricultural projects and the sustainability of these projects and economic development is facing problems since the agricultural sector is dominated by people who are struggling to adjust to the advancement of technology.

On the other hand, the participation of the old age people has also shown to have a negative impact on the sustainability of agricultural projects since these people are vulnerable to undertake agricultural activities because they are affected by old age diseases. The agricultural sector in MLM is struggling to create employment opportunities for local people; this is due to the fact that the study findings identified that there is high percentage of unemployment within the study area. The following chapter presents the qualitative data on the sustainability of agricultural projects and rural economic development.

CHAPTER FIVE

QUALITATIVE DATA PRESENTATION

5.0. INTRODUCTION

The focus of this chapter is to provide a detailed presentation on results of the qualitative data collected during the study process. These data were collected through the use of focus group discussions (with agricultural cooperatives) and semi-structured interviews (with municipal officials, ward councillors and extension officers). This chapter is divided into the following themes: level of agricultural practise in Msinga Local Municipality (MLM), types of agricultural development projects, the sustainability of agricultural projects, conservation of agricultural projects, challenges on the sustainability of agricultural projects, and coping strategies to overcome challenges faced by both farmers and government institutions in ensuring sustainability of agricultural projects. The aim of this chapter is to present, analyse and interpret data anticipating to have a concrete report that addresses objectives of the study.

5.1. AGRICULTURAL PRACTISE IN MSINGA AREA

The municipal officials, extension officers and ward councilors provided their view on the level of agricultural practice in Msinga Local Municipality. They all indicated that there is a high level of agricultural practice in Msinga Local Municipality. One municipal official provided a reason that Msinga area is mostly dominated by arable land for agricultural practice. Msinga Local Municipality IDP (2017) stipulated that there is high level of agricultural practice within the municipality. However, the farming practice is mostly dominated by subsistence farming at household level. This is due to the fact that even though there is plenty of arable land, farmers within this area still face challenges with regards to the land, which has limited capacity on the productivity of agricultural development projects because of the issues of climate and poor agricultural practice. Therefore, these issues have turned out to be an obstacle on the sustainability of agriculture in MLM which constraints the ability of agricultural sector to contribute to the growth of rural economy.

Therefore, the following section presents the reasons that have been provided by the municipal officials, ward councilors and agricultural cooperatives supporting that there is high level of agricultural practice within the study area.

5.1.1. Budget Allocation for Agricultural Activities

The municipal officials provided that in order to ensure that there is high level of agricultural practice and making it a norm that agricultural sector is sustainable in Msinga Local Municipality, the municipality has an estimated budget of 2 million South African Rands per year. One municipal official further clarified:

The Municipality is divided into 18 wards with 36 councillors. Therefore, each ward has the budget of ZAR 111 111.11 to be utilised in ensuring agricultural practice.

Therefore, if community members and farmers need an assistance based on the subject of agricultural activities, they simply consult their ward councillors so that they can be assisted in terms of services that are required to improve their agricultural projects. Madumo (2011) points out that ward councillors are the responsible representatives to be consulted by community members when they seek assistance pertaining to queries which include service delivery to communities. The role of ward councillors has assisted the municipal LED department to make an effective use of the budget toward implementing agricultural projects for local communities. Therefore, one municipal official made an example:

The municipality have introduced an agro-processing agricultural project which was requested by community members. This project was implemented in 2013 and it is being owned by 20 women. These women focused on making jam by using sweet potatoes, tomatoes, beetroot and other vegetables with an aim of trading to the market and supporting their households.

Hence, this project was requested by community members through the ward councillor and the intervention of the municipality was to assess if this project is feasible and determine if it can contribute to the growth of rural economy.

5.1.2. Availability of irrigation schemes in Msinga

On the other hand, both municipal officials and extension officers revealed that the availability of two well operating and sustainable irrigation schemes (namely, Tugela Ferry and Muden irrigation scheme) served as a proof that there is high level of agricultural practice within MLM. This is because both these agricultural projects have significant contribution to the growth of Msinga economy, since farmers who engage in these projects have a motive of farming with an intention of selling their crop products to the market. Nyiraneza (2014) regarded these irrigation systems as small scale agricultural projects that play a significant role in improving the level of agricultural practice in rural areas referring this to the Muden irrigation scheme. In addition, Nyiraneza (2014) also emphasises that these irrigation schemes have attracted the intervention of the government to assist small scale farmers in rural areas whereby the government encourages farmers to work in cooperation in undertaking agricultural activities towards enhancing rural economies.

5.1.3. Availability of Community Gardens in Msinga

The current study identifies that Msinga Local Municipality is regarded as one of those rural municipalities that depends more on agriculture as a significant instrument in enhancing rural economy. This is due to the fact that a ward councillor said:

There is a high level of agricultural practice in this area because almost all households are engaging in different types of farming, while municipality and Department of Agriculture introduced community gardens in order to ensure that household's farmers are engaging on agriculture towards address issues of food insecurity and improving economic growth.

The ward councillor further made an example that in ward 18, they are two community gardens located at Mahlaba and Mthaleni areas; both these projects are functioning effectively. While the extension officer stated that the Department of Agriculture also introduced small irrigations, whereby they assisted in terms of fencing, provision of irrigation system referred this to the cropping project that they have successfully implemented in ward 14 (Qedusizi co-operation). Hence, Farmers who engage in these projects are active and able to produce food that can be sold and consumed by their households in a regular basis except in winter. This is due to the fact that in

winter, they experience issues of water scarcity due to the shortage of rainfall. Therefore, the findings of the current study concur with Kalaba (2015) that the potential of South African agricultural sector to contribute to the growth of economy is being compromised by the low rate of rainfall. This is because such a situation forces the agricultural sector to produce at a comparatively towering cost to achieve the similar unit of output as compared to other countries worldwide.

5.2. INDICATORS OF SUSTAINABILITY OF AGRICULTURAL PROJECTS IN MSINGA

This section presents the indicators that have been used in order to assess the sustainability of agricultural projects in MLM. These indicators play an intensive role as to identify if the existing agricultural projects within the study area are sustainable enough to contribute to the growth of rural economy. Therefore, the researcher commenced by identifying the availability of agricultural projects in Msinga with an intention of understanding the extent at which those projects have been existing.

5.2.1. Duration of Agricultural Projects in Msinga

The agricultural cooperatives provided their perceptions on the duration of their projects and their responses imply that all agricultural projects still exist even though some of them have experienced different challenges. All agricultural cooperatives mentioned that the duration of their agricultural projects are as follow:

Table 5.1: Duration agricultural projects in Msinga

| Agricultural cooperatives | Year of Establishment |
|----------------------------------|------------------------------|
| Group (A) | 2011 |
| Group (B) | 2014 |
| Group (C) | 2008 |
| Group (D) | 2001 |
| Group (E) | 1995 |

5.2.1.1. Agricultural projects with more than 20 years of existence

The agricultural project that has existed for the longest period was established approximately in 1995. This project has been in existence for 23 years from 1995-

2018. However, group (E) explained that the sustainability of their project has been uncertain due to the fact that there were experiencing several issues (which include having unfenced gardens, dry land caused by lack of rainfall and water scarcity, low productivity caused by infertility of soil) which led them to temporarily shut down their project in 2010 and restarted in 2013. Rainforest Alliance (2016) supported these findings by explaining that issues (such as climate condition) have forced some of the farmers to stop farming and radically change the way of undertaking agricultural activities. This is due to the point that most farmers have changed the season of farming while others have completely given-up participation in agricultural activities.

Therefore, the current study identifies that the temporal shut down of agricultural project has negative impact in ensuring the availability of food at household level and in improving rural economy. This has been confirmed by group (E), who stated that their dysfunctional agriculture project from 2010 to 2013 left their households starving because they were no longer engaging in agriculture to produce food for household consumption and selling purposes to their neighbours. Nonetheless, their project has been re-implemented on the end of 2013 with assistance from the Department of Agriculture that provided fencing, fertiliser and other ploughing materials.

The agricultural projects that have been implemented in more than 20 years back have been faced by challenges that constrained its sustainability and ability to contribute to the growth of Msinga economy. The following section sought to understand the nature of agricultural projects that have existed for more than 10 years.

5.2.1.2. Agricultural projects with more than 10 years of existence

Group D and C stated that their agricultural projects were implemented in 2001 and 2008, existing for 17 years and 10 years respectively by the end of 2018. Therefore, both these projects have shown to be sustainable since each project has existed for at least 10 years and survived all negative impact faced by the agricultural sector within the study area. Hence, both groups expressed that the sustainability of their agricultural projects has been in a bad situation during the earlier days of implementation, whereby they experienced low productivity from the farm and there were no support services available from the government institutions to assist them since they were not farming with the purpose of selling their products to the market. In this view, Mhlanga (2011) suggest that the South African government should put more

focus on subsistence farming sector and consider this sector as the most important instrument in addressing issues of poverty and improving rural economy.

This is due to the fact that MLM is dominated by subsistence farming sector; therefore, strengthening the sustainability of this sector will grant farmers ability to produce sufficient products that can be sold to the market towards enhancing rural economic development. The following section analyses the sustainability of agricultural projects that have existed for less than ten years.

5.2.1.3. Agricultural projects with less than 10 years of existence

Group A and B pointed out that their projects were implemented in 2011 and 2014 respectively; both these projects had less than 10 years of existence by the end of 2018. Regardless of the current burning issue of climate change experienced by the entire agricultural sector in South Africa, these groups explained that they receive assistance from the local government since they both engage in small scale farming sector. Hanf (2014) supported this by saying that in rural areas, the small scale farming sector received more attention from the local government compared to subsistence farming sector. This is due to the reason that small scale farming sector is regarded as the key contributor on the growth of rural economy in most South African rural areas (Mthembu, 2013).

Despite the prevailing circumstances that projects from both group A and B have less than 10 years of existence, these projects have shown to be sustainable since they are managing to produce almost sufficient food for both household consumption and market purposes. They managed to employ a maximum number of five people (two were employed in full time basis and three being employed in seasonal basis) hoping to keep their agricultural projects sustainable. The duration of agricultural projects played an integral role in determining the sustainability of the agricultural sector in Msinga. Therefore, the following section assesses the sustainability of economic component in Msinga.

5.2.2. Sustainability of Economic Component in Msinga

The sustainability of economic component was assessed by checking the availability of rural based market and viability of agricultural projects. The availability of rural market was measured by the ability of farmers to sell their products in the market,

while the viability of agricultural projects was measured by the ability of the projects to produce sufficient products, whereas managing to access the market effectively.

5.2.2.1. Rural based market availability in Msinga

A municipal official stated that the municipality is currently struggling to open ways to the market for rural agricultural projects owned by small scale farmers from poor communities in MLM. This municipal official further stated that municipality has no proper plan to assist farmers to access the market. Mthembu (2008) echoes similar results that farmers in Msinga are struggling to access the market due to inadequate of resources (transport, roads, telecommunications) and they have poor marketing strategies in identifying the potential available market opportunity. Poor access to the market has shown to be a threat to the growth of Msinga economy and has negative impact on the agricultural sector since farmers' products do not effectively reach the market. A ward councillor emphasised:

To be quite honest, we only talk about introducing rural market in meetings but practically we never implemented it.

The struggle to implement market in rural areas has been caused by the insufficient budget allocated in infrastructural development. Therefore, this has forced farmers to use their own ways (such as selling their products in pension points, neighbours or either to people who host big events) in their eagerness to access the market. However, farmers at Tugela Ferry irrigation scheme take their products to be sold in the street of the town (Tugela Ferry) acting as informal traders or street vendors. On the other hand, Mdlalose (2016) also identifies a struggle faced by rural farmers in accessing the formal market, which makes them depend on informal channels such as selling their products like hawkers in street, selling to neighbours and shops available within their communities. Even though there is no policy that allows the Department of Agriculture to assist farmers in identifying an available market, an extension officer stated:

We are trying to link the small-scale farmers to the market even though the department has not yet implemented any proper strategy on this matter, due to the scarcity of resources. However, we do assist some of the farmers to sell their product to the local supermarkets.

However, such market is not adequate to allow rural farmers to gain valuable profit since the local supermarkets do not buy agricultural products on regular basis. This compromises the ability of subsistence farmers to grow their agriculture into commercial sector and maintaining the sustainability of those agricultural projects. Randela, Alemu, & Groenewald (2008) have a view that the agricultural sector of South Africa intends to integrate the subsistence farmers so they can be able to commercialise the rural economy through a successful marketing strategy. However, this is still impossible within Msinga area since farmers have a limited ability to access viable market for their produce. This has resulted to the unsustainability of agricultural development, since farmers lack the ability to participate in a profitable market.

5.2.2.2. Viability of agricultural projects in Msinga

The viability of agricultural projects was determined by measuring the productivity of farms in the direction of addressing the issues of food insecurity or ability to produce adequate products to be commercialised. One agricultural cooperative pointed out that their agricultural projects are viable and operating just like other small businesses because the customers can find them in their shop (which is located at Pomeroy). They further explained that customers can also find them via telecommunications if they feel like acquiring information or placing orders from their agricultural business projects. Another agricultural cooperative mentioned that they use their personal transport to do deliveries of product to their customers with an aim of making certain that their agricultural project is viable. One of the findings confirms that having an own transport is helpful to farmers so that they can be able to reach their potential customers (Mthembu, 2008).

Another agricultural cooperative revealed that it is not easy for them to confirm the viability of their agricultural projects since they engage in subsistence farming with no expectations of commercialising their produce. However, they have assumed that their agricultural project is viable because they gain sufficient food to support their households. This agricultural cooperative also stated that they even sell some of the products to their neighbours because their neighbours struggle to travel miles with an intention of buying food that is available to local subsistence farmers. Agricultural cooperative stated:

We only sell our product to the neighbours because they cannot travel miles and use their last cent to buy thing that we have in our possessions, otherwise our gardens are too small in size and they cannot produce sufficient product to be sold to the market.

Chisasa & Makina (2012) collaborate their results that the majority of households participate in subsistence agriculture which is regarded as less productive, since these projects are unable to produce products that can be sold to the commercial market. However, other agricultural cooperatives pointed out that their agricultural project is regarded as one of the most contributors to the growth of rural economy in MLM. This is because their agricultural projects are managing to provide seasonal employment opportunities to a number of community members. Environmental Science Associates (2016) identifies that rural agriculture is creating a large number of seasonal employment opportunities whereby farmers strengthen their labour force. This is because seasonal workers have an important role to play on the viability of agricultural projects, which is to maintain that agricultural projects are economically viable by preparing the land so it can stay more productive and keeping the land in a farming condition for a long period.

5.2.3. Sustainability of Social Component

The social component was accessed through the availability of employment opportunities and support services on agricultural resources for rural farmers and the ability of agricultural projects to address the issues of food insecurity.

5.2.3.1. Employment opportunities in agricultural projects in Msinga

The majority of agricultural cooperatives stated that their agricultural projects were able to create employment opportunities for local people but only on seasonal basis more especially during weeding and harvesting period. Hurst, Termine & Karl (2005) point out that in most rural agricultural sectors, workers are being employed on a seasonal basis and more especially as casual workers. In addition, seasonal employment is explained as a type of employment whereby workers are being paid based on the task that they have done, more especially at the end of that particular day. However, some of the agricultural cooperatives explained that they do not pay for those seasonal workers since they engage on subsistence farming sector but they

give them a right to take some of the food from the produce to support their families. One agricultural cooperative mentioned that their project is governed by the barter system whereby they employ people in exchange for food. This is because these projects are not in a position to employ people who are expecting to gain salary since their farms are not for profit. Hurst *et al.* (2005) referred this to the Payment In Kind (PIK) whereby subsistence and small scale farmers use produce to pay for their casual workers.

Henceforth, two agricultural cooperatives admitted that they do not have any procedure for the recruitment of their seasonal workers in their small scale agricultural projects. However, they recruit people who voluntary come to seek for employment during the times of harvesting and if there are any job opportunities available, they simple hire those individuals. Nevertheless, the sustainability of the casual employment is not certain since the number of people to be employed is determined by the amount of products that need to be harvested. Therefore, this clearly means that if there is little job to be done they end up hiring one or two people (who will transport their product from farms to be sold at the towns or doing harvesting) or they do not hire people at all.

However, another agricultural cooperative has shown that their agricultural project is in a good position of providing sustainable full-time employment to at least 5 people from the community. The full-time employment refers to the ability of agricultural project in employing people on permanent contract basis which is unlimited in duration. Hence, this group stipulated that they provided sustainable jobs to three people who take care of the cattle on the farm site, one shopkeeper at the shop, a driver of a car who plays a significant role in making deliveries to the customers and one who has responsibilities of taking care of the farm. However, Hurst *et al.* (2005) reveal that full-time workers in agriculture are not well paid compared to other employment sector in a given country - the wages or salaries are too low while the working hours in rural agriculture are too long.

5.2.3.2. Funding support in Msinga agricultural projects

Municipal official stated that the municipality supports agricultural projects requested by local farmers through the provision of agricultural budget. The official further explained that the municipality is using this budget to buy farming resources to assist

rural farmers in keeping their agricultural projects sustainable and contributing to the growth of Msinga economy. De Klerk, Fraser, & Fullerton (2013) all reveal that rural farmers have a wide range of financial support from local municipality which is offered by different financial institutions but it seems as if farmers are unable to make considerable use of these financial services. However, the current study identified that such services are available in favour of small scale farmers, while MLM is mostly dominated by subsistence agricultural practice. The findings of Khapayi & Celliers (2016) reveal that subsistence farmers lack information which makes it harder for them to request funding from relevant stakeholders in keenness of sustaining their agricultural projects.

Nevertheless, an extension officer stated that with regards to funding assistance, the Department of Agriculture had motivated local communities to come up with business plans so that their agricultural projects would be registered within the local government data base and this would grant farmers an opportunity of commercialising their produce as to contribute to the rural economic development. Therefore, the role of the Department of Agriculture is to assist community members with drafting and submission of their business plans in order to ensure that they secure funding from the local government. In addition, the extension officer stated:

The local farmers will then undertake the application processes, then they present the project business plan to Local Project Steering Committee in order for them to be rewarded with a funding.

The intensive role of the Local Project Steering Committee is to check the feasibility of each and every proposed agricultural project and ensure successful conveyance of that project which includes increasing the benefits and ensuring that the project contributes to economic growth. Therefore, the registration of agricultural projects within the data base of local municipality and Department of Agriculture assists farmers to secure the funding and plays a significant role in making sure that those particular projects contribute to the rural economic growth. The extension officer explained that the Department of Agriculture usually supports those agricultural projects that are approved by the steering committee and they provide infrastructural and ploughing materials. Furthermore, the government officials even at the national

level is prioritising to provide assistance to people who work as cooperatives with feasible agricultural proposals toward improving rural economies.

5.2.3.3. Agricultural projects as source of food security in Msinga

The majority of agricultural cooperatives stated that their agricultural projects were able to address the issues of food insecurity but not to the entire community. Mbatha & Masuku (2018) agree that the majority of rural communities in South Africa participate in agriculture with an intention of ensuring the availability of food in their households. One agricultural cooperative also emphasised that their agricultural projects address issues of food insecurity by ensuring that produce is always sufficient and available to be accessed by community members (since community members are the only available customers to buy their products). Rakotobe *et al.* (2016) similarly state that community members are people who address issues of food security by purchasing food from local farmers, more especially those people who do not engage in agricultural activities and those whose farms do not produce sufficiently because of climate change conditions. Another agricultural cooperatives also stated that they receive amazing support from community members, who buy their products to put food on the table for their households.

However, other agricultural cooperatives have complained about low productivity of their farms which limit them in having sufficient products. This is because they end up focusing on ploughing two types of products (typically maize and brown beans) which they harvest in winter season. Iizumi & Ramankutty (2015) explained that due to the negative effects of winter on agriculture, some of the farmers plant first crops (such as maize, winter barley) during the earlier stage in summer. This assists farmers to have sufficient food even in winter, whereby farmers are unable to crop because of rain scarcity, so through the availability of products that are harvested in winter they simply escape food insecurity. Another agricultural cooperative stated that people who are the key members of their agricultural project are always food secured. This is due to the fact that the purpose of their agricultural project is to safeguard the availability of food for their households' consumption not to commercialise it.

5.3. CHALLENGES ON THE SUSTAINABILITY OF AGRICULTURAL PROJECTS

Challenges have shown to be a threat on the sustainability of agricultural projects in MLM. This is due to the fact that municipal officials, extension officers and ward councillors reported that they encountered several challenges that can possibly lead to the dysfunction or failure of the agricultural project. They further provided their perception on the issues that have been reported by farmers to them. These challenges are presented and interpreted as follow:

5.3.1. Impact of climate change on rural agriculture

The extension officer stated that community members are experiencing the issue of drought. This is due to the fact that there is a shortage of rain and rivers and dams are dry in both winter and summer. This was supported by agricultural cooperatives, which singled out that impact of climate change destroys their crops in gardens and livestock is suffering, since they pass through the rough sketch of drought incidence. These results are similar to those of Ojja *et al.* (2017) which emphasise that other countries are experiencing climate change which causes a decline in agricultural productivity.

Filtane (2016) also emphasises that the entire agricultural sector in South Africa is facing a barrier of climate change which negatively affect the crop and livestock production. Hence, the current study identifies that such issues (drought and water scarcity) have frustrated farmers in such a way that some of them have stopped farming because they do not have water for irrigation and feed livestock. This is due to the fact that these agricultural cooperatives have stated that the issues of water scarcity have endangered the ability of their agricultural projects to produce sufficient food to be consumed by their families. The low productivity in agricultural sector makes it even harder for Msinga agriculture to contribute to the growth of rural economy because farms are failing to produce products that can be sold to the market. These results are supported by Qian, Wang, & Liu (2014) who reveal that climate change has a negative effect on the productivity of agricultural projects, since there is a tragic fall following the incidence of different natural disasters (drought, acid rain and others) around the world.

5.3.2. Outbreak of Diseases

The municipal officials, extension officers and ward councillors have also indicated that the agricultural sector is experiencing the outbreak of diseases which has a negative influence on the productivity of agricultural projects. These diseases affect both livestock and crops farming.

5.3.2.1. Impact of diseases on livestock farming

The agricultural cooperatives revealed that their livestock (cattle, goats and sheep) are dying, because of different diseases. This has been supported by extension officers during semi-structured interviews who stated that livestock is being affected by diseases (such as Foot-and-mouth and contagious *ecthyma* disease) that usually affect cattle. These are the reportable diseases because they spread very easy if farmers do not report them. This is due to the fact that such diseases are transmitted from animals to people and people end up getting sick, which makes them vulnerable to participate in agricultural projects. Unfortunately, these diseases kill animals which are regarded as the main asset in enhancing the rural economy. In addition, losing animals through diseases cause a decline on the productivity of farms while threatening the ability of agricultural projects to contribute to the growth of Msinga economy.

Furthermore, household's representative mentioned that they lost a number of goats and sheep through this disease and they seem to be struggling in accessing vaccinations to protect livestock from such diseases because of high cost attached on livestock vaccinations. These findings are similar with those of the FAO (2016) which sees a negative impact on the dependence of rural economy on livestock farming since the transmission of diseases from animals causes loss of human lives, losing the value productivity through sickness and the expensive cost of taking care of people who are sick and to buy vaccinations to treat livestock. The agricultural cooperatives also reveal that the intervention of the Department of Agriculture in assisting farmers in Msinga through the provision of free vaccinations is failing to accommodate all subsistence farmers. In addition, these farmers do not continue with farming because they are not financially stable to keep their livestock farming sustainable.

5.3.2.2. Impact of diseases on crop farming

The extension officers stated that crops were being affected by diseases such as early blight which negatively affect tomatoes, potatoes and sweet potatoes. Agricultural cooperatives also mentioned insects, pests as a threat on the crops which lead them to harvest and sell the products before maturity. These agricultural cooperatives have shown to be concerned because selling such products has a negative impact to people's lives and customers who do not trust their products any more. Al-Sadi (2017) has the same opinion that diseases which are found in crops turn to be a threat on the growth of economy, since they reduce the productivity of farms and food available to poor communities. Therefore, such occurrences can lead to the lack of food, cause starvation and death to poor rural communities. An example of this is that an early/late blight disease destroyed a large number of potatoes which was regarded as the main crop in Ireland back in 1845 (Al-Sadi, 2017). In addition, this circumstance resulted in a great hunger that affected people and about a million people while another million decided to emigrate.

Therefore, the current study further identified that the unaffordability of vaccinations to treat crop farming sector from diseases has pushed a number of subsistence farmers away from engaging in agricultural projects. Therefore, this reduced the number of participants in Msinga agriculture sector and it automatically affected the output of farms, as the reduction of labour force has a negative impact on the productivity of farms. Thus, crop diseases put in danger the sustainability of agricultural projects in Msinga. As a result, farms have shown to hardly contribute to the growth of rural economy because of low productivity.

5.3.3. Poor infrastructural services

Municipal officials said farmers reported that they experience low productivity from their farms or gardens because their gardens are not well fenced and their crops are in danger of being consumed by goats, sheep and cattle. The agricultural cooperatives stated that even though municipality provides tractors for ploughing purposes, subsistence farmers cannot afford to hire them because those tractors are expensive since each and every farmer has to pay money for diesel purposes. Therefore, this has resulted to some farmers deciding to stop farming while the minority use a traditional system of ploughing with donkeys and cows. However, this traditional

system of farming only works for subsistence farming purposes because donkeys or cows are unable to plough large hectares of land.

On the other hand, agricultural cooperatives have also shown to be concerned regarding poor availability of transport that can be used in transporting the products from their farms to the market. This is due to the fact that they do not have vehicles that can carry their products from the market in such a way that they have to pay for the expensive public transport. These findings concur with those of Kapungu (2013) who says that rural farmers struggle to access the market because of cost and inadequate appropriate transport to take their products from farms to the market. Similarly, Mdemu, Mziray, Bjornlund, & Kashaigili (2017) state that transport facilities are inadequate in ensuring sustainability of agricultural projects in most rural areas around the world. In addition, this is not good in terms of contributing to the growth of rural economies because of the fact that transport is the pillar that allows farmers to access the market place at all times. Therefore, having inadequate availability of transport puts into jeopardy the ability of agriculture projects to make a significant contribution to the rural economy.

5.3.4. Accessibility and ownership of land for agricultural practise

The agricultural cooperatives mentioned that they were not happy with the size of their agricultural land since they are farming in a small piece land which does not allow them to produce enough. Msinga Local Municipality IDP (2017) also revealed that almost 69% of the land is in the ownership of traditional authority being held in trust by Ingonyama Trust. Therefore, the distribution of this land to communities is done through traditional authorities, which does not allow subsistence farmers to own a large piece of land for their subsistence farming purposes.

The agricultural cooperatives further explained that the issue of land has been around for a while since they do not have farm site to keep their livestock (goats, sheep and cattle). Therefore, this indicates that the availability and ownership of land for agricultural purpose is still a challenge faced by farmers in MLM. Khapayi & Celliers (2016) perceive that the issue of land limitations to farmers has a negative impact on the sustainability and income of farms, more especially to livestock farmers whose dependence is on the availability of abundant land in order to graze and expand the production of their livestock. Hence, the unavailability of land does not only affect the

production of agricultural sector but it also influences market participation in a negative manner since farms cannot produce sufficient products that can be sold to the market. Thus, Khapayi & Celliers (2016) provided evidence that the majority of farmers (72%) produce on small land which is estimated to be less than ten hectares, while 28% percent produce from more than ten hectares of land. However, the product produced from a small land is not adequate for both household consumption and market purposes. Therefore, this shows that the issue of land accessibility and ownership is threatening the ability of agricultural projects to contribute to the growth of Msinga economy.

5.3.5. Access to market

Word councillors have added that farmers reported that they do not have a stable market where they can conglomerate as farmers with the purpose of trading their products. Mthembu (2008) also highlights that in Msinga area, farmers do not have a stable market place which forces them to participate in unsustainable markets by selling their products to other community members when the products are in high demand during the time of pension grants pay-out. However, the current study gathered that the pension grant payment points where farmers used to sell their products have been disbanded which left farmers with no option but to sell their products only to their neighbours or on the streets of Tugela Ferry and Pomeroy.

Therefore, the unavailability of proper market base in MLM compromises the ability of agricultural projects to contribute to the growth of rural economy. This is due to the fact that even small-scale farmers struggle to access the formal market for their agricultural produce. Moreover, Biénabe, & Vermeulen (2011) agree that poor access to market is a similar issue faced by farmers around the world; in South African rural areas, farmers find it very tough to engage in a commercial market. This is owing to the fact that farmers are unable to market their own commodities because of different constraints they are facing which include poor infrastructural services, disadvantaged geographical location and weak institutions that control their livelihoods. Furthermore, the extension officers revealed that the pricing of agricultural products has shown to be a problem amongst farmers in Msinga due to the fact that some farmers are not well educated. This is because most farmers are simply assuming the value and the price that can be attached to each and every item that they intend to sell. In this point,

Barrett (2008) put forward that the cost of commodities to be traded has a significant influence on the market participation and it plays an important role in ensuring economic growth.

5.4. COPING STRATEGIES USED IN MSINGA AGRICULTURAL SECTOR

The municipal officials, extension officers, ward councillors and agricultural cooperatives stipulated that they are experiencing several challenges that put in danger the sustainability of agricultural projects and hindering the ability of these projects to contribute to the growth of Msinga economy. Therefore, this section provides coping strategies that have been used by both farmers and government institution to overcome and address challenges that they were facing.

5.4.1. Coping from the Outbreak of Diseases

The agricultural cooperatives stated that in order to address the issue whereby crops and livestock are being affected by diseases, they consult the Department of Agriculture seeking advice and assistance in terms of how to protect their crops and livestock from these diseases. Furthermore, agricultural cooperatives stated that they also request the municipality to help them in buying livestock and crops' vaccination but if the municipality fails to do so, they simply try to raise money so they can be able to address such problems. Agricultural cooperatives pointed out that they use their profit in order to buy vaccination to ensure that they protect livestock and crops from being destroyed by insects.

5.4.2. Diversification of Farming

In Msinga area, farmers have complained about the small piece of land which does not allow them to produce sufficient products for their household consumption and commercial purposes. Khanal & Mishra (2015) also mentioned that rural agriculture plays an important role in contributing to the growth of economy and food security but they both emphasised that land is an issue that limits the productivity of farms. Therefore, low productivity of farms due to the small piece of land has motivated farmers in MLM to diversify their agricultural sector. They undertook the diversification process by farming in both winter and summer seasons in order to ensure that their agricultural projects are able to produce sufficient products for market purposes and household consumption. However, the issue of water remains a problem more

especially in winter, which forces farmers to travel miles in search of perennial rivers (such as Malongwane River) or dams with an aim of fetching water that can be used for irrigation. The agricultural cooperatives further explained that even their coping strategy of farming diversification has not yet meet their expectations due to the issues of climate change.

5.4.3. Prioritization of Agricultural Cooperatives

The government officials have stated that the government is struggling to provide financial services to farmers who work as individuals due to the reason that the government department has limited budget. Therefore, the municipal official and extension officers stated that they always motivate local farmers to work in cooperatives so that it can be easier to receive financial assistance from government departments. The findings of Bijman *et al.* (2012) supported this by stating that the government is motivating people to engage and stimulate the agricultural sector on groups to ensure that this sector is sustainable and contribute to economic development. Therefore, the municipal officials further explained that their department is always trying to raise the budget for farmers who undertake agricultural activities in groups with an intention of making it definite that farming projects are implemented successfully and they make certain that the limited budget is utilised effectively by implementing projects that are owned by a massive number of community members so the majority will benefit.

5.4.4. Provision of Training Sessions to Small Scale Farmers

The extension officers complained that some of the small scale farmers do not understand the processes of farming which makes it hard for those farmers to adapt on changing conditions of the climate. Other studies have identified that farmers are aware of the issues of weather and climate change conditions that compel them to change their farming practices but these farmers lack knowledge and information on how to adapt on different changes they face in their farms (Tripathi & Mishra, 2017). The extension officers stated that they always try to provide training to small scale farmers who experience challenges with regard to the maintenance of their farms, so that these farmers can understand types of crops that can be farmed in one particular season to another. However, both extension officers stated that these farmers find it

difficult to learn and put into practice things that they teach them in such a way that some farmers avoid even to attend those lessons.

5.5. SUMMARY OF THE CHAPTER

This chapter presented qualitative data in order to understand the sustainability of agricultural projects in enhancing rural economic development in MLM. The presented qualitative data show that there are challenges faced by farmers and government institutions that may be regarded as obstacles on the effective operation of agricultural projects. This challenges have shown to hinder the ability of agricultural projects to contribute to the growth of Msinga economy. The outbreak of diseases from both crops and livestock has shown to have a negative impact on the productivity of agricultural projects it further compromises the ability of agricultural projects to contribute to the growth of rural economy. This as a result shows that the sustainability of agricultural projects in Msinga Local Municipality is in serious danger. The next chapter provides conclusion and recommendations with regards to the sustainability of agricultural projects toward enhancing rural economic development in Msinga Local Municipality.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0. INTRODUCTION

This study analysed the sustainability of agricultural projects in enhancing rural economic development in Msinga Local Municipality. Msinga is regarded as one of those municipalities that are mostly dominated by rural areas with a high level of subsistence agricultural practice where the unavailability of support services to subsistence farmers remains a critical issue. Such an issue makes it difficult for subsistence farmers to maintain the sustainability of their farms because of challenges that negatively affect the productivity of farms. The current chapter is divided into the following themes: synopsis of the study findings and recommendations of the study.

In order to analyse the sustainability of agricultural projects in Msinga Local Municipality, the researcher began by reviewing literature in relation to the current study. The arguments related to the sustainability of agricultural projects and its contribution to the growth of rural economies have been made using the literature in chapter two. The existing literature identifies that rural economy is experiencing a range of major structural challenges since the agricultural sector does not accommodate the entire rural areas, including the former homelands, because government strategies toward ensuring transformation in rural agricultural sector are silent. The literature shows that the productivity of agricultural projects is in serious jeopardy, which is negatively affecting rural farmers and households who benefit from those agricultural projects while constraining the ability of rural agriculture to contribute to the growth of rural economy. The study therefore attempted to analyse the challenges that hinder the sustainability of agricultural projects to contribute to rural economic development.

The adoption of the Sustainable Livelihood Approach as a theory that reinforces this study granted the researcher with the ability to link studies that are related to the sustainability of agricultural projects and rural economic development. The SLA assisted in terms of understanding factors that shape the context of rural areas through the use of secondary data. Therefore, secondary data were complimented with primary data. The SLA assisted the researcher in sampling the study population where

primary data were collected. Therefore, SLA regarded households as people who make their living in a vulnerable context, where the issues of sustaining agricultural sector are mostly experienced. Thus, the questionnaire and focus group discussions were used as tools to collect primary data from households and agricultural cooperatives. The primary data from government institutions were collected through the use of semi-structured interviews.

6.1. SYNOPSISING THE STUDY FINDINGS

The findings showed that the sustainability of agriculture is facing different challenges that turn to be an obstacle on the contribution of agricultural projects to rural economic development. It has been recognised that South Africa has insufficient information pertaining to the possible ways that can be used in assessing whether the rural agriculture is sustainable enough to contribute to the growth of the country's economy. Regardless of the availability of government strategies that seek to empower the ability of rural agriculture to contribute to economic development, the subsistence farming sector that dominates rural areas is not receiving attention from the government in terms of service delivery. The study identified that farmers (more especially subsistence farmers) are experiencing several constraints in safeguarding the sustainability of their agricultural projects, in such a way that these problems are affecting the productivity of the agricultural sector and enhancement of rural economic development.

6.1.1. Socio-Demographic Distribution in Msinga Agricultural Sector

The distribution of socio-demographic information on the agricultural sector is shown to have a significant influence on the sustainability of agricultural projects and rural economic development. The results showed that there is high level of community participation in Msinga agricultural sector with women dominating the sector compared to males. On the other hand, the shortage of skills and knowledge about adapting to new technologies are obstacles that threaten the sustainability of agricultural projects and their contribution to rural economic growth. This study revealed that the agricultural sector is usually dominated by people with primary education or people who did not attend school at all. The lack of youth and educated people in agricultural sector endangers the sustainability of the agricultural sector. People who are above 50 years old have shown to be the second dominating population in Msinga

agricultural sector and that puts in danger the productivity of agricultural projects since these people are vulnerable and powerless to carry out agricultural activities because of old age diseases.

The findings also show that the agricultural projects are failing to provide employment opportunities to the population of MLM. This is due to the fact there is high percentage of unemployment within the study area. Regardless of high unemployment rate, the findings identified that unemployed people relied more on subsistence farming. Further, the study revealed that the unemployed people also depend on pension and social grants as sources of income in supplementing their agricultural projects. However, there is a small number of people who are employed in the agricultural sector. The sustainability of part-time employment is not certain due to the low productivity of agricultural projects which does not allow farmers to hire a huge number of community members.

6.1.2. Nature of Agricultural Practise in Msinga Area

The results indicated that there is a high level of agricultural practice in Msinga Local Municipality. The majority of municipal officials, extension officers and ward councillors stated that there is arable land for agricultural practice in most of the places but the availability of that land does not benefit the growth of Msinga rural economy. This is because people are using that land for subsistence farming. However, it is not the choice of subsistence farmers not to commercialise their produce, they are being compelled by low productivity. As a result, this indicated that even those subsistence agricultural projects available in MLM are not sustainable and they are unable to contribute to rural economic development. Climate change, lack of infrastructural development services and limitations on the accessibility and ownership of land have also contributed low productivity of agricultural projects.

The current study identified that Msinga Local Municipality is regarded as one of those municipalities that depend more on the agricultural sector as a substantial instrument in enhancing rural economy. The results also revealed an estimated budget of ZAR 2 million available to cater for agricultural necessities within the study area. In spite of the availability of such budget, the subsistence farmers have stated that they do not receive adequate financial support from the local municipality since the government structure prioritise small-scale farmers or farmers that work in cooperatives who intend

to commercialise their produce. However, the subsistence farmers do receive little assistance through one home one garden programme where farmers receive seed scoops from the Department of Agriculture.

6.1.3. The Sustainability of Agricultural Projects in Msinga Area

The study employed different measures in determining the sustainability of agricultural projects and issues that constraint the ability of those projects to contribute to improving Msinga economy. Therefore, three pillars of sustainable development (social, economic and environment components) and duration of identified agricultural projects were used as key measures in undertaking the assessment that sought to determine the sustainability of these agricultural projects.

6.1.3.1. Sustainability of economic component

The results show that the sustainability of economic component was uncertain since Msinga is dominated by subsistence farming, while the municipality and farmers are currently struggling to open ways to the market. Farmers do not have a market place to sell their products and they are suffering from poor availability of resources (such as transport, roads, and telecommunications) to access the market. As a result, the viability of agricultural projects was ambiguous due to the fact that some of the subsistence agricultural projects were producing sufficient food to be consumed by households while the majority were struggling. The results further revealed that the entire agricultural sector finds it very hard to serve the commercial purpose. Nonetheless, the small scale sector has shown to have the ability to produce sufficient products but the poor access to market remains a problem since farmers end up consuming all produce.

6.1.3.2. Sustainability of social component

The study determined that the social component was not sustainable since the agricultural projects were failing to provide employment opportunities to the community members in MLM. This is due to the fact that the agriculture sector employs a small number of community members on seasonal basis (casual workers), while the area is experiencing a huge percentage of unemployment. Therefore, even the sustainability of the part-time employment is not guaranteed because of the low productivity in agricultural sector within the study area. Despite the failure of agricultural projects to

contribute to rural economic growth, the findings discovered that agricultural projects are able to address the issues of food insecurity to most communities in MLM.

6.1.3.3. Sustainability of environment component

The sustainability of the environmental component has shown to suffer from different challenges that put at risk the capacity of agricultural projects to contribute to the growth of Msinga economy. These challenges include climate change conditions, to the point that farmers are going through the scarcity of water and shortage of rainfall and the land is dry because of drought. There is also an outbreak of diseases from both livestock and crops farming sector. The findings revealed that diseases are being transmitted from animals and crops to people (and people end up getting sick), which make them reluctant to participate in agricultural projects. Animals and crops are also dying (and this has a negative impact on the productivity of agricultural projects). The unaffordability of vaccinations to treat crops from diseases has pushed the number of subsistence farmers away from engaging in agricultural projects.

6.1.4. CONCLUSION OF THE STUDY

Poor access to the market has shown to be a threat to the growth of Msinga economy. The agricultural sector is danger since farmers produce products that do not effectively reach the market. Other factors (including climate change conditions, outbreak of diseases, lack of infrastructural services, accessibility and ownership of land) have also challenged the ability of farmers to ensure that agricultural projects are sustainable. As long as the agricultural sector is suffering from the aforementioned challenges, rural economy will remain indeterminate because the agricultural sector is experiencing low productivity, and is unable to create employment opportunities for local people and is mostly practised for subsistence purpose rather than for commercial purposes. Therefore, in order to liberate agricultural projects from unsustainability so that farmers can successfully contribute in improving rural economic development, the government and local farmers (both subsistence, small-scale farmers) should implement operative strategies that would assist in addressing issues that obstruct the sustainability of agricultural projects to contribute in rural economic development. There is also a need to investigate the cause of the struggle which is faced by subsistence farmers in the direction of transforming to the small-scale farming sector, taking into consideration

the reason that the main focus of government is to uplift the standard of rural economy through the agricultural sector.

6.2. RECOMMENDATIONS

This particular section provides recommendations based on the findings of this study. The following recommendations aim to put forward things that can be done or considered in order to address the issues that affect the sustainability of the agricultural sector and those issues that jeopardise the capacity of agricultural projects to subsidize rural economic development. These recommendations would be effectively influenced by government institutions, farmers and community members towards ensuring that the agricultural projects are sustainable enough to make a significant contribution in improving rural economies. The study also identified some gaps and lack of literature in the rural agricultural sector which left some questions at which responses are expected to be provided by further research.

6.2.1. Recommendations for Government Institutions

Establishment of the marketplace for rural farmers: This study recommends that the local government through local municipality construct a marketplace that would be used as a sale point for community members and farmers to ensure an effective distribution of agricultural products. Therefore, it would be beneficial if the market place will consist of people with the ability to use technology and have research skills so that they can market agricultural produce.

Adaptation on climate change condition: It is recommended that the local municipality and Department of Agriculture collaborate in giving lessons to the rural farmers about ways of adapting to the issues of climate change by strictly aligning with the national climate change adaptation strategy of the Republic of South Africa, 2017. This is due to the fact that the Msinga agricultural sector is dominated by people with primary education who although have an ambition of farming, cannot read specialised documents. Even the information about adapting to climate change is only available to them verbally.

Introduction of agriculture as a teaching subject in primary schools: it is recommended that government institutions intervene in order to ensure that they introduce agriculture as a teaching subject at primary school. This will play an important role in diffusing agricultural information and knowledge to children at their young age so that they can be exposed to and familiar with the importance of engaging in agriculture projects.

Establishment of a further agricultural training to rural farmers: It is recommended that the Department of Agriculture introduces programmes that will train and educate farmers about the farming process in order to minimize the level of poorly practised agricultural activities in rural areas. This will assist farmers to understand measures that are required to make sure that their agricultural projects are sustainable and have a potential of enhancing rural economic development opportunities.

6.2.2. Recommendations for Msinga Community

Formulation of agricultural cooperatives amongst subsistence farmers: it would be imperative for community members to encourage the formation of agricultural cooperatives. This will make things better for government institutions to render services to these farmers without creating disparities and further grant subsistence farmers' capabilities of producing sufficient products for both household consumption and commercial purposes.

Diversification of agricultural activities: It would be essential for community members, households and rural farmers to diversify agricultural activities (by increasing the number of agricultural activities and ensure that they undertake farming activities in both summer and winter) in order to ensure that agricultural projects increase the level of productivity. This will play a significant role in solidifying the return of rural economy by increasing farm productivity and complimenting market opportunities. Diversification of agricultural activities will bring a move away from the dominance of one agricultural activity to production of a huge number of products that can meet the demand of farmers' products for both market and household consumption.

6.2.3. Recommendations for Further Studies

The study identified that there is an extremely low percentage of people with tertiary education in rural agricultural sector, within the study area in particular. On the other hand, findings recognised that subsistence agricultural sector is struggling to contribute to the growth of rural economic development. Therefore, these factors have left some questions to the researcher at which responses are expected to be provided by further research based on the following recommended topics:

- Assessing the role played by tertiary education in ensuring the sustainability of agriculture in South African rural areas.
- Analysing challenges that constraint the transformation of rural subsistence farming sector to reach the level of small scale farming sector.

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APPENDICES

Appendix A: Information about the Project and Informed Consent



UNIVERSITY OF ZULULAND

Department of Anthropology and Development Studies

Researcher: Mr Wiseman Mbatha

Cell Phone No: (+27) 78 016 6477

Research Office: Ms Daniella Viljoen

Tel: (035) 902 6645

Please receive my humble greetings

I, **Mfaniseni Wiseman Mbatha**, a Masters candidate in the Department of Anthropology and Development Studies at University of Zululand. The aim of the study is to analyse the sustainability of agricultural projects in enhancing rural economic development in Msinga Local Municipality.

The results of this research project intend to contribute to the body of knowledge in demonstrating the significance of sustainable agricultural project in ensuring an effective economic growth in rural areas. Hence, your contribution in this project is voluntary and you actually have all rights to withdraw from any stage if you feel uncomfortable, without suffering to any harm. There will be no financial gains from participating in this research project. Both anonymity and confidentiality of participants are guaranteed. If you have any questions or inquiry about participating in this study, please contact me on contact details that aforementioned. It should take you about few minutes to completely fill the questionnaire or interview questions.

Sincerely

.....
Investigator's signature

...../...../..2018
Date

UNIVERSITY OF ZULULAND



PARTICIPANT INFORMED CONSENT DECLARATION

INFORMED CONSENT DECLARATION

(Participant)

Project Title: **The Sustainability of Agricultural Projects in Enhancing Rural Economic Development in Msinga Local Municipality**

..... (name of researcher/person administering the research instrument) from the Department of, University of Zululand has requested my permission to participate in the above-mentioned research project. The nature and the purpose of the research project, and of this informed consent declaration have been explained to me in a language that I understand. I am aware that:

1. The purpose of the research project is to
2. The University of Zululand has given ethical clearance to this research project and I have seen/ may request to see the clearance certificate.
3. By participating in this research project I will be contributing towards

..... (state expected value or benefits to society or individuals that will arise from the research)

4. I will participate in the project by (state full details of what the participant will be doing)

5. My participation is entirely voluntary and should I at any stage wish to withdraw from participating further, I may do so without any negative consequences.

6. I will not be compensated for participating in the research, but my out-of-pocket expenses will be reimbursed. (Should there be compensation, provide details)

7. There may be risks associated with my participation in the project. I am aware that
a. the following risks are associated with my participation: (state full details of risks associated with the participation)

b. the following steps have been taken to prevent the risks:

c. there is a% chance of the risk materialising

8. The researcher intends publishing the research results in the form of

..... However, confidentiality and anonymity of records will be maintained and that my name and identity will not be revealed to anyone who has not been involved in the conduct of the research. Research Ethics Guide: Senate Approved on 27 November 2013. Ref: S1217/13 Page 9 of 19

9. I will not receive feedback/will receive feedback in the form of regarding the results obtained during the study.

10. Any further questions that I might have concerning the research or my participation will be answered by..... **(provide name and contact details).**

11. By signing this informed consent declaration I am not waiving any legal claims, rights or remedies.

12. A copy of this informed consent declaration will be given to me, and the original will be kept on record.

I, have read the above information / confirm that the above information has been explained to me in a language that I understand and I am aware of this document's contents. I have asked all questions that I wished to ask and these have been answered to my satisfaction. I fully understand what is expected of me during the research.

I have not been pressurised in any way and I voluntarily agree to participate in the abovementioned project.

.....
.....
Participant's Signature Date

Appendix B: Questionnaire schedule for household

QUESTIONNAIRE SCHEDULE FOR HOUSEHOLDS

SECTION A

Instruction

- ✓ These questions are divided into two categories (section A and section B);
- ✓ Please answer all the questions in each section;
- ✓ Please cross with X near the correct answer; and
- ✓ Provide explanation where it applicable.

| |
|--|
| DEMOGRAPHY AND SOCIO-ECONOMIC INFORMATION |
|--|

1. Gender

| | | | | | |
|-------------|------|--|-------------|--------|--|
| 1(a) | Male | | 1(b) | Female | |
|-------------|------|--|-------------|--------|--|

2. Age

| | | | | | | | | |
|-------------|-------|--|-------------|-------|--|-------------|-------|--|
| 2(a) | 21-35 | | 2(b) | 36-49 | | 2(c) | 50-65 | |
|-------------|-------|--|-------------|-------|--|-------------|-------|--|

3. Level of education

| | | | | | | | | | | | |
|-------------|---------|--|-------------|-----------|--|-------------|----------|--|-------------|-----|--|
| 3(a) | Primary | | 3(b) | Secondary | | 3(c) | Tertiary | | 3(d) | Non | |
|-------------|---------|--|-------------|-----------|--|-------------|----------|--|-------------|-----|--|

4. Employment Status

| | | | | | | | | |
|-------------|------------|--|-------------|-------------------------|--|-------------|-------------------------|--|
| 4(a) | Unemployed | | 4(b) | Full-Time Employment | | 4(c) | Part-time Employment | |
|-------------|------------|--|-------------|-------------------------|--|-------------|-------------------------|--|

5. Household source of income per month

| | | | | | | | | | | | |
|-------------|------------------|--|-------------|-----------------|--|-------------|--------------------|--|-------------|--------------|--|
| 5(a) | Pension Grant | | 5(b) | Social Grant | | 5(c) | Farming to sell | | 5(d) | No Income | |
|-------------|------------------|--|-------------|-----------------|--|-------------|--------------------|--|-------------|--------------|--|

6. Estimate your household source of income Rand (R) per month.

| | | | | | | | | | | | |
|-------------|--------|--|-------------|---------------|--|-------------|----------------|--|-------------|---------|--|
| 6(a) | > 1400 | | 6(b) | 1500- 5000 | | 6(c) | 6000- 10000 | | 6(d) | < 10000 | |
|-------------|--------|--|-------------|---------------|--|-------------|----------------|--|-------------|---------|--|

SECTION B

| |
|---|
| NATURE OF AGRICULTURAL PROJECTS AND ACTIVITIES |
|---|

7. Do you participate in any agricultural project?

| | | | | | |
|-------------|-----|--|-------------|----|--|
| 7(a) | Yes | | 7(b) | No | |
|-------------|-----|--|-------------|----|--|

a) If no, why?

.....

.....

.....

.....

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.....

.....

b) If yes, what challenges you have encountered that can possibly lead to the dysfunction or failure of the project? List them.

.....

.....

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.....

8. Does your family have a cultivated land for agricultural practise?

| | | | | | |
|-------------|-----|--|-------------|----|--|
| 8(a) | Yes | | 8(b) | No | |
|-------------|-----|--|-------------|----|--|

9. What types of agricultural development project are mostly practised within the local municipality?

| | | | | | | | | |
|-------------|---------------------|--|-------------|---------------------|--|-------------|--------------------|--|
| 9(a) | Subsistence Farming | | 9(b) | Small Scale Farming | | 9(c) | Commercial Farming | |
|-------------|---------------------|--|-------------|---------------------|--|-------------|--------------------|--|

10. What form of farming is mostly practised in your household?

| | | | | | | | | | | | |
|--------------|---------------|--|--------------|--------------|--|--------------|------------|--|--------------|-------|--|
| 10(a) | Livestock (L) | | 10(b) | Cropping (C) | | 10(c) | Both (L&C) | | 10(d) | Other | |
|--------------|---------------|--|--------------|--------------|--|--------------|------------|--|--------------|-------|--|

Please mention a specific example of farming you practise (e.g. Goat, vegetables, etc.)

.....

.....

.....

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.....

11. Is that particular form of farming produce a sufficient product for the household consumption?

| | | | | | |
|--------------|-----|--|--------------|----|--|
| 11(a) | Yes | | 11(b) | No | |
|--------------|-----|--|--------------|----|--|

If no, why?

.....
.....
.....
.....
.....
.....
.....

12. Have your household encountered any challenges since you started engaging on farming?

| | | | | | |
|--------------|-----|--|--------------|----|--|
| 12(a) | Yes | | 12(b) | No | |
|--------------|-----|--|--------------|----|--|

If yes, please mention them:

.....
.....
.....
.....
.....
.....

13. What reasons that make your household practice that particular form of farming as appeared on question (10)?

| | | | | | | | | |
|--------------|-----------------------|--|--------------|----------------------|--|--------------|--------------|--|
| 13(a) | Household Consumption | | 13(b) | Producing For Market | | 13(c) | Both Reasons | |
|--------------|-----------------------|--|--------------|----------------------|--|--------------|--------------|--|

14. Is there any agricultural project that engage on farming for selling to the market within the community?

| | | | | | |
|--------------|-----|--|--------------|----|--|
| 14(a) | Yes | | 14(b) | No | |
|--------------|-----|--|--------------|----|--|

If yes, what form of agriculture project is that?

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.....

15. Is there any member from your household that participates in any profitable agricultural project?

| | | | | | |
|--------------|-----|--|--------------|----|--|
| 15(a) | Yes | | 15(b) | No | |
|--------------|-----|--|--------------|----|--|

16. Do you buy any livestock or cropping product from the market or any commercial agricultural project?

| | | | | | |
|--------------|-----|--|--------------|----|--|
| 16(a) | Yes | | 16(b) | No | |
|--------------|-----|--|--------------|----|--|

If yes/no, Why?

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.....

17. Is there any agricultural project introduced by local municipality within the community?

| | | | | | |
|--------------|-----|--|--------------|----|--|
| 17(a) | Yes | | 17(b) | No | |
|--------------|-----|--|--------------|----|--|

18. Does the local municipality assist farmers to start agricultural project?

| | | | | | |
|--------------|-----|--|--------------|----|--|
| 18(a) | Yes | | 18(b) | No | |
|--------------|-----|--|--------------|----|--|

19. Is there any infrastructural service provided by municipality to assist farmers?

| | | | | | |
|--------------|-----|--|--------------|----|--|
| 19(a) | Yes | | 19(b) | No | |
|--------------|-----|--|--------------|----|--|

If yes, list those infrastructural services:

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.....

Thank you very much for your participation

Appendix C: Focus group discussion for participants in agricultural projects

FOCUS GROUP DISCUSSION

1. How long the agricultural project was established?

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.....
.....

2. What types of agricultural development project do you practise?

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.....
.....

3. What is the impact made by local municipality or any other government institution on the agricultural projects?

.....
.....
.....
.....

4. How do you access the market?

.....
.....
.....
.....

5. Does the agricultural project create employment opportunities for the community?

.....
.....
.....
.....

6. Does the project address the issues of food insecurity within the community? If so, how?

.....
.....
.....
.....

7. Does the community benefits from this agricultural project? If so, how?

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.....

8. Does the project contribute to the growth of rural economy? if so, how?

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9. What challenges you have encountered that can possibly lead to the dysfunction or failure of the project? List and briefly discuss.

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10. What are the coping strategies you use to overcome those problems?

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11. What do you think local municipality should do in order to keep the project sustainable?

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Thank you very much for your participation

Appendix D: Interview Schedule for Municipal Officials

Semi- Interview schedule for Municipal officials

1. How is the level of agricultural practice within Msinga Local Municipality?

a)

| | | | | | | | |
|---------|--|-----|--|------|--|----------|--|
| Too Low | | Low | | High | | Too High | |
|---------|--|-----|--|------|--|----------|--|

b) Give justification for your answer.

.....

.....

.....

.....

2. What types of agricultural development project are mostly practised within the local municipality?

| | | | | | |
|---------------------|--|---------------------|--|--------------------|--|
| Subsistence Farming | | Small Scale Farming | | Commercial Farming | |
|---------------------|--|---------------------|--|--------------------|--|

3. What form of farming is mostly practised within the local municipality?

| | | | | | | | |
|---------------|--|--------------|--|------------|--|-------|--|
| Livestock (L) | | Cropping (C) | | Both (L&C) | | Other | |
|---------------|--|--------------|--|------------|--|-------|--|

4. Are there any agricultural projects introduced by municipality for poor communities?

a)

| | | | |
|-----|--|----|--|
| Yes | | No | |
|-----|--|----|--|

b) If yes, what are those projects?

.....

.....

.....

.....

5. Does municipality support any agricultural projects requested by local farmers?

a)

| | | | |
|-----|--|----|--|
| Yes | | No | |
|-----|--|----|--|

b) If yes, how does municipality supports those local farmers?

.....

6. How does the municipality maintain those agricultural projects?

.....

7. How does the municipality open ways to market for agricultural projects owned by household's small farmers from poor communities?

.....

8. How does the agricultural project implemented by local municipality contribute to growth of rural economy?

.....

9. How does municipality ensuring that infrastructural services are always available to the small struggling farmers?

.....

10. How does municipality assist those who engaged in household subsistence farming?

.....
.....
.....
.....

11. What procedures used by municipality to ensure that all existing agricultural projects do contribute to the rural economy?

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.....

12. What problems have been reported by farmers as obstacles to the success of their projects?

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.....

13. What problems faced by municipality toward improving the strength of rural economic growth through agricultural projects?

.....
.....
.....

14. What are the coping strategies introduced by municipality in order to overcome those challenges?

.....
.....
.....

15. Are there any policies or programmes of municipality toward ensuring successful implementation and effective operation of agricultural projects?

a)

| | |
|-----|----|
| Yes | No |
|-----|----|

b) If yes, what are those policies or programmes?

.....
.....
.....

c) What problems encountered in ensuring that those policies and programmes functions effectively?

.....
.....
.....

Thank you very much for your participation

Appendix E: Interview Schedule for Department of Agriculture

Semi- Interview schedule for Department of Agriculture

1. How is the level of agricultural practice within Msinga Local Municipality?

c)

| | | | | | | | |
|---------|--|-----|--|------|--|----------|--|
| Too Low | | Low | | High | | Too High | |
|---------|--|-----|--|------|--|----------|--|

d) Give justification for your answer.

.....

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.....

.....

2. What types of agricultural development project are mostly practised within the local municipality?

| | | | | | |
|---------------------|--|---------------------|--|--------------------|--|
| Subsistence Farming | | Small Scale Farming | | Commercial Farming | |
|---------------------|--|---------------------|--|--------------------|--|

3. What form of farming is mostly practised within the local municipality?

| | | | | | | | |
|---------------|--|--------------|--|------------|--|-------|--|
| Livestock (L) | | Cropping (C) | | Both (L&C) | | Other | |
|---------------|--|--------------|--|------------|--|-------|--|

4. Are there any agricultural projects introduced by department of agriculture for poor communities?

c)

| | | | |
|-----|--|----|--|
| Yes | | No | |
|-----|--|----|--|

d) If yes, what are those projects?

.....

.....

.....

.....

5. Does department of agriculture support any agricultural projects requested by local farmers?

c)

| | | | |
|-----|--|----|--|
| Yes | | No | |
|-----|--|----|--|

d) If yes, how does department of agriculture supports those local farmers?

.....
.....
.....
.....

6. How does the department of agriculture maintain those agricultural projects?

.....
.....
.....
.....

7. How does the department of agriculture open ways to market for agricultural projects owned by household's small farmers from poor communities?

.....
.....
.....
.....

8. How does the agricultural project implemented by department of agriculture contribute to growth of rural economy?

.....
.....
.....
.....

9. How does department of agriculture ensuring that infrastructural services are always available to the small struggling farmers?

.....
.....

.....
.....

10. How does department of agriculture assist those who engaged in household subsistence farming?

.....
.....
.....
.....

11. What procedures used by department of agriculture to ensure that all existing agricultural projects do contribute to the rural economy?

.....
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12. What problems have been reported by farmers as obstacles to the success of their projects?

.....
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.....
.....

13. What problems faced by department of agriculture toward improving the strength of rural economic growth through agricultural projects?

.....
.....
.....

14. What are the coping strategies introduced by department of agriculture in order to overcome those challenges?

.....
.....
.....

15. Are there any policies or programmes of department of agriculture toward ensuring successful implementation and effective operation of agricultural projects?

d)

| | |
|-----|----|
| Yes | No |
|-----|----|

e) If yes, what are those policies or programmes?

.....
.....
.....

f) What problems encountered in ensuring that those policies and programmes functions effectively?

.....
.....
.....

Thank you very much for your participation

Appendix F: Ethical Clearance Certificate

UNIVERSITY OF ZULULAND
RESEARCH ETHICS COMMITTEE
 (Reg No: UZREC 171110-030)



RESEARCH & INNOVATION

Website: <http://www.uz.ac.za>
 Private Bag X4001
 KwaDlangezwa 3885
 Tel: 035 902 6735
 Fax: 035 902 6222
 Email: uzrini@uz.ac.za

ETHICAL CLEARANCE CERTIFICATE

| | | | |
|------------------------------------|--|--|---------------------------------------|
| Certificate Number | UZREC 171110-030 PGM 2018/514 | | |
| Project Title | THE SUSTAINABILITY OF AGRICULTURAL PROJECTS IN ENHANCING RURAL ECONOMIC DEVELOPMENT IN MSINGA LOCAL MUNICIPALITY | | |
| Principal Researcher/ Investigator | MW Mbatha | | |
| Supervisor and Co-supervisor | Dr MM Masuku | | |
| Department | Development Studies | | |
| Faculty | Arts | | |
| Type of Risk | Med Risk- Data collection from people | | |
| Nature of Project | Honours/4 th Year | Master's <input checked="" type="checkbox"/> | Doctoral <input type="checkbox"/> |
| | | | Departmental <input type="checkbox"/> |

The University of Zululand's Research Ethics Committee (UZREC) hereby gives ethical approval in respect of the undertakings contained in the above-mentioned project. The Researcher may therefore commence with data collection as from the date of this Certificate, using the certificate number indicated above.

- Special conditions:
- (1) This certificate is valid for 1 year from the date of issue.
 - (2) Principal researcher must provide an annual report to the UZREC in the prescribed format (due date- 13 September 2019)
 - (3) Principal researcher must submit a report at the end of project in respect of ethical compliance.
 - (4) The UZREC must be informed immediately of any material change in the conditions or undertakings mentioned in the documents that were presented to the meeting.

The UZREC wishes the researcher well in conducting research.


 Professor Gideon De Wet
 Chairperson: University Research Ethics Committee
 Deputy Vice-Chancellor: Research & Innovation
 13 September 2018

CHAIRPERSON
 UNIVERSITY OF ZULULAND RESEARCH
 ETHICS COMMITTEE (UZREC)
 REG NO: UZREC 171110-30
 13-09-2018
RESEARCH & INNOVATION OFFICE

Appendix G: Permission Letter to Conduct Research

MSINGA MUNICIPALITY



MSINGA MUNICIPALITY UMASIPALA WASEMSINGA

OFFICE OF THE MUNICIPAL MANAGER

Private Bag XE30
TUGELA FERRY
3010
20 June 2018

Eng: Mr K Sibiya
TEL : 033 493 0762
FAX : 033 4330768
EMAIL: kangols4@gmail.com
Khangalani.sibiya@msinga.org

Att: To M Masuku
University of Zululand
PO Box x1001
Kwa-Dlangezwa
3886

Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

This is to certify that Mfaniseni Wiseman Mbatha's. (201911234) – Application is approved by Msinga Municipality, we wish to state that the Municipality has no objection with the abovementioned application, on condition that the applicant follows all developmental processes, should there be any enquiries relating to this matter, please do not hesitate to contact the Department on the abovementioned numbers.

Yours Faithfully

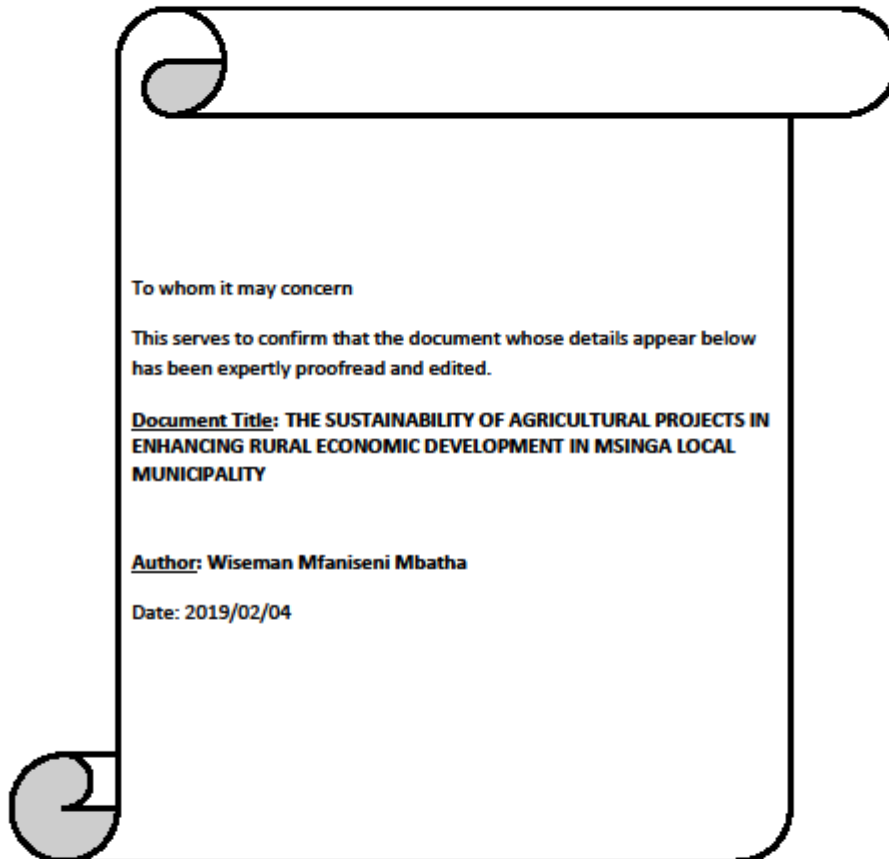

S. SOKHELA
ACTING MUNICIPAL MANAGER

Appendix H: English editor's certificate

PO Box 77214
Empangeni
3880

Mobile: 074 9211 480
Email: zanibaz@yahoo.com

Professional
EDITORS
Group An association of editors in educational
academic and general publishing



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X 

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Proofreader/Editor
Signed by: Valued Acer Customer

Professional
EDITORS
Guild

Banking details: Bank ABSA, Account No. 623828182, Branch Code 632005, Account Name: BXS Ntombela

IZICHIBIYELO

Isichibiyelo A: Ulwazi Mayelana Nprojekthi kanye Nokuzibophezela Okunolwazi Olwanele



UNIVERSITY OF ZULULAND

Umntyango wezifundo zobuciko nezokuthuthuka

(Ulwazi Mayelana Nprojekthi)

Umntcwani: Wiseman Mbatha

Inombolo yocingo: (+27) 78 016 6477

Ihhovisi Locwango: Daniella Viljoen

Ucingo: (035) 902 6645

Ngiyakubingelela ngokukhulu ukuzithoba

Mina, Mfaniseni Wiseman Mbatha, umfundi weziqu eziphakeme emnyagweni wezobuciko nentuthuko e- University of Zululand. Inhloso yocwango ukuhlolisa ukusimama kwamaprojekthi ezolimo ekuthuthukiseni intuthuko yezomnotho yasemaphandleni kuMasipala waseMasinga. Imiphumela yale phrojekthi yocwango ihlose ukufaka isandla emzimbeni wolwazi ekuboniseni ukubaluleka kweprojekthi yezolimo ekuqinisekiseni ukukhula komnotho ezindaweni zasemaphandleni.

Ngakho-ke, ukufaka kwakho isandla kule phrojekthi akuyona impoqo futhi empeleni unamalungelo okuhoxisa kunoma yisiphi isigaba uma uzizwa ungakhululekile, ngaphandle kokuhlukumezeka kunoma yimuphi umonakalo. Ngeke kube khona ukuzuza kwezezimali ekuhlanganyeleni kule phrojekthi yokucwanga. Kokubili ukungaziwa nokufihlwa kwamagama abahlanganyeli kuqinisekisiwe.

Uma unemibuzo mayelana nokuhlanganyela kulolu cwango, uyacelwa ukuba uxhumane nami eminingwaneni yokuxhumana ezeziwe ngenhla. Kuzokuthatha imizuzu embalwa ukugwalisa ngokuphelele uhlu lwemibuzo noma imibuzo yokuxoxa.

Ozithobayo

.....

...../...../..2018

isignesha yomphenyi

Usuku

UNIVERSITY OF ZULULAND



IFOMU YOKUZIBOPHEZELA

(kobambe iqhaza)

Isihlokosocwaningo: Ukusimama Kwamaprojekthi Ezolimo Ekukhuphuleni Izinga Lentuthuko Yezomnotho Yasemaphandleni Kumasipala Wasemsinga

..... **(igama lomcwaningi/umuntu ophethe ithuluzi lokucwaninga)** ovela ku Mnyango wezifundo zobuciko nezentukho e-University of Zululand ube nesicelo semvume yokuba ngizimbandakanya kulolucwaningo olulotshiwe ngenhla.

Imvelaphi kanye nenhloso yalolucwaningo, nalolu lwazi nophawu lokwamukela ukuzibophezela ngichazeliwe ngalo ngolimi lwami engilizwayo.

Nginyaqonda ukuthi:

1. Inhloso yalolucwaningo uku.....
2. Inyuvesi yakwaZulu inikeze ngemvume kubenzi balolu cwano ukuba benze loluhlelo futhi ngiyibonile leyomvume/ngingacela ukubona isitifiketi semvume.
3. Ngokubamba iqhaza kulolucwaningo ngizonikezela iqhaza ngoku..... **(yisho inani elilindelekile noma izinzuzo emphakathini noma kubantu abazovela ocwaningweni).**
4. Ngizobamba iqhaza kulolucwaningo ngoku..... **(yisho imininingwane egcwele yalokho umhlanganyeli azokwenza).**
5. Ekuzimbandakanyeni kwami angizukubheka nzuzo futhi akukho lapho engizotholakala ngihoxa ocwaningweni, umakwenzeka ngeke kube nemiphumela emibi ocwaningweni.

6. Mina angizikunxephezela ngokuzibandakanya kwami kulolucwaningo, kodwa izindleko eziphume kwelami iphakethe zizokhokhelwa. **(uma kukhona isinxephezelo nikeza imininingwane).**

7. Kuzoba nezimo ezibucayi ekuzibandakanyeni kwami kulolucwaningo, ngiyaqonda ukuthi:

a. Lobu bungozi obulandelayo kuxhumene nokuzibandakanya kwami :..... **(yisho imininingwane egcwele yezingazi ezihambisana nokubamba iqhaza).**

b. Lezi zitebhu ezilandelayo zithathwe ukuzivikela ubungozi:.....

c. Angu% amathuba okuvela kobungozi.

8. Umcwaningi uzoshicilela imiphumela yalolucwaningo ngohlelo lwa....., Nokho, ubhalomfihlo, nofihlo-gama lwemininingwane izobe igciniwe nokuthi igama lami nobutho kwami angeke kubonakaliswe kunoma yimuphi umuntu obengeyona inhlango yocwaningo.

9. Angeke ngiyamukele imiphumela/ngizoyamukela imiphumela engaloluhlelo lovukhuluma kwami..... emayelana nemiphumela etholakale ngesikhathi sesifundo.

10. Eminye imibuzo ephathelene nalolucwaningo noma mayelana nokuzibandakanya kwami ingaphendulwa ngu.....**(bhala igama neminingwane yokuxhumana).**

11. Ngokusayina lamafomu angiqubuli ubuthi noma amalungele kwezomthetho

12. Ikhophi enolwazi oluphelele nophawu lokwamukela ukuzibophezela kwami ngizonikezwa, bese okungungqo kuyasayinwa.

Mina,.....ngikufundile lokhu okubhalwe ngenhla/ngiyavuma ukuthi ngiyakuqonda okuqukethwe nokubhaliwe. Ngiyibuzile yonke imibuzo engifuna ukuyibuza, futhi yaphendulwa ngendlela engenelisayo. Ngiyayoqonda kahle ukuba kulundelekile ini kimi kulolucwaningo. Angiphoqwanga nakancane ukubamba iqhaza kulolicwaningo.

.....

Isishicilelo kobambe iqhaza

.....

usuku

Isichibiyelo B: Uhla Lwemibuzo Olubhekiswe emindenini

UHLA LWEMIBUZO OLUBHEKISWE EMINDENINI

IMIYALELO

- ❖ Lemibuzo ihlukaniswe ngokwezigaba ezimbili (isigaba A kanye nesigaba B);
- ❖ Uyanxuswa ukuba uphendule yonke imibuzo kusigaba ngasinye;
- ❖ Uyanxuswa ukuba ubhale uphawu **(X)** ebhokisini elifanele;
- ❖ Uyanxuswa ukuba weseke impendulo yakho lapho kukhona isikhala esanele sokwenaba kabanzi

ISIGABA A
ULWAZI OLUMAYELANA NAWU, UMPHAKATHI KANYE NEZOMNOTHO

1. Ubulili

| | | | | | |
|-------------|----------------|--|-------------|------------------|--|
| 1(a) | Ngingowesilisa | | 1(b) | Ngingowesifazane | |
|-------------|----------------|--|-------------|------------------|--|

2. Isilinganiso seminyaka yokuzalwa

| | | | | | | | | |
|-------------|-------|--|-------------|-------|--|-------------|-------|--|
| 2(a) | 21-35 | | 2(b) | 36-49 | | 2(c) | 50-65 | |
|-------------|-------|--|-------------|-------|--|-------------|-------|--|

3. Izinga lemfundo

| | | | | | | | | | | |
|-------------|------------------|--|-------------|----------------------|--|-------------|-------------------|--|-------------|--|
| 3(a) | Amabanga aphansi | | 3(b) | Amabanga amaphakathi | | 3(c) | Amabanga aphakeme | | 3(d) | |
|-------------|------------------|--|-------------|----------------------|--|-------------|-------------------|--|-------------|--|

4. Isimo somsebenzi

| | | | | | | | | |
|-------------|-------------|--|-------------|--------------------------------|--|-------------|--------------------------------|--|
| 4(a) | Angisebenzi | | 4(b) | Ngisebenza isikhathi esigcwele | | 4(c) | Ngisebenza okwaleso sikhathana | |
|-------------|-------------|--|-------------|--------------------------------|--|-------------|--------------------------------|--|

5. Umthombo womndeni wemali engenayo ngenyanga

| | | | | | | | | | | |
|-------------|------------------------|--|-------------|-------------------------|--|-------------|-------------------|--|-------------|-----------------------|
| 5(a) | Isibonelelo sempesheni | | 5(b) | Isibonelelo somphakathi | | 5(c) | Ukulima uthengisa | | 5(d) | Ayikho imali engenayo |
|-------------|------------------------|--|-------------|-------------------------|--|-------------|-------------------|--|-------------|-----------------------|

6. Linganisa izigaba zemali ngokwamaRandi (R) umndeni wakho oyitholayo ngenyanga

| | | | | | | | | | | |
|-------------|--------|--|-------------|-----------|--|-------------|------------|--|-------------|---------|
| 6(a) | > 1400 | | 6(b) | 1500-5000 | | 6(c) | 6000-10000 | | 6(d) | < 10000 |
|-------------|--------|--|-------------|-----------|--|-------------|------------|--|-------------|---------|

ISIGABA B
ULWAZI MAYELANA NESIMO SAMAPROJEKTHI EZOLIMO KANYE
NEMISEBENZI

7. Uyahlanganyela yini kunoma iyiphi iphrojekthi yezolimo?

| | | | | | |
|-------------|------|--|-------------|-----|--|
| 7(a) | Yebo | | 7(b) | Cha | |
|-------------|------|--|-------------|-----|--|

a) Uma uthi cha, kungani?

b) Uma uthi yebo, yiziphi izinselele ohlangabezane nazo ezingabangela ukungasebenzi noma ukwehluleka kwephrojekthi? Uyaselwa ukuba ubhale uhlu lwazo.

8. Ingabe umndeni wakho unawo umhlaba ovundile nolungele ukuba kugatshalwa kuwona?

| | | | | | |
|-------------|------|--|-------------|-----|--|
| 8(a) | Yebo | | 8(b) | Cha | |
|-------------|------|--|-------------|-----|--|

9. Yiziphi izinhlobo zamaprojekthi ezentuthuko yezolimo ezenziwayo ikakhulukazi kumasipala wendawo?

| | | | | | | | | |
|-------------|---------------------------|--|-------------|--|--|-------------|-------------------------------------|--|
| 9(a) | Ukulimela ukondla umndeni | | 9(b) | Ukulima ngenhloso yokondla umndeni nokudayisa emakethe | | 9(c) | Ukulima ngenhloso yodayisa emakethe | |
|-------------|---------------------------|--|-------------|--|--|-------------|-------------------------------------|--|

10. Hlobo luni lokulima olwenziwa kakhulu ngumndeni wakho?

| | | | | | | | | | | | |
|--------------|--------|--|--------------|-----------|--|--------------|---------|--|--------------|---------------------|--|
| 10(a) | Imfuyo | | 10(b) | Izitshalo | | 10(c) | Zombili | | 10(d) | Okunye okungabaliwe | |
|--------------|--------|--|--------------|-----------|--|--------------|---------|--|--------------|---------------------|--|

Sicela usho isibonelo esithile sokulima okwenzayo (isb. Izimbuzi, imifino, njalo njalo).

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11. Ingabe leyo ndlela ethile yokulima ikhiqiza umkhiqizo owanele ukuba ungasetshenziswa umndeni?

| | | | | | |
|--------------|------|--|--------------|-----|--|
| 11(a) | Yebo | | 11(b) | Cha | |
|--------------|------|--|--------------|-----|--|

Uma uthi cha, kungani?

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12. Ngabe umndeni wakho ukewahlangabezana nezinselelo kusukela waqala ukuhlanganyela kwezolimo?

| | | | | | |
|--------------|------|--|--------------|-----|--|
| 12(a) | Yebo | | 12(b) | Cha | |
|--------------|------|--|--------------|-----|--|

Uma uthi yebo, sicela uzisho lezozinselelo:

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13. Iziphi izizathu ezenza umndeni wakho usebenzise uhlobo oluthile lokulima njengoba kuveziwe kumbuzo (10)?

| | | | | | | | | |
|--------------|----------------------------------|--|--------------|------------------------------------|--|--------------|------------------|--|
| 13(a) | Ukukhiqiza ukuze kuzodla umndeni | | 13(b) | Ukukhiqiza ukuze sidayise emakethe | | 14(c) | Zombili izizathu | |
|--------------|----------------------------------|--|--------------|------------------------------------|--|--------------|------------------|--|

14. Ingabe ikhona iphrojekthi yezolimo lapha emphakathini ehlanganyela kwezolimo ukuze izokwazi ukuthengisela imakethe?

| | | | | | |
|---------------|------|--|--------------|-----|--|
| 14 (a) | Yebo | | 14(b) | Cha | |
|---------------|------|--|--------------|-----|--|

Uma uthi yebo, ngabe iluphi lolohlobo lweprojekthi yezolimo?

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15. Ingabe likhona ilungu lomndenini wakho elihlanganyela kunoma iyiphi iprojekthi yezolimo ezuzisayo?

| | | | | | |
|--------------|-----|--|--------------|----|--|
| 15(a) | Yes | | 15(b) | No | |
|--------------|-----|--|--------------|----|--|

16. Ingabe uke uthenga noma yimuphi umkhiqizo wemfuyo noma izitshalo emakethe noma kwiphrojekthi yokulima yezohwebo?

| | | | | | |
|--------------|------|--|--------------|-----|--|
| 16(a) | Yebo | | 16(b) | Cha | |
|--------------|------|--|--------------|-----|--|

Uma uthi yebo / cha, Kungani?

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17. Ingabe ikhona iphrojekthi yezolimo eyenziwe ngumasipala lapha emphakathini?

| | | | | | |
|--------------|------|--|--------------|-----|--|
| 17(a) | Yebo | | 17(b) | Cha | |
|--------------|------|--|--------------|-----|--|

18. Ingabe umasipala wendawo uyabasiza abalimi ukuba baqale amaprojekthi ezolimo?

| | | | | | |
|--------------|------|--|--------------|-----|--|
| 18(a) | Yebo | | 18(b) | Cha | |
|--------------|------|--|--------------|-----|--|

19. Ingabe zikhona izinsizakalo mayelana nezikhungo ezinikezelwa ngumasipala ukusiza abalimi?

| | | | | | |
|--------------|------|--|--------------|-----|--|
| 19(a) | Yebo | | 19(a) | Cha | |
|--------------|------|--|--------------|-----|--|

Uma uthi yebo, bhala uhlu lwalezo zinsizakalo:

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Siyabonga kakhulu ngokuhlanganyela kwakho

Isichibiyelo C: Ingxoxo Egxilile Namalungu Omphakathi Asebenza Ngamaqoqo Kumaprojekthi Ezolimo

Ingxoxo egxilile namalungu omphakathi asebenza ngamaqoqo kumaprojekthi ezolimo

1. isinesikhathi esingakanani leprojekthi yezolimo yasungulwa?

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2. Yiluphi uhlobo lwe projekthi yentuthuko yezolimo ongenelela kulona?

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3. Imuphi umthelela owenziwa ngumasipala wendawo noma isikhungo sikahulumeni emisebenzini yezolimo?

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4. Ufinyelela kanjani emakethe?

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5. Ingabe iphrojekthi yezolimo iyawadala amathuba omsebenzi emphakathini?

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6. Ingabe le phrojekthi iyazixazulula izinkinga zokushoda kokudla lapha emphakathini? uma uthi yebo, kanjani?

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7. Ingabe umphakathi uyazuza kule projekthi yezolimo? uma uthi yebo, kanjani?

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8. Ingabe le phrojekthi inawo umthelela ekukhuleni komnotho wasemaphandleni? Uma uthi yebo, kanjani?

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9. Yiziphi izinselelo ozihlangabezane nazo ezingabangela ekungasebenzini noma ekwehlulekeni kweprojekthi? Bhala uhla futhi uxoxe kafushane.

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10. Yimaphi amasu owasebenzisayo ekubhekaneni uphinde unqoba lezo zinkinga?

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11. Ucabanga ukuthi yini umasipala wendawo okufanele ayenze ukuze agcine iphrojekthi isimeme?

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Siyabonga kakhulu ngokuhlanganyela kwakho