The role of agricultural development projects in poverty reduction in the OR Tambo District Municipality of the Eastern Cape Province, South Africa

by

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DECLARATION

I, Chulumanco Mahlombe, declare that this dissertation hereby submitted for the degree of Masters of Science in Agricultural Extension at the University of Pretoria is the result of my original work and has not been submitted anywhere else for the award of a degree or otherwise.

Signature: …….

Date: …….

DEDICATION

I dedicate this study to my father, mother, and the Eastern Cape Rural Development Agency in helping rural farmers in funding and building hubs (milling plants) for the development of Mqanduli communities.

ACKNOWLEDGEMENT

First and foremost, I would like to thank the Lord for giving me the energy to finish my studies and to be one step nearer in realizing my childhood dreams. Glory to the king of kings!

I also acknowledge my supervisor, Dr SE Terblanché, for the support and guidance he has given me throughout my study. He found time to see me through my dissertation, with many more other important commitments including his family. I am very grateful, may the lord bless you and your family and may he grant you with every desires of your heart.

I acknowledge the farmers who were patient with me, sacrificing their time to be interviewed and giving honesty in answering the questionnaires. My gratitude also goes to the extension officers and the Department of Rural Development and Agrarian Reform for allowing me to visit the projects and interact with the farmers.

Lastly, I thank the University of Pretoria for giving me the opportunity to study at their fine institution.

ABSTRACT

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By

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The purpose of the study was to determine the role the Agricultural Development Projects (ADPs) played in poverty reduction in OR Tambo District, Eastern Cape Province, and to determine farmers' perceptions on ADPs in reducing poverty. The researcher followed a qualitative research methodology in this study. The study was conducted in King Sabata Dalindyebo Local Municipality, under the OR Tambo District, with eight ADPs being visited in Mqanduli communities. The study had a population of 80 participants, 10 from each of the 8 ADPs, purposefully selected. The unit of analysis of the study comprised household heads of all households benefiting from the ADPs. The study also conducted research on extension officers of the eight ADPs visited. The data was captured using two questionnaires, which were conducted through interviews, with the researcher and enumerators present. Descriptive statistics and a Likert scale were used for the analysis of poverty status, including the perceptions of the participants of Mqanduli communities. The Statistical Program for Social Sciences (SPSS) was used for analysis of data, which was imported from Microsoft Excel, to calculate means, frequency, and percentages. Furthermore, SPSS was used to do T-tests. The study focused on the ADPs, farmers, and extension officers who provided service support to the farmers, such as training services, farm visits and market access.

The results of the study indicated that females were predominant in the projects (54%), older (mean age: 53) and mostly with a secondary level of education and with no schooling and were unemployed. The study also indicated that the majority of the respondents (40%) were mostly

dependent on farm income, followed by remittances (20%) and old age pension grants (15%). The projects only produced maize crops that were sold for processing in milling plants. The study indicated that the poverty status before (mean: 2.51) had a significant difference from the poverty status after (mean: 4.10) the introduction of ADPs, with a majority (70%) approving project strategy as an effective tool to fight poverty. The study further indicated that extension officers performed their role in providing farmers with extension services. The study concluded that although the project strategy was an effective tool, producing one seasonal crop would not effectively solve the poverty crisis. However the study recommended that home gardens as a farmer's individual project constitute a tool for cooperatives projects. Vertical gardens were also recommended for rural farmers as their success was noted in urban areas. Not only can a farmer produce quantity on a very small gardening area, the farmer can also provide for his or her family's nutrition diet, and sell the surplus.

Key Words: Agricultural development projects, poverty reduction, extension officers/ Workers.

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List of Abbreviations

Abbreviations	Meaning
ADPs	Agricultural Development Projects
COP	Conference of the Parties
DoA	Department of Agriculture
DoCGTA	Department of Cooperative Governance
DRDAR	Department of Rural Development and Agrarian Reform
ECRDA	Eastern Cape Rural Development Agency
FAO	Food and Agricultural Organization
GDP-R	Gross Domestic Product per Region
HSRC	Human Science Research Council
IMF	International Monetary Fund
KSD	King Sabata Dalindyebo
KSDLM	King Sabata Dalindyebo Local Municipality
NALEDI	National Labour and Economic Development Institute
NDPC	National Development Planning Commission
ORTDM	OR Tambo District Municipality
PMBOK	Project Management Body Knowledge
RED	Rural Enterprise Development
RDP	Reconstruction and Development Programme
SPSS	Statistical Program for the Social Science
SPII	Studies in Poverty and Inequality Institute
SSA	Statistics South Africa

UN	United Nations
USAID	United States Agency International Development
WB	World Bank

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Agriculture remains a vital area in the South African economic system, which includes all economic activities, from providing of farming inputs, to farming, and value adding (Terblanche, 2008:59). Although it constitutes an important source of food, agriculture still moves at a very slow pace in reducing poverty at the local level (Food and Agriculture Organization [FAO], 2011). Africa is faced with various developmental challenges, such as poverty, under-development, and the absence of an appropriate administration (Muller, 2006:1028). Poverty is the greatest risk that endangers human existence, and remains so, notwithstanding the dedication of South African authorities to reducing it (National Labour and Economic Development Institute [Naledi], 2005:1). According to Qizilbash (2002), poverty is a problematic phenomenon that is understood and defined in different ways by various authors. The different expressions of understanding are generally made in light of the various authors' differing involvements, outlooks, and the types of needs that the authors experience because of the various fields of their interests (World Bank, 2003). These are challenges faced by all nations, the developed and, most especially, the developing countries. Sikrweqe (2013:1) additionally referred to the point that poverty is a challenge that is not always visible in South Africa alone, but globally. Poverty has great and negative impacts, mostly on rural occupants, and it affects their lives (Akpalu, 2013:8036). The reason for this is the fact that rural regions suffer from a lack of physical infrastructure and social administration, for example in water, sanitation, wellbeing administration, transportation, correcting sexual orientation imbalances, and tutoring. It thus

becomes fundamentally important to reduce poverty to ensure development within the fashion and requirements of living.

The reduction of poverty has become the main concern in South Africa's development plan and those of most worldwide agencies, for example the International Monetary Fund (IMF), World Bank (WB) and the United Nations (UN), which have contributed many assets to help African countries to reduce poverty (Allen and Thomas, 2000:199; Fehnel, 1995:381). SPII (2007:14) defined reduction of poverty by means of systems and arrangements that minimise the range or levels of individuals who are victims of poverty, or the seriousness poverty affects their lives. Regarding agriculture, the South African government has prioritised the introduction of Agricultural Development Projects (ADPs) as constituting one of the strategies that are implemented under a number of programmes to reduce poverty and ensure food security. These comprise local government interventions to help reduce poverty. For an example, the Siyazondla Homestead Food Production, Siyavuna Food, and the Food Security Programme are programmes that help poor households to produce their own food, thus reducing poverty (Department of Agriculture, 2010). There are projects implemented under such programmes as the Vukamntomtsha youth co-operatives [co-op], the Uphuhliso Lwethu youth co-op, etc. Although development is being carried out, there are still challenges that farmers face, such as in gaining access to inputs, like high quality seeds, fertilisers and sufficient water, that are required to produce a successful crop. Credit, on its own without security, is often inaccessible or unaffordable.

The more conscious South Africa became with the need to fight poverty in rural areas and household food insecurity, extension officers emerge as a potentially powerful vehicle to achieve this (Abdu-Raheem and Worth, 2011:97). Extension officers are the people that implement the

projects in communities and bring about change. Agricultural advisory services are customarily utilised by government as an approach instrument to accomplish certain agrarian improvement objectives and goals. Extension officers serve to assist farmers in adopting an attitude conducive to acceptance of technology change (Bembridge, 1991). Agricultural extension is a profession of non-formal education which deals with changing the behaviour of farmers in adopting new innovations through the use of effective communication methods (Sanoria, 1986). Because of the significant poverty and unemployment within the King Sabata Dalindyebo Local Municipality (KSDLM), most of the inhabitants are principally reliant on grants for their survival (KSD Municipality, 2005). According to a report by KSD Municipality (2008), a recent development has been the establishment of the Kei Fresh Produce Market, which was deliberately located to encourage growth in the agrarian division and forestry. This is intended to play a role in poverty reduction through creating job opportunities and providing a venue where small-scale farmers are able to sell their produce.

1.2 PROBLEM STATEMENT

The National Department of Agriculture Forestry and Fisheries identified a number of guiding principles to support the implementation of extension and advisory services; the project approach is mentioned as one of the approaches (Department of Agriculture, Forestry and Fisheries, 2005:6). Based on this background, the problem investigated in the study is that ADPs present a positive approach to agrarian improvement however scholars such as Verschoor et al. (2005) observed that there are certain factors that need to be taken into account in order to avoid project failure and increasing poverty. Algar (2014) noticed that poor planning, incompetent members, determination and execution would all potentially cause or extend disappointing results. Sikrweqe (2013) expressed the view that also KSDLM is faced with various difficulties in most

of its operational areas, for example poor planning, poor administration, constrained subsidising, and poor asset allocation. Sikrweqe (2013:5) further noted that there are no available records of the success and setbacks from which the various districts might gain and that there is an information gap about the roles played by the programmes that have been implemented in reducing poverty in the municipal area. There is also an information gap about farmer's perceptions on already implemented ADPs.

1.3 PURPOSE STATEMENT

According to Haider (1996), progress on improving nutrition and food security has been noted across the world. However, there are still a significant number of countries and population groups that are yet to make progress, with some suffering severely in nutrition and food security. A critical necessity for advancing feasible farming is to coordinate producers with business support structures, which basically involves bringing down the cost of transactions (Verschoor et al., 2005). This basic approach would make the sector better by significantly reducing charges. Gittinger (1982) expressed the view that agricultural development projects are the leading edge of development. Projects harness resources, inputs; support services and market access offer a focused approach to development and economic growth (Van Rooyen et al., 2004). The reason for this study is to argue that the project approach still constitutes a powerful development method which reduces poverty. Many substantial achievements are accomplished by means of projects; today, projects are spreading to all avenues of work (Gittinger, 1982). The need to conduct this study has been motivated by the consistent emphasis of national and provincial focus in poverty reduction. The other reason for the study is that the project approach is an instrument of change, which improves a situation over time, e.g. the reduction of poverty.

1.4 RESEARCH OBJECTIVES

Main objective:

The main objective of this study is to determine the role of agricultural development projects in poverty reduction and farmers perceptions in the Mqanduli communities.

Specific objectives:

- To examine the demographics and socio-economic characteristics of the household beneficiaries;
- To identify the agricultural development projects that help reduce poverty in King Sabata Dalindyebo (KSD) Municipality;
- To determine farmers' perceptions on implemented agricultural development projects in reducing poverty;
- To access the status quo of the implemented agricultural development projects; and
- To determine the role played by extension officers in the projects.

1.5 RESEARCH QUESTIONS

The study sought to answer the following questions:

- What impacts do agricultural development projects have on poverty reduction?
- How many agricultural development projects are found in KSD Municipality and how do they reduce poverty?
- What are farmers' perceptions regarding the projects implemented by the government of the local District Municipality?

- What are the barriers to change in agricultural projects in making them efficient in reducing poverty?
- What roles do the extension officers play in the projects?

1.6 ACADEMIC VALUE AND CONTRIBUTION OF THE PROPOSED STUDY

The study focuses on the role played by agricultural development projects in poverty alleviation. It seeks to ascertain whether the project strategy or approach introduced by the government for all local governments helps to reduce poverty in the communities. Numbers of authors have shown that projects fail because of numerous reasons. This study will attempt to address the reasons why a number of projects have failed, and to come up with new ideas based on farmers' perceptions and possible solutions to the problem. As the study is to evaluate the role these projects play in poverty alleviation, it will help to better articulate the effectiveness of the project approach in ascertaining whether it is helpful or not. This study may also help the municipality, and hopefully other neighbouring municipalities, to redraw their plans and management strategies for the projects after referring to the analysis of data collected from the beneficiaries of these projects. The study will also help to fill the gap in literature for future research. This study will contribute to literature so that other researchers, who might come up with new ideas at the PhD level.

1.7 DELIMITATIONS AND ASSUMPTIONS

1.7.1 Delimitations

The study will be limited to agricultural development project beneficiaries in the OR Tambo District, and will not cover all the local municipalities under the OR Tambo District. It will cover

only the King Sabata Dalindyebo Local Municipality, with two purposely selected communities at Mqanduli. Time was the most limiting factor of this study, as well as fund-related issues.

1.7.2 Assumptions

At the conclusion of this study, the study will have proved that agricultural projects do indeed contribute in the reducing of poverty. This is achievable if the government, together with advisory services, put more efforts into the development of the people by effectively allocating scarce resources, provide sufficient funds for farmer support, and develop well-planned programmes with situational analyses that are relevant and reliable for a specific area. Planning and management are very important for the success of any project. The participatory approach is important for extension officers, and the farmers also would experience positive outcomes in the success of a project.

1.8 CONCEPTUAL FRAMEWORK

1.8.1 Introduction

A conceptual framework is basically a key part of a research project, as it supports and informs the research. According to Maxwell (2004), a conceptual framework explains the key factors that are to be studied as a visual or written product that can be explained either graphically or in narrative form. The conceptual framework set out in Figure 1.1 below articulates the factors that are to be looked at to achieve the goal of poverty reduction. In the attempt to combat poverty in the communities, the national government mandates all local government bodies to have their own development strategies to meet the needs of the rural poor. The KSD local municipality, together with the Department of Rural Development and Agrarian Reform (DRDAR), came up with various interventions to combat poverty in rural areas, one of which comprises agricultural

development projects. To achieve this, extension officers are deployed as the drivers of rural development in rural areas to help change and develop the situations of farmers. Projects are implemented through the existing participation between farmers and extension officers under government programmes, e.g. the food security programme. According to Gido & Clements (1999), the difference between a programme and a project is in what it can deliver, also known as deliverables: a programme delivers services, while a project delivers a product. The implemented projects create job opportunities, empower the voiceless (women) and make a significant contribution to household income. The benefits of these projects lead towards achieving the goal of the Department of Rural Development and Agrarian Reform, which is poverty reduction in the communities. The relationship between these concepts is that the work of rural development extension officers among the rural poor is to help them to help themselves, and so to improve their standard of living, thus reducing poverty (Ensminger, 1961).

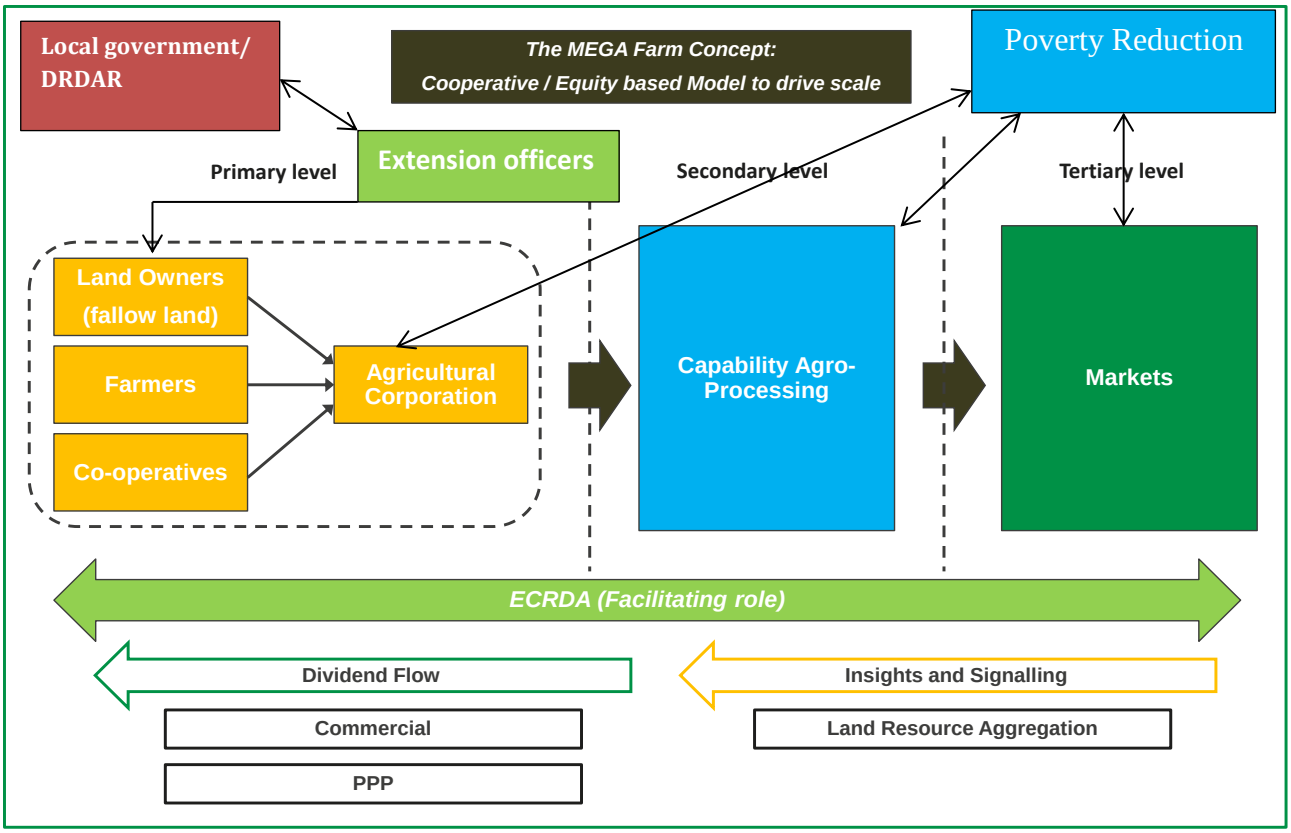

Figure 1.1: **A Framework of the Rural Enterprise Development (RED) Hubs, 2017. A segmented process of the Eastern Cape Rural Development Agency for the outcome of reducing poverty**

CHAPTER TWO: LITERATURE REVIEW

2.1 AGRICULTURAL DEVELOPMENT PROJECTS

This study focuses on agricultural development projects designed for home consumption because they are believed to be very effective in reducing levels of poverty. According to May (2000), agricultural production is the third essential means of survival used by poor people, after allowances from family members and wages from less-demanding occupations. Mabaso (2014) noted that, despite the fact that agricultural production makes a little contribution to family income, over one-third of rural families continue to engage in agricultural production. According to Van Rooyen et al. (2004), a project is described as an intervention based totally on a suggestion coping with the technical, economic, social, organisational, and managerial nature of that specific intervention. In addition, they said that agricultural initiatives aim to significantly increase production and stimulate job creation through the use of coordinated aid and technology. Tuman (1983) also defined a project as being an organisation of people dedicated to a specific purpose or objective. A Guide To The Project Management Body of Knowledge (PMBOK) (2000) further states that a project is a temporary task that is undertaken to produce a product or service. Prabhakar (2008) noted that projects are generally a part of a development strategy and a broader planning process.

According to Coleman (1987), an ADP is aimed at increasing cash incomes by way of a crop development programme. Gittinger (1982) expressed the view that agricultural development projects are the reducing fringe of development. Fundamentally, a development project, as an

instrument of progress, expects to enhance a targeted situation, after some time, through a specific arrangement of interventions (Verschoor et al., 2005).

2.2 KSD AGRICULTURAL DEVELOPMENT PROJECTS

The KSD Municipality has a number of projects which are included under different programmes; just to name a few – the Rural Enterprise Development (RED) Hubs, Poverty Alleviation Programme, the Household Food Security Programme, and the Ntinga OR Tambo Development Agency, which targets existing communities around the KSD Municipality. These programmes are mainly established or planned by the DRDAR, and focus on improving food security and reducing poverty in the affected households. The projects under the RED Hub Programme are set out below.

2.2.1 Vuka Mntomtsha youth co-operative

The Vuka Mntomtsha youth co-op was started in 2006 and was registered as a project in 2009. The project was used at first for developing household consumption and later gained market access. The focus of the co-op is to employ the unemployed youth and to feed the community. The main target group of the project comprises the most disadvantaged youth and households in nearby communities. The project is a vegetable-growing project that produces carrots, spinach, cabbage, and potatoes.

2.2.2 Uphuhliso Lwethu youth co-operative

This project was initiated in 2008 and is still in operation. It produces vegetables and sells produce in local market. The objective of the project is to reduce poverty and crime by employing unemployed youth of that community.

2.2.3 Lower Nqunqu Veg co-operative

This vegetable co-op is located at Nqunqu location. It was initiated in 2013 and is still operating up to this date. This project aims to supply nutrition to poor households and also to create job opportunities. It also provides market opportunities as it supplies fresh vegetables to local supermarkets.

2.2.4 Ntsimbini Maize co-operative

This project is located in Mqanduli and was initiated in 2009. It mainly produces maize and sells during harvest time to dairy and beef farmers. The project targets unemployed community members so that they can generate earnings for themselves. The main aim is to alleviate poverty in the community of Ntsimbini in Mqanduli.

2.2.5 Milla Farming

Milla farming is an initiative that was started by a group of unemployed people. They started the project to feed themselves as subsistence farmers, and they have been producing commercially over the past two years. The project employs mostly youth with university qualifications but who cannot find jobs. The project produces fresh vegetables, such as lettuce, and it produces maize on a large scale.

2.2.6 Orange Groove Irrigation Scheme

The DRDAR has funded a number of irrigation schemes in the KSD municipality for poverty reduction programmes, one example of which is the Orange Groove Irrigation Scheme. This Scheme was initiated in 2008 to assist farmers to sustain their projects and improve their standards of living. It supplies sufficient water to sustain their vegetable projects. The scheme

targets woman in poor communities, with the goal of empowering them. The project mainly produces vegetables and does not practise livestock farming.

2.2.7 Dubbed Green Valleys

Dubbed Green Valleys was initiated in 2003 and is still in operation. The main aim of the project is to supply vegetables for consumption to households and also to local markets. They produce vegetables mainly to ensure that food and nutrition security is achieved and maintained. This project also creates job opportunities for the locals and eliminates their dependency on government grants.

2.3 IMPORTANCE OF AGRICULTURAL DEVELOPMENT PROJECTS

Agricultural development projects play a significant role as a living strategy for rural households in developing countries. Mabaso (2014) noted that in some parts of the Eastern Cape, maize is an important product and that the majority of the population produces it because it can be used as animal feed and can be consumed, while vegetables can be used for supplemental nutritive value. This shows the importance of agricultural development projects: not only do they provide for production and consumption, they can also create job opportunities. According to Van Rooyen et al. (2004), agricultural development projects mostly aim at increasing production and stimulating employment opportunities through composed asset and innovation use.

2.3.1 Employment creation

South Africa suffers from a high rate of unemployment, mostly in the rural areas that have the highest rates of poverty in South Africa (d'Haese and Vink, 2003). Lipton et al. (1996) noted that the majority of rural dwellers are illiterate and unskilled. Nevertheless, studies have shown that

rural people use agriculture to feed themselves, regardless of the skills. The rural poor rely on agriculture for the improvement of their lives (Rockefeller, 1969). The Small Enterprise Development Agency (2012) has reported that the Eastern Cape the agricultural sector, specifically, has created a number of jobs and that in 2000, the agricultural sector contributed 41% to the total provincial employment, formal and informal. The report indicated that the figure by 2009 had decreased to 6.4%. In 2006, the employment rate was 440 000, and in 2011 it had dropped to 61 200 (Figure 2.1 below). The effect of the employment status also has an impact on the sector's input to the gross domestic product, per region (GDP-R). According to Ogle (2009), agricultural production projects have created more than 300 short-term jobs over the past few years. This means that agricultural projects do not do well in creating much-needed job opportunities. Mabaso (2014) reported that agricultural development projects do not have much impact in terms of job creation at the subsistence level, even though they are claimed to be a major method of reducing poverty and improving food security for the rural poor.

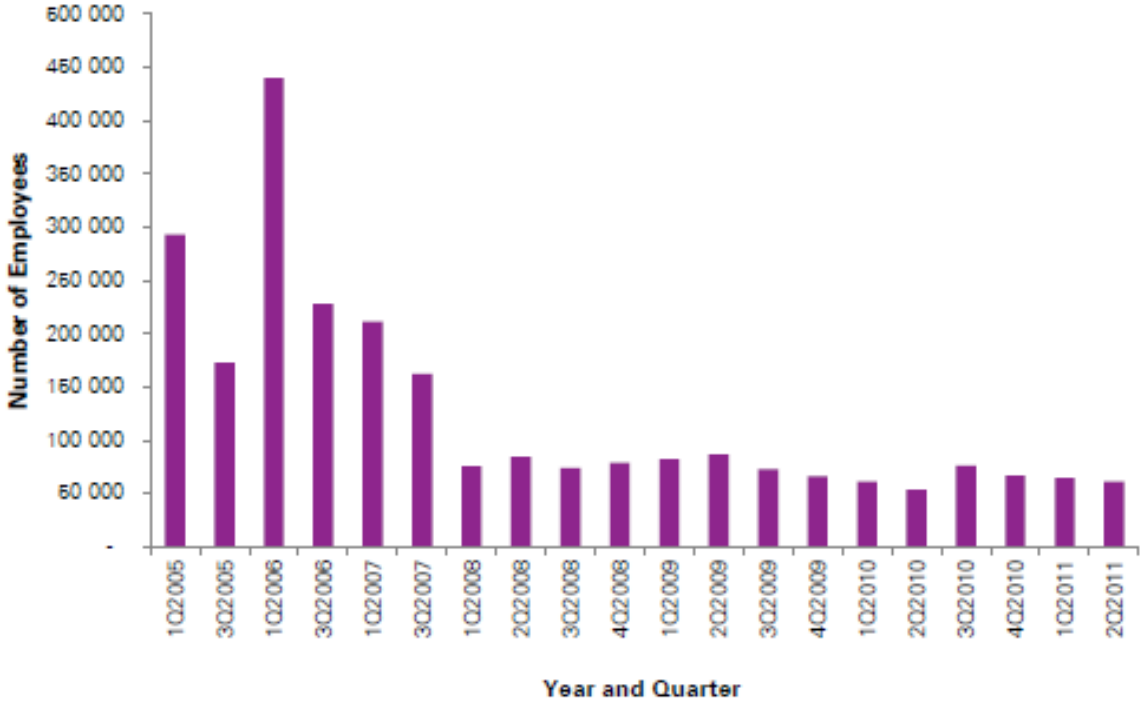

Figure 2.1: Employment in the agriculture sector in the Eastern Cape 2005 – 2011
Source: (Small Enterprise Development Agency, 2012)

2.3.2 Poverty reduction

According to the Human Science Research Council [HSRC] (2006), poverty can be defined in terms of the level of people's ability to access basic necessities. Poverty is an everyday experience in rural areas, as many of the people who suffer from poverty live in rural areas. Machethe (2004) noted that a majority of about 65% of the poor are found in rural areas. In order to sustain their lives, rural people tend to focus more on agriculture. Households in rural areas mostly depend on agricultural projects in order to cope with poverty, which is a challenge in South Africa (Mabaso 2014). According to Khan (2001), agriculture has the potential to stimulate economic growth, which implies that agricultural projects should be a core strategy in fighting poverty. The challenge with rural households is that they do not own much of the

physical resources and also have limited access to markets. Hence, considering agricultural development projects for economic growth would help the rural poor to feed themselves through agricultural production.

Lipton et al. (1996) noted that the rural poor, or small-scale farmers, have also assisted in employing and in generating income in South African by means of agricultural production, which has significance for the country's economy. Mabaso (2014) also agreed by noting that even at the global level, rural farmers have been creating job opportunities and income opportunities in rural areas. Ashley and Maxwell (2001) stated that the involvement of the youth and men in agriculture or projects could reduce the high levels of poverty and migration.

2.3.3 Contribution to household income

From an international view, earning income has been seen as a way to sustain life. In South Africa, income is the most important factor for achieving household food security (Kirsten et al., 1998). However, Makhura et al. (1999) have argued that although households in rural areas rely on agricultural production for income, it is not always sufficient to meet their needs, and as a result, a certain percentage of rural people still suffer from malnutrition. According to Hendriks and Lyne (2003), agricultural development projects contribute to low household income due to less labour, expensive inputs, limited access to traction for ploughing.

Mabaso (2014) noted that households respond, regardless of low income in agricultural production activities, to supplement the deficits in earnings from working in industry and through the unreliability or nonexistence of jobs in the formal markets. However, in most South African rural areas, the income from agricultural development projects contributes far more than non-farm income to total income (Makhura et al., 1999; Hendriks and Lyne, 2003). Financially,

individuals in rural areas also rely on other sources beside agricultural production, such as grants, old age pensions and remittances. According to Mabaso (2014), over one-third of households in South Africa continue to involve themselves in agriculture, even though the contribution to income is low. According to a report by Statistics South Africa (SSA) (2000), 25% of rural households engage in agriculture as their main source of income. However, agricultural development projects not only provide economic income (cash), they also provide resources in kind for nutrition, e.g. vegetables (Van Averbeke and Khosa, 2009). Mabaso (2014) noted that agricultural development projects can be used to increase wealth for the rural poor.

2.4 WOMEN EMPOWERMENT IN AGRICULTURAL DEVELOPMENT PROJECTS

The empowerment of women in agriculture is very important, both for gender equality and agricultural development. Women are seen as key role players in agricultural development, as well as rural development. Galie (2013) noted that the empowerment of women is considered to be an essential method for providing vulnerable households with the means to attain their livelihood strategies and food security. According to the United States Agency International Development [USAID] (2013), the strengthening of women constitutes developing their independence; upgrading their abilities or developing their own particular skills and learning capacity; expanding their capacity to take charge of their choices and have their voices heard; and to re-arrange and challenge societal standards and traditions. Women empowerment in agriculture is one of the most important dimensions for rural women, as rural households are largely dependent on agriculture for improving their standards of living, and empowering women would reduce their households' vulnerability to food insecurity. This is also supported by the Action Aid International (2011), which states that, by empowering women in agriculture, rural

households could improve their standards of living and develop sustainable ways of feeding themselves. This would also generate income from selling surplus products, thereby reducing vulnerability to food insecurity and poverty. Baiphethi and Jacobs (2009) also noted that the empowerment of rural women to produce more for local households and local markets would be the best approach to take for reducing food insecurity and making more agricultural income available to purchase food. Women constitute the strong pillars for the success of agricultural development projects in fighting food insecurity in rural households. The need to empower women can be explained by their percentage of the labour force: approximately 4 million black South Africans are involved in agriculture and women make up 61% of the labour force (Aliber and Hart, 2009). This percentage itself shows the tremendous contribution of women in agriculture.

2.4.1 Women contribution in agriculture

The Food and Agricultural Organization [FAO] (2011) noted that women make a very important contribution to agriculture and rural economy development in South Africa. FAO (2011) further stated that activities carried out by women include tending animals, producing crops, processing and preparing food, collecting water and fuel, taking part in exchange and promoting, watching over relatives, and looking after their homes. The vast majority of these exercises are characterised as financially dynamic work. FAO (2011) concluded that women are seen to produce 60 to 80 percent of food in their communities. This is supported by Hart and Aliber (2012), who pointed out that women contribute much in South African agriculture. Women work as unpaid labourers on family farms. They further noted that women are involved in both crop and livestock production in rural areas. They produce food and cash crops, and are involved in fish farming.

2.5 CONSTRAINTS FACED BY WOMEN IN AGRICULTURAL PRODUCTION

Women face a number of challenges in agriculture, such as access to the markets, access to financial credit, landownership, gender equality, lack of knowledge about the agricultural sector, and importantly, through cultural norms (Blaai, 2009). More importantly, there are limited development programmes that the government establish that do not fully accommodate women in South Africa. There are fewer subsidies available that financially assist women, and extension services are weak in disseminating useful information on how to establish agricultural development projects that empower women. Bambeni (2013) noted that, most of the time, women are not considered in the development process, whether by the development agencies or by those who are in authority, notwithstanding the fact that their contribution in agriculture and the farming industry cannot be ignored. One other constraint in agricultural production that women face is the lack of support from the government for current projects. Blaai (2009) noted that culture and tradition comprise one of the major challenges that women face. Women in rural areas believe that caregiving is to be done mainly by married women in rural areas, and that they have to take care of the sick and the aged in their homes. Bambeni (2013) further pointed out that South African women are poor and face many challenges because of their low education levels, and their inability to find jobs and own their lands.

2.5.1 Land ownership

Hart and Aliber (2012) noted that access to land was one of the constraints facing women in South Africa. Women in South Africa have cultivated lands, but they never owned them. This was supported by Majali (2012), who pointed out that land rights are only assigned to men, including sons of the husbands of women, thereby ‘leapfrogging’ or passing over the women. Women may be permitted to access lands specifically or in a roundabout way, as many have

limited or no right of admission to land. Majali (2012) further stated that only men are given access to land because they are the household heads. Furthermore, men are advantaged by owning everything in their households. This was also supported by Thagwana (2010), who also pointed out that the majority of women in rural communities depend on land for a living, but their relationship is characterised by their insecurity and lack of control over land. This lack of control and ownership over land creates differences between men and women in relation to economic welfare. Thagwana (2010) further stated that women's poverty is one of the factors that cause inequality in land between males and females in South Africa. Thagwana (2010) reveals that women who were given land rights and control over production would be inspired to put more efforts and investment into the land.

Legal regulations and customary rules frequently limit women's access to control over assets such as livestock (FAO, 2011). Women are much less likely to have land titled under their name, even when their families own the land, and are less likely than men to have control over land, even when they do formally own it. This was also supported by Mookho (2010) who noted that women have a little access to land because, under their norms and tradition, men have operational rights over their female counterparts, and women can only use land under the permission of the household head. Widowed or unmarried females have no access to land or are even allowed to operate land.

2.5.2 Access to credit

Majali (2012) noted that women face problems in gaining access to inputs, such as financial credit, i.e. capital. The reason could be that a number of credit associations and export crop market cooperatives are limited to household heads in South Africa. Majali (2012) also noted

that gender discrimination affects the access of women to credit, for example there are culture-based beliefs that women should be financially assisted by males, which is why bankers refuse to give credit to rural women. Female farmers experience difficulties in getting credit, which may be caused by bank officials. Majali (2012) concluded that, unless women are exposed to the important channels of credit distribution, they will continue to be disadvantaged when it comes to credit access.

According to FAO (2011), access to financial resources by women is also limited by biased lending practices that appear when financial organisations in the local area judge women to be smaller and less experienced, and therefore less attractive, clients, or when institutions lack the knowledge to offer products modified to women's preferences and challenges.

2.5.3 Education

One of the major factors that influence the contribution of women in agricultural development is education (Majali, 2012). Education is one of the significant factors that helps development and to be realised. Education is important in communicating accumulated wisdom and knowledge from one generation to the next. Majali (2012) further revealed that education allows active participation in innovation and the development of new knowledge. The lack of education and training has been recognised to be a crucial barrier to women's advancement in society. Majali (2012) concluded that it has been seen that South African women are less educated than men are. This was supported by Hart and Aliber (2012), who noted that one-quarter of female household heads have no formal schooling, compared with 19% of male household heads, and although 54% of male household heads in farming have no more than a primary school education, 61% of female household heads are in this category.

2.6 POVERTY STATUS

Poverty reduction remains the most critical challenge for the government (DoA, 2000). Nevertheless, rural areas suffer much more from poverty than urban areas do (Mabaso, 2014). Over the past few years, it has been ascertained that a very high percentage of the rural poor suffer from poverty. According to DoA (2000), it is believed that 72% of the poor people reside in rural areas, where about 70% of them are poor. These numbers have declined over the years as the government has strongly focused on poverty reduction. The FAO (2004) has noted a steady decline in rural poverty over the past decades, with the introduction of anti-poverty programmes that facilitate the removal of poverty in the long run. Anti-poverty programmes, such as agricultural development projects, seek to increase the levels of employment, income and social security. Farming in South Africa has a central part to play in building a solid economy, and from that, in decreasing imbalances by increasing wages and job opportunities for poor people (DoA, 2000). Agricultural projects, since their introduction, have been beneficial to the rural poor. Mabaso (2014) emphasised the point that poor households need to be involved in the agricultural development projects, and that they should choose projects that are suitable for their environment, with help from extension officers. Gittinger (1982) stated that agricultural development projects are the essence of development. Community projects have, at the least, increased household income and employment rates.

2.7 AGRICULTURAL EXTENSION SERVICES

According to the National Development Planning Commission [NDPC] (2010), agricultural extension services form a vital undertaking and essential component in programmes and projects that are implemented to bring rural advancement to, and the change of the way of life for, the rural poor. Nnadi et al. (2013) have noted that in 2007, the World Bank recognised agricultural

extension as an important intervention for increasing the growth potential of the agricultural sector. Annan (2012) highlighted the point that extension officers are mandated to transfer proven and confirmed farming practices to farmers in a participatory manner. Extension officers also provide market and credit access assistance to farmers to generate income and secure capital (Ministry of Food and Agriculture, 2007). Farmers in rural areas normally form a cooperative, using communal land, to farm small projects with the help of agricultural extension officers. Mabaso (2014) noted that extension services are concerned with the development of the rural poor, and not just with physical and economic achievements. According to Anderson and Feder (2003), extension is a helpful instrument in developing enterprises that promote productivity and generate income for change, thus reducing poverty.

2.8 PARTICIPATORY APPROACH

Studies have shown that a number of project failures are the result of lack of preparation, planning, and participation. Participation is the most important factor in the success of a project. Participation can be viewed as the means through which a significant association of poor people and the voiceless are empowered in the improvement process, enabling them to have a more significant impact in, and have more control over, the choices and foundations that influence their lives (Chambers, 1994). Any programme being implemented must have at least started with a consideration of the views of people for whom the programme is intended. The participation by the affected people is important, as it allows rural people to take charge of their development and implies that decisions are taken by them. Duraiappah et al. (2005) noted that, since the introduction of participation and its methods in the 1970s, participation has become the central tool in agricultural development. One cannot stop to think that participatory approach is the solution to the development process. According to Kanji and Greenwood (2001), the emergence

of these approaches was inspired by the improvement network to discourage top-down intervention and move to an intervention that involves the communities by means of a bottom-up approach. Godinot and Wodon (2006) noted that participatory approaches in dealing with improvement are advanced on the premise that they support viable project usage and enhance the prosperity of poor people.

2.9 STATUS QUO ANALYSIS

2.9.1 Climate changes

Climate change has become one of the most debated issues, both nationally and internationally, as it results rising sea levels, among other phenomena. Average sea levels around the world have risen by about 20 cm in the past 100 years, and climate scientists expect them to rise more and more rapidly in the next 100 years (Kumar and Ranjan, 2016). One of the most prominent impacts of rising temperatures is felt in global agriculture, although these impacts are felt very differently in the largely temperate developed world than in the more tropical developing world. Kumar and Ranjan (2016) also noted that various crops grow best at quite specific temperatures, and when those temperatures change, their productivity changes significantly. Rising temperatures may also favour agricultural pests, diseases and disease vectors. Rising temperatures and the impacts of climate change occur differently in different regions, for instance, the USA experiences floods and while South Africa experiences drought. The impacts will have effects over ecological issues, financial execution, social conduct, framework, and different parts of human existence. South Africa, and mainly the presidency, is playing an increasingly essential and respected function in worldwide climate alternate negotiations (Coastal and Environmental Services, 2011).

This was highlighted by the fact that South Africa hosted the Conference of the Parties (COP17) in Durban in November and December 2011. With regard to national activities, a procedure to institute an Eastern Cape Climate Change Response Strategy was started by the Eastern Cape Provincial Department of Economic Development and Environmental Affairs in January 2010. The Eastern Cape Provincial Government perceives that the province is adding to environmental change, but it is helpless to resist the impacts of environmental change. The Eastern Cape is expected to encounter the most severe temperature increments towards the northwest interior, while the lowest increments are likely to be experienced along the coast (Coastal & Environmental Services, 2011). The Eastern Cape has included the agricultural sector as a climate change risk assessment matrix as part of the Eastern Cape Climate Change Response Strategy. This risk assessment matrix shows which climate change effects may affect the agricultural sector (Table 2.1 below).

Table 2.1: Impacts of extreme significance for the agricultural sector, as identified in the preliminary risk assessment process

Climate Change manifestation	2nd Order Impact	3rd Order Impact	Sector
Frequent hot days and heat waves	Increased to high extreme occurrence of fire danger index together with berg-wind conditions	Loss in crops, livestock, and grazing, including infrastructure, are a major risk. Rural livelihoods and financial sustainability of commercial subsistence farming operations are under threat. Reduced food security.	Agricultural sector

Source: (Adopted in Coastal & Environmental Services, 2011, page 7)

2.9.2 Extension services in climate change adaptation

One of the major roles of agricultural extension in the agricultural sector is to provide informal education. It is expected that an agricultural extension officer will provide and disseminate useful information to farmers for achieving optimal production. Maponya and Mpandeli (2013) noted that agricultural extension officers not only provide useful information, but are also expected to provide institutional support and to facilitate farmers' needs in support of agricultural production. It is important for extension officers to play their role in monitoring and evaluating ADPs. ADPs provide a very important source of food for the rural poor. Climate change threatens the very existence of the rural poor, as high production depends on factors such as rainfall and fertile soils. Climate change impacts on all the necessary factors for high production levels. According to Maponya and Mpandeli (2013), climate change, together with its impacts on agriculture, is therefore essential to every life on the continent. Therefore, agricultural extension has a vital role to play in initiating change. Change can be brought about in many different ways, and adaptation to the current situation is a key survival strategy. Maponya and Mpandeli (2013) noted that to adapt requires knowledge, attitudes and resilient capacities, and that the skills of the people and agricultural extension can bring about this change.

2.9.3 Extension officer's effectiveness (Qualification)

A study done by Williams et al. (2008) showed that in six of the nine provinces in South Africa, female extension officers were more educated than their male colleagues were. Only in the Free State, Gauteng and the Western Cape were the male officials more educated than their female colleagues were. Extension officers not only need technical skills to be successful or effective, but also need to strengthen their human capital status. Human capital education is the key element in agricultural development. According to a study conducted by Mmbengwa et al.

(2009), more female extension workers had four-year degree qualifications than their male colleagues did. Almost the same percentages of female and male extension workers have had post-graduate training in agriculture. A total of 25% female extension workers in the sample had three-year degree qualifications, compared with 16% of their male counterparts. Some male extension workers' highest qualifications were diplomas. Mmbengwa et al. (2009) concluded that the educational levels of extension officers were dismally poor. Thus, this could be one of the major barriers in providing effective extension services. They further revealed that extension officers lack skills in management, marketing, training, and infrastructure development. Such skills are needed for assisting emerging farmers to gain competitive advantage in any business or farming enterprise. The study revealed that 16% of the males had a lower exposure in management, compared with 25% of their female colleagues. This means that their qualification in management is inadequate.

CHAPTER THREE: RESEARCH METHODS AND DESIGN

3.1 INTRODUCTION

This chapter will give a clear overview of the methodology used in obtaining the data from the farmers in KSD Local Municipality. It will further focus on the type of research design and the data collection instruments, a description of the population, and the sampling technique which shall be used to select respondents and procedure, and how it will be drawn. Methodology refers to the body of methods used in a particular activity or research process (Babbie, 2001). According to Babbie (2001), research methodology encompasses variables, such as population, size and description of the sample, as well as research instruments used.

3.2 DESCRIPTION OF INQUIRY AND BROAD RESEARCH DESIGN

3.2.1 Description of inquiry

The study area was purposively selected in the Eastern Cape Province of South Africa. The study was conducted in the King Sabata Dalindyebo Local Municipality (KSDLM), which is one of the five local municipalities in the OR Tambo District Municipality (ORTDM) in the Eastern Cape Province of South Africa. The ORTDM occupies the eastern coastal portion of the province, bordered by KwaZulu-Natal and by the Eastern Cape districts of Amatole, Chris Hani, UKhahlamba and Alfred Nzo. OR Tambo includes moderate- and high-rainfall areas, principally along its sub-tropical coast, but also in pockets of mountainous areas, and has a diversity of vegetation, from grasslands and thicket to forests and bushveld (McCann, 2005). OR Tambo is classified as a Category C2 municipality, indicating a largely rural character and low urbanisation rate, as well as limited municipal staff and budget capacity. KSDLM is a category B municipality and is the largest of the five municipalities in the district, accounting for a quarter

of its geographical area (McCann, 2005). The majority of the population of the municipality lives in rural areas, where they engage cultural customs. Because of the delimitations of the study, the study was conducted in the rural areas of Mqanduli. Mqanduli is a town in OR Tambo District Municipality, 30 km South of Mthatha and 22 km north-east of Elliotdale. Mqanduli has an area of 9.88 square kilometres, with a maximum population of 2647, and the area is predominantly Xhosa speaking (Census, 2011).

Figure 3.1: The ORTDM and five local municipalities

Source: Local Government Handbook (OR Tambo District)

3.2.1.1 Agricultural Potential and Water Availability

The District is considered to have the richest natural resources and the most fertile areas in the country, with good soils and climatic conditions. The agricultural potential of ORTDM remains largely untapped. Agricultural activity is predominantly subsistence farming on communal land (Department of Cooperative Governance and Traditional Affairs [DoCGTA], 2011). It is further

noted that there is potential for commercial-scale, irrigated agricultural projects. The system of communal tenure presents management challenges. There are low levels of access to clean water in the district. Access to piped water above the Reconstruction and Development Programme (RDP) level increased from a low level of only 15% to 29% from 1996 to 2008. Similarly, there has been an increase in access to piped water below the RDP level, and about 15% of households are now getting this service. More than half of the households do not have access to clean water (DoCGTA, 2011).

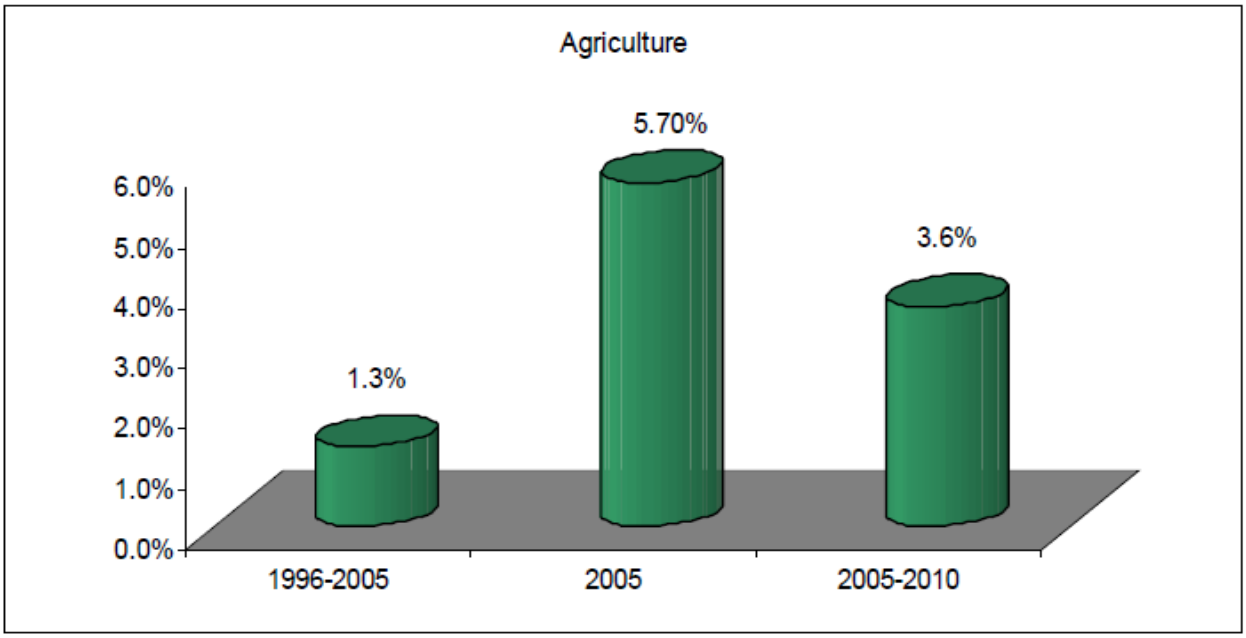

Figure 3.2: Average Annual Growth Rate in Agriculture in ORTDM
Source: (O.R. Tambo District Municipality, 2007)

3.2.2 Research design

Research design represents the approach to how a study is going to be conducted, and how things are expected to unfold. Research design usually answers questions such as to what methods and techniques the researcher will use to collect data, and how many respondents the researcher will have. Research design helps a researcher to finish within a stipulated time, without

compromising the quality of data. Research design comprises two types, namely quantitative and qualitative. The choice of selecting which type to use depends on the nature of the research. This study used a quantitative research method, which typically emphasises objective measurements and the statistical, mathematical, and numerical analysis of data collected through questionnaires and surveys, or by manipulating pre-existing statistical data using computational techniques (Williams, 2007).

3.3 SAMPLING

3.3.1 Sampling method

A purposive sampling method was used in selecting from the participants in the surveyed projects (Tongco, 2007). This method was used to target a certain group on the basis of the fact that not all the people in the community are beneficiaries of the agricultural development projects that have been implemented. The study also used random sampling to save time, in view of the large population, and also to take into account the willingness of the respondents, so as to focus only to those who were willing to be interviewed. The selected sample comprises farmers (co-operatives) who are involved in the agricultural development projects in KSD local municipality, as well as extension officers who are responsible for the implementation of the agricultural development projects. The unit of analysis of the study comprised household heads of all the households benefiting from the agricultural development projects.

3.3.2 Sampling size

The study used a sample size of 80 farmers, who were in different development projects. The study also interviewed eight extension officers who manage the projects around Mqanduli

communities. There are eight confirmed operating projects around Mqanduli. The study looked at co-operatives, farmers working in groups, and community members.

3.4 QUESTIONNAIRE AND DATA COLLECTION

3.4.1 Questionnaire

Two sets of questionnaires were used; one was directed only to extension officers and the other to the farmers. The questionnaires are structured, which contain structured questions with dichotomous questions. Dichotomous questions are fact-seeking questions that are used where circumstances are clearly defined and clear answers can be expected. The questionnaires were used to gather information about the development projects in ORTDM in the KSD Local Municipality. Eight communities were selected for the study. The questionnaire consists of open-ended and closed-ended questions (See Appendices A and B below).

3.4.2 Primary data collection

The study comprises survey-type research, and the type of survey used comprised personal interviews.

3.4.3 Secondary data collection

Secondary data collection was used to gather information to provide a theoretical foundation for the topic in hand and thereby determine whether development projects do reduce poverty.

3.4.4 Study instruments

The study used a structured questionnaire. The questionnaire consisted of open-ended questions. The importance of open-ended questions is that they give opportunity to project participants to

fully express their feelings and responses. Closed-ended questions were used to collect demographic information.

3.4.5 Procedure for data collection

The questionnaires were distributed to all participants in the study and were completed in the presence of the researcher, so as to give some assistance. A participant who could not read or write was assisted by the researcher in helping to complete his or her questionnaire, seeing that many rural people are illiterate. A part of the questionnaire sought demographic and socio-economic information (age, employment status, gender status, education status, etc.), while other sections covered the specific objectives, and open-ended questions being used to elicit answers to them. Enumerators who understood both IsiXhosa and English assisted the researcher during data collection. The data collected was then coded and captured into Microsoft Excel. The coded data was then imported and analysed using the Statistical Program for the Social Sciences (SPSS).

3.5 DATA ANALYSIS AND ANALYTICAL TOOLS

The data was processed and analysed using the appropriate statistical tools to fulfil the objective of the study. The study uses the Statistical Program for the Social Sciences (SPSS) for the analysis of data. According to Agresti (2002), SPSS is a computer program that is used to compute data, utilising statistics, to turn raw data into information essential to decision making. The study used the analytical tools described below.

3.5.1 Descriptive statistics

Descriptive statistics were used to analyse the collected data to derive frequencies, means, and percentages. Descriptive statistics simply means describing, and are used mostly to describe

variables (Patel, 2009). The descriptive statistics approach is sometimes called univariate analysis, meaning that one variable at a time is analysed.

3.5.2 Likert Scale analysis

The study used a 5/4-point Likert scale (ranging from ‘strongly disagree’ to ‘strongly agree’) to assess the perceptions of farmers on the agricultural extension services that they have access to and on how helpful the agricultural projects are in their communities. Respondents were offered a choice of five pre-coded responses, with the neutral point being ‘neither agree nor disagree’. To analyse data from a Likert scale, a summary using a median or a mode (not a mean) was used; the mode is probably the most suitable for easy interpretation. The distribution of observations was displayed on a bar chart; it cannot be a histogram, because the data is not continuous (McLeod, 2008).

3.5.3 Data Required

Table 3.1: The required data for each objective and their analytic tools

No.	Specific Objectives	Research Questions	Data Required	Analytical tool
1.	To examine the demographics and socio-economic characteristics of the household beneficiaries.	What impact do agricultural development projects have on poverty reduction?	Health, Farming experience, Agro Ecology, Age, sex, Literacy, level of education, etc.	Descriptive statistics
2.	To identify the agricultural development projects that help reduce poverty in King Sabata Dalindyebo (KSD) Municipality.	How many agricultural development projects are found in KSD municipality and how do they reduce poverty?	Identify all the agricultural projects in King Sabata Dalindyebo.	Descriptive statistics
3.	To determine farmers' perceptions on agricultural implemented development projects in reducing poverty.	What are farmers' perceptions regarding the projects implemented by the government of the local district municipality?	Before and After project introduction, i.e. Income, poverty status, farming systems, standard of living, etc.	Likert Scale Descriptive statistics
4.	To assess the status quo of the implemented agricultural development projects.	What are the barriers to change in agricultural projects in making them efficient in reducing poverty?	Barriers to change (small-scale to commercial), preparations, Number of Advisory services, number of projects, Climate change, HIV/AIDS.	Descriptive statistics
5.	To determine the role played by extension officers in the projects.	What roles do the extension officers play in the projects?	Roles in agricultural development projects I.e. provide training, empower, useful information, etc.	Descriptive statistics

3.6 RESEARCH ETHICS

Research ethics serve to ensure that the policies of the university are followed and that the rights of the participants are not violated. The participants have the rights to decline to give consent to the research, and to be informed about what the research is about and the impact it will have on their lives. Any information provided, including personal information is to be protected at all times. The participants also have the right to remain anonymous. Furthermore, participants are allowed to refuse to participate to the research and to discontinue with participating in the research.

CHAPTER FOUR: FARMER RESPONDENT RESEARCH RESULTS

4.1 INTRODUCTION

This chapter presents the findings and results of the research study. Data was collected from eight cooperatives, as well as eight extension officers. The chapter begins with the demographic analysis of the eight communities, followed by the sources of income, farmers' perceptions, and contributions by the projects to community households that reduce poverty. A Likert scale is also used to measure farmers' perceptions about agricultural development projects.

4.1.1 Background of the Projects

This study focused on agricultural development projects in the Mqanduli communities, from which eight were selected for the study on poverty reduction. The eight projects, namely Ntsimbini co-op, Phendu co-op, Maqomeni co-op, Ngcanaceni co-op, Cezu co-op, Kwe Nxurha co-op, Ndibongo co-op and Lower Ngqunqu co-op, are managed by different managers selected by their communities under the watchful eye of DRDAR. The projects were initiated between 2006 and 2013 by the Eastern Cape Rural Development Agency (ECRDA) under the Mqanduli RED Hub programme, with the aim of promoting food security and job opportunities. The Mqanduli RED Hub programme has a fully functional milling plant, with 40 jobs having been created. The key strategy of the programme is to promote rural industrialisation and commercialisation. The aims of the projects are mainly to reduce poverty, to earn income, and improve the standard of living, and they target anyone willing to participate.

4.2 DEMOGRAPHIC INFORMATION

Demographic information constitutes a very important source of information in research studies. It typically looks at the characteristics of household heads, namely gender, age, marital status, level of education, size of household, and employment status. Therefore, by definition, demographic information is related to a study of the population of a certain society or community, based on these household characteristics, among others (Gbadamosi, 2013). In a household, these characteristics play a vital role in the activities that take place in the household, such as decision making, and the adoption or rejection of an innovation. Demographic features are also important to a researcher to best understand why certain decisions are taken by households. The household economic status is also understood through the analysis of demographic information.

4.2.1 Gender of household heads

The Figure 4.1 below shows the gender distribution of the 80 interviewed farmers in KSDLM, Mqanduli. The study reported a total of 54% females and 46% males. It is most likely that the number of females in rural areas is greater than the number of males. Men being fewer in number in rural areas, women tend to head rural households. Okali (2011) noted that a result of men being fewer in numbers in rural areas, is that women undertake the majority of agricultural, domestic and reproductive work.

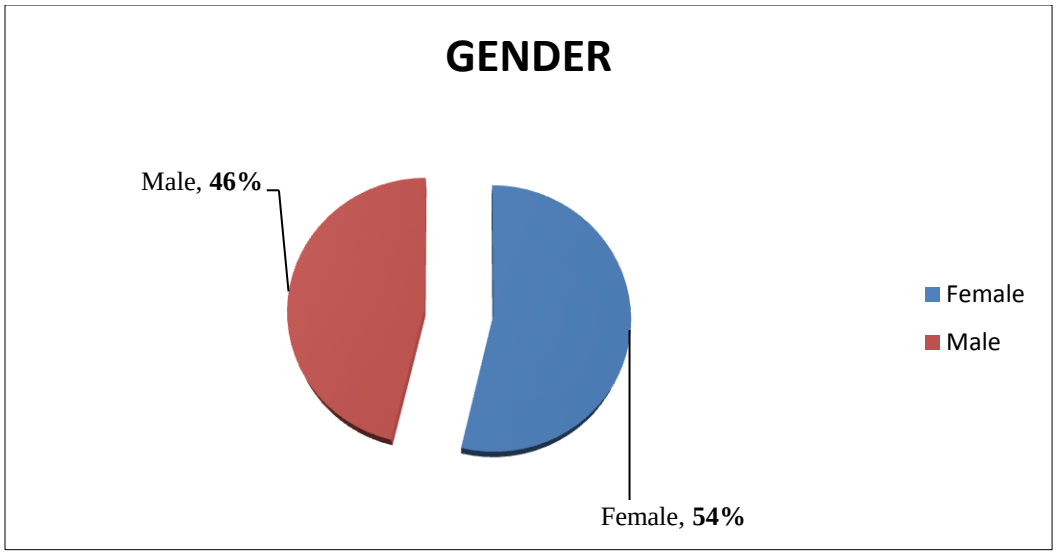

Figure 4.1: Gender distribution of the respondents (N=80)

Health can also determine the gender distribution of a community, as women are more likely to outlive men. Gender can play a vital role in the adoption of new technologies and in providing food security and household well-being (Okali, 2011).

4.2.2 Age distribution

The Table 4.1 below summarises the age distribution of the respondents and their genders.

Table 4.1: Age distribution of the interviewed farmers and according to gender

Age Categories	Frequency	Percentage %
19-29 years	Male: 5 Female: 0	6.3
30-39 years	Male: 6 Female: 8	17.5
40-59 years	Male: 12 Female: 22	42.5
60-91 years	Male: 14 Female: 13	33.7
TOTAL	**80**	**100**

Source: Field Survey, (2017)

The age distribution of residents in the KSD local municipality ranged from a minimum age of 21 years to a maximum age of 91 years. The research results show that the dominant age category was the 40–59 year group, who accounted for 42.5% of the total respondents. The second largest category was the 60–91 year group, with a total of 33.7%, followed by 17.5% for the 30–39 year group. The category which had the lowest numbers (6.3%) was the 19–29 year group. Furthermore, mean age differences were calculated, with that for females being 53.33 years, and 54.35 years for males (see Table 4.2 below).

Table 4.2: The mean age difference of female and male farmer respondents

What is the mean age of female respondents and male respondents?				
T-Test				
	Mean	t	df	Sig. (2 tailed)
Female	53.33	-0.342	78	0.734
Male	54.35			

(1= 19-29 years) (2= 30-39 years) (3= 40-59 years) (4= 60-91 years)

The t-test confirmed that the results were not statistically significant because the p-value (0.734) was greater than (0.05). This means that a significant difference does not exist between their mean ages (males and females).

4.2.3 Household numbers

Agricultural households play a significant role in achieving agricultural and rural development policy aims, mostly because they control production and the use of resources (Wye Group, 2011). Figure 4.2 below shows the number of people per household. The data shows that a total of 15% were in the category 1–4 per household, while 50% respondents were in the category 5–8

per household. Respondents reported that few adults were at their households, with a maximum of three adults per household, and that the increased number is likely attributed to younger household members. The second highest category, accounting for 31%, was category of 9–12 people per household, while the lowest was 4%, from the category of 13–20 people per household. The vulnerability to poverty mostly increases with larger household sizes (Orbeta, 2005). Household size has a very strong relationship with poverty, and Orbeta (2005) stated that one can observe an increase in poverty as one moves from a smaller family to a larger household with any form of measure.

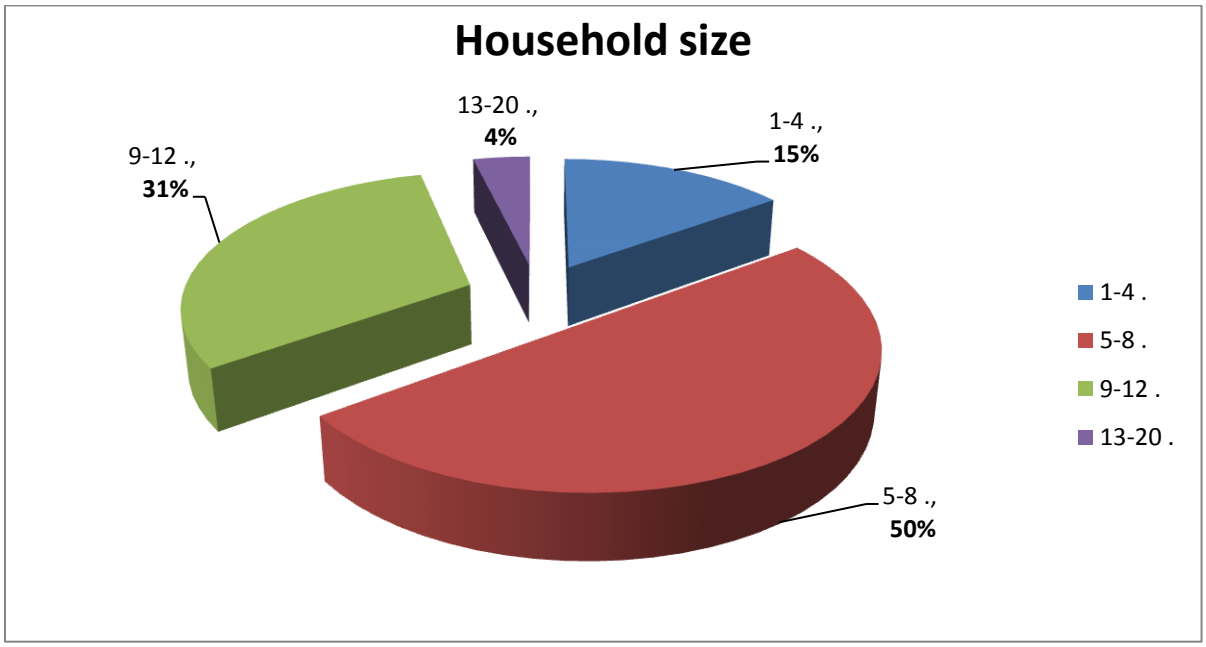

Figure 4.2: **The number of people per household according to farmer respondents**

4.2.4 Analysis by marital status and level of education of the respondents.

The above categories of demographic information are displayed in Table 4.3 below. These are very important aspects in rural areas, as they can be used to influence the projects decisions.

The figures in Table 4.3 below show that most of the respondents in the study were married (40.0%), while 36.3% were widowed, 21.2% were single, the lowest figure, 2.5%, was the divorced category. The reason for this can be associated with the fact that the projects are dominated by elders, with only a very small number of the youth being involved. Marital status has some significance in rural areas, were married individuals are highly respected and can have influence in the adoption of new innovations.

Table 4.3: Marital status and level of education according to farm respondents

Categories	Frequency		Percentages %
Marital Status:	Male	Female	
Single	9	8	21.2
Married	17	15	40.0
Widowed	9	20	36.3
Divorced	2	0	2.5
Total	**80**		**100**
Level of Education:	Male	Female	
No Schooling	13	14	33.7
Primary	9	9	22.5
Secondary	15	18	41.3
Tertiary	0	2	2.5
Total	**80**		**100**

Source: Field Survey, (2017)

In a study conducted by Majali (2012), the author noted that South African women are less educated than their male counter parts are. According to the levels of education of the respondents shown in Table 4.3 above, the majority of the farmers (male 15; female 18) had secondary educational level (41.3%). In this study, women indicated to have the highest levels of education than their male counter parts, being them to only have tertiary educational level

(2.5%). According to Bembridge (1991), the lack of knowledge derived from education can affect the adoption process of new technologies.

4.2.5 Employment status

In this subsection, data will be presented in a table with frequencies. It is important to know exactly the numbers of respondents that were unemployed, employed, and/or self-employed. This is very important demographic information to know about a household. Agricultural production can play a role by creating job opportunities and improving the standard of living for the rural poor (Rockefeller, 1969).

Table 4.4: The employment status of respondents by gender

Categories	Frequency		Percentages %
Employment Status:	Male	Female	
Unemployed	27	34	76.3
Employed	7	5	15.0
Self Employed	3	4	8.7
Total	**80**		**100**

Table 4.4 above presents the employment status of the respondents. Although all the respondents were involved in the agricultural development projects, most of them did not consider being in the projects as being employed, thus the high percentage of unemployment being reflected as 76.3%, with a frequency of 61 (males 27; females 34) respondents. However, they included farming/agricultural production as their source of income. This could mean that the respondents do not view agricultural projects as providing job opportunities, but rather as a source of food for their households. Mabaso (2014) reported that agricultural projects do very little in job creation

at a subsistence level, even though projects are claimed to be a good strategy for reducing poverty and improving household food security for the poor. Respondents that were employed constituted 15.0%, with a frequency of 12 (male 7; female 5) respondents. Lastly, 8.7% of the respondents were self-employed with different activities other than agricultural production.

4.3 SOURCES OF INCOME

The data provided below shows the external sources of income of the households of Mqanduli. Although all of the respondents were involved in the projects, they in addition usually receive other external sources of income that are non-agriculturally related. According to the Wye Group (2011), it is important when understanding the welfare of agricultural households not to take other sources of income as being unimportant. These sources have a greatly significant role in development.

4.3.1 External income source

Figure 4.3 below clearly shows that farm income (40%) is the most important source of income that the respondents rely upon. This can be seen in the employment status of the households; people tend to rely on agriculture for their survival because there are very few alternative job opportunities. The other reason for farming being the most dominant source of income is age distribution. Older farmers are more involved in and participate more in the projects. A total of 15% were on pension and 20% rely on remittances. Thus, remittances were the second highest source of income that the respondents rely on. In rural households, remittances, whether in kind or cash, contribute in improving the standards of living. It was noted by Rigg (2006) that remittances play an increasingly important role in rural household income. Furthermore, old age pensions constitute the third most important source of income that the respondents relied on. The

reason for this, again, could be age distribution. Only 13% of respondents depend on salaries and wages, which is evident in the low employment status of the households, which reveals that 76% of the respondents were unemployed. Rigg (2006) further noted that the level of household income is shifting from farm to non-farm income. Lastly, only 10% indicated receiving child support grants, while 2% depended on disability grants.

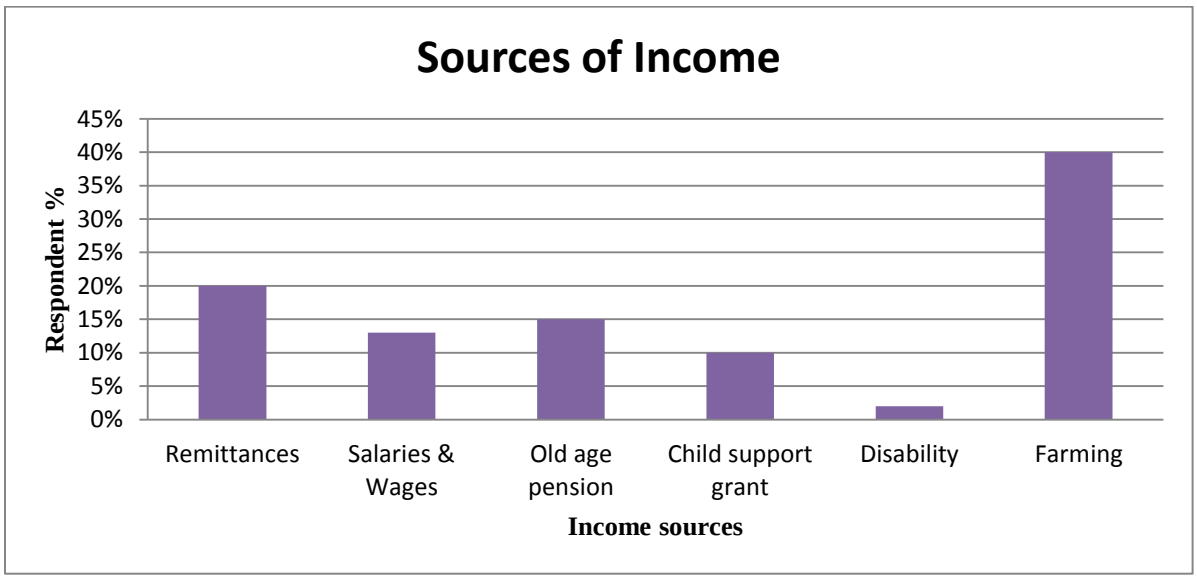

Figure 4.3: Sources of income that the households depend upon

4.4 LAND TENURE AND LAND ACCESS

The respondents were asked four questions on land tenure, one of which was about the type of land tenure they had access to. Other questions asked about the size of land they had access to, and the size of arable land. Lastly, they were asked how the type of land tenure they had access affects their production. Most respondents (63%) stated that they used communal land (see Figure 4.4 below). Communal land is provided by community leaders mostly as means of development for the rural poor. The Land Rights Act, 11 of 2004, defines communal land as land that is planned, occupied or used by the members of a community under the rules of that

community. Community leaders are responsible for regulating the land use in their community. Land is always one of the fundamental means of production in agriculture, and for the rural poor, it is the mainstay of life (Wallace, 1980). Other respondents (36%) reported that they use commonage lands. Commonage lands are usually held under authority granted by municipalities. Van Rensburg et al. (2009) and Puttick (2008) have defined commonage land as land that is held in joint ownership, where two or more farmers are given grazing authority. Respondents that used commonage land reported that they do not have their own land on which to practice agriculture. Only 1% of the respondents had their own land for production. The advantage when using your own land is that you do not have limited operational rights given by the municipality, and you produce what you want. Respondents further complained that the land tenure that they had access to negatively affects their production and practices.

The most challenging factors in land tenure (see Figure 4.5 below) were land ownership (37%), theft (29%), and community politics (25%). Irwin (2007) noted that project politics can have a negative impact on the success of the project, although it can also have a positive impact. Not all members who used communal land supported the implementation of the projects because they believe it reduces the space available for livestock grazing. When some members of a community ‘pull to the right’, and others ‘pull to the left’, the success of any community project is bound to fail. Limited operational rights (9%) were the reason because community leaders are the ones who control the lands.

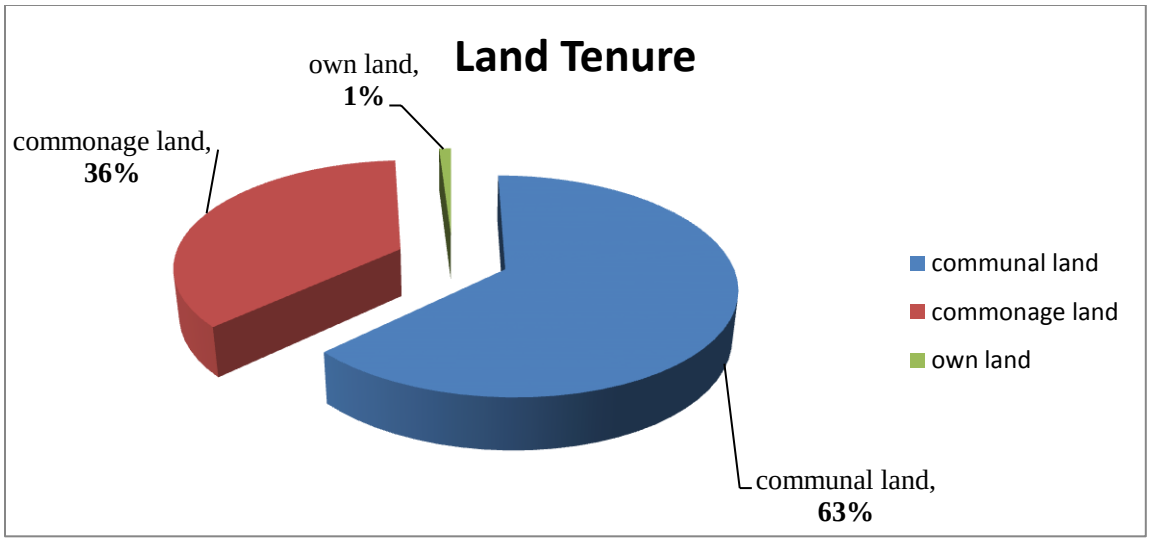

Figure 4.4: The land tenure that the project participants have access to

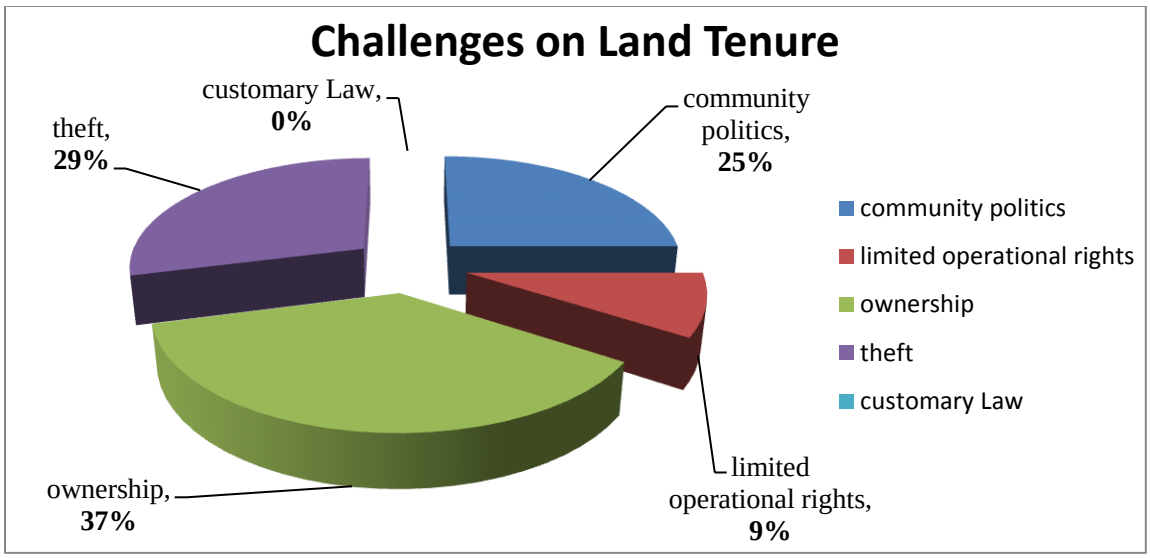

Figure 4.5: Effects in production from the land tenure available

4.5 CROPS PRODUCED

Figure 4.6 below shows the amounts of maize produced by the ADPs that were visited. It was reported that a total of eight ADPs were available in Mqanduli. Extension officers reported that the maize produced is sold and that none of it is consumed by the households. The study further noted that these eight projects produce only maize, year after year, and do not produce any other

crops. This confirms that monoculture is practiced in these projects. According to the Union of Concerned Scientists [UCS] (2012), monoculture is a practice of producing a single crop intensively on a large area. Monoculture practice has a number of advantages. The University of Reading (undated) has noted that monoculture reduces competition among crops for nutrients, and maximises profit from a single crop from a large area. Unwanted plants can be easily controlled. Respondents reported that they produce white maize, even though they do not accept it when they are told it has a high market value. According to Gerpacio et al. (2004), white maize is a very important staple and is mostly used as a substitute of other staples, especially for the rural poor. Project participants in Mqanduli do not like white maize, and they felt that it was being forced on them. They reported that they preferred yellow maize because they can use it to feed their livestock. Mqadi (2005) also noted that yellow maize is the most preferred, mainly because it can be used as animal feed. Looking at the graph in Figure 4.6 below, it can be seen that production is not sufficient for reducing poverty in the households.

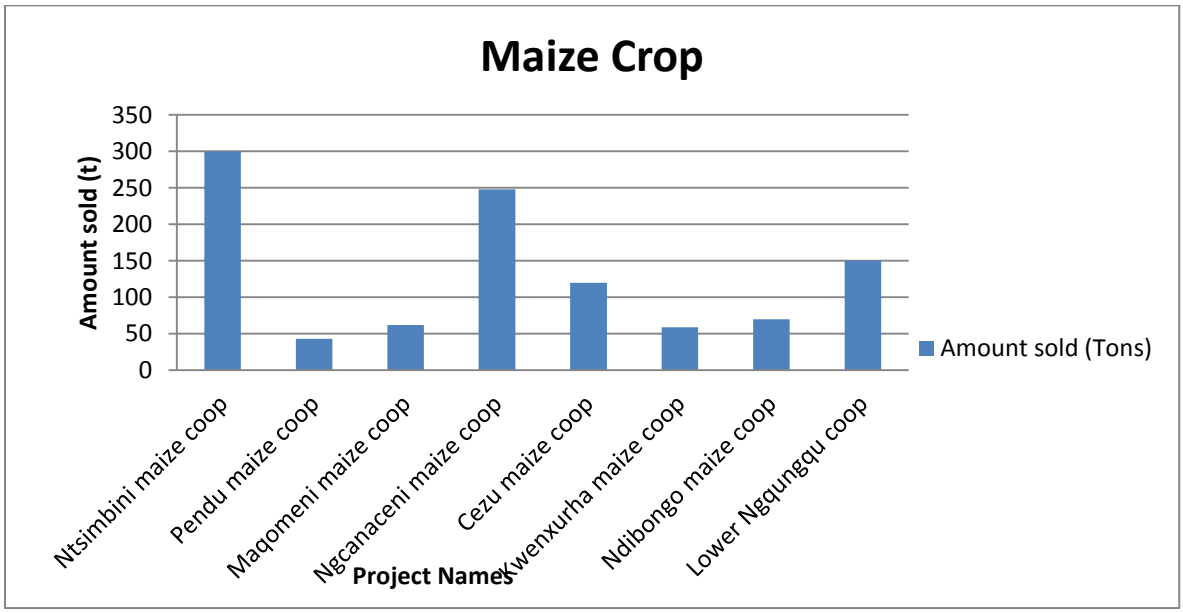

Figure 4.6: **The amount of maize produced by the projects for year of 2015/16**

4.6 CULTIVATION OF LAND

The respondents were asked about which means of cultivation they used for soil preparation. All the respondents (100%) stated that they use tractors to till the land. This shows that the Mqanduli communities have recognised that mechanisation is to be used as a tool to modernise agriculture. Khan et al. (2009) highlighted the point that mechanisation increases cropping intensity and that this leads to more improved productivity. The projects also indicated experiencing a good transition from subsistence farming to commercial farming through technology transfer. One other reason for the adoption of technology can be considered to rural emigration, as there are then fewer people to work the land.

4.7 FARMING SYSTEM

A farming system constitutes the culture by which farmers practise farming. A majority of the respondents (40%) reported that they use an extensive farming system (see Figure 4.7 below). This also indicates that three of the eight projects practise extensive farming. The system that these three projects have adopted requires little labour and capital. Although using reduced capital maybe advantageous, a very small labour force in rural areas is disadvantageous, mainly because it does not solve the unemployment crisis. The University of Reading (UR) (undated) has stated that crop yields in extensive farming depend mostly on good temperatures, soil, terrain and water availability. These projects mostly rely on rain and dam water for irrigation.

The second highest category used a semi-intensive system, at a frequency of 28 respondents (35%), with three of the eight projects practising a semi-intensive system. Of the remaining two projects, one practised an intensive farming system (14%) and the other project practiced a combination system (11%), with a frequency of nine respondents.

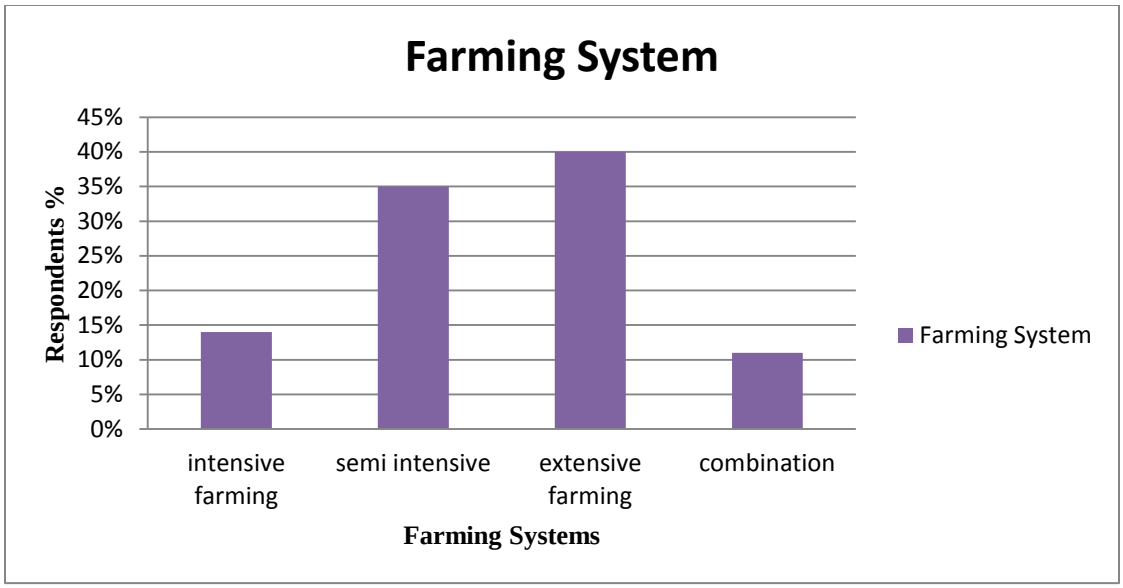

Figure 4.7: Farming systems adopted by different projects in Mqanduli

4.8 SOURCES OF WATER AND IRRIGATION SYSTEM

Table 4.5 below reflects data from the eight projects studied in the Mqanduli communities. It shows their sources of water and the irrigation systems that they use for irrigating their crops. Respondents reported that their sources of water are mainly from rivers and small community dams that were constructed primarily for livestock use. The majority of the projects relied mainly on rivers, with 76.3% of the respondents saying that they used rivers for irrigating their crops. Water is pumped from the rivers, using diesel pumps provided by the DRDAR. A total of 73 respondents (91.3%) stated that they used sprinklers for irrigating with the pumped water. Rivers are not a reliable source of water for agricultural production as they can dry up, more especially in the arid and semi-arid regions of the Eastern Cape. Projects that relied on dams (23.7%) were mainly vegetable projects, with just a small (ha) agricultural holding. Manual irrigation requires a large human labour force.

Table 4.5: Sources of water and irrigation systems found in Mqanduli

Sources of water	Frequencies	Percentages %	Mean	Irrigation System	Frequencies	Percentages %	Mean
Communal taps	0	0.0	2.24	Sprinklers	73	91.3	1.18
Rivers	61	76.3		Drip	0	0.0	
Dam	19	23.7		Manual	7	8.7	
Boreholes	0	0.0		Flooding	0	0.0	
Household tanks	0	0.0			0		
Total	**80**	**100**		**Total**	**80**	**100**	

4.9 ADPs AND MANAGEMENT

As stated in the introduction to this chapter, all the eight projects studied had trusted managers who are elected by the community members. The projects are established under the RED Hub programme and poverty alleviation efforts. The main aim is to create job opportunities, so that beneficiaries are able to earn household income, to improve their standard of living, and lastly, to reduce poverty in their households. The projects do not have a specific target group, as anyone who is willing to do so can participate, unlike other projects that usually have a specific target group, e.g. women for purposes of empowerment.

4.9.1 Project structure

Figure 4.8 below reflects the views of respondents on project structure. A total of 99% of the respondents reported that their projects are well organised. Individuals have their own roles in ensuring that the project progresses forward. A hierarchy structure is adopted, where there are

managers, a secretary, a treasurer, rangers, and field workers. To ensure that the projects are successful, clear roles for every participant should be established and understood. Stare (2011) added that poor project schedules, insufficient control, and unclear roles of participants are among the causes of project failure. This means that a structure in project is a crucial component, which must not be ignored, but taken seriously. Good project management can be recognised when there is a well-structured project. Planning, organising, control all depend on the execution of a well-structured project. This study further noted that only 1% of respondents felt there was no structure at their projects.

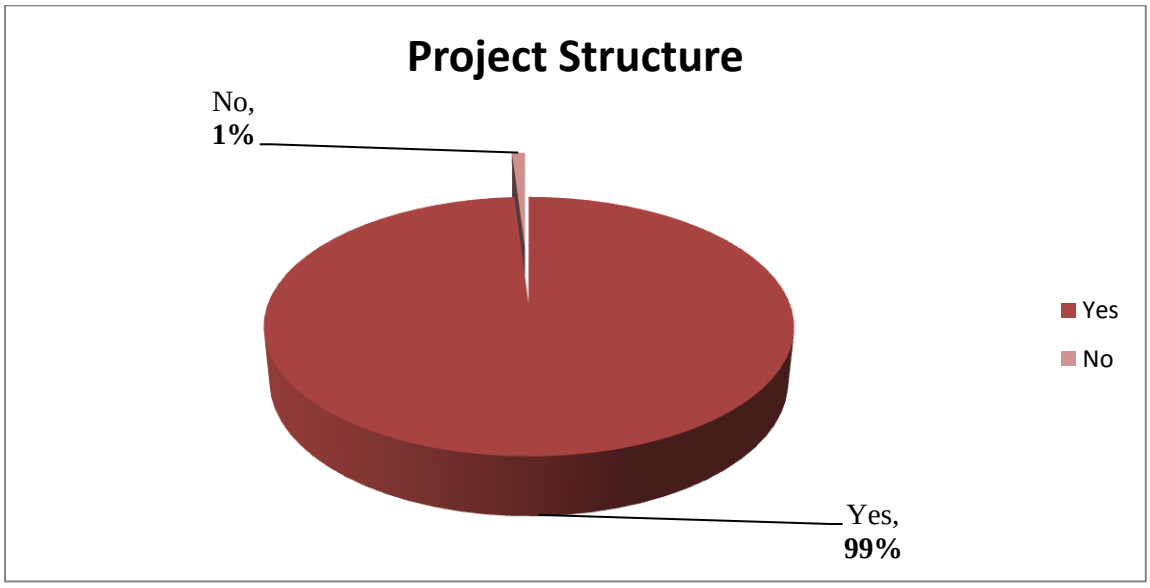

Figure 4.8: **Revealing whether or not projects are structured**

4.10 RESPONDENTS' PERCEPTIONS OF PROJECTS

In this section, data is presented both in tabular format and in graphs. Likert scaling was used to capture the perceptions of the respondents, using a four-point scale. A 'neutral' choice was left out because respondents usually choose 'neutral', leading to insufficient data and many questions being left unanswered.

Table 4.6: Scaling to determine respondents perceptions on projects

Perception questions	strongly agree %	agree %	disagree %	strongly disagree %	total %	Mean
Is the project strategy the most effective tool in combating poverty?	36.0	34.0	19.0	11.0	100	2.05
Do the projects implemented in your areas create job opportunities?	26.0	70.0	3.0	1.0	100	1.79
Do the products produced in the projects make contribution in household income?	16.0	70.0	11.0	3.0	100	2.00

(Strongly agree 1; Agree 2; Disagree 3; strongly disagree 4)

4.10.1 Effectiveness of the project strategy

Table 4.6 above represents the perceived scale of the effectiveness of the project strategy as a tool for poverty reduction for the rural poor. The majority (36.0%) 'strongly agreed' that the project strategy is an effective tool, and 34.0% 'agreed'. Both of these items are positive items, which confirm the effectiveness of the project strategy as a tool for poverty reduction. However, the case where an individual selects 'agree', and not 'strongly agree', indicates that although the individual might 'agree', there is nevertheless something that he/she is not satisfied with. Respondents who 'strongly agreed' (36.0%) tended to support themselves in those projects that created job opportunities, leading to income earning, and thus were able to provide for their households. Khan (2001) has noted that agriculture has a drive to realise economic growth. Therefore, growth, socially and economically, is realised. However, 19.0% of respondents 'disagreed' and 11.0% 'strongly disagreed' to project strategy as being an effective tool for fighting poverty. In support of their negative responses, they reported that they felt cheated at the

hub, as they have to produce only maize, which is a seasonal crop. They reported that they starve after the maize harvest, with no other crop to sustain them and no jobs to earn an income, until the next season when they will have to plant maize again. In a study conducted by Mabaso (2014), it was found that small contributions are made by agricultural production to rural households. Adding both the positive items and negative items would reflect the respondents' consolidated attitude regarding the effectiveness of the project strategy. The 'strongly agree' and 'agree' responses amounted to 70.0%, while the 'disagree' and 'strongly disagree' responses amounted to 30.0%, and the difference was 40.0%.

4.10.2 Job opportunities

The government of South Africa has been dealing with the challenge of creating job opportunities since the end of apartheid. Agriculture has been the main focus in creating job opportunities, especially in rural areas to provide for the rural poor. Much faith has been placed on agriculture to create job opportunities, Liebenberg and Kirsten (2013) also noted that the National Planning Commission believes that the agricultural sector could have created about a million jobs by 2030. The progress of agriculture in creating job opportunities has been studied by Liebenberg and Kirsten (2013) at the University of Pretoria. They reported that employment in agriculture increased during the period 2008–2013 by 103 000, initially standing at 657 000 in 2008, and rising to 672 000 in 2013. What could have caused the increase? Liebenberg and Kirsten (2013) further noted that this increase can be seen in greater numbers of permanent and skilled workers being employed. Agricultural employment in rural formal areas increased to 9.1% per annum, while the use of agricultural machinery increased by 15.5%. The data collected from the study agrees with Liebenberg and Kirsten (2013) on agriculture being the main source for creating jobs opportunities. Table 4.6 below represents the role of agricultural projects in

creating job opportunities. A total of 70.0% of the respondents 'agreed' that the agricultural projects in their communities did create job opportunities, and 26% 'strongly agreed'. They reported that the types of job created were as permanent field workers and as casual employees during harvesting periods. Very few respondents (3.0%) 'disagreed' that the agricultural development projects are not a reliable source of employment, with fewer people being employed and most as casual workers, while only 1.0% 'strongly disagreed'. The positive and negative items were calculated, reflecting 94.0% as 'strongly agree' and 'agree', with only 4.0% as 'disagree' and 'strongly disagree'. This indicates that the majority of the respondents agree and believe that the agricultural development projects do create job opportunities.

4.10.3 Contribution to household income

A sustainable household income can be realised only when there are job opportunities available. As can be seen in Figure 4.9 below (see also Table 4.6 above), a total of 16.0% 'strongly agreed', while 70.0% 'agreed', that the products produced at the projects do make a contribution to household income. With what they earned, their living standards did improve, but not substantially. A total of 11.0% 'disagree', while 3.0% 'strongly disagree' with the contribution of projects. The projects are likely to contribute to household income, since the majority of respondents agreed that the projects do create job opportunities.

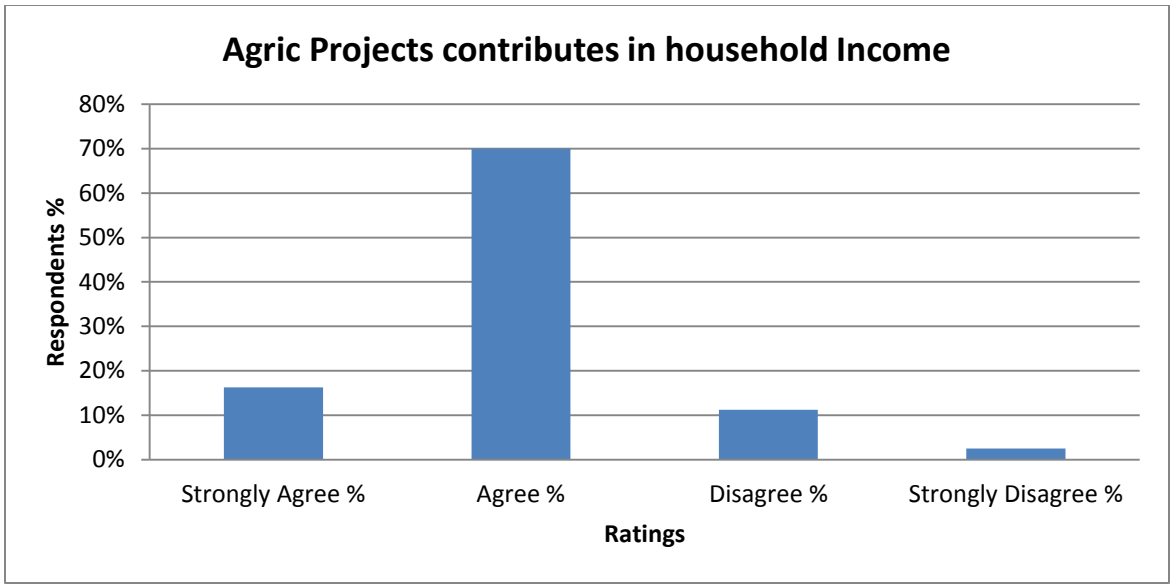

Figure 4.9: **The contribution of agricultural projects to household income**

Table 4.7: **Percentages of contribution according to household income**

% of Contribution	Frequency	Percentage %
1-5%	20	25.0
6-10%	35	43.7
11-15%	12	15.0
16-20%	5	6.3
21-25%>	8	10.0

The majority of the respondents agreed that the agricultural development projects do make some contribution to their household incomes. While the projects might make some contribution in improving the respondents' standards of living and reduction of their poverty, we need to ascertain the extent to which the projects do contribute to household income. Data from Table 4.7 above indicates that 35 respondents reported that a 6–10% contribution to their households is attributable to the ADPs. However, this is not much for combating poverty among the rural poor.

This agrees with the study conducted by Mabaso (2014), who stressed that agricultural production makes very small contributions to the incomes of rural households.

4.11 POVERTY STATUS

The word ‘poverty’ can mean a number of different things, and can also be defined in terms of one’s experiences with it. Having sufficient resources, which are of importance for human survival that also can be defined as poverty? SPII (2007) defined ‘neediness’ as a notion of material lack, primary for survival. People might have the resources that are necessary for survival, but could still be considered as living in poverty. This could depend on how much you have. Nevertheless, from these definitions, we could conclude that poverty is class and/or the lack of what is a need. This means that, whatever you might have, you may still be regarded as living in poverty if you lack the materials necessary for survival in abundance. Narrowing the term ‘poverty’, it might mean a lack of income (SPII, 2007). Income and poverty have a strong interrelationship, where the lack of one causes the other. The rural poor usually lack the income needed to improve their standard of living, which leads to poverty. However, with the opportunity to earn income, an individual would be in a better position to gain access to better health services, education, better housing, etc., and that can lead to poverty being reduced.

Respondents reported on the poverty status in their communities, comparing it on a scale from ‘poor’ to ‘excellent’. A total of 37% reported being ‘poor’ before the introduction of ADPs, but no respondent reported having a poverty status of ‘poor’ after the introduction. Furthermore, 42% of respondents reported a poverty status of ‘fair’ before introduction, while only 10% of respondents reported a poverty status of ‘fair’ after introduction. As can be seen from Figure 4.10 below, a poverty status of ‘good’ before introduction was reported by 15% of respondents,

while poverty status of 'good' after introduction was reported by 44% of respondents. Furthermore, a poverty status of 'very good' before introduction was reported by 3% of respondents, while after introduction, 34% of respondents reported a status of 'very good'. The poverty status of 'excellent' after introduction was reported by 12% of respondents, whereas the 'excellent' poverty status before introduction was reported by only 3% of respondents. A huge difference can be seen in the graph in Figure 4.10, as the reduction in poverty levels improved after the introduction of the ADPs. This can be supported by a number of authors, such as Liebenberg and Kirsten (2013) and the FAO (2004), who also reported a steady decline in rural poverty over the past years, with increased employment rates in agriculture and the introduction of anti-poverty initiatives. Table 4.8 below reflects the results of a paired t-test, which indicated that there was significant difference, as the p-value is below 0.05, at 0.00.

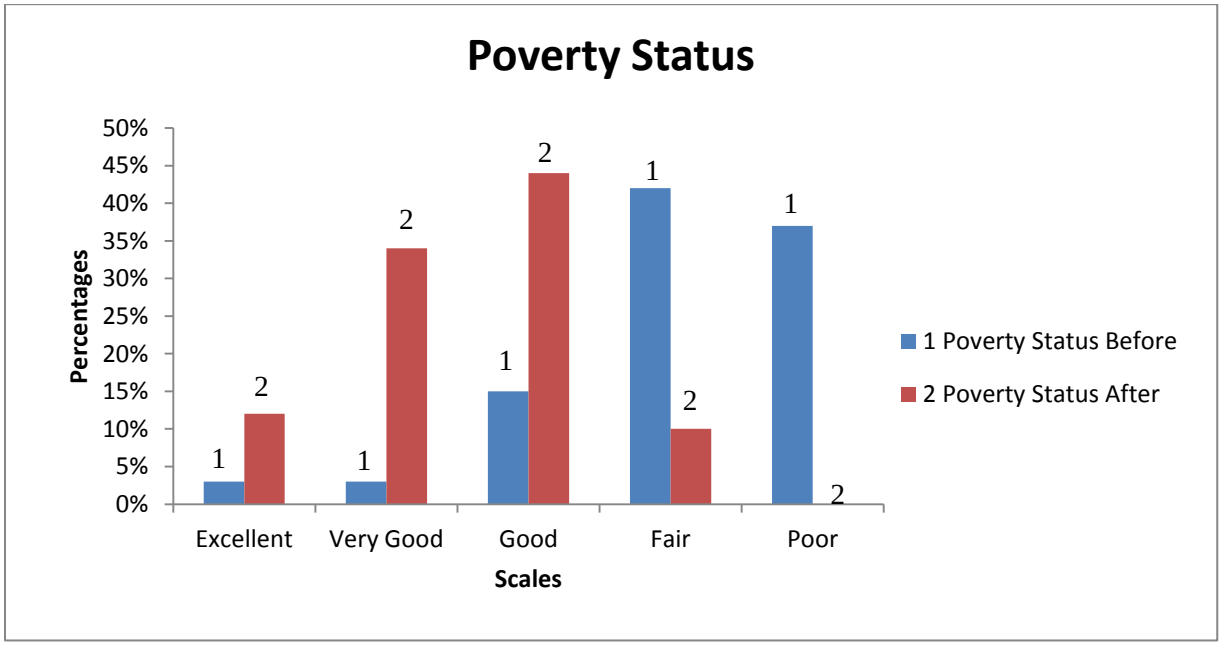

Figure 4.10: **Analysis of before and after the introduction of ADPs**

Table 4.8: Paired Sample T-test of Poverty Status Before/After

Paired sample test				
	Mean	**t**	**df**	**Sig. (2 tailed)**
Poverty Status B	2.51	12.067	79	0.000
Poverty Status A	4.10			

4.12 PROJECT PLANNING

Development is a very important necessity in rural areas, mainly because it assures the survival of the rural poor; hence, planning is important for realising development. Thenmozhi (2009) described planning as a bridge that covers the gap to where you want to go, thus making it possible for things to happen that would not otherwise occur. Any organisation without a plan is at risk of becoming a victim of circumstances (Jeseviciute-Ufartiene, 2014). In planning community programmes, it is important to involve community members, mainly because the programme is theirs and they know their needs better than the development authorities do. Kaur (2007) concurred that in development planning, consulting the targeted people is a proven approach that ensures sustainable outputs, and also ensures a successful development for the people, as it is likely to produce the outcomes desired by the community. In this study, the participants were asked whether or not the community gets involved in the planning process of the ADPs. A total of 57% of respondents replied ‘yes’, they do get involved in the planning process, while 23% replied ‘no’, they are not involved. Figure 4.11 below is a representation of the 57% of ‘yes’ respondents who reported that they are involved in the planning process. They were asked to rate the planning process on a scale of ‘excellent’ to ‘poor’.

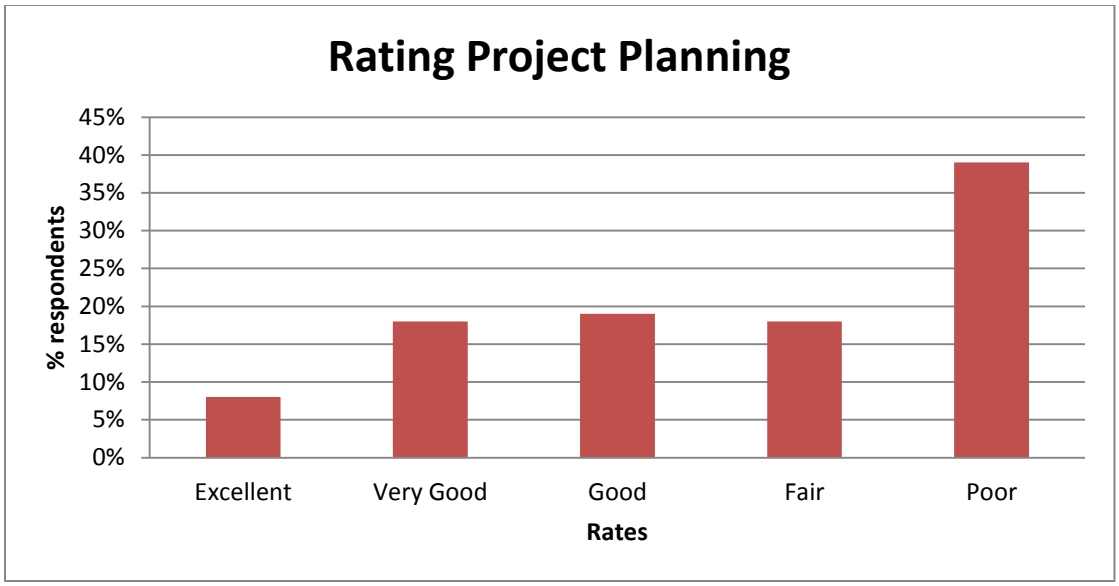

Figure 4.11: Description of how planning in ADPs occurs

A total of 8% of respondents rated the planning process as 'excellent', in that their contributions were taken into consideration, while 18% rated it 'very good', with 'good' at 19%, and 18% as 'fair'. The majority of the respondents in agreement (39%) rated the planning process as 'poor', reporting that they felt that their contributions were not being taken into consideration. The respondents who stated 'no' (23%) reported that they are simply told what to do and when to do it, and that they had no ownership in their programme. Kaur (2007) noted that when planning is controlled by a development authority, it often brings dissatisfaction to the community members. Kaur further stated that a lack of responsibility and ownership arises among the community members. Hence, the question of success and failure arises.

4.13 FAILURE/ SUCCESS OF ADPs

As seen in Figure 4.12 below, 52% of the respondents reported that no ADPs had failed in their communities. They stated that their success was attributable to team work, participation and determination in achieving their goal to realise better standards of living for their community.

This is consistent with many papers that have reported on the success of projects (agricultural and non-agricultural), to the effect that participation in, and understanding the goals of, a project could result in a successful project. Because data in this study was collected from different communities, some may have claimed that there had not been an unsuccessful project simply because the one they were involved with was the very first agricultural project to be undertaking in their area, and so they had nothing to compare it with. Nevertheless, 48% of respondents reported 'yes', there had been unsuccessful projects in their communities due to a lack of credit and the misuse of funds by other members.

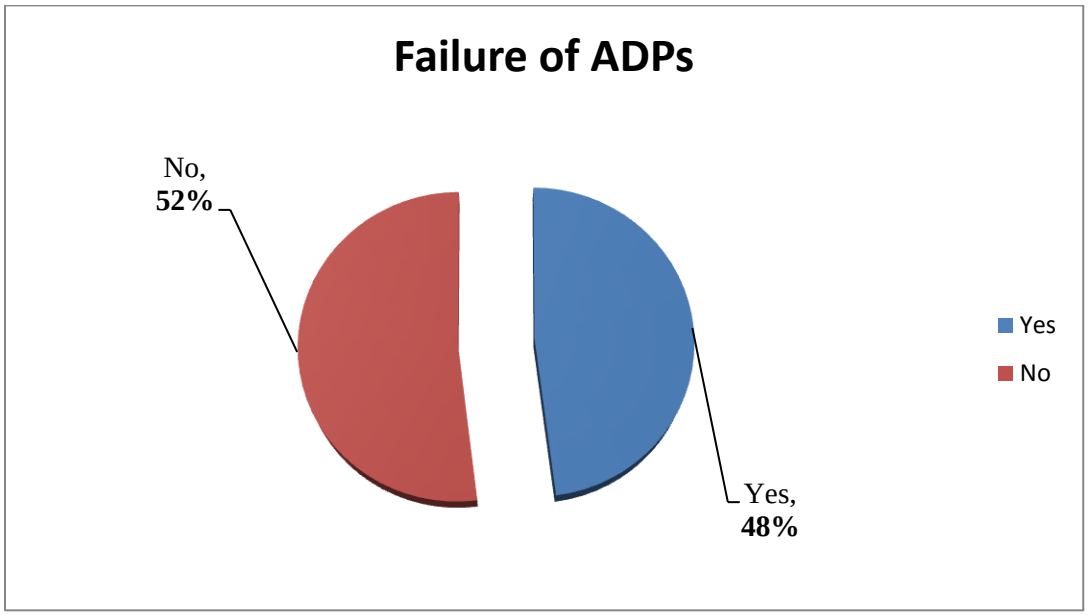

Figure 4.12: Failure of ADPs according to the respondents

4.14 CHALLENGES FACED IN THE ADPs

Challenges are likely to occur in any initiative or organisation. Table 4.9 below sets out a list of challenges that were found to be the challenges in the Mqanduli communities that occurred the most, according to statements made by extension officers prior to data collection, when the

questionnaires were being tested. Table 4.9 below uses frequencies of respondents according to their individual experiences, rating the listed challenges from ‘not serious’ to ‘serious’ for each challenge, for a total of 80 respondents.

Table 4.9: Number of respondents and challenges they face

Challenges	Not serious	Serious	Total
1. Poor Infrastructure	1	79	80
2. Insufficient Water	4	76	
3. Lack of Funding	71	9	
4. Insufficient Land	69	11	
5. Lack of Skilled Staff	16	64	
6. Access to Markets	73	7	
7. Lack of Participation	2	78	
8. Other	0	0	

The Table 4.9 above indicates that the challenge in poor infrastructure had only one respondent rating the challenge as not serious while 79 other respondents indicated as serious. The challenge of insufficient water ratings had four respondents as not serious and 76 as serious. The respondents rated the challenge in funding with a total of 71 respondents as not serious while nine respondents as serious. Insufficient land had 69 respondents as not serious while eleven respondents indicated as serious. Lack of skilled staff ratings were 16 not serious while 64 respondents rated it as a serious challenge. The access to market challenge rating had 73 respondents indicating not serious while seven respondents indicated as serious. Lack of

participation had two respondents as not serious while 78 respondents indicated it as a serious challenge.

4.14.1 Farm records

Participants were asked whether or not they kept farm records, and about how they did so if they replied ‘yes’. A total of 96% of the respondents stated ‘yes’, they did keep farm records. They also reported that records were keep by a secretary, by a member of the project, or by a book keeper. Farm records are a great source of information, as they allow a farmer to review how much had been produced in previous years and to compare that with his or her current production. Furthermore, 4% of respondents reported that they did not keep records themselves, but that these were kept by the department under which the projects had been established.

4.15 EXTENSION SERVICES AND EXTENSION OFFICERS

Extension services comprise advisory services that are provided to rural farmers by extension officers to help farmers to improve their standards of living. These services are provided to farmers through the use of extension education processes (Anaeto et al. 2012). The education processes mostly cover agricultural-related information relevant to the role of development. Anaeto et al. (2012) have highlighted the point that these services include the provision of relevant/updated information, the provision of farming inputs, and credit. Furthermore, non-formal learning enhancements for the farmers are significant. The questions below seek to ascertain the nature of the relationship of farmers with extension offices, and identify how helpful the extension services that are provided to them are.

4.15.1 Access to extension services

The farmers were asked whether they received agricultural extension services, and 100% of the respondents stated that they did receive the services. They further stated that the services that they receive comprise training to increase their knowledge and skill to enable them to produce high-quality products, and farm visits by the extension officers to monitor progress and to answer questions raised by the farmers. They also stated that they are provided with useful and practical information, and that technical advice is provided as well.

4.15.2 Timeframe for extension services

Timing is a very important aspect, as it determines the progress of agricultural development. Respondents individually gave their responses as to when they usually received extension services from the extension officers. Although the respondents came from the same eight projects under study, they gave different timeframes during which they received extension services. A total of 36.3% respondents stated that they received services weekly, while 42.5% reported receiving the services monthly, and 8.7% stated that they usually received the services at periods between 2 and 5 months, with 12.5% stating every 6 months and above, and mainly when there was an upcoming planting season and to hold meetings.

Table 4.10: The timeframes during which extension services are provided

Timeframe of Extension Services		
Time	**Frequency**	**Percentages %**
Weekly	29	36.3
Monthly	34	42.5
2-5 Months	7	8.7
Every 6 Months>	10	12.5
Never	0	0.0
Total	**80**	**100**

4.15.3 Quality of extension services

Quality can be used to refer to the way in which the extension services are provided. Extension officers should be highly trained in managerial skills and human management to enable them to provide quality extension services. The poor provision of extension services can result in a failure to enable farmers to develop. Bembridge (1991) has stated that the quality of extension services allows farmers to become productive and practise the best use of resources. This explains why the provision of extension services remains as one of the strategies in rural development throughout the world (Anaeto et al. 2012).

Figure 4.13 below reflects the quality of extension services as rated by the respondents in this study. A total of 45% respondents rated the quality of services they receive as ‘good’, while 27% rated it ‘very good’, followed by 18% of the respondents who rated it as ‘excellent’. A total of 9% of the respondents rated the quality of extension services as ‘fair’, while 1% of the total respondents rated it as ‘poor’.

Figure 4.13: Ratings of the provision of quality extension services

4.15.4 Working relationship with extension officers

The working relationship between extension officers and farmers may also be influenced by the need for change in agriculture and to reduce poverty on rural households. Agriculture is constantly changing, which causes hardships for farmers in adapting quickly and progressing forward. This is where extension officers step in, as agents of change. According to Anaeto et al. (2012), as farmers struggle for progressive change in agriculture, extension officers act as drivers for increasing productivity in their farms, thus improving their standards of living.

Figure 4.14 below describes the working relationship between extension officers and their farmers. A total of 56% of the farmers reported working with extension officers as 'helpful', with 24% as 'very helpful'. A total of 18% of the farmers stated it was 'somewhat helpful', while 3% stated it as 'not helpful at all' in the fight against poverty. The analysis of the positive items and the negatives items shows that the positive view was held by the majority of respondents.

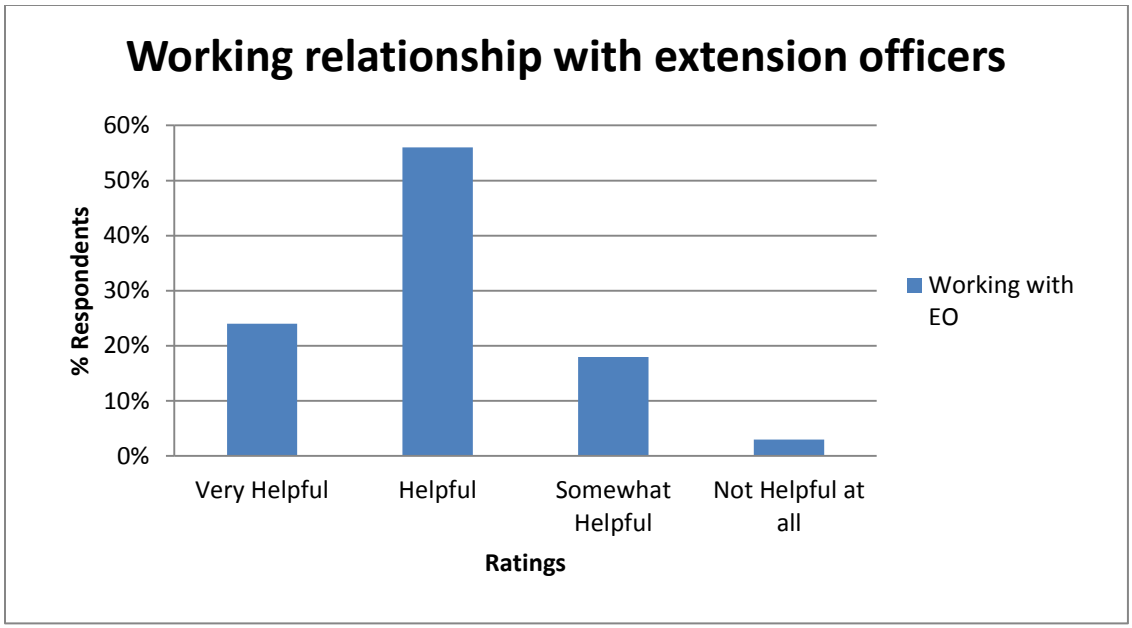

Figure 4.14: Farmers' working relationship with extension officers

4.15.5 Communication networks

Communication is a process, meaning it is on-going. Hoffmann (2011) defined communication as a process which involves participants who create and share information between each other to reach a mutual understanding. Communication is a very important process in agricultural extension mainly because extension workers interact with farmers for the purpose of change. Communication becomes essential in extension work as it allows rural people to gain an awareness of the agricultural sector and its constant changes. Chauhan (2007) noted that communication in agriculture is very important in that it creates knowledge and also provides the latest knowledge to the farmers.

There are many ways in which extension workers can communicate, such as the use of mass media communication; cell phones; and face-to-face interactions. Mass media is a type of communication which targets a large audience with the same information, at the same time

(Oakley and Garforth, 1985). Mass media communications are conducted through a number of channels, namely radio; television; newspapers; the internet; magazines; and motion pictures. In the Mqanduli communities, there are few available channels of mass media communication. Figure 4.15 below reflects the communication networks that are available and mostly used in Mqanduli. The most common communication network the respondents reported having access to, is face-to-face interaction through farm visits (74%), while 23% reported using cell phones. Some respondents reported the mass media that they used to acquire knowledge as radio (1%), television (1%), and lastly a number of 1% use newspapers.

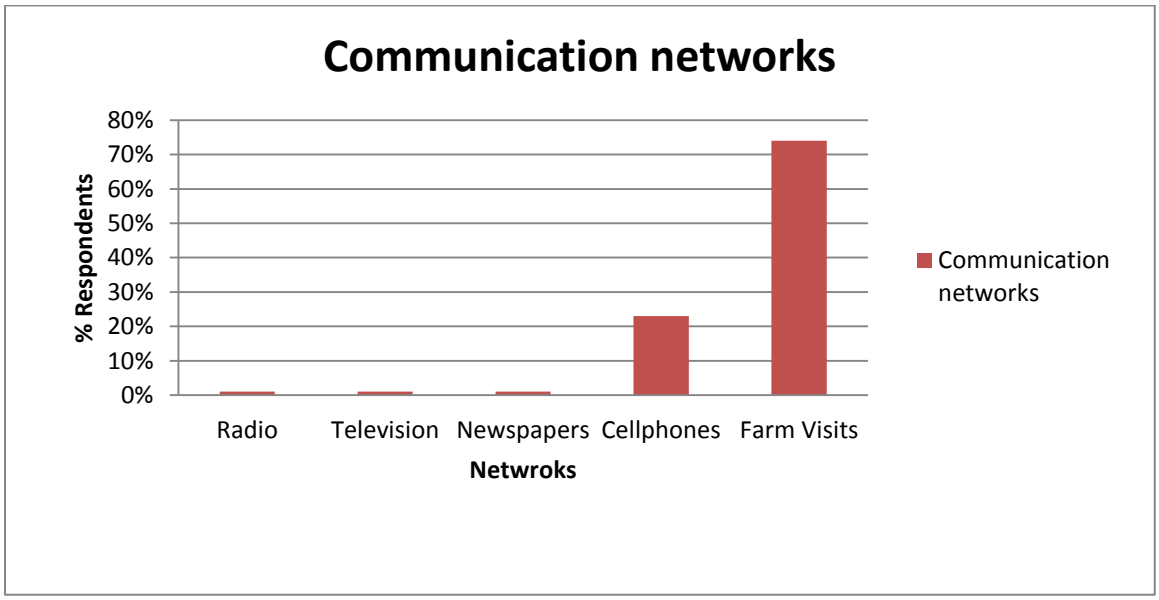

Figure 4.15: The available communication networks for farmers

4.16 CLIMATE CHANGES

The success of an ADP also depends on being able to adapt to climate changes, and in acquiring knowledge on how to deal with these changes. According to Montmasson-Clair and Zwane (2016), climate change in South Africa is seen to occur in projections up to 2050, and they note a

warming of 5–8 °C over the interior, with the west and south experiencing drier conditions, and the east experiencing wetter conditions. Agriculture in South Africa has seen the effects of climate change in causing increased incidences of pests and diseases, higher temperatures, reduced yields, etc. (Montmasson-Clair and Zwane, 2016). The awareness of climate change is a very important issue that allows farmers to come up with solutions for adapting to the changes. The respondents in Mqanduli were asked about their awareness of climate change. All the respondents (100%) stated that they were aware of climate changes in and around South Africa. They further reported that their awareness was brought about by the use of mass media communication, such as radios, televisions, newspapers, magazines, and mostly by extension officers.

4.16.1 Climate change effects

Climate change effects can affect the productivity of farmers, and therefore climate change can be listed as another factor that might cause project failure or negatively impact on the growth of agriculture, mostly in rural areas. Table 4.11 below shows the climate change effects that are mostly occurring in the Eastern Cape Province. The table is presented with frequencies, respondents' differing perceptions of climate change effects in their areas, and the ratings of its seriousness on a scale from 'very serious' to 'not at all'.

Table 4.11 indicates that 47.5% of the respondents, with a frequency of 38, stated that they mostly experience drought conditions in their area. A total of 13 respondents indicates it was 'very serious', while 10 respondents indicated it was 'serious', and 15 'somewhat serious'. Some respondents (7.5%) claimed that floods mostly occur in their areas, with a frequency of six respondents, of whom three reported this as 'very serious', two 'serious', and one 'somewhat

serious'. Some respondents (36.3%) stated that they experienced high temperatures in their area, with a frequency of twenty nine, of whom ten indicated that it was 'very serious', twelve as 'serious', and seven as 'somewhat serious'. A total of 8.7% of respondents experienced veld fires, with three reporting that it was 'serious', while four indicated it as 'somewhat serious'.

Table 4.11: The effects of climate change

Climate Change effects	Rating Scales (frequencies)				Frequency	Percentage %
	Very Serious	Serious	Somewhat serious	Not at all		
1. Drought	13	10	15	0	38	47.5
2. Floods	3	2	1	0	6	7.5
3. High Tem.	10	12	7	0	29	36.3
4. Veld Fires	0	3	4	0	7	8.7
5. Others	0	0	0	0	0	0.0
TOTAL					**80**	**100**

CHAPTER FIVE: RESEARCH RESULTS FOR EXTENSION WORKERS

5.1 INTRODUCTION

This chapter presents the results of the study pertaining to the extension workers. As mentioned, the study comprises analyses of two sets of questionnaires, one being for the farmers and the other for the extension workers in the ADPs. Data was collected from eight extension workers in the eight projects studied. They reported that the aim of their organisation was to alleviate poverty, to fulfil government priorities, to render services to the poor, and to create economic opportunities and thereby facilitate income security.

5.2 DEMOGRAPHIC INFORMATION

The demographic information is presented in a tabular format (see Table 5.1 below), and characteristics, such as gender, age and education, are discussed below.

Table 5.1 below shows the gender distribution of the eight extension officers working at the ADPs. Male respondents account for 62%, while females account for 38%. Further questions were asked as to the total number of extension workers available in Mqanduli, and the ratio of extension worker to farmers. A total of 16 extension workers were available in Mqanduli, comprising 5 females and 11 males. A situation of gender inequality may hinder most farmers in progressing forward, as female farmers are likely to be avoided by extension officers. Supporting the statement, Due et al. (1996) stated that male extension workers towards female workers lack sensitivity and time. The farmer-to-extension support ratio was reported to be 1:600 in Mqanduli.

Table 5.1: Frequency distribution according to their demographic information

Characteristics	**Frequency**		**Percentage %**
Gender: Male	5		62.5
Female	3		37.5
Age:	Male	Female	
<35 years	1	1	25.0
35- 45 years	3	1	50.0
>45 years	1	1	25.0
Highest Qualifications:	Male	Female	
3 year Diploma (NQF 5)	5	1	75.0
4 year Degree (NQF 6)	0	2	25.0
Honours Degree (NQF 7)	0	0	0.0
Master's Degree (NQF 8)	0	0	0.0
PhD	0	0	0.0
Number of years in field:			
<8 years	3		37.5
8- 12 years	3		37.5
>12 years	2		25.0
Number of extension worker in Mqanduli (frequency)			**Farmer Ratio**
16	Male: 11	Female: 5	1:600

5.2.1 Age distribution

Table 5.1 above shows the age distributions of the eight extension workers who lead the ADPs in Mqanduli that are being studied. This study ascertains that a majority (50.0%) of the respondents are aged between 35 and 45 years, while 25.0% are younger than 35 years of age, and 25.0% of the respondents are older than 45 years. Age in extension work is an important determinant of

experience and/or the ability to do more work. According to Magano and Terblanche (2013), the older extension workers, as compared with their younger counterparts, are more experienced in formulating project objectives. Furthermore, the older and more experienced extension workers are more efficient in bringing about change, mainly because farmers would adopt an innovation brought by them by older extension workers because they are more trusted, based on their age.

5.2.2 Qualifications

According to Majali (2012), education is a tool that enables one to be active when participating for better innovations and in developing new knowledge. Table 5.1 above shows the highest qualifications obtained by the extension workers. This shows that six of the respondents (75.0%) had obtained a diploma at NQF level 5, with 62% being male respondents. Two females (25.0%) out of the 37.5% female respondents had obtained a degree at NQF level 6. The study further shows that none of the extension workers had obtained a qualification above NQF level 6. Lower qualifications may have an effect in designing and planning programmes. Magano and Terblanche (2013) concluded that extension workers with higher qualifications need to provide support to their counterparts with lower qualifications to help them improve their proficiency.

5.2.3 Years of experience

According to Ericsson et al. (1993), the important characteristics of expertise and better performance are achieved through experience. Experience comes with the more years one has practised in one field of work. The study (see Table 5.1 above) shows that 37.5% of the extension officers had less than 8 years of experience, while 37.5% had between 8 and 12 years of experience, and only 25.0% had above 12 years of experience.

5.3 PROVISION OF SUPPORT TO ADPs

Support from any government organisation is a very important effort in making sure that a measurable impact for the poor is realised. The provision of support is one of roles of extension officers in serving the rural poor. All respondents (100%) reported that their organisation does provide support to the ADPs. Table 5.2 below shows the contributions made by the organisation when providing its support.

Table 5.2: Frequencies in rating the organisation's contributions

Frequency				
Contributions	**Good**	**Fair**	**Poor**	**Total**
Farm Input	2	6	0	8
Provide Credit	0	4	4	
Infrastructure	1	3	4	
Market Access	2	6	0	
Provide Training	7	1	0	

The figures in the above table reflect the contributions made by the organisation, together with ratings, based on the extension officers' individual perceptions of how well the contributions are being made. Farm inputs constituted one of their contributions, with two respondents rating this as 'good' and six respondents rating this as 'fair'. A total of four respondents indicated that the provision of credit was 'fair', while four respondents indicated that the contribution was 'poor'. The organisation also contributed in infrastructure, with one respondent rating the contribution as 'good', three respondents rating it as 'fair' and four respondents rating the contribution as 'poor'. In access to market, two respondents believed the contribution was 'good', and six respondents

believed it as ‘fair’, with no respondents reporting their contribution to market access as ‘poor’. The last contribution was training, with seven respondents believing it to be ‘good’, and only one as ‘fair’.

5.4 PLANNING PROCESS OF ADPs

Planning is a crucial stage of a project, and is the first function of management. Planning represents a working map of any project or organisation, as it sets out the goals of the project and its objectives. The planning process also lays down guide lines as to how these objectives are to be achieved. Table 5.3 below shows the responses of the respondents on who is involved in the planning process of ADPs.

Table 5.3: Involvement in the planning process of the ADPs

Involvement in Planning Process		Frequency	Percentage %
Extension officers:	Yes	7	87.5
	No	1	12.5
Farmers:	Yes	7	87.5
	No	1	12.5

A total of 87.5% of the extension officers stated that they are involved in the planning process of ADPs, reporting that planning is done as a ward with farmers and it is then taken to the department and/or district for approval, while only one respondent reported that the extension officers are not involved. Furthermore, 87.5% respondents reported that they do involve farmers in the planning process. The involvement of farmers in the planning process is a very important concept, as it allows the farmers to take ownership and address the needs of their community. Only one respondent reported that farmers are not involved.

5.5 TASKS AND ROLE OF EXTENSION OFFICERS

In the Eastern Cape, being a developing province, the traditional practice of agriculture dominates the economy and in survival activities. For development to occur, change is a necessity for moving from traditional to commercial agricultural practices. This change is brought about and driven by extension officers. To realise this change, extension officers perform tasks and roles that serve as guidance for farmers. According to Anaeto et al. (2012), extension officers uses educational procedures to perform tasks such as the promotion, adoption, and utilisation of new scientific farming methods. The study was interested in ascertaining whether the extension officer respondents knew their tasks and roles. The respondents reported that their tasks were to educate, disseminate information, provide training, and to promote the conservation of natural resources. Furthermore, the respondents elaborated that their roles were to improve the capacity of farmers, to provide advisory services, to manage projects, to give farmers access to agricultural land, plan projects, and lastly, to open market opportunities for the farmers.

5.6 EXTENSION SERVICES AND COMMUNICATION

All the respondents (100%) stated that they do provide extension services to the farmers. They reported that such services include conducting farm visits during field days; training farmers how to increase their abilities; providing useful and practical information, which includes relevant technology to meet the changing environment; and lastly, providing technical advice through communication. The study also sought to identify their means of communication with the farmers. All the respondents (100%) stated that they used cell phones and conducted farm visits. One also added that radio broadcasts and newspapers are used when there is an outbreak of a disease that might affect farmers.

5.7 EFFECTIVENESS OF ADPs

Figure 5.1 below shows research results of the effectiveness of project strategy as a tool for fighting poverty in the communities. A majority of respondents (63%) stated that it is successful in fighting poverty in the communities, while 38% of respondents claimed it was unsuccessful in combating poverty. They further reported that the agricultural projects in their area fail mostly because of misuse of funds by the members of a project, conflicts arising between members, lack of participation by other members, and leaving the work load to others. Nevertheless, the respondents stated that projects are successful because of good management, a defined project structure, and participation. The study also found that the nature of production the farmers conduct was mostly seasonal production, as reported by the respondents. Home gardening was the farmers' food source and livestock production.

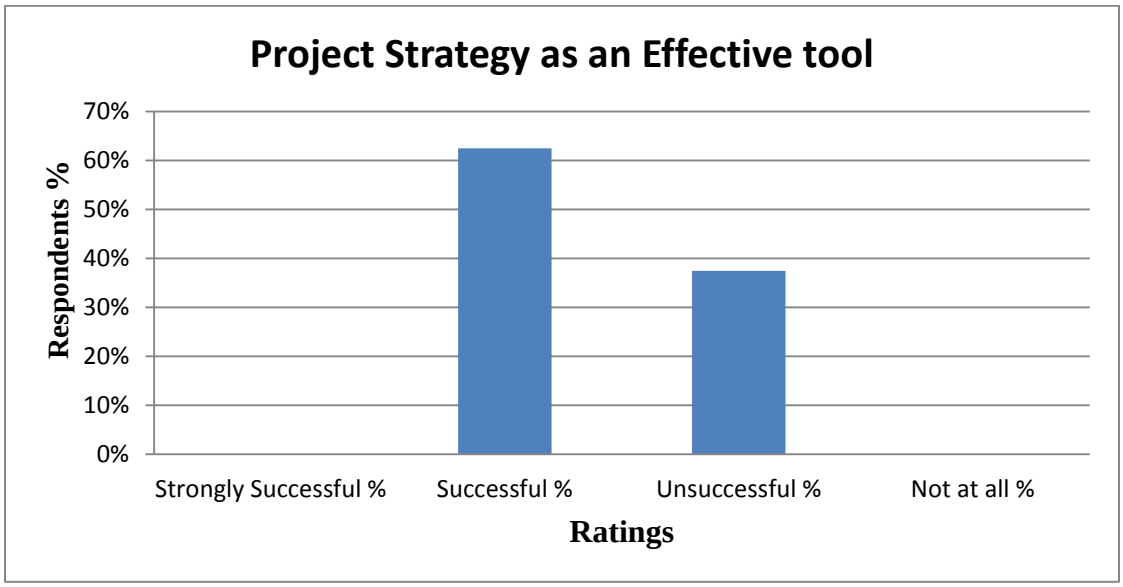

Figure 5.1: Rates on the effectiveness of project strategy

5.8 CLIMATE CHANGE

Climate change is a seriously important issue, and extension officers need to know about it, communicate it to farmers, and interpret research findings to the farmers as to how to deal with and work under such conditions. They will then be able to help farmers to produce more produce, notwithstanding the changing environment. Figure 5.2 below shows how the respondents experience climate change effects in Mqanduli communities. Most of the respondents (38%) stated that climate change is 'somewhat serious' in Mqanduli, while only 37% respondents stated it was 'serious', followed by other respondents (25%) rating it as a 'very serious issue' for the Mqanduli communities.

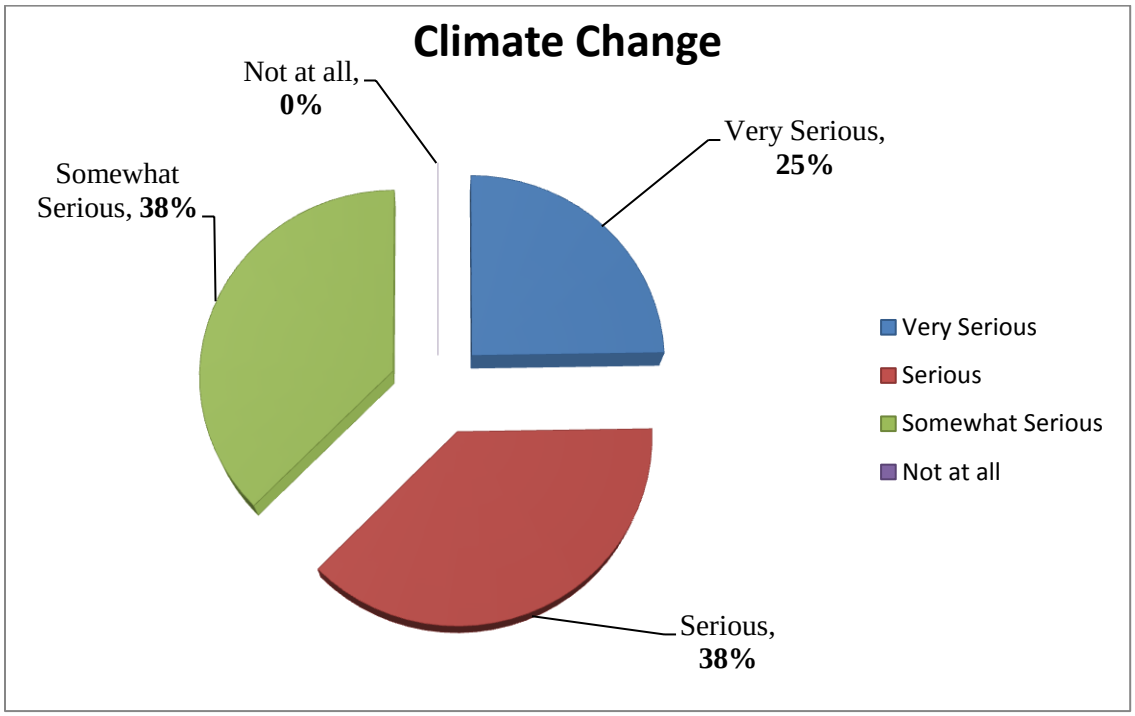

Figure 5.2 Climate change in Mqanduli communities according to extension officers

CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter provides a brief for Chapters Four and Five of the study, and further summarises the objectives of the study, together with the findings, and formulates a conclusion and recommendations.

6.2 THE STUDY'S MAIN OBJECTIVES

The main objective of the study was to determine the role of ADPs in poverty reduction and farmers perceptions in the Mqanduli communities.

The specific objectives of this study were as follows:

1. To examine the demographics and socio-economic characteristics of the household beneficiaries;
2. To identify the agricultural development projects that help reduce poverty in KSD municipality;
3. To determine farmers' perceptions of the implemented ADPs in reducing poverty;
4. To assess the status quo of the implemented ADPs ; and
5. To determine the role played by extension officers in the projects.

6.3 THE STUDY FINDINGS BY OBJECTIVES

6.3.1 Objective one: to examine the demographics and socio-economic characteristics of the household beneficiaries

In order to analyse the demographics and socio-economic characteristics of the respondents, percentage procedures were used to determine the total number of males and females available for participation in the ADPs. Mean procedures were used to determine the mean age of the respondents, and the difference between the mean ages of males and females. Frequency and percentage procedures were again used to determine the total number of household members under each of the beneficiaries, the employment status of the beneficiaries, the marital status, and levels of education. Percentages were further used to determine the income sources that the respondents mostly rely on.

The results indicated that women (54%) were predominant in participating in the ADPs in the Mqanduli communities. Since men (46%) are fewer in numbers in the rural areas, with some working in urban cities, the women usually undertake most of agricultural activities to feed their families. Some, being widows, are forced to become household heads to support and provide for their families, and thus participate in agriculture. This study ascertained that there was no significant difference between the mean age of females (53.33) and males (54.35). The study found that although women were dominant, no youth were participating in the ADPs, and that the ADPs were dominated by elderly people.

The sizes of households, by members, (5–12) were found to be large in all of the respondents' households, thus increasing their vulnerability to poverty. Household size has a very strong relationship with poverty. This relationship may differ across different areas; for instance, in urban areas, a larger household size may have a beneficial impact on the household's economic

status, where all individuals are able to contribute. This differs in rural areas where there are high rates of unemployment and household members a likely to rely on one person for their survival, which in most cases is a woman. Poverty rates do indeed increase as household numbers increase. Regarding employment status, it was found that most of the respondents (76.3%) were unemployed, even though they were participating in the ADPs: they did not consider this as a job, but simply a means of survival. For a household to sustain itself, it ought to have someone in it who is employed, to gain income. Poverty or poverty reduction can be influenced by the employment status of a household. Being either employed or self-employed can result in an improved standard of living, thus reducing poverty, while unemployment can increase poverty in a household. The study also found that the majority (40.0%) of the respondents were married, followed by those of widowed status (36.3%). This is evidence that the respondents were elderly people. Women who are widowed have greater responsibility in taking care of their families. Marital status is a very important aspect, together with education. In rural areas, marital status has a great influence in the adoption of technology. A married man is more likely to influence others in the community in adopting new technology than a woman is.

This study also found that the level of education of the respondents was mostly (41.3%) at secondary level, followed by no schooling (33.7%). The reason that the no schooling category is made up of mostly elderly women could be that during their younger years, gender inequality was at its peak, where a girl or a women were not allowed to go to school, but had to take care of their households. Education is a very important determinant for the household head, and can have a great influence in technology adoption and the process of coordinating households, thus increasing agricultural production.

The study then found that the respondents mostly (40%) relied on farming for income. This is evidenced by the fact that the ADPs were dominated by women of elderly age who are also unemployed. To provide for their large household sizes, they rely on agriculture as a means for survival, thus women are more hands-on in participating in agricultural activities than men are. Remittances were the second source of income for the respondents (20%), which indicate that money is given to them by relatives or family friends.

6.3.2 Objective two: to identify the agricultural development projects that help reduce poverty in KSD Municipality

To analyse the ADPs, frequency procedures were used to determine the number of ADPs that are available in the Mqanduli areas. Descriptive procedures were used to determine what crops were produced, and how much is produced.

i) Number of ADPs

There were a total of eight projects in the Mqanduli communities, namely Ntsimbini maize co-op; Phendu maize co-op; Maqomeni maize co-op; Ngcanaseni maize co-op; Cezu maize co-op; Kwenxurha maize co-op; Ndibongo maize co-op and; Lower Ngqungqu maize co-op. Considering that Mqanduli is surrounded by a number of communities in which there are only eight projects covering the area, this could mean that the projects are insufficient for covering all the poor people of Mqanduli. Therefore, there is an urgent need for the addition of further projects.

ii) Production

All of the eight projects produced white maize, which has a greater value in the markets, but which is disapproved of by the respondents, as concerns their livestock feed. The projects in the

year 2015/2016 produced a range of 43 ton to 300 tons, with no production in the year 2016/2017. Therefore, alternative strategies must be compiled to continuously feed the rural poor. Vertical gardening might be an alternative strategy, which is also able to produce fodder for their livestock.

6.3.3 Objective three: to determine farmers' perceptions of the implemented ADPs in reducing poverty

To analyse the respondents' perceptions of the projects, scale procedures were used to determine their perceptions of the implemented ADPs in reducing poverty. Likert scales, with four-point categories, were used to measure their attitudes, giving an indication of their degrees of agreement or disagreement. To conclude, positive items and negative items were added for measuring attitude. Percentage procedures were used to determine the contribution of ADPs to household income.

The study, with regard to project strategy as being the most effective tool for combating poverty, found that a majority of respondents (36.0%) saw the project strategy as being an effective tool in fighting poverty in their communities. It opened up job opportunities, and respondents were able to earn income to reduce poverty in their households, while they also benefited from the projects by gaining more knowledge and skills, thereby allowing them in the long term to operate individually on their own.

The study found that ADPs create job opportunities (70.0%) for the unemployed in the community. It was also found that the types of jobs available at the projects comprised casual employment, mainly during harvest periods. The study then found that the respondents (70.0%)

realised that ADPs do make contributions to their household incomes. The study found that the projects contributed differently, depending on the households involved. The reason for this could be the difference in households' situations. Some households may have depended more on farming alone, while other households had other sources of income, e.g. grants and remittances. Other households (25%) realised that the ADPs are contributing more in meeting their desired needs. The respondents, in general, indicated that project strategy is crucial in reducing poverty in rural communities, but it is unclear whether a majority would indicate that the ADPs create job opportunities, as a majority of respondents indicated that they were unemployed.

6.3.4 Objective four: to assess the status quo of the implemented ADPs

To analyse the status quo, mean procedures were used to determine the before and after statuses of poverty of respondents, together with the difference between these periods. Scale procedures were used to determine the poverty status, before and after the introduction of projects, using a five-point category to measure their attitudes and perceptions.

The study found that there was a significant difference between the before and after periods. This can also be seen from the means between the poverty status before (2.51) and the poverty status after (4.10). There is a difference, and the p-value being below 0.05, which indicates that a difference occurred in the way in which the poverty status improved after the introduction of the ADPs. The study also found that a majority of the respondents (90%) were satisfied with their poverty status after the introduction of ADPs.

6.3.5 Objective five: to determine the role played by extension officers in the projects.

To analyse the role played by extension officers, scale procedures were used to determine respondents' perceptions of the extension officers. Demographic information was collected

through frequency procedures to determine the extension officers' abilities in assisting rural farmers to fight poverty. A structured question format was used to gather information from extension officers about their roles in the ADPs.

a) Ability to manage and support projects

i. Gender

Only 37.5% female respondent extension officers were involved in the ADPs, while 62.5% were male respondents. Therefore, a need exists to increase the number of female extension officers, as male extension officers may lack sensitivity towards the project beneficiaries.

ii. Age

A total of four respondents were between the ages of 35 and 45 years, with two respondents being over the age of 45 years. Therefore, the role of the younger respondents may be sufficient only when the older respondents mentor them to improve their capabilities.

iii. Highest qualification

About 75.0% of the respondents had a 3 year-diploma level qualification, while 25.0% had a 4-year degree qualification. There is an urgent need for extension personnel to attain short-course qualifications, as these can assist them in improving their qualifications in leadership and management skills.

iv. Number of years in the field

Only 37.5% of respondents had 8 years and below in the project field experience, with another 37.5% having between 8 and 12 years of experience, and only 25.0% had experience above 12

years. To ensure that projects are successful, experienced extension personnel need to give support to those with fewer years of experience.

b) Provision of support

The extension personnel reported that they provide necessary support to the ADPs, such as farm inputs; the provision of credit; infrastructural support; gaining market access; and training. They further indicated that most of their support is distributed fairly to the project beneficiaries.

Therefore, the extension personnel need to improve in performing this role, either by bottom-up approach to better understand what is needed for achieving the goal of having a successful project.

c) Effectiveness of ADPs

Extension officers gave their perceptions about the effectiveness of the project strategy in combatting poverty. A total of 63% of respondents indicated project strategy as being successful in fighting poverty, with only 38% reporting it as unsuccessful.

According to the perceptions of the farmers and extension officers, the project strategy has proved to be a viable strategy in fighting poverty. Nevertheless, there are doubts as to sustainability, as they only produce one seasonal crop.

Therefore, alternative strategies and individual projects, e.g. vertical gardening, should be implemented to avoid conflicts and differing individual interests that may lead to project failure. The vertical gardening concept is efficient and can provide fodder to livestock every day, while it can also produce vegetables for their households, and surplus for selling to the market.

6.4 CONCLUSION

Agricultural Development Projects constitute an initiative for helping to reduce poverty. This strategy was recognised and adopted by government for implementation by local government as a key tool for addressing poverty issues in rural areas, through deploying extension officers as drivers of this initiative. The study tested whether the agricultural development project strategy did indeed play a role in poverty reduction. In conclusion, the study found that agricultural development projects do play a role in poverty reduction. Despite the challenges faced by the farmers and disadvantaged people, they are able to earn income for their households. It is important not to overlook the issues that some of the respondents disliked, so as formulating strategies for improving those issues.

Although the findings of this study are positive, the findings, according to the researcher's perceptions are negative in some aspects, as the study found that only one crop is produced, which is a seasonal crop. It is difficult to conclude that the projects in Mqanduli are able to ultimately improve the standard of living of the rural farmers, by relying on one seasonal crop in a world where unpredictable weather conditions are likely to occur. In this regard, the researcher would conclude that ADPs do not provide enough to reduce poverty. When a project involves a collaboration of different people, conflicts are likely to arise, which may lead to project failure. The study found that the respondents were dissatisfied with producing the one seasonal crop, white maize, which they cannot use for their livestock feed. Other crops should be permitted by the ADPs, which can be produced all year round to ensure sustainable agricultural development. The study also found that the majority of extension officers in Mqanduli only have a diploma qualification. The study concluded that those with higher qualifications and greater experience should mentor their counterparts to improve their proficiency for adequately assisting farmers in

enhancing their capabilities to secure everyday comforts. The study also concluded that further ADPs should be implemented to meet the needs of the rural poor.

6.5 RECOMMENDATIONS

It has been argued for many years that, for development to be successful, participation by all members of the community should be facilitated. To avoid conflicts arising among community members and in a project, the community as a whole must be included in the planning of the projects. Community involvement is very important for reaching consensus and agreement on what is being planned. Community members should take ownership of the project planning because they are the ones who best know their needs. The number of projects in Mqanduli should be increased, in a way that a single community might have more than two projects. Additional varieties of crops should be permitted to be produced in these projects to ensure sustainability. Water availability, as the most challenging factor in Mqanduli, should be included in the planning of the projects. It is an opportune time for government to consider building canals that redirect water to the areas that most need it. Underground pipelines might also be installed to supply water to the rural farmers for irrigation. Large areas of land in the rural areas remain unused, except for livestock grazing. Extension officers of younger age should be trained and/or mentored by their older counter parts so as to increase their proficiency for adequately assisting rural farmers in poverty reduction.

The impact of climate change in Mqanduli is threatening the potential for agricultural production, with drought being the main phenomenon that threatens these communities. Accordingly, it is important that the Mqanduli projects should plan to have solutions for addressing this issue. It is important for these communities to focus not only on projects, but also

on family home gardens. The study recommends that Mqanduli should step back and use family home gardens by adopting the new concept of vertical gardening. This concept not only helps to supply households with fresh vegetable products all year round, but decreases the chances of conflicts that are likely to occur in projects and/or co-operatives arising. This concept has seen success in urban areas, producing quality and quantity vegetable products on very small areas.

Vertical gardens offer a better solution to climate change, mainly because they do not depend solely on favourable climate conditions. Due to the scarcity of agricultural resources such as land and water in rural areas, the concept of vertical gardening is ideal for food production all year round with reduced inputs and using small land to its maximum potential. The concept of vertical gardening was proposed to be of assistance on the diminishing agricultural resources by planting upward. Vertical gardening is an agricultural practice for crop production growing upwards using vertical layers. Vertical gardening can be practiced using soil or hydroponics in a climate controlled environment.

Respondents were asked if they knew about vertical farming. A total number of 70% respondents stated that they had never heard about vertical farming. Rural areas need to become urbanised in order to live free from poverty, and vertical farming is the best way to start. Fodder can also be produced in this type of farming, which is an optimal source of animal feed, especially during drought seasons.

Figure 6.1 below shows the role of different stakeholders to be involved in food production including vertical gardening in rural areas. Vertical gardens should be added as a solution to help fight poverty in the Mqanduli communities. Although ADPs provide a notable source of income, home gardens can be used as individual projects to help assist the ADPs in reducing poverty in the communities. Households are thus able to produce a vegetable crop all year round, and sell surplus produce to the markets for income. Accordingly, they constitute the best way for improving the standards of the rural poor.

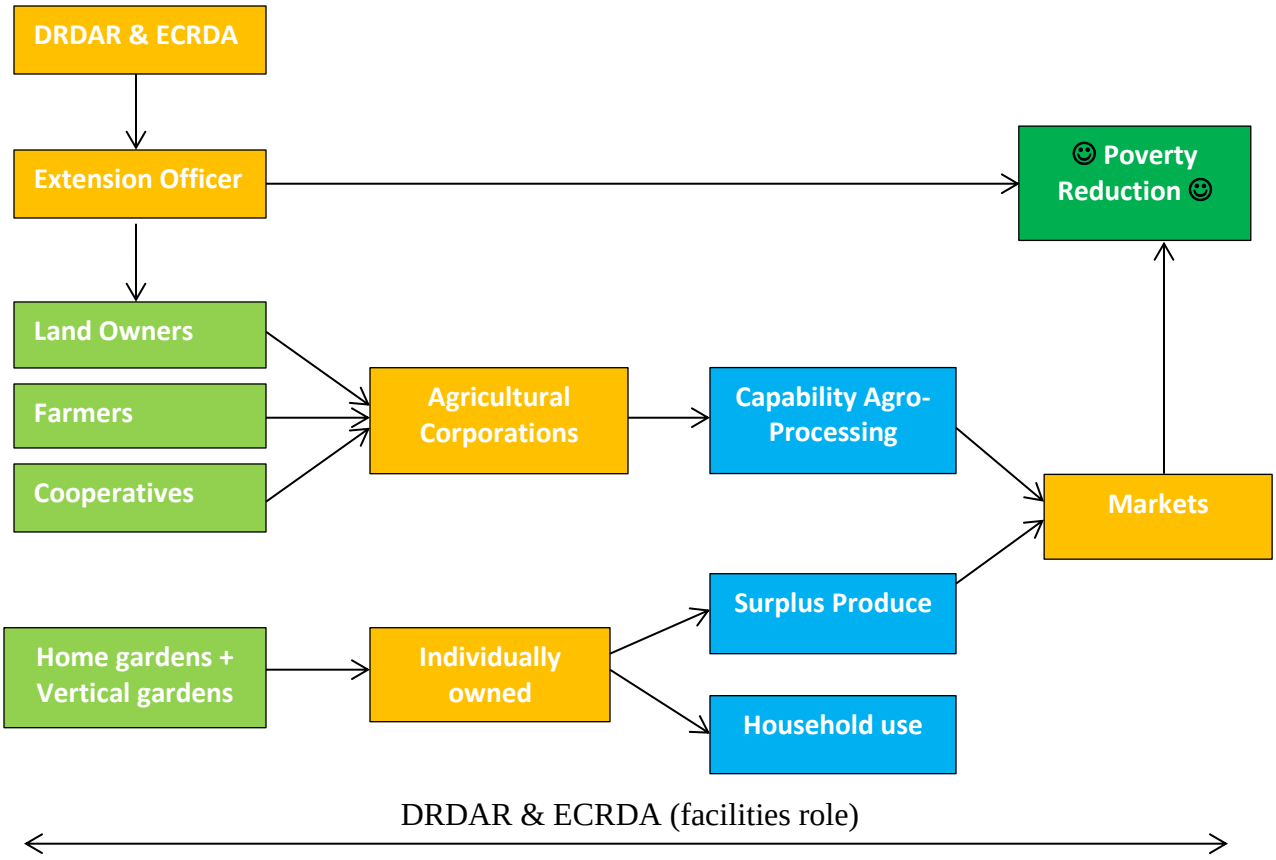

Figure 6.1: **Adopting a concept of vertical gardening in rural areas**

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APPENDIX A: QUESTIONNAIRE 1 (Farmers)

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

QUESTIONNAIRE

FACULTY OF NATURAL & AGRICULTURAL SCIENCES

AGRICULTURAL ECONOMICS, EXTENSION AND RURAL DEVELOPMENT

TITLE: The Role of Agricultural Development Projects in Poverty Reduction in the O.R Tambo District Municipality Eastern Cape Province, South Africa.

NB: THE INFORMATION PROVIDED WILL BE FIRMLY CONFIDENTIAL.

Name of Interviewer: …….. Name of Enumerator: ……

Date of Interview: ……...

SECTION A: Demographic information

(Tick with an X were applicable)

1.1 Name of Farmer (optional): ……

1.2 Ward number: ……

1.3. Gender		**1.4. What is your Age?**	**1.5 Household Number?**
1.	2.		
Female	Male		
1.6. No. of household adults (Age: >40)		**1.7. No. of household youth (Age: <39)**	
1.8. Marital Status			

1.	2.	3.	4.
Single	Married	Widowed	Divorced

1.9. Level of Education			
1.	2.	3.	4.
Primary Grade:	Secondary Grade:	Tertiary Highest Qualification:	No Schooling

1.10. Employment Status			
1.	2.	3.	4.
Unemployed	Employed	Self-Employed	Other(Specify):

Age: 1(19-29), **2**(30-39), **3**(40-59), **4**(60-90) **Household #: 1**(1-4), **2**(5-8), **3**(9-12), **4**(13-20)

SECTION B: Sources of Income

2.1 What source of income do you receive?	Tick (x)	Percentage (%)
1. Remittances		
2. Salaries & Wages		
3. Old age pension		
4. Child support grant		
5. Disability		
6. Farming		
Total =		

SECTION C: Land, Water and Production

3.1 Which type of land tenure do you have access to?		
1.	2.	3.
Communal land	Commonage land	Own land

3.2 Size of land you have access to? (ha)	3.3 Size of arable land?

3.4 Size of no-arable land?	3.5 Use of non-arable land?	3.6 Don't know

3.6 How does the type of tenure you have access to affect your production?	
1. Customary Laws	
2. Community Politics	
3. Limited Operational rights	
4. Ownership	
5. Theft	

3.7 Crop	1. Area (ha)	2. Amount Consumed (tons)	3. Amount Sold (tons)	4. Amount fed to animals (tons)	5. Amount Donated (tons)
1.Maize					
2. Potatoes					
3. Cabbages					
4. Spinach					
5. Beetroot					
6. Other (specify)					

Area (ha): 1 (10-100)ha, **2** (200-300)ha, **3** (400-500)ha, **4** (600-700)ha.

Amounts (tons): 1 (10-39) tons, **2** (40-89) tons, **3** (90-159) tons, **4** (160-300) tons.

3.8 Which means of cultivation do you use to prepare the soil?	
1. Tractor	
2. Animal traction	

3. Hoe/spade (human)	
4. 1+3	
5. 2+3	

3.9 How many years have you been involved in farming?

3.9 What type of farming system did you adopt?

Intensive Farming	Semi-intensive	Extensive Farming	Combination
1.	2.	3.	4.

3.10 What is the source of water in the project?

Communal taps	Rivers	Dam	Boreholes	Household tanks
1.	2.	3.	4.	5.

3.11 Which type of irrigation system do you use in the project?

Sprinklers	Drip	Manual	Flooding
1.	2.	3.	4.

SECTION D: Agric Projects and Management

Background of Project

4.1 Name of Project manager (optional)……

4.2 When was the project initiated? ……..

4.3 What programme is the project established through?

Household food security	Poverty Alleviation (Red Hub)	Ntinga O.R Tambo Development
1.	2.	3.

4.4 Who implement or initiate the project	
1, Department of Rural Development and Agrarian Reform	
2. Department of Social Development	
3. KSD Local Municipality	
4. NGOs	
5. Universities	

4.5 What is the main aim of the project?	
1. Job creation	
2. Provide better nutrition to the community/members	
3. To earn income	
4. Improve the standard of living of the community/members	
5. Reduce poverty	
6. Other	

4.6 Which people does the project target?

1. Women	
2. Youth	
3. Small scale farmers	
4. Disadvantaged (the poor)	
5. Anyone willing	

4.7 How many members does the project have? ……...

4.8 Do you have a structure for your project?

1. **YES**	2. **NO**

If Yes, how is the project structured? ……...

……

If No, why? ……...

……

4.9 Perceptions and Agricultural Projects.

4.9.1 Is the project strategy the most effective tool in combating poverty in your community?

1. Strongly Agree	2. Agree	3. Disagree	4. Strongly Disagree

Why? …….

……

4.9.2 What benefits do these projects bring?

1. Fresh farm products	
2. Income	
3. Skills/knowledge	
4. Low transaction costs	
5. Market Availability	
6. Other (Specify)	

4.9.3 Projects implemented in communal areas do create job opportunities.

1. Strongly Agree	2. Agree	3. Disagree	4. Strongly Disagree

a) If strongly agree, what type of jobs have been created?	
1. Permanent Field workers	
2. Casual Employees	
3. Part times	
4. Hawkers (town)	
5. Other	

b) Number of Jobs Created?

4.9.4 The products produced in the project do make a contribution in household income.

1. Strongly Agree	2. Agree	3. Disagree	4. Strongly Disagree

a) If strongly agree and agree to what extent (percentage) did it contribute household inc.				
1.	2.	3.	4.	5.
1 - 5%	6 - 10%	11 - 15%	16 - 20%	21 - 25% >

4.9.5 How would you describe poverty status in your household before and after the introduction of the projects?

i. Before

1. Excellent	2. Very Good	3. Good	4. Fair	5. Poor

ii. After

1. Excellent	2. Very Good	3. Good	4. Fair	5. Poor

4.9.6 Has there been any project that has failed in your areas?

1. **YES**	2. **NO**

If Yes, what do you think caused it to fail? ……..

……

……

If No, what causes the success? ……...

……

4.9.7 How would you describe government funding into the projects?

1. Excellent	2. Very Good	3. Good	4. Fair	5. Poor

Why? …….

……

4.9.8 What type of resources are likely to be allocated to you?	
1. Seeds	
2. Quality Fertilizers	
3. Land Preparation tools	
4. Farm Infrastructure (Storages)	
5. Sufficient water	
6. Other	

4.9.8 How would you describe the allocation of resources?

1. Excellent	2. Very Good	3. Good	4. Fair	5. Poor

Why? …….

……

4.10 Access to Advisory Services

4.10.1 Do you receive any agricultural advisory services in the project? | 1. **YES** | 2. **NO** |

If Yes, Please choose the type of services you receive.

Extension Services	**Tick (X)**
1.Traing (Knowledge and Skills)	
2. Given updated technology	
3. Given useful and practical information	
4. Technical advices	
5. Farm visits	
6. 1 and 2	
7. 1 and 3	
8. 4 and 5	
9. Other	

4.10.2 How often do you receive these services?

1. Weekly	2. Monthly	3. Between 2-5 Months	4. Every 6 Month/ higher	5. Never

4.10.3 How do you view the quality of extension service that you receive?				
1. Excellent	2. Very Good	3. Good	4. Fair	5. Poor

4.10.4 How helpful is working with extension officers to reduce poverty?			
1 Very Helpful	2. Helpful	3. Somewhat helpful	Not helpful at all

4.10.5 Which communication networks do you have access to with extension officers?				
1. Radio	2. Television	3. Newspapers	4. Cellphones	5. Farm visits

4.10.6 How would you describe the communication level you receive?					
	1. Excellent	2. Very Good	3. Good	4. Fair	5. Poor
1. Radio					
2. Television					
3. Newspapers					
4. Cellphones					
5. Farm visits					

4.10.7 What challenges do you face in the project?

Challenges	**1. Good**	**2. Fair**	**3. Poor**
1. Poor Infrastructure			
2. Insufficient Water			
3. Lack of Funding			
4. Insufficient Land			
5. Lack of Skilled staff			
6. Access to Markets			
7. Lack of Participation (members)			
8. Other:			

4.10.8 Do you keep farm (Production) records? | 1. **YES** | 2. **NO** |

If Yes, How? ……....

If No, Why? ……..

4.10.9 Does the community gets involve in the planning of the projects? | 1. **YES** | 2. **NO** |

a) If yes, how would you describe the planning of the project?

1. Excellent	2. Very Good	3. Good	4. Fair	5. Poor

If No, Why not? ……

……

……

4.11 Climate Changes

4.11.1 Are you aware of climate changes around your area? | 1. **YES** | 2. **NO** |

If yes, how is climate change information disseminated in rural areas?

NETWORKS	**Tick (X) you may choose more than one**
1. Pamphlets	
2. Radio	
3. Television	
4. Extension Officers	
5. Newspapers/ Magazines	
6. Cellphones	

7. Dissemination (extension officers)	
8. Other (Specify)	

4.11.2 As a consequence of climatic changes, what mostly affect your area?

1. Drought	
2. Floods	
3. High Temperatures	
4. Veld Fires	
5. Others (specify)	

4.11.3 How does climate change affect the projects?			
Very Serious	Serious	Somewhat serious	Not at all

4.11.4 How do you intent to ensure high productivity?	
1. Acquire Knowledge on climate	
2. Necessary skills to deal with climate	
3. Resilience capacities	
4. Skills (manipulation of environment)	
5. Use of Extension officers	

Additional Comments

……
……
……
……
……
……
……

Thank you for your participation in this study

Ndiyabulela Inkosi ikusikelele ☺☺

APPENDIX B: QUESTIONNAIRE 2 (Extension workers)

QUESTIONNAIRE

FACULTY OF NATURAL & AGRICULTURAL SCIENCES

AGRICULTURAL ECONOMICS, EXTENSION AND RURAL DEVELOPMENT

TITLE: The Role Of Agricultural Development Projects In Poverty Reduction In The O.R Tambo District Municipality Eastern Cape Province, South Africa.

NB: THE INFORMATION PROVIDED WILL BE FIRMLY CONFIDENTIAL.

GOVERNMENT OFFICIALS/ PROJECT STAKEHOLDERS

(Tick with an X were applicable)

1.1 Name of an Official (optional): ……..

1.2 Ward number: …….. 1.3 Position: …….

1.4 Municipality: …… 1.5 Community: ……...

1.6 What is your Age?	**1.7 Number of extension officers available at Mqanduli?**

1.8 What is the Ratio of extension officers to farmer of Mqanduli?

1.9 What is your highest Qualification?				
1. 3year Diploma	2. 3/4year	3. Honours	4. Masters	5. PhD

	Degree			
1.10 Number of years in the field				

1.11 What are the aims of your organization?	
1. To Alleviate Poverty.	
2. To fulfill the government priorities and better life for all.	
3. To render services that could have a measurable impact to the poor.	
4. To deliver basic services to the community of your ward.	
5. To create economic opportunities and ensuring income security.	

2.1 Role of Extension officers

2.1.1 Does your organization offer any kind of support to the projects? **YES** **NO**

a) If yes, what contributions are made to the agricultural development projects as an organization?

	GOOD	**FAIR**	**POOR**
1. Farm Inputs			
2. Provide Credit			
3. Infrastructure			
4. Market Access			
5. Provide Trainings			

2.1.2 Are you involved in project planning? **YES** **NO**

If yes, How? ……

……

2.1.2 What is your main task as an extension officer to rural farmers?	
1. To Educate	
2. Dissemination of information	
3. Providing training	
4. Promote conservation of natural resources	
5. Empowerment	

2.1.3 What is your main role as an extension officer in rural farmers?	
1. Improve the capacity of farmers	
2. To be project managers	
3. To provide advisory services	
4. Help farmers to access agricultural land	
5. Project Planners	
6. Help farmers to access market	

2.1.4 Do you conduct any agricultural advisory services to the farmers in the projects?

YES	NO

a) If yes, please tick the most conducted in the projects

1. Farm visits	
2. Training of farmers	
3. Given useful and practical information	
4. Relevant technology	
5. Technical advices	

2.1.5 What means of communication do you use to communicate with farmers on these projects?	
1. Use of Cellphones	
2. Farm Visits	
3. Use of Radio Broadcast	
4. Television Broadcasting	
5. Newspapers	

3.1 Agricultural Development Projects

3.1.1 How effective is the project strategy to combat poverty?

1. Strongly Successful	2. Successful	3. Unsuccessful	4. Not at All

3.1.2 What causes the failure of projects? ……

……

3.1.3 What causes the success in projects? ……...

……

3.1.4 What challenges do farmers face in projects?

1. Inadequate infrastructural development	
2. Insufficient Water	
3. Limited Financial capital	
4. Insufficient Land and low levels of productivity	
5. Limited access to human and natural capital	
6. Access to Markets	
7. Seasonal nature of production	
8. Misuse of project funds	

3.1.5 What is the nature of production farmers practice in the projects?	
Annual production	Seasonal production

a) If seasonal, what other methods do they use to produce their own food?

1. Home gardening	
2. Livestock production	
3. Seek employment in town	

3.1.6 How serious is climate change in the area?			
Very serious	Serious	Somewhat serious	Not at all serious

3.1.6 Who was responsible for the planning of the project? …….

3.1.7 Where farmer's part of the planning process? YES NO

If yes, who take decision on what is to be done? …….....

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Additional Comments

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Thank you for your participation in this study

Ndiyabulela Inkosi ikusikelele ☺☺

APPENDIX C: PICTURES

These pictures provided are **consent** from the farmers to be able to use them as proof of contact.

Mqanduli RED Hub (milling) and Tractors used by these projects

Rivers as the main source of water and an engine for pumping water





Farmers answering questionnaires

A concept to be adopted (Vertical Gardening) for home gardens

APPENDIX D: MAPS