FACTORS THAT INFLUENCE THE SUSTAINABILITY OF RURAL CROP PRODUCTION COMMUNITY PROJECTS IN THE UMZIMVUBU DISTRICT OF THE EASTERN CAPE PROVINCE

BY

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January 2016

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DECLARATION

I, FEZEKA MAJIKI, hereby declare that the work in this dissertation is my own original work. I cede copyright of the dissertation in favour of the Nelson Mandela Metropolitan University.

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FEZEKA MAJIKI
Port Elizabeth
January 2016
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My son, Elam Ndikho Likhaya Majiki, you inspire me for the better.
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<td>Accelerated and Shared Growth in South Africa</td>
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<td>DoA</td>
<td>Department of Agriculture</td>
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<tr>
<td>UNECA</td>
<td>United Nations Economic Commission</td>
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<td>SAP</td>
<td>South African Party</td>
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<td>FAO</td>
<td>United Nations Food and Agriculture Organisation</td>
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<td>GMOs</td>
<td>Genetically modified organisms</td>
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<td>RDP</td>
<td>Rural Development Programme</td>
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<td>MFPP</td>
<td>Massive Food Production Programme</td>
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<td>IFSS</td>
<td>Integrated Food Security Strategy</td>
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<td>NDA</td>
<td>National Department of Agriculture</td>
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<td>PTO</td>
<td>Permission to occupy certificate</td>
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<td>DRDAR</td>
<td>Department of Rural Development and Agrarian Reform</td>
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SUMMARY

Maize production is the main cropping activity in the Umzimvubu district. This cereal crop is the staple food for the Eastern Cape's rural communities and accounts for nearly 95 per cent of the crops cultivated in dry-land cropping programmes. Food security in rural areas has been a major concern for the South African government. In attempts to mitigate hunger and poverty, the government has initiated rural development maize production projects. The primary objectives of the projects were to achieve sustainable livelihoods and rural development for the poor. The projects were expected to improve the quality of rural life and provide basic nutritional requirements of the community. Historically the rural poor have had to fend for themselves through subsistence farming in adverse environments. Input costs for farming have become increasingly expensive; this resulted in major challenges for subsistence farming. The crop production projects initiated in the Umzimvubu district have not been sustainable and have fallen short of addressing the needs of the various communities. The study aims to identify the factors that influence the sustainability of the crop production projects in the Umzimvubu district.

A triangulation research method was used to provide multiple viewpoints to examine the data; this allows for greater accuracy of the research. The mixed method approach in which the researcher collects and analyses data integrates the findings and draws inferences using both qualitative and quantitative methodology. The quantitative research methodology provided the demographics and biographical data on the participants. The qualitative research methodology concentrated on the focus group discussions that gave an insight into the participants' views, perceptions and concerns. Focus groups were used to examine the factors influencing the sustainability of the projects and to explore how these projects are perceived and understood by the community and people working on the projects. The research interest is not only in what the project beneficiaries think, but also in why they think as they do. The main data collection was obtained from the focus groups and individual face-to-face interviews with the beneficiaries of the crop projects in the Umzimvubu district.
It was found that the farming areas required rehabilitation, were susceptible to erosion and degradation, and lacked adequate land use practices. The beneficiaries of the cropping programmes had small amounts of other crops growing in their individual household gardens for household use in conjunction with the maize received from the maize programmes. The income made from selling maize from the programmes was insignificant and did not contribute substantially to the household needs, as the communities in these projects were still failing to secure adequate food requirements. The maize yields do not substantiate the monetary investment from the beneficiaries. Furthermore, the findings indicated that the beneficiaries do not receive consistent income from the programmes.

The participants consisted of large households comprising mainly elderly people who depended on social grants as a regular source of income. These elderly were burdened with taking care of their grandchildren, whose parents were employed in either urban areas or unemployed and formed part of the household. The unemployed young adults also depended on child support grants for income. The maize harvested had to be shared between a large number of community members and the livestock.

The findings also suggested that there was dependency on outside contractors for cultivation and other practices. The study found that most of the beneficiaries felt disempowered, as they had not been involved in the decision-making process. Furthermore, policy-makers failed to acknowledge existing indigenous knowledge and practices of the rural communities (i.e. inter-cropping and green mealie harvesting). Indigenous practices should be included into the programmes instead of compelling beneficiaries to adhere to new forms of cultivation. The communities introduction to new large-scale and challenging, highly technological methods resulted in most of the communities being fully dependent on government support and guidance. Training and the empowerment of beneficiaries are imperative. Rural people should be included in development of strategies and the role of the women should be given more recognition. It should be acknowledged that rural households are diverse and that the model cannot apply to each village or community.

**Key words:** rural development, sustainability, food security, crop projects.
CHAPTER 1
INTRODUCTION AND ORIENTATION OF RESEARCH

1.1 INTRODUCTION TO THE RESEARCH AREA

The Transkei was administratively developed by the South African government in 1959 as a non-independent area designated for isi-Xhosa speaking people. The area was established as a Bantustan, set aside for members of a particular ethnicity, and represented a significant precedent turning point in South Africa’s policy of apartheid and “separate development”. It was the first of four territories to be declared independent of South Africa. Throughout its existence, however, it remained internationally unrecognised, diplomatically isolated and politically unstable, with low levels of economic activity. The territory once severed relations with South Africa, the only country that acknowledged it as a legal entity (Innes & O’Meara, 1976:69). In 1994, Transkei was reintegrated along with Ciskei into the newly created Eastern Cape Province. However, today the former Transkei area remains characterised by pervasive unemployment and high levels of dependency on state welfare support (Westway, 2012:117). This socio-economic circumstance is severe as only 1% of rural households derive income from crop production and only 4% of livestock production (Border Rural Committee, 2009).

Culturally, cattle have played a significant, vital role in subsistence and social interactions for the isi-Xhosa communities (Westcott, 1977:139). The isi-Xhosa women living in the Transkei concentrated mainly on maize and vegetable crop production while the men primarily focus on livestock farming. This arrangement was disrupted by the mass labour migration to the mines.
One of the factors that started the male exodus from Transkei in 1897 was the cattle rinderpest epidemic. By 1963, slightly more than half of the male population was absent from their homes (Southall, 1982) -- with the result that the agricultural burden was left on the shoulders of the women of Transkei. Today, the Transkei remains poorer than the other former homeland regions of South Africa. Its population remains largely rural, with a predominantly female population.

The majority of Transkei's inhabitants are either landless or have little access to land and must seek employment elsewhere. According to a study conducted in Transkei by Phillips-Howard in 1995, not one of the residents considered agriculture as their primary source of income. Agriculture in Transkei remains marginal, restricted by limited capital investment and steep population growth. According to Naidoo (1993, cited in Phillip-Howard 1995:1), information on smallholder farming in Transkei is lacking and requires further attention. However, it is clear that, in the majority of households, production is not sufficient for even basic nutritional requirements; therefore, remittances from migrant workers are used to purchase staple food, such as wheat and maize, from neighbouring developed areas. Beinart (1992) reported that approximately 70 per cent of food requirements are sourced from other areas of South Africa. With the country being influenced by the recent recession, it means that more men are moving back home to Transkei again for longer periods. Due to this, there is a growing interest in agricultural activity in the Transkei rural communities, because of the reduction in migrant labour opportunities and dwindling food security.
This study focuses on the Umzimvubu Local Municipality, situated in the Alfred Nzo District Municipality of ex-Transkei (North-Eastern corner of the Eastern Cape Province). It is bordered by Elundini Municipality to the west, Greater Kokstad Municipality and Matatiele Municipality to the north, Mhlontlo Municipality to the south and Ntabankulu Municipality to the east. According to the community survey conducted by Statistics South Africa, the total population of the Eastern Cape Province is 6,527,746. The total population of the Alfred Nzo District is 479,395. This district population accounts for 7.3 per cent of the provincial population. Umzimvubu Local Municipality has a total population of 220,636, which constitutes 46.03 per cent of the total district population. (Umzimvubu IDP, 2013/2014). The average population density of Umzimvubu Local Municipality is 88 people per square kilometre, which is higher than the district average of 70 people per square kilometre.

The arable production on the small rural holdings of Umzimvubu is predominantly focused on cultivating maize (Beinart, 1992). The area under commercial agriculture comprised only 2.5 per cent of the entire Transkei’s land area. Given the fact that the majority of the population in the Umzimvubu district is illiterate and unemployed, the provincial government introduced food security projects focussing on crop production and smaller-scale animal husbandry. These projects cater for and are worked by the people who belong to each particular community.

The majority of the communities belonging to the Umzimvubu Local Municipality are involved with some form of governmental crop production projects. The government with the provision of mechanisation services and production inputs to keep operational supports the projects.
Historically rural households have had to fend for themselves through subsistence farming. However, fertiliser and seed have become increasingly expensive; the increased costs resulted in challenges for the subsistence form of farming. In light of this, the government stepped in with agricultural projects as part of its rural development strategy. AsgiSA (Accelerated and Shared Growth in South Africa) was implemented in 2006 and was one example of the programmes introduced to help facilitate provincial government initiatives to accelerate growth and development in the ex-Transkei. AsgiSA was initiated after a programme called MFPP (Massive Food Production Programme) had failed. AsgiSA Eastern Cape focused on six high-impact priority programmes within the Umzimvubu River catchment area.
However, the support of the crop projects by AsgiSA came to a sudden, unexplained end in 2012. After that, the DoA (Department of Agriculture) had to take over supporting the crop projects and continues to do so, the new programmes are called Phezukomkhono cropping scheme.

The six high-impact programmes introduced at Umzimvubu were:

- Agriculture and agro-processing
- Forestry
- Water resource development
- Hydro-power and alternative energy
- Sustainable human settlement
- Tourism development

These projects were initiated to:

- Enhance food security
- Provide a conducive environment for agricultural production and economic returns
- Reduce poverty through rural development
- Reduce the environmental impact of agricultural production
1.2 PROBLEM STATEMENT

The programmes at Umzimvubu were expected to improve the rural community life and, at the very least, contribute to the regular basic food and nutritional requirements of the community. The crop production programmes initiated in Umzimvubu for rural development have not been sustainable and have failed to address the needs of the communities. The programmes were unable to endure after the service providers disengaged and despite on-going practical support from the DoA the programmes are still struggling to sustain themselves.

Undernourishment and food insecurity are still prevalent in the homes of Umzimvubu’s rural inhabitants. For decades, the communities in the area have relied on subsistence farming. After the continued failure and implementation of new crop systems, the community can no longer afford the necessary inputs; growing food has become a challenge and their land lies unutilised.

**Given this dire socio-economic scenario, the researcher aims to investigate the factors that affect the sustainability of the crop production in the Umzimvubu area.**
1.3 SUB-PROBLEMS

The study aims to identify issues and factors that influence the sustainability of the crop production projects in the Umzimvubu district. The following sub-problems will jointly contribute to answering the main problem statement:

- How have the crop projects developed towards increasing: market integration, self-sufficiency, food security, and human and financial resources?

- How have the crop projects in the Umzimvubu area been supported or managed?

- What cultivation practices have been introduced to reduce the environmental impact and contribute to crop production sustainability?
1.4 HYPOTHESIS

The community projects aimed to assist the communities in terms of rural development, increasing food security and enabling them to participate in markets. These crop projects wholly depend on the provincial government for production inputs and mechanisation services to produce the crops. If the present provincial government were to cease its support, the land would lie unproductive as it did before the crop projects were initiated. The produce is not of high quality and not sold at high-end markets; therefore, there are inadequate financial returns.

It is the researcher's hypothesis that the rural development crop production projects are not sustainable and effective. The projects have not adequately contributed to developing the communities they are intended to sustain. Identifying the factors that influence the projects’ resilience could assist them to be more successful and sustainable.
1.5 RESEARCH OBJECTIVES

Given the lack of effectiveness and sustainability in the crop production community projects, this study aims to identify interventions for the following crucial developmental aspects in the Umzimvubu area of Transkei:

- Contribute to human food needs (increasing food security).
- Increase crop production sustainability.
- Enhance the quality of life of the community.
- Promote environmental stewardship.
- Encourage efficient use of resources.
1.6 DELIMITATION OF THE STUDY

1.6.1 Geographic demarcation

This study has been limited to one geographic area of the ex-Transkei region of the Eastern Cape Province, namely, the rural outlying areas of the Umzimvubu Local Municipality. This area incorporates the towns of Mount Frere and Mount Ayliff.

1.6.2 Crop production projects

Participation in this study was limited to crop production projects under the Umzimvubu municipality of no less than one ha each. These were selected according to their primary function of rural development and food security in the area. The projects formed part of government rural development initiatives and had benefited from governmental involvement and previous initial programmes. The projects initiated in the Umzimvubu area are primarily focused on maize production, but the research included investigation of use and practices involving the production of other crops.

1.6.3 Community

The majority of the Umzimvubu rural community is black and isi-Xhosa-speaking. The community is also referred to in the plural as communities and in reference to the research participants of the various focus groups from the various village areas of Umzimvubu.
1.7 RESEARCH METHODS

It is the researchers' intention to have variation in data collection in order to lead to greater validity and try to answer the question from a number of perspectives. The study will be asking a community about their opinion on a specific issue with a purpose of defining relationship outcomes on these issues. The survey design type design will integrate quantitative and qualitative approaches to produce new information (triangulation approach).

According to Bryman (2004:1), triangulation is the use of several approaches as the means of scrutinising the research question so that the researcher can be sure of the findings. This means that multiple viewpoints allows for greater accuracy of the research. The triangulation method was applied to increases the validity and reliability of the study. The quantitative research methodology provided insight into the demographics and biographical information of the participants in the study. The qualitative research methodology concentrated on interviews and focus group discussions that provided insight into the participants' views, perceptions and concerns.
1.8 DATA COLLECTION

The research began with a literature study to familiarise and orientate the researcher regarding previous studies. An explorative investigation through a pilot study was executed in tandem with the literature study. The pilot study involved interviewing and having a focus group discussion with the beneficiaries from the crop projects to probe relevant issues.

The pilot study was conducted in a comparable rural setting in the Eastern Cape. The main purpose of the pilot study was to test the proposed research mechanisms in a similar environment. The continuing literature study was guided by the problem statement of the current research study regarding factors that have an impact on the crop projects and their unsustainability.

The main data collection was obtained from the focus groups and individual face-to-face interviews with the beneficiaries from each crop project in the Umzimvubu Local Municipality. The majority of the beneficiaries were illiterate and isi-Xhosa-speaking and therefore could not read the English questionnaires. Face-to-face interviews have the additional advantage of making it possible for the researcher to “read” non-verbal language and assess the surroundings of the projects for additional information.
1.9 SOCIO-ECONOMIC SIGNIFICANCE AND RATIONALE OF THE STUDY

The provincial government of the Eastern Cape contributes and supports the crop projects in the Umzimvubu Local Municipality with machinery and production inputs. However, the programmes have been challenging and have failed to be independent. The study aimed to identify the project challenges that prevent the projects from sustaining themselves and compete in relevant markets.

Further knowledge about how crop production programmes operate and the production process mechanisms is necessary for the project beneficiaries and stakeholders. Greater insight will, therefore, contribute to the improved likelihood of success and sustainability of the projects and improve Umzimvubu’s food security.
1.10 STRUCTURE OF THE RESEARCH

Chapter 1: Introduction and orientation of research

This chapter articulates the framework of the research, laying the foundation for the chapters to follow and briefly outlining what the other chapters entail. A brief outline of the history of the ex-Transkei, its rural development projects and the agricultural sector of Umzimvubu are presented.

Chapter 2: Literature review and theoretical framework of study

Presented in this chapter is an overview of earlier studies related to and of relevance to the current research topic. A more in-depth background of the rural development projects, a brief history of the formation of the Transkei and the agricultural sector of Umzimvubu are also featured.

Chapter 3: Research methodology

This chapter explains the research methods that were applied and elaborates on the research instruments and method of data collection. The data analysis and statistical techniques used are explained.

Chapter 4: Presentation of findings

This chapter presents and discusses the results and findings pertaining to the crop production projects at Umzimvubu.

Chapter 5: Main findings, conclusions and recommendations

As the final chapter of the study, this chapter reviews the key findings, conclusions and recommendations of the research.
CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

This chapter gives an overview of the theoretical framework of the study. It examines the South African agrarian background and the formation of the Transkei. An in-depth enquiry is done into the research area to understand the socio-economic conditions and demographics of the area. Rural development and the role of information and women are scrutinised to better understand the nature of development. Sustainability, measuring sustainability and Earth stewardship are also imperative on the road to development to ensure resources are preserved. Food security is an integral part of human existence. Maize schemes that were introduced for establishing food security are examined. The role and uses of maize in the rural context are also discussed.

2.2 SOUTH AFRICAN AGRARIAN BACKGROUND

The agrarian question has been defined as the development of capitalist agriculture and the formation of the classes in agriculture. The agrarian question concerns the classes of capitalist agriculture under the government monopoly, capitalism systems and the paths of development of large-scale agricultural production based on modern technology. According to Weiner and Levin (1991:1), the agrarian question is one of the most neglected areas of theory and politics in South Africa. This theory is essential to the resolution of South Africa’s national question.
This is because suppression within the development of agriculture has been central to the progress of the state and politics in South Africa, and has ultimately been closely linked with the development of apartheid. There is growing literature on popular struggles in the 20th century through the development of organs of people’s power in the urban townships; however, there has been no corresponding development of rurally based organisational forms. This is peculiar for a nation where over half the total population either is based in or has close linkage with rural areas.

The processes entrenching white agricultural dominance were initially translated into the policies and legislation of “segregation” by the South African Party (SAP) government in the early 20th century. Of all the measures enacted by the SAP, the 1913 Land Act was the most influential in material terms that defined division, and its legal sanctification, of the land of South Africa between areas of white and black land use. In formalising the racial division of land and thereby the spatial basis of social “segregation”, and in further limiting the areas “reserved” for African occupation and use, this Act also served to consolidate the migrant labour system. This contributed to the dual process of undermining agricultural commodity production developed by Africans and stimulating the transition from sharecropping and other rent arrangements to labour tenancy to wage labour in a growing white capitalist agriculture environment (Bernstein, 2014:5). The interests of agricultural capital being partially met through the legislation of the Land Act encouraged new capitalist farmers, and the foundation of the newly formed Land Bank encouraged farm improvement, as well as the expansion of agricultural co-operatives and the establishment of agricultural colleges, research and extension.
There can be no doubt that the 1913 Land Act constitutes an event of seminal significance in the development of South African social relations. The period 1928-1932 that followed was characterised by a developing alliance of maize and gold, which aimed at consolidating a forced labour economy predicated upon “the abolition of a free market in the transfer of land between white and non-white, and at the same time restrictions on land use”. A rise in land values and the intensification of cultivation in the 1920s resulted in increased conflict between farmers and tenants, because the amount of land made available to the latter for cultivation and grazing became increasingly regulated. By 1936, the Native Trust and Land Act confirmed the principles of taxation and labour contracts, while barring all Africans from the white rural areas.

The Act also listed a number of “released areas”, which were parcels of land to be set aside for African occupation, while a trust fund was established to purchase the land (Matlhape & Münz, 1991:88). The 1930s were also characterised by a further strengthening of state support for white agriculture through greater subsidisation. During the inter-war period, South Africa increasingly became an exporter of maize, dairy products, meat and fruit, along with the more established export of crops, wool and sugar. Subsidies on wool, mohair, fruit and wattle bark, coupled with support and stabilisation schemes, culminated in the passage of the Agricultural Marketing Act of 1937. Through this Act, the marketing of the bulk of South Africa’s farm produce came under the domain of a series of produce boards, which were established by the state, but were in fact controlled by white agriculturalists.
A further feature of state strategy in the 1930s entailed a re-thinking of the question of black agriculture in the reserve areas, which was undertaken by the Native Economic Commission in 1932. The commission saw the “main solution for the native economic problem” as lying in the “economic development of the reserves”. This would entail “teaching” blacks agriculture, as well as preserving a rapidly declining environment due to over-grazing, erosion and water shortage. After the legislation of the 1936 Land Act, the Secretary for Native Affairs outlined plans for the reclamation and rehabilitation of the reserve areas. Sub-division of land, limitation of stock and anti-erosion measures were seen as central to the solution of the problem. The implementation of these measures in 1939, through Proclamation 31, marks the beginning of the “betterment” policy, which was characterised at various points by “fierce resistance on the part of the reserve population”.

White agriculture was central to the rise of the Nationalist Party and was aggressive in taking advantage of the post-war boom to stimulate agricultural development. The Nationalist Party development of labour bureaux was aimed at allocating labour between town and country, forcing male workers to obtain clearance from a labour bureau before migrating to the cities in search of work. These measures facilitated an increase in agricultural output, which was further augmented through the raising of controlled prices, developing new irrigation schemes and providing greater opportunities for agricultural credit (Matlhape & Münst, 1991:89).
By the 1950s, the successive enactment of the fundamental statutes of apartheid, including the Population Registration and Group Areas Act of 1950 and the Bantu Authorities Act of 1951 and Promotion of Bantu Self-Government Act of 1959, laid the foundations of the Bantustans (Bernstein, 2014:5). Accordingly, apartheid strategy saw the reserve areas redefined as “homelands”, designed to become “self-governing” and ultimately “independent” states. This was the culmination of legislation that provided for people to be forcibly removed from white farms and urban areas and abandoned in the “homelands”. These homelands were established to isolate the black nation and provide a source of low-cost migrant labour for the expanding mines in the northern areas of South Africa (Mariotti, 2012:2). The state eventually came to realise the potentially critical destabilising effects of the Bantustans in the absence of a “viable” agricultural development strategy. This task was left to the Development Bank of Southern Africa, which was created in 1983 (Matlhape & Münz, 1991:89).

It could be debated that black agriculture has become marginalized. At the same time, however, the notion of viability has the effect of regulating rural black people by implying that all of them could become “viable farmers” under free market conditions. The separation between white and black agriculture is a direct consequence of state repression of black agriculture on the one hand, and state support for white agriculture on the other. These issues lie at the centre of the question of agricultural restructuring, and around these issues, conflicting strategies and ideologies have begun to emerge (Matlhape and Münz, 1991:90).
2.3 FORMATION OF THE TRANSKEI

The Transkei (meaning the area beyond the river Kei), officially called the Republic of Transkei, was a Bantustan -- an area set aside for members of a specific ethnicity and given nominal parliamentary democracy in the eastern region of South Africa. Its capital was Umtata, which was renamed Mthatha in 2004. Transkei represented a significant precedent and historic turning point in South Africa’s policy of apartheid and “separate development”; it was the first of four territories to be declared independent of South Africa. Throughout its existence, it remained an internationally unrecognised, diplomatically isolated, politically unstable one-party state, which at one point even severed relations with South Africa, the only country that acknowledged it as a legal entity. In 1994, along with the Ciskei, it was reintegrated into its larger neighbour and became part of the Eastern Cape Province. On October 26, 1976, the Transkei became the first Bantustan to receive its independence under the South African Policy of Separate Development. In a chronically underdeveloped region, power was relegated to a collection of paid functionaries of the South African state -- groups whose political survival since 1960 rested on the compulsion of the South African apartheid state (Innes & O’Meara, 1976:69).

Between 1960 and 1983, the technical change allowed the massive forced removal of over one million black Africans from white-owned farms, which had substantially reduced labour requirements, to designated homelands, including Transkei. In the 1980s, agriculture grew more difficult for white farmers because of serious drought, high-interest rates, poor terms of international trade and high input prices associated with overseas sanctions.
Nonetheless, they remained in an advantageous position compared to black farmers, being favoured by the elaborate marketing board system and the state-regulated supply of credit and inputs. The traditional economy of Transkei was based upon cattle and maize production. Male energies focused on cattle production, which played a central role in subsistence and social relationships, while women principally cultivated maize (Westcott, 1977). However, as early as the last decade of the 19th century this pattern began being disrupted by labour migration to the Rand mines and encouraged by factors such as the rinderpest epidemic of 1897 (Southall, 1982). By 1963, 53 per cent of men aged between 18 and 54 were absent from their homes (Southall, 1982), therefore the agricultural burden fell on the women.

In the homelands, agriculture remained marginal, restricted by limited capital investment and massive population increases as the black population was expelled from white farms and cities. Transkei, however, has a higher than average arable holding size per household and few large urban industrial centres within close reach. It is thus not surprising that it also has well-above-average earnings from agriculture, compared to other former homelands (Innes & O’ Meara, 1976:69). However, agricultural underdevelopment and associated poorly developed infrastructure, inadequate basic services, low levels of nutrition and low life expectancy are common characteristics of Transkei, as is the long-standing heavy dependence on male migrant remittances (Porter and Phillips-Howard, 1997).
2.4 INTRODUCTION TO UMZIMVUBU DISTRICT

Umzimvubu Local Municipality forms part of the Alfred Nzo District Municipality in the North-Eastern corner of the Eastern Cape Province. It is bordered by the Elundini Municipality to the west, Matatiele Municipality and Greater Kokstad Municipality to the north and Mhlontlo Municipality to the east. Umzimvubu Local Municipality covers an area of 2 506km² and constitutes 42 per cent of the Alfred Nzo district. Umzimvubu is characterised by poor socio-economic conditions and low levels of development, which are not uncommon characteristics of the broader region. Ethnically, Amabhaca, meaning “refugees”, who historically fled the wars in KwaZulu-Natal and settled beyond the Umzimvubu River, occupies the Mount Frere area.

2.4.1 Population and population density

According to the community survey conducted by Statistics South Africa (2012), the Eastern Cape Province has a total population of 6 527 746 and the total population of the Alfred Nzo district is 479 395. The district population accounts for 7.3 per cent of the provincial population. Umzimvubu Local Municipality has a total population of 220 636, which constitutes 46.03 per cent of the district population. The average population density of Umzimvubu is 88 people per square kilometre, which is higher than the district average of 70 people per square kilometre, but is still relatively low (Umzimvubu IDP, 2013/2014).
2.4.2 Racial distribution

The population is predominantly Black. Black people constitute 99.8 per cent of the population and other population groups form the remaining 0.2 per cent. This trend is reflected at the district level, where Black people constitute 99.1 per cent of the total population and the remaining population groups only 0.9 per cent. (Umzimvubu IDP, 2013/2014)

2.4.3 Age and gender

Regarding the municipality’s profile according to age of its inhabitants, juveniles (between 0 and 14 years) account for 36 per cent of the population, the economically active 17.9 per cent and the retired 5.6 per cent (Quantec, 2010). It is quite evident that Umzimvubu’s population is predominantly youthful. According to gender, the municipality’s population is 54 per cent female and 46 per cent male (Age & Gender profile CS, 2007).

2.4.4 Disability

Of the population of Umzimvubu, 4 per cent suffer from some form of disability, with a slightly higher percentage of males (51.4 per cent) than females (48.6 per cent). An analysis of the most predominant types of disability revealed that physical disabilities (37.6%) are the most common, followed by psychological impairments (24.2%). Municipal planning takes cognisance of the needs of people with disabilities and programmes for people with disabilities have been implemented under the auspices of the special programmes unit. (Umzimvubu IDP, 2014).
2.4.5 Household income levels

Income levels within the municipal area are very low, with 72.1 per cent of the economically active population not generating an income. Only 7.3 per cent of the economically active population have an income of more than R1 600 per month. These statistics indicate that it is imperative that municipal planning therefore focuses strongly on local economic development initiatives that will enable the community to generate an income (Umzimvubu IDP, 2014).

2.4.6 Poverty levels

Increasing levels of absolute poverty have been recorded in the Eastern Cape and approximately 74 per cent of the people of the province live below the poverty line of R800 or less a month. Poverty levels in the Alfred Nzo District – at 82.3 per cent – are even higher than the provincial norm. Poverty levels within Umzimvubu Local Municipality are 81.1 per cent, which is higher than the provincial norm but on a par with the district norm. High poverty levels imply a high dependency on social assistance in the form of grants. Municipal planning therefore also needs to focus strongly on poverty alleviation mechanisms (Umzimvubu IDP, 2014).
2.4.7 Employment levels and trends

The Umzimvubu area is characterised by low levels of employment and a high percentage of people who are not economically active. This in turn accounts for the high poverty levels and low-income levels. High unemployment rates impact negatively on municipalities as they are accompanied by low affordability levels that generally result in a poor rate of payment for services. Umzimvubu’s unemployment rate is estimated at 78.2 per cent – slightly higher than the estimated district unemployment level of 76.4 per cent (Umzimvubu IDP, 2014).

At provincial and district level, employment is dominated by the tertiary sector. Provincial and district trends are reflected in Umzimvubu, where the public sector or community services account for the majority of specified jobs (31.8 per cent). This sector is an unlikely base for employment expansion (Umzimvubu IDP, 2014).

Wholesale and retail trade, which are secondary activities, constitute the second-highest employment sector (27.5 per cent), but it is doubtful whether this sector will expand significantly either, as commercial and business activities are confined to the urban centres of Mount Ayliff and Mount Frere. This limits the majority of the rural population from finding work in these sectors. Business activities in other areas are confined to rural supply stores and general dealers that do not contribute significantly to the employment levels in the district.
Primary activities – namely, agriculture, forestry and fishing – only account for 6.6 per cent of the employment opportunities in the district. It is assumed that the subsistence nature of agriculture in the district is the reason why the sector does not reflect as a significant employment sector, despite the fact that such a high proportion of the population is involved in agricultural activities. Only a small percentage of agricultural products produced by subsistence farmers are sold. The bulk is for household consumption, especially in the case of very poor households (Umzimvubu IDP, 2014).

2.4.8 Education and social grants

The levels of educational accomplishment in Umzimvubu are low, with only 7.1 per cent of the population having completed matric or higher education (Umzimvubu IDP, 2013/2014). This compares poorly with the Eastern Cape as a whole and is less than half of the provincial average of 16.5 per cent. This has effects on the worker profile: persons that have not reached a certain level of educational attainment are often faced with barriers when attempting to enter into the formal employment market. This has further effects on the nature of investment activity that will be feasible and sustainable in the area. Without the provision of sufficient education and training, a skills deficit may limit future development within the Umzimvubu area.
The limited number of secondary and tertiary education institutions contributes significantly to the low literacy and education levels and lack of graduates in the area. There is also a slight but consistently higher ratio of males to females, which in effect means that there may still be some gender marginalisation in terms of education, given that females constitute a higher percentage of the population (Umzimvubu IDP, 2014). Umzimvubu has a working age population of approximately 118 122 individuals. However, due to the low levels of functional literacy in the area (i.e. the adult population that has gained at least a Grade 6 level of education), the quality of the Umzimvubu labour pool is compromised – giving rise to a small base of employable individuals from the area. Employment levels are relatively low, with less than one in three adult residents formally or informally employed. It is estimated that virtually a quarter of all employment in Umzimvubu is informal, which translates to a low labour force contribution rate of approximately 38 per cent in the area (Quantec, 2010)

There is visibly a high level of dependence on social grants – with 79 789 people (i.e. 31.3 per cent) of Umzimvubu’s population being dependent on social grants, which include the following:

- Old age pension
- Disability grants
- Child support grants
- Care dependency grants
- Foster care grants
- Grant in aid
- Social relief
Child support grants and old age pensions alone account for 68.6 per cent and 20.9 per cent of the allocated grants respectively. Only 2.7 per cent of the population receives disability grants, as compared to the 4 per cent of the population who have a disability (Umzimvubu IDP, 2014). As indicated in Section 2.3.6, poverty levels in the Umzimvubu area are high; this is reflected in the high dependency on social assistance in the form of grants. Due to these statistics, crop production projects were instated to minimise food security problems and unemployment in the area.

In a recent study, Mtero (2014:201) examined the functions of social grants as follows: “The social grant money has many uses in the rural households. Social grant monies are invested in rotational group saving schemes or stokvels, and in grocery groups. Some households invest their social grant earnings in petty trade or use the access to social grant as surety to obtain informal credit or to purchase food on credit. Therefore, it is not always the case that social grant earnings are immediately used to purchase food, clothing or other household expenses”.
2.4.9 Roads

Umzimvubu has 658.68km of secondary roads that provide access to a municipal area of 2 506km². The figure is relatively low, considering that Umzimvubu has over 250 villages in its locality. This implies that only a few communities are accessible by road, with the exception of those that are situated in proximity to the N2 and the R405 routes.

It is evident that Umzimvubu has poor levels of internal connectivity (from village to village) when compared to its neighbouring municipalities. The real and effective costs of doing business are therefore negatively affected and this reduces the competitiveness of Umzimvubu as an investment destination. Ultimately, a low level of connectivity places limitations on the level of economic participation that is available to residents of Umzimvubu.

The quality of existing roads also influences the nature of business in Umzimvubu as it has an impact on the willingness of and the direct costs at which entrepreneurs conduct their businesses. The poor roads increase the rate at which vehicle assets depreciate and maintenance costs – presenting a physical barrier to market access for farmers. Only 2.65 per cent of Umzimvubu’s roads are tarred, giving an indication of the state of roads in the area. Umzimvubu’s mountainous terrain, particularly in the central and northern parts of the municipality, contributes to a low level of connectivity because of the increased costs and difficulty of road construction.
2.5 RURAL DEVELOPMENT

The United Nations (2011) Human Development Report predicted that by 2050 the Human Development Index of most developing countries would have reduced by 12 to 18 percentage points. The report urged that multiple interventions for sustainable and equitable rural development be implemented and emphasis be put on support for smallholder agriculture as smallholder farmers form the majority of farmers in developing countries. This is true for Transkei’s Umzimvubu district; the majority of farmers are smallholders and subsistence farmers. Statistics have shown that food availability has declined in Africa as compared to other continents, thus investment in rural areas should be of the utmost priority. The report also emphasized that living standards of rural areas needed to be raised.

Agricultural development has three distinct but related dimensions: the physical-technical, the economic-financial, and the institutional-human. The physical-technical dimension addresses issues such as land utilization, agricultural technologies, research and extension, agricultural inputs, farm-to-market access, productivity and production maximization. Agricultural development from the economic-financial perspective is concerned with issues such as costs, factors of production, terms of trade, pricing policies, subsidies, incentives, credit, return on investment and market mechanisms. The institutional-human dimension focuses on areas such as knowledge and skills, organization and management, training, implementation capacity, social relations, politics, communication, motivation, participation, local government, public-private sector linkages, culture and values, and historical experience.
Agricultural development, as with much of the development field, has become the domain of technical and economic specialists. Their primary concerns have dominated the analysis of rural and agricultural sector issues, the specification of agricultural development objectives, and the design of programmes and projects to achieve those objectives (Brinkerhoff & Goldsmith, 1990:2).

Developmental interventions that deal with agricultural projects should acknowledge that the marketability and sustainability of such projects is critical, because these projects are meant for income generation and poverty reduction. Jacobs (2012:518) provides comparable global evidence against which to analyze South African rural realities. Brazil, for example, has significantly reduced income inequalities, and is currently on track to reach all its 2015 millennium development goals. This is in sharp contrast to the South African experience and the harsh realities of rural livelihoods of Umzimvubu. Alongside this achievement, Brazil has also ensured stable macroeconomic growth by the use of their redistributive social policies that ensure that rural households enjoy good food produced locally by subsistence family-owned farms instead of large export-oriented agribusinesses.

South African smallholder farmers receive great attention from the government in agricultural policies, but public investment to support them remains inadequate. During the research, it became apparent that the rural agricultural interventions are inclined towards large-scale, high-input agrarian structures, as opposed to small-scale farming driven by rural households, as is the case with Brazil. These community-based projects are supposed to set simple and realistic goals and performance targets that justify the costs by delivering greater social benefits. The projects should be strengthened by community participation and by actively engaging the community – especially the youth – from the planning stage.
According to Jacobs (2012:518), South Africa is a middle-income country with world-class infrastructure in a relatively substantial amount of big cities, but it also ranks high on the list of countries with high levels of socio-economic inequalities. The even higher levels of dispossession in rural areas in particular have led to arguments stating that the country comprises a developed “first economy” and a regressive “second economy”. Decades of underinvestment in the former homeland of Transkei has created a countryside with diverse population settlement patterns and densities, a reduced amount of arable land and unequal access to services. The vast majority of the young rural inhabitants of Umzimvubu prefer a life in urban areas where they could obtain employment and is able to support the elderly who cannot move from the rural villages. Efforts towards improvement of working and living conditions for rural inhabitants have been on post-apartheid South Africa’s development agenda for nearly two decades – yet the majority of this study’s sample villages still do not have access to running water, electricity and accessible roads.

Two forward-projecting policy documents, the New Growth Path1 and the 2030 National Development Plan, outline plans to overcome the income and asset poverty, chronic unemployment and food insecurity that affect rural people. Both documents clearly stipulate that numerous interventions are needed to shift rural areas onto more sustainable development paths over the next two decades. The main objective of these two documents is to coordinate state-funded projects in the deprived rural areas – yet the projects initiated in the Umzimvubu area have proved not to be a working solution.
Three years after 2008 -- a period noted for an unprecedented global economic slowdown and food price crisis -- influential global agencies flagged strategies for overcoming rural deprivation (World Bank, 2007; International Fund for Agricultural Development (IFAD, 2010; UNDP, 2011). In its 2011 Rural Poverty Report, IFAD projected that, over the next two to three decades, rural deprivation would persist even though rural populations would decrease dramatically. Rural livelihoods have increasingly become contingent and contradictory, according to O’Laughlin (2002:512):

“There no longer see capital hungering for cheap and unskilled labour, but rather mine redundancies and rural unemployment. We see no clear divide between household subsistence production and migrant wage-labour. Rather we see people in rural households combining food production with diverse ways of generating income – brewing, making charcoal, repairing shoes, queuing for food aid, doing casual wage labour, receiving remittances and pension payments, selling livestock. We see no emerging class differences between a landless rural proletariat and commercial farmers (black or white), but rather people earning their livelihood in diverse ways.”

The analysis by Bank and Minkley (2005) of livelihoods and agrarian change in the Eastern Cape highlights the increased disintegration of rural livelihoods in the homelands. Bank and Minkley (2005) further contended that, in the 20th century, rural struggle was “dominated by the quest of white capital for cheap labour to fuel furnaces of industry and to drive capitalist production in the countryside”. 
The scholars continued by raising the concept of “involution” to denote the continuing decline and disintegration of livelihoods in an environment characterized by deindustrialization and policy failures on the part of the state to stimulate the agrarian economy in the province. According to Neves and Du Toit (2013:33), involution develops when systems of livelihood making are incapable of expanding their resources because of internal pressures, such as increases in population and poverty. Consequently, “the systems of livelihood making spiral into greater, overdriven complexity and self-exploitation”. Thus, “livelihoods systems atrophy, and lock people into systems of shared poverty” (Neves & Du Toit, 2013:33). Rural livelihoods are not only diversified but are intertwined in processes of differentiation. Neocosmos (1993) confirmed evidence through observation that however limited or mild socio-economic differentiation is, it does exists amongst rural households in the homelands. Therefore, accumulation from below coexists alongside with accumulation from above, although inhibited and limited by socio-economic factors of underdevelopment.

Experience has shown that rural development is an essential component of economic well-being. In underdeveloped areas such as Umzimvubu, the rural economy is not commonly the basis upon which the economic future of the country ought to depend on. Thus, rural development strategies are equally important as those directed at urban industrial development. Davies and Greyling (2010) stated that emphasis should be placed on self-reliance and development of a rural society based upon collective principles.
The rural economic reality facing the government is the need to feed the ever-increasing rural population, to integrate rural agriculture with industrial development to produce raw materials and industrial crops, and the need for exports (Davies & Greyling, 2010). The state’s vision should therefore seek to channel rural agriculture towards economic industries. Hence, the inception of large-scale cropping schemes has repeatedly not succeeded in realizing this vision.

According to Davies and Greyling (2010), the progression of rural economies and socio-economic needs of rural populations cannot be satisfied confined within a single village: there needs to be complete development at a regional and national level. However, the introduction of projects has the added advantage of discouraging the large-scale rural-urban migration and the inactivity and decline of life in rural areas. Davies and Greyling (2010) are confident that the development of a country’s industry starts in the rural areas, with the support of growing services and the building of a balanced system of villages, towns and cities – a common feature in developed countries. Consequently, without development policies of this kind, the economic growth remains concentrated in bigger cities and an ever-widening gap is opened between rural and urban life – a patently visible phenomenon within the Transkei and Eastern Cape Province.
2.5.1 Access to information in rural development

The intrinsic importance of information in the development process has been debated comprehensively. Though information is still not regarded as important as other resources, the lack of information thereof negatively influences the development process. Neelameghan (1980:4-5, cited in Meyer, 2002) posited that there is a direct relation between the availability and ability to handle and use information and the ability to create wealth. Nevertheless, intended information users in developing countries are not always aware of what the information entails. This is because the majority of rural inhabitants are either illiterate or have minimal literacy, as observed in Umzimvubu.

Ozowa (1995:17, cited in Meyer, 2002) asserted that the lack of consciousness amongst small-scale farmers could be attributed to their high levels of illiteracy, which, in turn, contribute negatively to their level of adoption of agricultural production technology and new sustainable production techniques. Ultimately, the extent of the ability of rural inhabitants to handle information will determine its usefulness as a resource for development. The qualities of information have not yet been examined to determine why information is not used in the same light as other resources for development. It is often said that information or knowledge is power, but information on its own is worthless and cannot solve problems. Information only has power when it is used and applied effectively (Boon, 1992, cited in Meyer, 2012).
Without appropriate information, the development process can be stunted (Sturges & Neill, 1998, cited in Meyer, 2002). According to Meyer (2002), literature discloses that certain sub-processes are imperative in any development process. These include, among others, the process of change, intervention continuation, participation and the use of information (Meyer, 2002). Furthermore, Sethi (1993, cited in Meyer, 2002) opined that, when considering developmental projects, it should be understood that there would be an intervention to bring about change with the main purpose of improvement. Developers should acknowledge that a single project is only a contribution to the development and is not an end itself and that development is an ongoing process (Rogers, 1992, cited in Meyer, 2002). Participation of those on the receiving end is imperative – or else the development process will be less successful (Ayodya & Bapa, 1993, cited in Meyer, 2002). Considering the sub-processes of development, it is clear that information is needed to set the development processes in motion, together with other resources. When comparing information with other resources, it may seem as though other resources are more tangible while information is not. Meyer (2002) stated that many scholars view information as one of the most important resources conducive to rural development, but it is still underutilized.

2.5.2 Women’s influence in rural development

Women – particularly those in rural areas – have for centuries been connected to the land in various ways and to varying levels. Land has been rural women’s source of livelihood. In both the agricultural and rural economy, women have provided the bulk of the labour force in the production, processing and marketing of food (FAO, 2003). According to the information gathered from the 2012 survey by Statistics SA, there
were 210 women for every 100 men employed on farms in the “former homelands”,
which constitute democratic South Africa’s rural areas.
The data indicated that considerable fractions of these women are engaged in subsistence farming and agriculture. Sibanda (2012, cited in Moyo, 2013) opined that even though women farmers are the sentinels of food security, they still encounter various land-related challenges such as lack of access to land, credit, technology, improved seeds and fertilizer. Sibanda (2012) argued further that, added to women’s difficulty, is the fact that they have no opinion on the development of agricultural policies designed to improve productivity. Women’s control of land is irrelevant, as they cannot make important decisions without the consent of a male figure.

MacMillan (1989) and Thsatsinde (1993), cited in Moyo (2013), express the view that, if rural development is to have a firm foundation, rural women must be involved in the development process, in policy-making and its implementation. Granting the involvement of women in policy-making is imperative; the absence of relevant education and literacy might cause their participation in agricultural processes to not yield the desired results in terms of alleviation of their poverty. It is imperative for women to participate in their development in order to achieve meaningful change. This can be possible only if women are well equipped with the relevant knowledge, training and skills that will help them to contribute effectively towards their own development and that of their communities.

Furthermore, it is imperative for women to be actively involved in practices that are meant to improve their quality of life. Moyo (2013) opined that social institutions, together with cultural beliefs, sometimes present a hindrance to women’s emancipation. Even though the South African Constitution denounces the discrimination against women, customs and male-controlled structures prevail and
dictate how women and men should live. Traditional chiefs, who are the custodians of African culture, are in charge of land distribution and control these structures.

2.6 SUSTAINABILITY

Lishman (2010) points out that, for a long time, sustainability has been viewed as an environmental issue. Recently, however, the world’s understanding of sustainability has begun giving equal weight to environmental, social and economic concerns. Nowhere is this more relevant than in the agricultural sector, where issues such as climate change, population growth, increasing consumer demand, bio-energy and land shortages are conspiring to make sustainable agriculture increasingly urgent – but also more difficult – than ever.

2.6.1 Sustainability through earth stewardship

According to the United Nations Food and Agriculture Organization (FAO, 2003), by the year 2050, the world needs to produce 70 per cent more food to keep up with the rapid increase in population growth and economic development. A strategy known as sustainable intensification, embraced by many conservation scientists, supports securing higher yields from existing agricultural lands while simultaneously reducing the negative impact on the environment as a way to reduce the need for clearing new lands, which may result in land degradation and deforestation. Higher crop yields per hectare may reduce the need to clear additional land, but the net effect is not necessarily a reduced environmental impact. The methods used to increase yields can include practices such as irrigation, increased fertilization, mechanization, using GMOs (Genetically Modified Organisms) or other improved forms of seed and double cropping. Approaches such as intensive fertilization raise obvious concerns, as soil contamination is a common effect as far as fertilizers are concerned (Downs, 2015).
2.6.2 Measuring sustainability in agriculture

Practices that erode soil destroy the habitats of insect predators and cutting down instead of planting trees can be considered as unsustainable, as opposed to those that conserve these resources. Different countries have different approaches towards measuring sustainability. According to Lynam and Herdt (1989), sustainability can be measured by examining the changes in yield and total factor productivity.

According to Marty Downs (2015), more reasonably accessible data can be obtained when measuring sustainability through:

- **Soil health** measured in terms of soil erosion and soil organic carbon
- **Fresh water** consumption and quality
- **Landscape degradation** measured by habitat conversion, fragmentation and composition
- **Biodiversity** measured in terms of species richness and abundance for both birds and amphibians

According to three components of sustainability, Zhen and Routray (2003) proposed operational indicators for measuring agricultural sustainability. These indicators are summarized below:

**- Economic**
  - Crop productivity
  - Net farm income
  - Benefit-cost ratio of production
  - Per capita food grain production

**- Social**
  - Food self-sufficiency
  - Equality in income and food distribution
  - Access to resources and support services
  - Knowledge and awareness of resource conservation
- **Ecological**
  - Amount of fertilizers / pesticides used per unit of cropped land
  - Amount of irrigation water used per unit of cropped land
  - Soil nutrient content
  - Depth of groundwater table
  - Quality of groundwater for irrigation
  - Water use efficiency
  - Nitrate content of groundwater and crops

Considering sustainable agriculture in the global context, preliminary indicators were developed for assessing agricultural sustainability. The preliminary indicators meet the following suitability criteria (Nambiar, Gupta, Fu & Li, 2006)

- Social and policy relevance (economic viability, social structure, etc.)
- Analytical soundness and measurability
- Suitability for different scales (e.g. farm, district, country, etc.)
- Encompass ecosystem processes and relate to process-oriented modelling
- Sensitivity to variations in management and climate
- Accessibility to many users (e.g. acceptability)

### 2.6.3 Sustainable development

According to Barrow (1997), Lee and George (2000), Melloul and Collin (2003), cited in Sandham and Van der Walt (2004), sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own need”.
The first principle of sustainable development places people at the focal point of concerns for sustainable development and accentuates the prominence of humans as one of the three components of sustainability together with the economic and the environmental development (Scott, Park and Cocklin, 2000:443). This principle, according to Scott et al. (2000:443), also relates to the notion of social sustainability as having a local, historically defined content which includes elements of livelihood, social participation, justice and equity, which are all imperative aspects of sustainable development. The concept of a sustained conscious accountability towards our descendants and future societies is an integral part of social sustainability. So is the acknowledgement that economic and environmental sustainability are intrinsic to social sustainability, since a local system cannot be sustainable if it is not environmentally and economically viable (Garces, Rodenas & Sanjose (2003); Scott et al. (2000), cited in Sandham & Van der Walt (2004)).

Experience with rural development has shown that the projects are often challenged and compromised by social issues that did not receive due attention during project planning and implementation stages. Poignantly, it is often the very issues that the project is aimed to advance that are ignored in the planning and implementation thereof and which endanger the success of the project (Anon, 2004; Day, 1998; Mullen, 1999; Nel,& Hill (Eds.) 2000, cited in Sandham & Van Der Walt, 2004). The sustainable development principle adds the dimension of intergenerational equity (United Nations, 1992), raising the requirement of a sustainable future as “one that satisfies basic human needs and fails to show signs of major economic or environmental collapse within 100 years” ( Erasmus & Van Jaarsveld, 2002:4).
Consequently, observance of the principles of social sustainability requires social considerations to play a significant role in moulding the project throughout the planning and implementation stages (Barrow, 1997, cited in Sandham & Van der Walt, 2004). It is therefore essential that any development programme or initiative is rooted in the local society (Day, 1998, cited in Sandham & Van der Walt, 2004). Twomlow, O’Neill, Sims, Ellis-Jones and Jafry (2002) favour the social and cultural factors as of equal or greater importance than economic factors.

2.7 FOOD SECURITY

According to Erickson (2008:238), food systems activities are grouped into four categories: producing food; processing and packaging; distributing and retailing food, and consuming food. The activities involved in a food system are catching, growing, harvesting, storing, processing, packaging, transporting, marketing and consuming food. Food security of households, communities and nations rely on food systems that enable enough food to be grown or imported from elsewhere to meet the needs of residents (Brown, 2014:6). According to the G8 group of industrial nations (2009), food security is defined “as the ability of all people, at all times to have the physical, social and economic access to sufficient, safe and nutritious food to have an active, healthy life”. Food security has played an imperative role in almost every major governance declaration that has shaped the history of South Africa since the 17th century (Hendriks, 2013).
The Natives Land Act of 1913 had a substantial role in determining the food security situation of the country and households in terms of the character and composition of the agricultural sector. It also shaped and influenced rural livelihoods. The creation of Bantu homelands in 1951 aggravated the inequalities with regard to access to land and other resources, creating household food insecurity, particularly in the rural areas (Van der Merwe, 2011, cited in Hendriks, 2014).

Kirsten, Sartorius von Bach and Van Zyl (1993) noted in their study that agricultural productivity in the homelands was very poor and agricultural development programmes had limited success in improving productivity. According to the White Paper on agricultural policy (RSA, 1984:8-9) “for any country, the provision of sufficient food for its people is a vital priority and for this reason it is regarded as one of the objectives of agricultural policy.

Adequate provision of this basic need of man not only promotes, but is also an essential prerequisite for, an acceptable economic, political and social order and for stability”. Post-1994, the need for action to achieve food security within the country was first outlined in the Reconstruction and Development Programme (ANC, 1994). The Rural Development Programme identified food security as a basic human need and food insecurity as a legacy of the apartheid socio-economic and political order.
Across sectors, national strategies and programming have declared food security for all citizens a priority. This led to increased expenditure in the following spheres:

- School feeding schemes
- Social grants
- Agricultural programmes such as MFPP and AsgiSA

Subsequent to 1994, South African agricultural and food security programmes have focused on subsistence and smallholder agriculture. This is recapitulated in the Agricultural Policy Discussion Document (Ministry for Agriculture and Land Affairs, 1998: Section 1.3, cited in Hendriks, 2014). Despite the fact that there is adequate food nationally, it is estimated that between 30 and 50 per cent of the population has inadequate food, or is exposed to an imbalanced diet because of low income. Emphasis is therefore placed on food security at household level.

Programmes are examined in terms of their direct and indirect impact on household food security through their direct impact on rural incomes and the distribution of those incomes. The theoretical assumption is that increasing the production of small-scale farmers will improve the availability and nutritional content of food – hence food security generally – among the poor.

However, research into food security in South Africa has established the significant impact of household income on household food security in South Africa: “Despite the fact that agriculture has played an important historical role in providing food for low-income households, household food security in South Africa depends primarily on total household income, however derived, and much less on household food production.” (Shisamy & Hendriks, 2012, cited in Hendriks, 2014).
The integrated Food Security Strategy (IFSS) was initiated in 2002. This strategy was seen as a tool for intersectional action and coordination of food security interventions and information systems. Its vision was “to attain universal physical, social and economic access to sufficient, safe and nutritious food by all South Africans at all times to meet their dietary and food preferences for an active and healthy life” (National Department of Agriculture, 2002).

This strategy comprised five pillars:

- Production trading
- Income opportunities
- Nutrition and food safety
- Safety nets and food emergency
- Information and communication

However, South Africa has shifted from being a net exporter to a net importer of food (BFAP, 2013) Bureau for Food and Agricultural Policy. National food security is thereby put at risk. Hendriks (2014) pointed out that the area under cultivation for maize and wheat – the main cereals used by South African households – has declined drastically over the last decade, thereby putting the capacity of the country to maintain food self-sufficiency under question. The ever-increasing population exerts further pressure on the food system to provide food while competing for land, water and other production resources.
Household agricultural participation nationally is relatively low (Statistics South Africa, 2012:2013a). Relatively, the Eastern Cape has the highest number of households participating in agriculture, i.e. 34.5 per cent of its population. Statistics show that well above 15 million South Africans rely on social grants. Even though social grants play a significant role in alleviating hunger, they are insufficient to reduce poverty or ensure adequate nutrition.

In addition, the growing number of social grants places strain on the national Budget. According to Hendriks (2012), recipients of grants as a group are highly susceptible to food and service delivery price increases and lack of purchasing power to escape food insecurity. Increased subsistence production has the potential to improve food security of poor households in both rural and urban areas by increasing the food supply and reducing dependence on purchasing food in a context of high food price inflation. In the light of this escalating food security crisis, the government initiated food security programmes in various parts of the Umzimvubu district of Transkei. However, these programmes have not succeeded in their attempts to achieve household food security.
2.8 MASSIVE FOOD PRODUCTION PROGRAMME (MFPP) MAIZE SCHEME

The Eastern Cape Department of Agriculture established the MFPP in 2003. The scheme provided a full conditional grant to participating small-scale farmers, with the grant being paid back gradually over five years when expected returns were met because of raised yields over time. The MFPP programme was an imperative part of the Provincial Growth and Development Plan for agrarian reform. The scheme's main aim was to create food security within the chronically poor communities in the Eastern Cape Province (ECDA, 2005, cited in Mtero, 2012:5). One of the crucial assumptions that motivated the scheme was that there is fertile and fallow land that is underutilised in the former homelands. According to the Eastern Cape Department of Agriculture (ECDA), the province produces approximately 50 000 tons of maize annually, whereas the annual consumption within the province is approximately 650 000 tons (ECDA 2005, cited in Mtero, 2012:5). To correct this situation, the ECDA initiated the MFPP for previously disadvantaged black people who suffered proletarianisation to participate in the commercial production of maize.

According to Mtero (2012:5), one of the conditions of participating in the scheme was that individually owned land holdings would be combined into one large field unit, so as to take advantage of economies of scale. The MFPP required cropland to be adjoined into a single block of land of at least 50 hectares, have one manager and, in the long term, increase the yields for farmers to at least 7 tons per hectare. Support in terms of mechanisation services was also recognised as an important part of the scheme and therefore contractors or mechanisation service providers were employed (Mtero, 2012:5).
According to Grain (2008:29), “the contractors were paid to plough and disk the fields of the participating farmers; they still had the option of benefiting from the scheme as participants therefore qualifying for the subsidy given to farmers. The scheme also paid them if they worked on their land as contractors and, in addition, they qualified for a soft loan from UVIMBA bank to acquire implements such as tractors”. The yields per hectare were initially low for the MFPP and the project had a high failure rate. The project did not meet its initial target of 7 tons per hectare – in its fifth year, the yields were still below the target at 3.8 tons per hectare, as shown in Table 4.14. High input costs and the volatility of maize prices were amongst the many challenges faced by the project. This then raises questions about the profitability of maize using agro-industrial farming systems in dry-land cropping systems for people with minimal knowledge.

According to Mtero (2012:6), after the first growing season, each beneficiary was required to pay back 25 per cent of the grant and then 50 per cent of the grant by the second season and 75 per cent the third season. Many farmers participated in the first year when the scheme offered a 100 per cent grant. However, due to poor yields relative to high inputs, the majority of the farmers defaulted in the first year and could not afford to proceed to the second growing season and could not pay back the initial 25 per cent payment. Consequently, the ECDA assumed that most farmers might have used some crop for household consumption and most projects might not have gathered enough yield to consider selling and pay the initial deposit of the grant (ECDA, 2005).
Table 2.1 shows the MFPP projects maize yields from the year of its inception until it was discontinued. The table shows that the yields that were expected were not met and this led to the failure of the project.

Table 2.1 MFPP projects and maize yields 2003/04 to 2008/09

<table>
<thead>
<tr>
<th>Financial year</th>
<th>No. of projects</th>
<th>Area planted</th>
<th>Average yield (t/ha) maize</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003/04</td>
<td>192</td>
<td>9,000</td>
<td>1</td>
</tr>
<tr>
<td>2004/05</td>
<td>247</td>
<td>12,000</td>
<td>1</td>
</tr>
<tr>
<td>2005/06</td>
<td>413</td>
<td>15,000</td>
<td>3.2</td>
</tr>
<tr>
<td>2006/07</td>
<td>424</td>
<td>15,000</td>
<td>3.6</td>
</tr>
<tr>
<td>2007/08</td>
<td>350</td>
<td>13,133</td>
<td>3.89</td>
</tr>
<tr>
<td>2008/09</td>
<td>Not reported</td>
<td>2,326</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Source: Eastern Cape Department of Agriculture (2009)

By the year 2007, failure of the MFPP was accepted. Most of the beneficiaries, who were the small-scale farmers that participated in the programme, were left in debt and the UVIMBA bank had to write off their debts. However, a few emerging black farmers were able to meet the stringent conditions of the grant; these few were the only remaining sign of the existence of the programme. Upon acceptance of the failure of the MFPP, the AsgiSA maize scheme was incepted as the replacement (Mtero, 2012:6).
2.9 ACCELERATED AND SHARED GROWTH INITIATIVE (ASGISA) MAIZE SCHEME

The Eastern Cape government launched the AsgiSA-EC in South Africa in May 2007 to revive agriculture after the MFPP had failed. This scheme’s primary purpose was to halve poverty and enhance food security in the former Transkei by the year 2014 through rapid economic growth (Mtero, 2012:7).

AsgiSa-EC (2010) put agriculture and agro-processing among its high-impact priority programmes and distinguished itself from previous interventions like the MFPP by portraying itself as having a systematic approach to agrarian reform which allowed for linkages with agribusiness. AsgiSA-EC’s agrarian reform strategy was positioned according to the “agribusiness model”. This model suggested that better connections with corporate players of the agricultural sector would improve the production and profitability of small-scale farmers in the rural areas of the Eastern Cape. The agribusiness model therefore intended to empower smallholder farmers through participation in value-adding activities in the long term.

The programme was outlined as follows: “The main focus will be on developing a food processing industry and market focused on milling, canning, juicing, oil seed refining and meat processing within Umzimvubu whilst a secondary focus will be on developing a bio-fuel industry if pilot bio-fuel feed-stock crops prove successful and appropriate regional/national production levels are achieved.” (AsgiSA, 2010:61). The main objective of the production model was to take advantage of economies of scale in crop production by combining individual holdings into primary production blocks of approximately 500 hectares; these would then be combined into even larger blocks or clusters measuring 5 000 hectares (AsgiSA, 2010:57).
The formula for sharing the earnings from the farming proceeds in the AsgiSA scheme was such that 90 per cent of the gross income was re-invested to cover production costs and 10 per cent gross income was paid to the beneficiaries. This formula was meant to ensure the continued profitability of the scheme considering the high-cost nature of the agribusiness model. The AsgiSA scheme, which became operational in 2007, was simply discontinued in 2011, without the villagers even being informed of the reasons.

Mtero (2012:8) further explains that the main suppositions of AsgiSA were that small-scale farmers were side-lined by their lack of connections with the agribusiness sector and the preceding failure to capitalize on opportunities in the formal sector. This, according to AsgiSA, was the main reason for the decline in maize production in the former homelands. AsgiSA therefore applied the same methodology as the MFPP. Both were characterised by an over-reliance on the private sector and the high-input, capital-intensive method of farming, resulting in high production costs and lower profit margins.

The ECDA has since introduced another new scheme -- the crop production projects forming the focus of this research. According to this new arrangement, the participating farmers were initially required to pay R1 800 per hectare as a contribution fee to secure participation in the project, but the fee has since increased to R2 577 for the 2015/2016 cropping season. The Department of Agriculture had estimated that each hectare of maize would cost R7 000 to produce, with the difference in costs paid by the department, but this amount has dropped to R5 000 as from the 2015/2016 season. When the maize is harvested, all the produce is shared equally between all the beneficiaries.
Respondents participating in the research into the current cropping scheme expressed that they felt disempowered and were not receiving any financial returns; lack of participation in the decision-making process and the actual farming activities were also experienced as problematic. According to the current scheme, the differentiated nature of farming activities that people are used to within the former homelands is disregarded and priority is given to mono-cultural, massive agricultural schemes. Some of the projects in the study started with MFPP and AsgiSA and now have been adopted by the new Department of Agriculture cropping scheme, Phezukomkhono.
2.10 MAIZE PRODUCTION IN THE EX-TRANSKEI AREA

Approximately 8.0 million tons of maize grain was produced in South Africa annually on approximately 3.1 million ha of land in 2003. Half of the production consists of white maize, for human food consumption (Du Plessis, 2003:1). By 2014, its total commercial maize contribution of the Eastern Cape was 111. 000 tons out of 14.3 million tons produced in South Africa (Sihlobo, 2014:1). The Eastern Cape, compared to other maize-producing provinces, produces a small quantity of commercial maize. In the ex-Transkei region, there has been a decline in food production over the years. The decline in maize production has been one of the main causes of weakening food security in the region. It is one of the main staple crops, but has been imported more than it is locally produced. This crop is planted in spring in order to benefit from the summer rains; this dry land cultivation depends on the right quantity of rain at the right time (Ngaba, 2003:8).
The farming communities in the Transkei consist mostly of subsistence farming, with about 95 per cent of households having access either to a garden or arable dry land. They plant and/or plough mechanically, with a hired tractor, their own oxen, donkeys or their own tractor. The major crops are maize, bean, cabbage, pumpkin, potato and spinach (Perret, 2002:7). The rural people benefit a lot from the maize as it provides staple food for the greater part of the year for both humans and livestock, mostly poultry. For rural livelihoods it is a priority that the maize is used for household consumption as green mealies as early as February before it dries out in the field. This is important, as it has been the culture and tradition of rural households for food security because by February most of the grain that was kept from the previous seasons harvest would have been depleted. Some of the communities prefer cultivating two or three different times in a particular season. This provides them with continuous supply of green mealies throughout the period between ripening and actual harvesting. This also protects them from unpredictable climate conditions (Ngaba, 2003:8).
2.11 CONCLUSION
Alongside a review of relevant literature, this chapter presented a review of rural development, sustainability and food security. These factors are crucial to meeting the nutritional needs of rural communities and improving their quality of life. The next chapter looks at the research methodology that was applied in the study.
CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The following chapter provides the reasoning behind and description of the design, operationalization and ethical considerations followed on this research. The study and methodology focuses on identifying the factors influencing the sustainability of rural crop production projects in the Umzimvubu Local Municipality. Because poverty and inequality remain prominent challenges in rural communities of South Africa, food security is a pressing need. Umzimvubu has a substantial number of these rural community upliftment and food security projects and therefore forms the focus area of this study.

These projects have lacked continuity and commitment from stakeholders, there has been growing concerns about the uncertain food security, which plays a major role in poverty alleviation and relieving inequality. These all remain prominent challenges in this rural community. The study was conducted in the Umzimvubu area of the Eastern Cape Province, which is representative of typical rural groups and small-scale plant production systems in the province – as well as elsewhere in South Africa. The research results therefore can be applied to other rural areas as it was observed in the pilot study that these projects face similar challenges, even in urban agriculture. The researcher is familiar with the area -- therefore participants in the research were at ease and willing to engage in the study, given that confidentiality would be upheld.
The researcher chose Umzimvubu Local Municipality rural crop production projects to represent other rural crop production projects. The pilot study was done at Enjongweni Co-op in Motherwell, Port Elizabeth to test the questionnaire and see whether the study was worth conducting -- given that the livelihoods, farming techniques and challenges faced by these rural and urban crop production projects are similar. This chapter starts by describing the geographical area, climate and soils, followed by the research procedure and then concludes with research methods.

3.2 GEOGRAPHIC DESCRIPTION OF SURVEY AREA

The Eastern Cape Province today consists of the former homelands of Transkei and Ciskei, together with what was the eastern portion of what was formerly the Cape Province. The study area is the Umzimvubu Local Municipality found in Transkei, which is located in the eastern part of the Eastern Cape Province. Umzimvubu is one of the four municipalities located within the Alfred Nzo District Municipality. The municipal zone covers an area of approximately 2 506km², with a total population of about 191 620, of which 10% lives in the urban area (Umzimvubu IDP 2013-2014). The municipal area accommodates a significant traditional rural population, characterized by its community orientation and communal farming. The national road (N2) passes through the southern part of the Umzimvubu municipal area and provides connectivity with Mthatha and East London, and further afield connects East London and Durban. There is no rail connection within Umzimvubu and no operational airstrip.
Umzimvubu is a largely rural municipality, with an estimated 90 per cent or more of the population residing in villages (Umzimvubu IDP 2013-2014). Each village has an estimated number of between 50 and 250 homesteads. The remainder of the land is owned and used communally for grazing and subsistence farming. The rural villages have insufficient resources and, primarily, poor infrastructure. However, these villages are gradually gaining access to potable water and electricity. Houses in Umzimvubu are built of mud blocks, poles and thatch, alongside cement blocks and corrugated iron roofing. Visibly, there are two levels of settlement order within Umzimvubu Local Municipality, i.e. urban and rural settlements. The municipality’s two urban settlements are the main service centres – being the towns Mount Frere and Mount Ayliff.

Figure 3.1: Map of the Eastern Cape showing Mount Frere, the research area.
3.2.1 Climate and soils

Umzimvubu lies in a subtropical climatic zone. This then means that it has warm summers to mild winters -- with the average temperatures ranging from 7°C to 10°C in winter and 18°C to 25°C in summer. The annual rainfall ranges between 650mm and 1 100mm in summer. Thunderstorms and hail are also a common occurrence in summer. Umzimvubu’s climate range means that a varied range of agricultural produce may be cultivated in the area; this is supported by adequate rainfall and good soils. Soils found in Umzimvubu are mostly red-yellow apedal, freely-drained soils and offer good arable lands due to their high levels of iron and other minerals. However, this potential is compromised by the fact that the soils are prone to erosion. The majority of the soils in Umzimvubu have a thin layer of topsoil -- which is a contributing factor to the 32 per cent of the land in Umzimvubu being classified as degraded.

3.2.2 Land ownership

According to the Statistics South Africa community survey of 2007, 50, 9 per cent of the Umzimvubu population own homes. This is significantly lower than the district average of 60 per cent and the provincial average of 63 per cent (Umzimvubu IDP 2013-2014). The Umzimvubu Local Municipality faces several challenges when it comes to land tenure. The majority of settlements that constitute Umzimvubu are traditional settlements and are primarily subject to traditional methods of tenure such as PTOs (permission to occupy certificate), 99-year leases and the similar long-term ‘quit-rent’ arrangements. These therefore offer only slight security of tenure (as understood in urban areas, where ownership is normally by title deed).
However, the traditional laws and community structures warrant that every homestead has recognised membership of the community and has the right to access land for household and crop cultivation purposes. Widows’ homes and arable land are therefore not taken away upon the death of their husbands.

3.3 DEMOGRAPHIC PROFILE

3.3.1 Population estimates

As stipulated before, Umzimvubu has an estimated population of approximately 191,620 people on a 2,506km² area; 99.8 per cent of the population are African and the remaining 0.2 per cent includes the coloured, Asian and White inhabitants (Umzimvubu IDP 2013-2014). The average population density of Umzimvubu is 88 people per square kilometre, which is higher than the district average of 70 people per square kilometre (Umzimvubu IDP 2013-2014).

3.3.2 Agriculture

Crop farming (cultivating maize, potatoes, cabbage, and spinach) and livestock farming (rearing sheep, goats and cattle) make up the main agricultural activities that take place in the Umzimvubu area -- all at subsistence level. There is no large-scale or commercial farming. Some of the land used for agriculture has been degraded due to unsound agricultural practices. The majority of agricultural zones are adjacent to the Umzimvubu River and the Kinira River. There are large areas of fallow arable land within the municipal area.
Forestry is existent in the form of indigenous forests and commercial plantations. Consequently, it is evident that large tracts of land in Umzimvubu are suitable for:

- Moderate crop production
- Livestock grazing in pastures
- Forestry and plantation

3.4 RESEARCH PHILOSOPHY

What a researcher embarks on when carrying out research is referred to as the research philosophy -- and involves the expansion and the nature of knowledge (Collins, 2010:36). The logical level of a research method narrates its assumptions based on the general features of the world, incorporating aspects such as the mind, matter, reality, reason, truth, nature of knowledge and proofs of knowledge. There are various reasons why understanding philosophical matters is imperative. The complexity and circular nature of philosophical questioning is itself helpful, as it stimulates in-depth thinking and creates further questioning in relation to the topic under consideration (Crossan, 2003).
Crossan (2003) discusses four reasons why thorough scrutiny and in-depth understanding of research philosophy is imperative regarding research methodology:

- Research philosophy will give the researcher clearer understanding of the research designs and can assist the researcher to refine and specify the research methods to be used.
- Research philosophy assists the researcher in identifying designs and methodologies that will work and those that will not be feasible by identifying the limitations of particular approaches according to the study undertaking.
- Research philosophy may help the researcher with the selection of methods and designs that were previously outside the scope of knowledge of the researcher.
- Research philosophy may also assist the researcher in adapting research designs to suit certain research endeavours.

According to Pathirage et al. (2008:5), research philosophy encompasses epistemological assumptions, ontological assumptions, axiological assumptions and methodological assumptions. Epistemology entails the nature and theories of knowledge, as well as the attainment and limitations of the knowledge. Epistemology also encompasses the connection between the researcher and what is being researched. A positivist believes that the researcher and what is being researched are independent entities that can exist without the other and only that which is measured and observed can be regarded as knowledge (Collis & Hussey, 2003:48). Ontology -- according to Collins (2010:37) -- refers to the nature of reality and how researchers see the world; this viewpoint can be either objective or subjective.
Collins (2010:37) further states that axiological assumptions have to do with values, covering aesthetics and ethics, in consideration of the ethical quandary that may arise during the research. Positivists believe that they are not connected to what they are researching -- therefore the process is value-free. Phenomenologists, on the other hand, are of the notion that researchers have values -- and that these values assist them in interpreting phenomena that are generally regarded as facts. Methodology refers to the process and procedure of research. The research methods were based on the researcher’s position on ontological assumptions in relation to the epistemology of the study and axiology. Therefore, the study was based on the pragmatic paradigm.

3.4.1 Research paradigms

Creswell (2009:6) argues that paradigms are worldviews that shape the discipline area of the researcher and past research experiences. Creswell (2009:6) also classifies four different paradigms: post-positivism, constructivism, advocacy and pragmatism. Pragmatism is discussed, as it was the most suitable paradigm for this study, based on its advantages in terms of triangulation.

3.4.2 Pragmatic paradigm

Pragmatism is a means of making use of both qualitative and quantitative methods in research (Bryman 2006:116). According to Creswell, (2009:9) this paradigm relates to actions, situations and their impact -- as opposed to the world view of post-positivism. Ultimately, pragmatism focuses on what is practicable and is problem-solving oriented (Patton, cited in Creswell, 2009:9).
According to Jaccard & Jacoby (2010:9), pragmatism was founded on the works of C. I. Lewis, who created the theory that science does not provide a copy of reality but that researchers work with hypothetical situations to assist their explorations.

Creswell (2009:10-11), Cherrholmes (cited in Creswell, 2009) and Morgan (cited in Creswell 2009) identify the following characteristics of the pragmatic worldview:

- There is no obligation to adhere to one system of philosophy and reality.
- Various methodological options are available to researchers.
- Numerous approaches can be used for data collection and analysis.
- Ultimately, what is practicable applies.
- Combining or mixing methods or approaches must be done logically and attention paid to any significance that may flow from this.
- Pragmatism opens a surplus of opportunities regarding how the world is viewed, data collection and analysis methods and the way assumptions are made in the course of the research.
- Commends practical theory.
- Is more inclined to action than philosophy
- Pragmatic researchers are better positioned to use quantitative research to shed light on an aspect of qualitative research -- and the converse is true.

Therefore, according to the above-mentioned characteristics, the pragmatic paradigm was the most appropriate method chosen for data collection for the survey and focus group interviews.
3.5 RESEARCH METHODOLOGY

Research methodology, as discussed by Kothari (2004:8), is the process of systematically solving the research problem. It entails studies of the various steps that are normally adopted by a researcher in studying his research problem along with the logic behind them. Essentially, research methodology not only covers the scope of research methods, but also deliberates on the logic behind the methods used in the context of the study and clarifies why a specific method is used and why others are not being used, so that the results can be evaluated by the researcher or by others. Triangulation is known as the combination of methodologies in a study of the same phenomena (Denzin1978:291). This simply means that multiple viewpoints are used to examine the research data, which allows for greater accuracy of the research. This method was applied in the current study as it increases the validity and reliability of a study and decreases the limitations of each method. The research methods applied in the present study are more closely examined below.

3.5.1 Quantitative methodology

Quantitative methods focus on the strict quantification of observations (data) and on cautious control of empirical variables. Quantitative research integrates large-scale sampling and statistical procedures to inspect group means and variances (Ponterro & Grieger, 1999). Quantitative studies enforce the measurement and analysis of causal or correlational relationships between variables (Denzin & Lincoln, 2000). In this study, quantitative methods were applied in gathering numerical data from participants, such as demographics.
The quantitative approach has these strengths (Castro et al., 2010:343):

- The possibility of generating a comprehensive account of human experiences is possible.
- The analyses are within the framework of the observations.
- An in-depth analysis is possible in a way that cannot be captured by measurement scales.

According to Castro et al. (2010:343), the limitations of the quantitative approach are its limited abilities to draw strong conclusions.

The qualitative and quantitative data was collected from focus group interviews conducted by the researcher. In order to minimise the limitations of the two respective methodologies, mixed methodology was adopted for this study.

3.5.2 Qualitative methodology

This method covers an extensive class of empirical procedures specified to access and interpret the experiences of research participants in a context-specific setting (Denzin & Lincoln, 2006). Qualitative findings are normally presented in everyday language and include participants’ own words to describe a psychological event, experience or phenomenon (Taylor & Bogdan, 1998). Specific defining features of qualitative methods rely on the particular research paradigm guiding the inquiry approach. Interpretivists generally adopt this methodology in their research studies.
The strengths of the qualitative approach (as described by Castro, Kellison, Boyd and Kopak, 2010:342-343) are:

- High accuracy levels in operationalising and measuring specific concepts
- Possibility of group comparison
- Possibility of model specification and testing in research

Nonetheless, the limitations of this approach -- as discussed by Mason (2002:6), Johnson & Onwuegbuzie (2004:20) and Castro et al. (2010:343) -- are that the measurements are detached from the physical world and therefore it is challenging to make quantitative predictions.

3.5.3 Triangulation

This approach is defined as the form of research whereby the researcher applies both qualitative and quantitative research techniques, methods, approaches, concepts or language in a single study for the purpose of gaining a wider scope of understanding (Johnson & Onwuegbuzie, 2004:17). Based on the pragmatic paradigm (Creswell, 2009:91), this methodology presents the solution to the inadequacy of either qualitative or quantitative methodology when used alone (Hesse-Biber & Leavy, 2011:277).
Johnson & Onwuegbuzie (2004: 21) state the strengths of triangulation as research method as the following:

- Its unique ability to combine the strengths of the qualitative and quantitative methods – thereby limiting their respective weaknesses.
- Diverse research questions could be asked, as there is no limit on methods to be used.
- Textual evidence could be used to give credibility to measurement and vice versa.
- The outcomes of one method could form the basis of the start of another method.
- The conclusions reached could be enhanced as the result of one feature complementing or validating the other aspect.
- The quantitative feature could be used to increase the generalizability of the study.
- The overall validity of the study could be enhanced because the possibility of omission is reduced as compared to when a single approach is applied.
- When the two methods are employed together, they contribute to more in-depth knowledge by which to further understand both theory and practice.

Therefore, due to the strengths stipulated above, the mixed method approach was adopted in this study and both qualitative and quantitative methods were put to use for the purposes of the current research.
3.6 DATA COLLECTION PROCEDURES

The present study made use of two types of data – namely, primary data and secondary data.

3.6.1 Primary data

This refers to the data collected by the researcher -- new, original information that has never been collected before, and which was collected from research participants for the purposes of this study. The primary data for this study were collected by means of a survey questionnaire and focus group interviews as research instruments.

3.6.2 Secondary data

This concept refers to already existing materials such as documents resulting from an institutional process. These can be in the form of text, images or data sets that can be analysed qualitatively or quantitatively -- depending on the research question (Flick, 2011:122). Secondary data are used to form the foundation for the research study. The researcher acquired secondary data from books, academic journals and online academic publications.

3.6.3 Questionnaire design

The current research was aimed at evaluating factors that affect the sustainability of rural crop production projects in Umzimvubu -- therefore the study was both economic and developmental.
The survey questionnaire, designed as a Word document, was compiled in a manner that the project beneficiaries could easily understand and answer. The questionnaires were designed in English, but translated into isiXhosa – the language spoken and best understood by the participants -- during the focus group interviews. The questionnaire had two sections: A and B. Section A was used to obtain the quantitative data relating to individuals (such as demographics) and Section B consisted of guiding questions to access the qualitative data of the focus groups. The researcher administered the qualitative section of the questionnaires personally; the extension officers assisted in capturing responses from the participants.

3.6.4 Pilot study

The pilot study was used to determine the best research methods and research designs better suited to the study to be undertaken and to test the questionnaire. The pilot study was undertaken also to explore the feasibility of the steps to be taken during the main study. The pilot study was conducted at Enjongweni Co-Op in Motherwell, Nelson Mandela Bay Metro (Port Elizabeth). The researcher informed the co-op beneficiaries of the study objectives and asked them to participate. The outcome of this initial research interaction then led to slight modifications to the questionnaire and the addition of more questions to better serve its purpose.
Before the study commenced, the researcher visited the Mount Frere branch of the Department of Rural Development and Agrarian Reform (DRDAR) in 2013 to consult with its officials regarding the crop production projects that exist in the Umzimvubu Local Municipality area. (The involvement of the DRDAR will become clearer further in the study.) After a broad overview of the projects had been obtained, the researcher could decide on the research methodology, taking into account the practical limitations to the study.

3.6.3 Focus group discussions

There were 18 focus groups, comprising approximately 170 participants in total, and each group discussion 10 to 15 participants. The focus groups were used to solicit information from participants such as their views, perceptions and concerns in a way that other research methods may not be able to do. The researcher worked with groups that were already in existence – which has the advantage that participants can relate to each other's comments and can build on each other's answers. The focus group discussions involved interaction with the researcher on pertinent issues relating to the crop projects, but within a non-threatening environment. The results of the interaction were collected as data and analysed using the conventional content analysis method.
3.7 SAMPLING STRATEGY

3.7.1 Sample size

This research concept refers to the number of people needed in a study sample. Sample size, as well as appropriate sampling strategies, are dependent on the nature of the research and the shape and form of the data to be collected. The best procedure is to consider the aims and objectives of the research, the limitations of the research population and the type of data intended for collection (O’Leary 2004:104). When working with qualitative data in order to understand populations, representativeness is not a priority -- the objective is to gain a thorough understanding that may come from a few rather than the many. When collecting quantitative data, on the other hand, it is common knowledge that obtaining as large a sample as possible is the ultimate goal within the limitations of time and expense. The logic is that the larger the size, the more representative it is and therefore generalizable (O’Leary 2004:104). When working with data from both research paradigms, the nature of collecting qualitative data will limit the sample size (O’Leary 2004:105). The research sample size was not large due to the limitations imposed by the qualitative method regarding data collection and the difficulty of analysing large amounts of qualitative data. The sample size was adequate for representativeness -- which is a requirement for the quantitative approach.
3.7.2 Sampling strategy

Among the numerous alternatives to undertake sampling, there are two notable strategies: randomly selected samples and strategically non-randomly selected samples (O’Leary 2004:106). Random sampling -- according to O’Leary (2004:106) -- relies on random selection and each element in a population has a fair chance of selection. This process eliminates researcher bias and allows for statistical estimations of representativeness. Non-random sampling is generally used by researchers involved in studies that are not aimed at representativeness or generalizability. The sample could be selected for other defined purposes (O’Leary 2004:109).

Handpicked sampling -- also known as purposive or theoretical sampling -- was selected for the current study as it involves the selection of a sample with a specific objective in mind (O’Leary 2004:110). This selection process involved selecting projects that meet a particular criteria. A list of 31 existing crop production projects was obtained from the Mount Frere branch of the Department of Rural Development and Agrarian Reform (DRDAR). From the list, 18 crop production projects, representing 18 different villages in the Umzimvubu Local Municipality, were selected. Beneficiaries of these projects formed the research participants -- with 10 to 15 beneficiaries participating in each respective focus group Interview.
3.7.3 Target population

According to O'Leary (2004:103), the initial step in population representation is being able to name the population. Populations are commonly made up of individuals, but that may differ according to the research question – for instance, the unit of analysis may be households or organisations, and so forth. When the population has been named, further defining characteristics are considered – such as the geographic limitation or range. The study sample was made up of 18 crop production projects in the Umzimvubu Local Municipality as the population target for focus groups. Umzimvubu Local Municipality formed the geographic range.

3.8 VALIDITY

According to Leedy & Ormrod (2005:97), validity refers to the accurateness, meaningfulness and credibility of the research project as a whole. Leedy & Ormrod (2005:97) further state that the validity of a study is obtained when the following two questions can be answered.

- Does the study have enough controls to ensure that the conclusions to be drawn are truly warranted by the data?
- Can the observations made in the research situation be used to make generalizations about the world beyond the specific situation?
When these questions are answered affirmatively, they address the issues of internal and external validity. Internal validity -- according to Leedy & Ormrod (2005:97) -- is the extent to which the research design and the data it yields allow the researcher to draw accurate conclusions about cause and effect and other relationships within the data. External validity of a research study (as discussed by Leedy & Ormrod, 2005:97) is the extent to which its results apply to situations beyond the study itself -- the extent to which the conclusions drawn can be generalized to other contexts. To ensure external validity of a research study, precautions need to be taken to eliminate other possible explanations for the results observed (Leedy & Ormrod, 2005: 98). To achieve external validity, participants need to be a representative sample of the population in order for the researcher to draw valid conclusions. The research participants in the current study were indeed a representative sample in order for the research to be valid externally.
3.9 RELIABILITY

According to O'Leary (2004:59), reliability is the extent to which a measure, procedure or instrument gives the same result when repeated. O'Leary (2004:59) further states that reliability is based on the understanding that what is being measured is standard and uniform and that methods need to be consistent in capturing what is being explored. Leedy & Ormrod (2005:29) are of the view that reliability is a necessary but insufficient condition for validity. Both validity and reliability reflect the extent of possibility that there may be error in the researcher’s measurements. In numerous situations when measuring insubstantial phenomena, a measuring instrument allows indirect measuring of characteristics and so could be subject to a variety of biasing factors. In such cases, error is due to imperfect validity of the measuring instrument. Even when measuring substantial phenomena, slightly different measures could be read from time to time, because the measuring tool is not accurate; in such cases, there is error due to the imperfect reliability of the measure. Therefore, validity errors reflecting bias in the instrument itself are relatively constant sources of error. On the other hand, reliability errors reflect use of the instrument and are apt to vary unpredictably from one occasion to the next (Leedy & Ormrod, 2005:29).
3.10 ETHICS

Application for ethics approval was submitted to the university and permission was granted to proceed with the research. Sutrisna (2007:56) explains ethics as the conduct of the researcher in relation to the rights of the respondents. Since the study was using human subjects as the focus of investigation, ethical implications had to be considered. A gatekeeper to the participants was obtained from the DRDAR branch manager of Mount Frere for access to the crop production projects and its beneficiaries, who were the research participants. A consent letter was given to the researcher from the Department of Agriculture and Game Management of the Nelson Mandela Metropolitan University to present to the research participants before proceeding with each focus group interview. O'Leary (2004:51) states that due to the fact that the aim of research is to generate new knowledge, it must therefore be approached with integrity and rigour. Close care was taken that participants were protected from harm, had given informed consent and their right to privacy upheld; on the part of the researcher, honesty with professional colleagues was observed, as advised by Leedy & Ormrod (2005:101-102) and O'Leary (2004:51).

Below, the ethical considerations most applicable to this study are briefly discussed.

3.10.1 Voluntary participation

Participation was voluntary for all participants in the study, and participants were informed that they could withdraw from the study at any time. This was communicated to the participants in isi-Xhosa prior to the interviews.
3.10.2 Informed consent

The participants were informed about the aims of the research and their role within the study. After being given the necessary information about the study, they were given the option to participate in the study.

3.11 DATA ANALYSIS

“Data analysis is the process of systematically applying statistical and logical techniques to describe and illustrate, condense and recap, and evaluate data.” (Office of Research Integrity, 2005). In quantitative research, the research concepts form the variables -- and this is described as operationalism (Office of research integrity. 2005).

Abstract concepts are defined by introducing operational variables called data indicators (Punch, 2014:74). The quantitative part of the questionnaire -- Section A -- was coded by the researcher by giving each answer a numerical value. This was done on an Excel spread sheet in order to simplify the statistical analysis of the data.

One-way frequency tables were used for each category of variables to calculate the frequency and percentage responses in each category. Two-way cross tabulations were used to analyse the relationship or comparison between two categorical variables. This was also used to draw comparisons between the responses of different focus groups on each categorised variable. A Chi-square test was also done to test whether the relationship or differences between the focus groups were statistically significant. Cramer's V was used to indicate the practical significance of a finding.
The qualitative data analysis entailed labelling and coding the data in order to recognise the similarities, differences and themes. In qualitative research there is no pre-coding system; therefore, a method for coding and identifying themes must be developed. This procedure is generally referred to as content analysis. The qualitative data from the focus groups were analysed using the conventional content analysis method, then coded and relevant themes identified.

3.12 CONCLUSION

This chapter described the research methodology that the researcher applied and the data analysis methods employed in the study. The area of research was also depicted in detail. The next chapter will present the findings from the data collected and analysed.
CHAPTER 4
RESULTS AND DISCUSSION:
UMZIMVUBU CROP PRODUCTION PROJECTS

4.1 INTRODUCTION
The previous chapter discussed the research methodology that was used in conducting this study. The purpose of this chapter is to present the findings and to gain a greater understanding of the crop production projects in the rural Umzimvubu district. This chapter also serves to present the results from the questionnaires and analyses of the data gathered from the focus group discussions.

4.2 QUESTIONNAIRE FINDINGS
The questionnaire was used to solicit quantitative data from the participants, such as demographic and biographic information. The study results were presented using percentages and frequency counts. The research data was collected from a sample of 163 farmers from 18 crop production projects in the Umzimvubu district using questionnaires and focus group discussions (N=163).
4.2.1. Socio-economic characteristics of participants

The study showed that 53 per cent of the participant farmers were above the age of 61 years old in the projects (Table 4.1). It was observed by the researcher that during focus group meetings, the participants were made up of mainly the elderly. This confirmed findings that youth are less interested in agricultural projects in the area.

Table 4.1: Age group distribution of farmers per crop project

<table>
<thead>
<tr>
<th>Project number</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18-30 yrs</td>
<td>31-40 yrs</td>
<td>41-50 yrs</td>
<td>51-60 yrs</td>
<td>61+ yrs</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Count (Row %)</td>
<td>3(20.0%)</td>
<td>1(6.6%)</td>
<td>3(20.0%)</td>
<td>1(6.6%)</td>
<td>7(46.6%)</td>
</tr>
<tr>
<td>2</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>2(20.0%)</td>
<td>220.0%</td>
<td>6(60.0%)</td>
</tr>
<tr>
<td>3</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>7(70.0%)</td>
<td>3(30.0%)</td>
</tr>
<tr>
<td>4</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>1(11.1%)</td>
<td>2(22.2%)</td>
<td>4(44.4%)</td>
<td>2(22.2%)</td>
</tr>
<tr>
<td>5</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>1(10.0%)</td>
<td>1(10.0%)</td>
<td>8(80.0%)</td>
</tr>
<tr>
<td>6</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>4(50.0%)</td>
<td>0(0.0%)</td>
<td>4(50.0%)</td>
</tr>
<tr>
<td>7</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>2(16.6%)</td>
<td>5(41.6%)</td>
<td>5(41.6%)</td>
</tr>
<tr>
<td>8</td>
<td>Count (Row %)</td>
<td>1(6.2%)</td>
<td>2(12.5%)</td>
<td>1(6.2%)</td>
<td>5(31.2%)</td>
<td>7(43.7)</td>
</tr>
<tr>
<td>9</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>1(11.1%)</td>
<td>0(0.0%)</td>
<td>8(88.8%)</td>
</tr>
<tr>
<td>10</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>1(14.2%)</td>
<td>6(85.7%)</td>
</tr>
<tr>
<td>11</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>1(25.0%)</td>
<td>2(50.0%)</td>
<td>1(25.0%)</td>
</tr>
<tr>
<td>12</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>5(50.0%)</td>
<td>5(50.0%)</td>
</tr>
<tr>
<td>13</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>1(12.5%)</td>
<td>0(0.0%)</td>
<td>3(37.5%)</td>
<td>4(50.0%)</td>
</tr>
<tr>
<td>14</td>
<td>Count (Row %)</td>
<td>1(50.0%)</td>
<td>1(50.0%)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
</tr>
<tr>
<td>15</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>2(28.5%)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>5(71.4%)</td>
</tr>
<tr>
<td>16</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>2(40.0%)</td>
<td>3(60.0%)</td>
<td>0(0.0%)</td>
</tr>
<tr>
<td>17</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>3(42.8%)</td>
<td>4(57.1%)</td>
</tr>
<tr>
<td>18</td>
<td>Count (Row %)</td>
<td>0(0.0%)</td>
<td>0(0.0%)</td>
<td>1(7.14%)</td>
<td>1(7.1%)</td>
<td>12(85.7%)</td>
</tr>
<tr>
<td>All grps</td>
<td>Count</td>
<td>5</td>
<td>8</td>
<td>20</td>
<td>43</td>
<td>87</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)
Table 4.2 shows the overall age groups for the entire research sample, again this confirms that the elderly are the majority of the participants. This highlights lack of engagement from the youth and indicates lack of interest from the youth in the area.

**Table 4.2: Age group distribution of farmers**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30 years</td>
<td>5</td>
<td>3.1</td>
</tr>
<tr>
<td>31-40 years</td>
<td>8</td>
<td>4.9</td>
</tr>
<tr>
<td>41-50 years</td>
<td>20</td>
<td>12.3</td>
</tr>
<tr>
<td>51-60 years</td>
<td>43</td>
<td>26.4</td>
</tr>
<tr>
<td>61+ years</td>
<td>87</td>
<td>53.4</td>
</tr>
<tr>
<td>Total</td>
<td>163</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)
Table 4.3 shows that the average age of participants for all the crop projects was 57 years. According to Ayoola et al. (2011), age can have a negative impact on farming and production, implying that the older the farmers, the less vigour and energy they have for farming.

Table 4.3: Average age distribution of farmers per crop project

<table>
<thead>
<tr>
<th>Project number</th>
<th>Age: Means</th>
<th>Age: N</th>
<th>Age: Std.Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50.53</td>
<td>15</td>
<td>16.92</td>
</tr>
<tr>
<td>2</td>
<td>59.50</td>
<td>10</td>
<td>8.43</td>
</tr>
<tr>
<td>3</td>
<td>58.50</td>
<td>10</td>
<td>4.83</td>
</tr>
<tr>
<td>4</td>
<td>53.28</td>
<td>9</td>
<td>9.72</td>
</tr>
<tr>
<td>5</td>
<td>62.50</td>
<td>10</td>
<td>6.75</td>
</tr>
<tr>
<td>6</td>
<td>55.50</td>
<td>8</td>
<td>10.69</td>
</tr>
<tr>
<td>7</td>
<td>58.00</td>
<td>12</td>
<td>7.54</td>
</tr>
<tr>
<td>8</td>
<td>54.78</td>
<td>16</td>
<td>13.13</td>
</tr>
<tr>
<td>9</td>
<td>63.28</td>
<td>9</td>
<td>6.67</td>
</tr>
<tr>
<td>10</td>
<td>64.07</td>
<td>7</td>
<td>3.78</td>
</tr>
<tr>
<td>11</td>
<td>55.50</td>
<td>4</td>
<td>8.16</td>
</tr>
<tr>
<td>12</td>
<td>60.50</td>
<td>10</td>
<td>5.27</td>
</tr>
<tr>
<td>13</td>
<td>58.00</td>
<td>8</td>
<td>10.35</td>
</tr>
<tr>
<td>14</td>
<td>29.75</td>
<td>2</td>
<td>8.13</td>
</tr>
<tr>
<td>15</td>
<td>56.93</td>
<td>7</td>
<td>14.64</td>
</tr>
<tr>
<td>16</td>
<td>51.50</td>
<td>5</td>
<td>5.48</td>
</tr>
<tr>
<td>17</td>
<td>61.21</td>
<td>7</td>
<td>5.35</td>
</tr>
<tr>
<td>18</td>
<td>63.36</td>
<td>14</td>
<td>5.79</td>
</tr>
<tr>
<td>All grps</td>
<td>57.66</td>
<td>163</td>
<td>10.57</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)
Table 4.4 shows that the majority of farmers were male, which indicates that women played less of a role in farming activities. However, some women were “silent members”, meaning that they were involved but not registered with the crop project. The husbands were registered and employed in the mining industry while giving the wives proxy to attend meetings and participate in the crop project on their behalf.

Table 4.4: Gender distribution of farmers per project

<table>
<thead>
<tr>
<th>Project no.</th>
<th>Gender</th>
<th>Gender</th>
<th>Row</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male(Row%)</td>
<td>Female(Row%)</td>
<td>Totals</td>
</tr>
<tr>
<td>1</td>
<td>10 (66.67%)</td>
<td>5 (33.33%)</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>9 (90.00%)</td>
<td>1 (10.00%)</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>6 (60.00%)</td>
<td>4 (40.00%)</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>4 (44.44%)</td>
<td>5 (55.56%)</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>8 (80.00%)</td>
<td>2 (20.00%)</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>6 (75.00%)</td>
<td>2 (25.00%)</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>8 (66.67%)</td>
<td>4 (33.33%)</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>7 (43.75%)</td>
<td>9 (56.25%)</td>
<td>16</td>
</tr>
<tr>
<td>9</td>
<td>6 (66.67%)</td>
<td>3 (33.33%)</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>3 (42.86%)</td>
<td>4 (57.14%)</td>
<td>7</td>
</tr>
<tr>
<td>11</td>
<td>2 (50.00%)</td>
<td>2 (50.00%)</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>6 (60.00%)</td>
<td>4 (40.00%)</td>
<td>10</td>
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<td>13</td>
<td>7 (87.50%)</td>
<td>1 (12.50%)</td>
<td>8</td>
</tr>
<tr>
<td>14</td>
<td>2 (100.00%)</td>
<td>0 (0.00%)</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>5 (71.43%)</td>
<td>2 (28.57%)</td>
<td>7</td>
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<td>16</td>
<td>2 (40.00%)</td>
<td>3 (60.00%)</td>
<td>5</td>
</tr>
<tr>
<td>17</td>
<td>2 (28.57%)</td>
<td>5 (71.43%)</td>
<td>7</td>
</tr>
<tr>
<td>18</td>
<td>7 (50.00%)</td>
<td>7 (50.00%)</td>
<td>14</td>
</tr>
<tr>
<td>Totals</td>
<td>100</td>
<td>63</td>
<td>163</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)
Table 4.5: Overall gender distribution of farmers

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>100</td>
<td>61.3</td>
</tr>
<tr>
<td>Female</td>
<td>63</td>
<td>38.7</td>
</tr>
<tr>
<td>Total</td>
<td>163</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)

Table 4.6 indicates the age distribution of farmers across all crop projects. This table shows that women who are in their prime productive years (20-40 years) were least involved in the crop projects. Ayoola et al. (2001) views this situation as an indication that marital responsibilities associated with cultural seclusions take priority. The multiple roles of family and domestic activities imposed on women's time hinder their involvement in farming activities. The older women that are past their reproductive years are more involved in the crop projects as some are pensioners who want to stay active.

Table 4.6 Farmers’ age by gender distribution

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
<th>Row</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18-30 yrs</td>
<td>31-40 yrs</td>
<td>41-50 yrs</td>
<td>51-60 yrs</td>
<td>61+ yrs</td>
<td>Totals</td>
</tr>
<tr>
<td>Male</td>
<td>5</td>
<td>4</td>
<td>8</td>
<td>22</td>
<td>61</td>
<td>100</td>
</tr>
<tr>
<td>Row %</td>
<td>5.00%</td>
<td>4.00%</td>
<td>8.00%</td>
<td>22.00%</td>
<td>61.00%</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0</td>
<td>4</td>
<td>12</td>
<td>21</td>
<td>26</td>
<td>63</td>
</tr>
<tr>
<td>Row %</td>
<td>0.00%</td>
<td>6.35%</td>
<td>19.05%</td>
<td>33.33%</td>
<td>41.27%</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>5</td>
<td>8</td>
<td>20</td>
<td>43</td>
<td>87</td>
<td>163</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)
Table 4.7 shows that all the farmers in the area were black and affirms government demographic statistics for the area (99.8 per cent Black Africans).

### Table 4.7 Racial distribution of farmers

<table>
<thead>
<tr>
<th>Race</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>163</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)

Table 4.8 shows that majority of the farmers in the sample were married, due to the majority of the participants being elderly and culturally inclined into marriage and so do not believe in divorce or separation.

### Table 4.8 Marital status of farmers

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>138</td>
<td>84.7</td>
</tr>
<tr>
<td>Divorced</td>
<td>4</td>
<td>2.5</td>
</tr>
<tr>
<td>Single</td>
<td>11</td>
<td>6.7</td>
</tr>
<tr>
<td>Widow</td>
<td>9</td>
<td>5.5</td>
</tr>
<tr>
<td>Separated</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>Total</td>
<td>163</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)

Table 4.9 shows that the majority of the households had an average of between 5-8 people per household. The large household size could be attributed to the fact that in most rural households the elderly have to look after their grandchildren, whose parents are working in distant urban areas.

### Table 4.9 Farmers’ household size

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 4</td>
<td>45</td>
<td>27.6</td>
</tr>
<tr>
<td>5 to 8</td>
<td>84</td>
<td>51.5</td>
</tr>
<tr>
<td>9 to 12</td>
<td>26</td>
<td>16.0</td>
</tr>
<tr>
<td>13 to 15</td>
<td>8</td>
<td>4.9</td>
</tr>
<tr>
<td>Total</td>
<td>163</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)
Table 4.10 indicates that the majority of the participant farmers (48, 5 per cent) in the study received primary education only – but also that a relatively high number of the participants also received secondary education.

Table 4.10 Educational levels of farmers per crop project

<table>
<thead>
<tr>
<th>Project no</th>
<th>Educ No formal education (Row %)</th>
<th>Educ Primary school (Row %)</th>
<th>Educ Secondary school (Row %)</th>
<th>Educ Tertiary qualification (Row %)</th>
<th>Educ College qualification (Row %)</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 (6.67%)</td>
<td>6 (40.00%)</td>
<td>8 (53.33%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>1 (10.00%)</td>
<td>7 (70.00%)</td>
<td>2 (20.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>1 (10.00%)</td>
<td>5 (50.00%)</td>
<td>4 (40.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>0 (0.00%)</td>
<td>6 (66.67%)</td>
<td>3 (33.33%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>0 (0.00%)</td>
<td>7 (70.00%)</td>
<td>2 (20.00%)</td>
<td>1 (10.00%)</td>
<td>0 (0.00%)</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>2 (25.00%)</td>
<td>5 (62.50%)</td>
<td>1 (12.50%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>5 (41.67%)</td>
<td>4 (33.33%)</td>
<td>3 (25.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>3 (18.75%)</td>
<td>8 (50.00%)</td>
<td>4 (25.00%)</td>
<td>0 (0.00%)</td>
<td>1 (6.25%)</td>
<td>16</td>
</tr>
<tr>
<td>9</td>
<td>1 (11.11%)</td>
<td>3 (33.33%)</td>
<td>2 (22.22%)</td>
<td>0 (0.00%)</td>
<td>3 (33.33%)</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>0 (0.00%)</td>
<td>2 (28.57%)</td>
<td>4 (57.14%)</td>
<td>0 (0.00%)</td>
<td>1 (14.29%)</td>
<td>7</td>
</tr>
<tr>
<td>11</td>
<td>1 (25.00%)</td>
<td>1 (25.00%)</td>
<td>1 (25.00%)</td>
<td>0 (0.00%)</td>
<td>1 (25.00%)</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>1 (10.00%)</td>
<td>6 (60.00%)</td>
<td>3 (30.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>10</td>
</tr>
<tr>
<td>13</td>
<td>0 (0.00%)</td>
<td>3 (37.50%)</td>
<td>4 (50.00%)</td>
<td>1 (12.50%)</td>
<td>0 (0.00%)</td>
<td>8</td>
</tr>
<tr>
<td>14</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>1 (50.00%)</td>
<td>0 (0.00%)</td>
<td>1 (50.00%)</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>1 (14.29%)</td>
<td>4 (57.14%)</td>
<td>2 (28.57%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>7</td>
</tr>
<tr>
<td>16</td>
<td>1 (20.00%)</td>
<td>2 (40.00%)</td>
<td>0 (0.00%)</td>
<td>2 (40.00%)</td>
<td>0 (0.00%)</td>
<td>5</td>
</tr>
<tr>
<td>17</td>
<td>0 (0.00%)</td>
<td>4 (57.14%)</td>
<td>3 (42.86%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>7</td>
</tr>
<tr>
<td>18</td>
<td>1 (7.14%)</td>
<td>6 (42.86%)</td>
<td>6 (42.86%)</td>
<td>1 (7.14%)</td>
<td>0 (0.00%)</td>
<td>14</td>
</tr>
<tr>
<td>Totals</td>
<td>19 (11.7%)</td>
<td>79 (48.5%)</td>
<td>53 (32.5%)</td>
<td>5 (3.1%)</td>
<td>7 (4.3%)</td>
<td>163 (100%)</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)
Table 4.11 shows that most of the participants (77.9 per cent) were dependent on social grants. This may be because farming income is not sufficient to alleviate personal financial shortages. The majority of the participants are pensioners on old age grants and the elderly receive child grants for caring for grandchildren.

Table 4.11 External financial support in form of grants

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>127</td>
<td>77.9</td>
</tr>
<tr>
<td>No</td>
<td>36</td>
<td>22.1</td>
</tr>
<tr>
<td>Total</td>
<td>163</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)
4.3 FINDINGS FROM FOCUS GROUPS

The following are the finding from the main topics discussed in the focus group discussions. Table 4.12 shows the participant groups and the number of extension officers present at each group discussion.

Table 4.12. Focus group participants per project

<table>
<thead>
<tr>
<th>Projects</th>
<th>Farmers</th>
<th>Ext. officers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lutateni</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Colana</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Lwandlana</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Qhankqu</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Esseck</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Gwebindlala</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Mlinganiso</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Nqalweni</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>Ngwethseni</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Ntlabeni</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Matyeni</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Mfesane</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Masakhane</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Mpuhle</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Cancelle</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Mayibuye</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Ntonyana</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Mpumelelo</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total partic.</strong></td>
<td><strong>163</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)
4.3.1 Evolving theme: Background to food security projects in the Eastern Cape

As a solution to the drastic decline in agricultural production in the Eastern Cape, the provincial government introduced development programmes to re-agrarianise the former Transkei homelands. In 2003, the government introduced the Massive Food Production Programme (MFPP), followed by the Accelerated and Shared Growth Initiative in South Africa (AsgiSA).

Upon failure of these two programmes, the Department of Agriculture then introduced the new cropping scheme that is currently in operation. All these interventions have been based on the assumption that the decline in agricultural production occurred because of lack of modern techniques and knowledge amongst the farmers in the area, but what became most evident was the fact that capital plays a major role in agriculture (Mtero, 2012:4).
Table 4.13 shows the sequence of the cropping schemes introduced and the projects that participated in each cropping scheme.

### Table 4.13: Cropping schemes sequence

<table>
<thead>
<tr>
<th>Project name</th>
<th>MFFP</th>
<th>AsgiSA</th>
<th>Municipality</th>
<th>DOA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lutateni</td>
<td>1</td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Colana</td>
<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Lwandlana</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Qhankqu</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Esseck</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Gwebindlala</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Mlinganiso</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nqalweni</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ngwetsheni</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ntlabeni</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Matyeni</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Mfesane</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Masakhane</td>
<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Mpuhle</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Cancele</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Mayibuye</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ntonyana</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Mpumelelo</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>18</td>
<td>23</td>
</tr>
</tbody>
</table>

Source: Questionnaire data (2015)
4.3.2 Evolving theme: Financial project planning and scheduling

In the majority of the projects planning does occur. A well-planned structure for any business determines its marketability and sustainability (Miller, Besser and Weber, 2010:253). Farmers indicated that planning is the most important part of the project, as the farmers’ contribution money has to be collected and paid to the Department of Agriculture on time in preparation for each cropping season. In some projects, the required financial contribution was a challenging issue, people could not pay on time or could not afford to pay the full amount and this then led to people being excluded from the production season. Unemployment and some receiving small pensions and social grants aggravated this situation. The participant farmers indicated that the contractors hired by the DOA to plough and plant were partly responsible for delays - and these delays are costly in terms of production, because the timing of planting in agriculture is critical.

4.3.3 Evolving theme: Financial constraints

From the focus group discussions, it was evident that some beneficiaries are not satisfied with the financial support that they receive from the Department of Agriculture. It is a struggle for them to pay the full amount, especially for the coming cropping season, because the contribution amount has increased. The beneficiaries feel that both MFPP and AsgiSA were a better option as these schemes did not require a financial contribution from the beneficiaries, even though the returns were not tangible. Not seeing returns is also the case with the newly developed DOA cropping scheme, even though they contribute money to it. As was indicated, the beneficiaries are pensioners and depend on social grants for finance.
4.3.4 Evolving theme: Leadership and extension support

In the majority of the focus groups, leadership was generally regarded as acceptable. Only one out of the 18 projects had indicated unacceptable leadership. The projects continue to fail year after year, but the beneficiaries do not blame their project leadership. Farming SMMEs face extensive challenges, including lack of access to production inputs, credit, marketing information, value addition and value chains, as well as good business mentorship from their extension officers (Ortmann & King, 2007, as cited by Mbengwa et al., 2009:2). This may be because there is a predominant culture of not pointing fingers amongst the rural elderly -- especially not in the presence of the person (as applies here) to be blamed for possible factors causing failures of the project. This cultural tenet is practised to preserve harmony and is a sign of respect amongst villagers. It is more imperative for the men to observe this custom and, as is evident in the quantitative data, the majority of the beneficiaries are elderly men who were born in the respective villages. Having grown up amongst each other, they therefore must live together as a unit.

As regards agricultural advice and guidance, the beneficiaries indicated that the support from extension officers of the Department of Agriculture was excellent.

The beneficiaries feel that they have enough extension support due to the inherent nature and design of projects. The massive crop production scheme does not allow enough responsibility towards the beneficiaries. The contactors do all the required work such that extension officers do not have much responsibility as well. This then gives the beneficiaries a mind-set that extension officers are in abundance and adequately available to them.
Table 4.14 depicts the themes, key points and representative statements that were extracted from the qualitative data during analysis.

**Table 4.14 Evolving themes from focus group sessions**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Key points</th>
<th>Representative statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial project planning and scheduling for planting season</td>
<td>Collect money (contributions) and pay it to the Dept of Rural Development and Agrarian Reform (DRDAR) for planting season.</td>
<td>Farmer 1: &quot;We take time to plan, because we need to collect the money (contributions) and put it into our savings account; then, when it’s collected fully, we hand it over to DRDAR.&quot;</td>
</tr>
<tr>
<td></td>
<td>Contractors cause delays that affect production yields and are costly.</td>
<td>Farmer 2: “I would view it as good -- never mind the fact that the contractors are doing dissatisfactory work by not keeping to the time schedules and that affects our maize, but our planning as a project is good.&quot;</td>
</tr>
<tr>
<td></td>
<td>Keeping to scheduled plans financially helps farmers to plant on time</td>
<td>Farmer 3: &quot;The planning is good, as preparation for planting season is necessary financially.&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Farmer 4: “This year we’re satisfied with our planning; we planted on time as we had scheduled, unlike the previous year.&quot;</td>
</tr>
<tr>
<td>Financial constraints</td>
<td>There are concerns about financial limitations that restrain the participation of some members of the community. Adequate support financially would see the community planting all the fallow fields. Majority of rural inhabitants depend on social grants that are used on various financial needs within the family; this makes it difficult to raise the annual contribution money.</td>
<td>Farmer 5: “Not enough. Especially with the contribution money hindrance; people have not warmed up to the idea, and the harvest will be enough for the whole Lutateni community. There is lots of land lying fallow and if we would be assisted financially, we would plant that land.” Farmer 6: “The financial support is too small, if we could be assisted we would plant more.” Farmer 7: ‘We do get assistance, but it’s not enough, because we do not have (it) ourselves, to fork out R1 800 -- that is very difficult.” Farmer 8: “Not enough; we face lots of challenges, including financial challenges.”</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extension officers provide</td>
</tr>
</tbody>
</table>
| Leadership and extension support | proper and satisfactory service and guidance to the projects. Leadership works closely with the extension officers for advice and help, even though project beneficiaries may be uncooperative. | Farmer 9: “They (the extension officers) come immediately when there is a problem. We have our own officer assigned to us and we call him whenever we have a problem and he responds immediately.”

Farmer 10: “We have great support from our officer.”

Farmer 11: “It (Leadership) is not bad; we look to the extension officers for advice and help.”

Farmer 12: “The leadership is very good; we haven’t had problems yet.”

Farmer 13: “The leadership is under strain because the members are not cooperative; sometimes they don’t adhere to the rules of the project and attend meetings when they want to or come very late to meetings.”

Each community is responsible for its own project; |
| Driving force behind projects | Financial contributions | Farmer 14: “The community, because we must contribute money to show interest.”
Farmer 15: “The community with their monies are the driving force behind the project, because without their contributions, the government would not meet us halfway.”
Farmer 16: “Community driven; we grew up with agriculture, so we are more inclined to it, but we just lack financially and the Government subsidises us to plant.”
Farmer 17: “The community -- the government meets us halfway.” |
|-----------------------------|-------------------------|--------------------------------------------------------------------------------|
| From the department are received only when the community has contributed first. Project beneficiaries were raised in subsistence farming communities, therefore they are well acquainted with maize farming. | Receiving government subsidy is important, as projects are | Farmer 18: “Yes, we (are) depend-
<table>
<thead>
<tr>
<th>Project level of independence</th>
<th>not able to afford production costs; even with that they are not satisfied with the Government subsidy. Getting Implements from the government would help projects become independent. Production inputs are received from the government.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A level of food security has been established</td>
<td>Farmer 23: “The project helped us as it reduced poverty of the people</td>
</tr>
</tbody>
</table>

Farmer 19: “We wouldn’t be able to do everything ourselves -- even though we are not satisfied with their help. We want to reach a level where we can sell our produce.”

Farmer 20: “We wouldn’t be able to, but we would if the government would give us implements (and) then hire people to operate them, but since the government cannot give us, we cannot.”

Farmer 21: “Without support we wouldn’t be able to survive.”

Farmer 22: “We (are) dependent on seeds from Dept of Agriculture.”
| Food security & rural development | Projects have been helpful to both humans and livestock.  
A certain level of rural development has been reached in communities  
Social and communal coercion has been reinforced with the presence of the projects.  
Some degree of Food security and active lifestyles have been established.  
The projects have not reached a level where they can generate constant monthly remuneration; benefits are derived when the maize is divided amongst beneficiaries after harvest season. | and livestock.”  
Farmer 24: "In terms of agriculture the project helped a lot during AsgiSA times, for people and livestock. After harvesting, the Stover (Leaves and stalks of maize left in the field after harvest) would be very helpful to our livestock.”  
Farmer 25: “The community has changed -- vegetable and maize are available close by and hunger levels have dropped."  
Farmer 26: “The community has changed a little as we can share the maize we have with others who cannot afford the contribution fee.”  
Farmer 27: "Yes, the community has changed – before, people were hungry and now maize is grown in the community to feed families”  
Farmer 28: "No payment."  
Farmer 29: "We don't get monthly income."  
Farmer 30: “No, we don't get paid.” |
Source: Questionnaire data (2015)

4.3.5 Evolving theme: Driving force behind projects

During the focus group meetings, the researcher observed that the majority of the projects are community-driven and not by the Department of Agriculture. The Department of Agriculture only meets project participants halfway. If they do not have the contribution money, they are not helped. The projects evidently do not produce high enough yields year after year, but the beneficiaries do not give up hoping for a better harvest the following season. The project participants are resilient, pick up again after failure and finance their project. They are an example of the IFSS policy statement that “the food-insecure should be made agents of their own development”. (IFSS, 2002:6-7, as cited by Mwale et al, 2012:3)

4.3.6 Evolving theme: Project level of independence

According to the focus group discussions, the majority of the projects are dependent on the Department of Agriculture to provide all production inputs and mechanisation services, as the project participants cannot afford the overall production costs. Only two of the 18 projects sampled in the study are able to sustain themselves without the help of the Department of Agriculture. These two projects have been operational independently before the Department of Agriculture started the cropping projects within Umzimvubu.
If the Department of Agriculture were to cease its support, the projects would cease operation. Their harvest yields are sometimes too low to consider selling the maize. The maize is also of too poor quality for formal markets. Therefore, if there is a surplus, it is then sold to the community. As was stated earlier, the Department of Agriculture estimated that production costs amount to R5 000 per hectare and the beneficiaries only contribute R2 577 per hectare. All these factors then raise questions about the independence and sustainability of the projects. It became evident that the beneficiaries do feel disempowered, as they are not involved in the decision-making process, and some are not knowledgeable about the processes of the cropping scheme, which indicates that it was not properly explained to them. They explain further that they were summoned to an “imbizo” (a meeting called by the Chief) and they were briefly informed that the government is bringing another cropping scheme to the village. In the case of those projects that were involved with MFPP and AsgiSA, it made sense; it was a new endeavour for those villages that were not part of MFPP and AsgiSA cropping schemes. The researcher observed that projects that were involved with MFPP and AsgiSA have been running for 10 or more years -- the MFPP was established in 2003 and ceased in the year 2007, when AsgiSA took over until 2011.
In all these cropping schemes, it was observed that contractor service providers mandated by the Department of Agriculture undertake every activity; beneficiaries have no responsibilities. There are no tangible profits, season after season. This then leads to a situation where there are no savings put aside for the projects to help in acquiring implements, rainwater harvesting systems, irrigation schemes or production inputs for the following season. The projects are entirely dependent on the Department of Agriculture and are therefore unsustainable.

Sustainability of the projects will be achieved if the beneficiaries continue to benefit from the project even after the various stakeholders have stopped supporting the project members. (Mwale et al., 2012:4). Of the 18 projects, only two that recently joined the Department of Agriculture cropping scheme indicated high levels of independence, as they have been operational for years without external support and have their own implements. This then means that, of 18 projects, 16 are unsustainable and rely heavily on continued financial support from the government.
4.3.7 Evolving theme: Food security and rural development

Food security was an important point of discussion during the focus groups meetings. Food security is described as the ability of rural households to have adequate access to a constant food supply to lead healthy lives. Food security in Umzimvubu has been established to a minimal extent because, in spite of the fact that there is no surplus to sell after harvest, the beneficiaries’ households do benefit. Food security programmes are supposed to lead to creation of employment, availability of food and justification of the investment made (Pretty et al., 2003:217, as cited by Mwale et al., 2012:3).

Green mealies are used for household consumption months before the maize dries out and is harvested. Yellow maize is used by the cropping schemes and is the preferred choice of maize for rural livelihoods. Green mealies are eaten from the cob and are turned into other forms to be eaten as well. This practice is the traditional way of life of the rural agricultural communities in Umzimvubu, now under the cropping schemes beneficiaries are forced to wait for the maize to dry before they can access it. When the maize dries up, it is then harvested and ground into homemade mealy meal and homemade samp. Some of the produce is subsequently also fed to livestock. The maize is also shared with households that cannot afford to be part of the projects as per the culture of “ubuntu”. Therefore, food security has not been reached yet. The villagers do not all have sufficient access to finance to contribute towards the project so that all livelihoods in each village could benefit from the cropping scheme.

Rural development was explained earlier in terms of efforts to raise the agricultural level of awareness and living conditions of Umzimvubu’s rural population through improved crop production projects. As observed by the researcher during the focus
group discussions, rural development in Umzimvubu is at its preliminary stage, as the operations of the rural agricultural sector are not sustainable.

The products, productivity, marketability and sustainability of a project are key when assessing their potential to address income and poverty reduction concerns of the beneficiary communities (Pretty et al., 2003:217, as cited in Mwale et al., 2012:3). The output or yield does not increase due to, amongst other factors, adverse climatic conditions. These conditions are aggravated by the lack of irrigation infrastructure and electricity in low rainfall seasons. The majority of the villages in Umzimvubu still live in conditions where there is no electricity, running water and access roads. Apart from all the challenges faced by the projects, interest in agriculture has been initiated in the villages.

4.3.8 Evolving theme: Importance of maize in rural livelihoods

The majority of the projects mainly plant maize. Only two of the 18 projects have incorporated vegetables into their project. As was stated earlier, the production rate of maize in the Eastern Cape is lower than the consumption rate; this was therefore the driving force behind the Provincial Development Plan to initiate cropping schemes. Maize has been the staple food for generations and has many uses within the household. Maize is also used as feed for livestock and chickens.

According to traditional cultural practice in rural areas, green maize is used for household consumption long before it is harvested; therefore, by the time of harvest, a considerable amount of maize has been consumed. Moreover, intercropping is common practice culturally; maize is usually planted with beans and pumpkins. Now, with the new cropping programmes, all these traditional cultural practices are
overlooked and monocropping is the main practice and beneficiaries are expected to harvest maize in July, when it has completely dried out.
4.3.9 Evolving theme: Monthly remuneration

The focus group discussions revealed that the beneficiaries do not receive a monthly income. Each household therefore has to make ends meet with maize received from harvest and the monthly social grants throughout the year -- hence the maize is consumed from as early as February as green maize. After harvest, the maize is divided according to the number of beneficiaries. It is then consumed in other forms all year round until green mealies are available again. Sustainability of such community-based projects is partly underlined by community participation that must be tied directly to the ability of projects to generate sufficient and regular income for the beneficiaries if the project is to be run smoothly (Mansuri & Rao, 2004:1, cited in Mwale et al., 2012:4)

There is no control or time keeping of hours worked on the projects per participant. The elderly people cannot go to the fields because it can be far from their homes, therefore the younger and more physically able participants must check on the fields and put in many hours during planting and harvest seasons. Harvest season is the most challenging as the beneficiaries harvest by hand themselves. As the hours are not specified or recorded, there are sometimes “freeloaders” within the projects. However, when it comes to sharing the harvest, everyone receives an equal share; this was explained as promoting a culture of peace and quiet amongst the beneficiaries. All the beneficiaries of each project have known each other their entire lives; they have lived in the village ever since they were born. Therefore, to avoid conflict, if a person has contributed money, they must receive their full share. In one project, participants avoided this situation by allocating each beneficiary his/her own hectare to look after -- and if the person did not look after the maize well enough, the loss will be entirely theirs.
4.4 GENERAL DISCUSSION

After harvesting dry maize, beneficiaries each received their share to use as they saw fit. Some beneficiaries sold the produce to the community, but most of the maize was kept for household consumption throughout the year and as feed for livestock and chickens. The money made from selling the maize was insignificant and did not generate profit. Rural livelihoods have become accustomed to the culture of living from hand to mouth; selling the maize was not a priority for majority of the beneficiaries. The participants asserted that their forefathers planted, harvested and used the maize for household consumption and livestock feed only -- selling was never in their rural culture. They were born and raised in a rural subsistence culture that has been passed down from generation to generation. The projects are run on communal land, which is governed solely by the village Chief. He makes all decisions regarding land. Some projects are run on fields already belonging to the project members as they inherited the fields.

The beneficiaries had different reasons for joining projects. The majority indicated their need and concerns about food security in their respective villages and the high level of unemployment of their children (who mostly did not complete high school). Some members joined to play a part in the rural development of their villages. A minority of the beneficiaries joined their projects just to keep active. The following chapter will present the conclusion and recommendations.
CHAPTER 5
MAIN FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter highlights the findings arising from the study and, based on these outcomes conclusions were made, recommendations and interventions have been suggested. The main hypothesis of this study was that the rural development crop projects are not sustainable and effective without state support and that the projects cannot sustain themselves or the community they were intended to support.

The study was also conducted to determine the suitability of the projects to successfully carry out the purpose of enhancing food security and rural development in the study area. Thus, the research objective of the study was to assess the sustainability of the Umzimvubu crop producing projects in terms of:

1. Food security
2. Rural development
3. Sustaining economic viability
4. Promoting environmental stewardship
5. Encouraging efficiency of resource use
5.2 FOOD SECURITY

Food security is imperative to every human being to live an active and healthy lifestyle. The non-availability of food affects numerous aspects of the overall well-being of a person; when people are undernourished, it thwarts their development and independence. When food is available and accessible to rural communities, the degree of poverty is reduced.

To establish food security, the following requirements should be met:

- Food must be available at a cost that rural communities can afford.
- The food must be easily accessible.
- The food must be nutritious.
- Food should be available in sufficient quantity.

Findings of the current study indicated that 51 per cent of the rural households were relatively large (N=5-8). Household size also has an impact on food security because the food is not available adequately. The findings indicated that the larger households comprised of elderly people who depended on social grants as their primary source of income. These elderly then have to take care of and provide for their grandchildren, whose parents either worked in the distant urban areas or were unemployed and formed part of the household. The unemployed young adults depended on child support grants as a form of income. The little maize received from the projects also had to be shared between the household and livestock. Thus, the projects were still failing to secure sufficient food – and the monetary contribution made by the beneficiaries was not justified by the quantity of maize received after harvest.
This then reflects on the issue indicated by participants: that they used to cultivate their homestead gardens using less money than what they are required to pay in contribution towards the crop projects now and would obtain higher returns than they are receiving now. When planting their own gardens, they could intercrop and alternate their crops and use organic methods of cultivation. Now they obtain poor-quality maize despite having had to contribute large amounts of money to secure participation in the crop projects. The conclusion is then that the projects are neither cost-effective nor viable.

Maize is planted in a single season and for the rest of the year, the land lies fallow. The maize yielded by the projects is divided equally between the beneficiaries. How long the maize will last is dependent on the size of the household of each beneficiary. Slightly more than half of the beneficiaries in the study sample have large households. This then means that the larger households run out of maize faster than smaller households, given the fact of having to share the maize with livestock. Beneficiaries then have to travel to town to purchase maize for livestock and as food for themselves. The project beneficiaries further indicated that when they were cultivating their own crop gardens for their own use, they would consume some of the maize as green mealies long before the remaining maize has ripened and is harvested. Now, however, under the new cropping schemes, this traditional practice is not allowed. This further limits the accessibility of food throughout the year. The deduction is therefore that the food is not easily accessible and available to beneficiaries.
The main goal of food security interventions is that they improve access to productive resources and the communities be made agents of their own development. Furthermore, the projects are supposed to lead to the availability of adequate food and the justification of the investment made. In the case of the Umzimvubu crop projects, the findings showed that the projects are mainly dependent on constant state support to remain operational. The projects themselves do not have available capital to support the projects to remain operational. Thus, if the state would cease financing the cropping schemes, they would not continue. The findings indicated that the majority of participants are elderly pensioners who depend on social grants as their primary source of income and the remainder of the community involved are unemployed. From their inception, the cropping schemes have not had tangible benefits for the beneficiaries (besides a share in the maize yield). The cropping schemes alongside private agribusinesses are responsible for providing resources for development. Agricultural development schemes in Umzimvubu have only made use of agribusiness corporations and contractors from the surrounding cities, because the services and products these corporations and contractors offer are not available locally. These massive maize schemes -- despite their scale -- do not provide opportunities for local small businesses such as tractor owners to provide their services to plough and prepare the land the way they prefer it done. One of the main grievances voiced during focus group discussions was that the small local businesses are being marginalized, even though they belong to the same area and community that is being developed. Involvement of local contractors and businesses is an important contributor to localized economic development. The agencies administering the maize schemes are under pressure from the government
to meet the socio-economic needs of participant households and increasing South African agrarian capital.

Climate change and fluctuations in rainfall pose a further risk to the rural poor and their livelihoods. The cropping schemes are designed to be dry land cropping schemes, entirely dependent on rainfall. As the participants indicated in the focus group interviews, the projects are dependent on rainfall -- thus the inconsistency of rainfall patterns has proven detrimental to the field crops. The community also experienced recurring hailstorms that impeded the yield drastically. The increasing temperatures experienced at night also heighten the susceptibility of the crops to pests and diseases.

Statistics show that food availability has declined in Africa compared to other continents; thus investment in rural areas is imperative and should be a priority. During the researcher’s visits to the community, it was observed that a limited variety of alternative crops are grown. The lack of variety was of concern to the participants as they are accustomed to a culture of intercropping, where maize is often planted alongside crops such as beans and squash. Consequently, the research conclusion is affirmed that the maize schemes have not been able to contribute successfully to poverty alleviation, improve food security or promote localized economic development.

5.3 Rural development

When a proper level of rural development is reached, the quality of life of the people changes for the better. One of the major objectives leading the projects was to promote rural development. Consequently, the findings show that not much has been accomplished by the projects in terms of rural development. The productivity,
marketability and sustainability are key factors when assessing the projects’ potential in terms of poverty alleviation and rural development.

The research findings indicate that women between the ages of 18 and 35 were non-existent in participation in the projects and only five men in this age category. The absence of young women from participation in the projects could be attributed to the fact that they are of reproductive age and, according to tradition, they have to stay home and perform domestic duties -- leaving them no time to participate in other social activities. The limited number of young adults engaged in the projects indicates that the younger inhabitants youth are not involved in agricultural development initiatives. During the focus group discussions, the elderly participants indicated that the young adults see agriculture as a “backward” activity and would rather stay home instead of participating in the projects.

As the findings established, the majority of participants are elderly men (N=91) and women (N=59) who are dependent on social grants. The findings indicate further the majority of farmers in Umzimvubu are smallholder subsistence farmers. It cannot be over-emphasized that living standards and conditions in the rural areas have to be addressed links established between rural and urban areas to improve the availability of resources to rural communities. This matter is always covered in the Umzimvubu Developmental Plan (IDP), yet there are still villages that remain inaccessible due to the poor road network. Having no access to basic services directly affects the quality of life of rural communities.

Research by Neves and Du Toit (2013) on various rural parts of the Eastern Cape to investigate rural livelihoods in the new South Africa identified five fields that rural households exploit to sustain their livelihoods. These are “land-based endowments
and linkages to urban resources, various informal sector economic activities, receipt of state cash transfers, and the practices of social mutuality and reciprocity”. Some of the findings by Neves and Du Toit were apparent on the findings of the current study. For example, participants in the present research indicated that they were not dependent on farming as their main source of income -- thus alternative ways of sustaining their livelihoods was mandatory. Some receive remittances from family members employed in urban areas; others are involved in micro-trading and selling of livestock; others are dependent on social grants as a main source of income and also depend on social reciprocity – the cultural tenet practised in rural settings and known as “ubuntu”.

As was stated in the literature review of this study, some rural inhabitants have lost their employment in the urban industries and mines, due to the global economic meltdown, and the high mechanization used on farms, which reduces the labour force. This then leaves many rural people unemployed and being forced to return to their rural homes after experiencing the hardships of unemployment and high cost of city life. Upon return, they often use social grants as the primary resource for rebuilding or reviving their homesteads.

The researcher observed during the visits to the villages that there is no formal employment. Villagers depend primarily on social grants, with old-age grants and child support grants in the lead. Therefore, high levels of unemployment amongst the rural youth could pose as a further impediment to their participation in the cropping projects. In order to be a beneficiary in the project each, individual needs to contribute to the project financially. Therefore, financial constraints could be a factor contributing to the lack of participation of the younger members of the community.
5.4 Main reasons for economic development failure

Developmental interventions that address the marketability and sustainability of agricultural projects are critical, because these projects are meant to generate income generation and reduce poverty.

Factors influencing rural local economic benefits include the following:

- The culture and traditional practices of the beneficiaries were not thoroughly researched to establish the type of farming that would best suit the beneficiaries.
- When there is a surplus of maize to sell, smallholders have to compete with established commercial farms with bargaining power and economies of scale.
- The schemes expect the beneficiaries to work together and share equally despite possible trust issues that may exist.
- Beneficiaries are expected to share produce equally, despite some beneficiaries being “free-loaders”.

5.4.1 Driving force

The findings indicated that the communities are the main impetus behind their projects. The projects are not profitable, but the beneficiaries continue to contribute towards each cropping season, hoping that the following season will produce higher yields. The projects produced tangible benefits from their inception and the yields received have not justified the investment made by the beneficiaries annually. If the beneficiaries cannot afford the contribution fee, they are excluded from the project.
5.4.2 Leadership

Amidst the challenges faced by the projects, the beneficiaries do not blame their internal leadership. Each project has a leadership committee that is only responsible for money collection and liaising with the DoA offices on behalf of the beneficiaries. Blaming the local leadership for subsequent failure would be unfair due to the fact that the leadership has limited responsibility and say in the projects. All activities are undertaken by the contractors and participants do not have control over these activities or crops planted.

5.4.3 Independence

The projects’ level of independence is limited. Participants do not choose the crops they want to plant or how they want to cultivate their lands. During the focus group discussions, the beneficiaries indicated their dissatisfaction with the way the land is prepared. They voiced that the land is not prepared well enough for planting, which then raises weeds that compete with the crops and contributes to reduced yield. The beneficiaries further indicated that the land preparation and planting follow a set number of steps -- and if the soil is not yet ready for planting, the contractor does not repeat the steps to make sure that planting will take place in well-prepared soil. These complaints indicated that the contractors are only there for business and do not consider the quality of the service they are delivering. This then leads to the conclusion that the projects are fully dependent on the DoA and hired contractors.
5.4.4 Extension support

The projects have full access to extension support as each project has an extension officer assigned to it. During the focus group discussions, when asked about extension support, all the beneficiaries indicated that they were receiving adequate extension support.

5.5 Promoting environmental stewardship

In terms of soil quality, the Eastern Cape is one of the most degraded provinces in South Africa. Degraded soil is unproductive and it affects crop production -- and in rural areas, land is the primary source of livelihood. Major erosion of soils was observed in some of the villages visited by the researcher. This erosion occurs due to numerous challenges and actions. Mono-cropping is one of the factors that could be contributing to soil erosion at some of the projects.

The findings indicated that the beneficiaries were used to a culture of intercropping, which nurtures the soil. According to indigenous knowledge, by diversifying the crops, diseases are minimized; planting maize and beans together benefits the soil, as maize depletes nutrients from the soil and beans replenishes the soil.

As observed by the researcher, incorrect methods of ploughing over a period of years could be another factor contributing to the eroding of soils in the area. For many years, the soil preparation procedure for planting involved a tractor turning up the soil and exposing the subsoil, which then causes soil to be easily eroded by rainfall. This practice also causes soil nutrients to be washed away.
Thus, erosion is a factor affecting both food security and rural agriculture. With the ever-increasing rural population in Umzimvubu, there needs to be an increase in agricultural production to feed the people; without the soil this is impossible. Damage caused by soil erosion results in damage to crop production and ultimately curbs food security.

During the focus group discussions, participants referred to a fertilizer spillage in the fields during the time when the AsgiSA scheme was operational. When it rained, the fertilizer was washed away into the river. The river is the main source of water for the village as there is no running water. When it is contaminated, it is detrimental to both humans and livestock.

The village livestock, which also normally feeds on Stover (maize stalks and leaves left over from harvesting), ingested the fertilizer spilt in the fields and many cows and horses died due to toxic levels of the fertilizer. Permaculture was one of the approaches used traditionally by rural inhabitants to ensure environmental stewardship before the large-scale cropping schemes were introduced. Nothing was regarded as waste. Kraal manure was used as fertilizer, as rural livelihoods could not meet the cost of chemical fertilizers, and manure was used as a source of energy. This practice was efficient and organic, with no risk of toxins contaminating the soil.
5.6 Human resources

The villages have no water and electricity, infrastructure or production inputs. The projects’ main resources lay mainly in human resources. The findings indicated that the majority of the beneficiaries had a primary education, (N=48.5%), however, a third of the beneficiaries received secondary education, (N=32.5%). This then indicated that the beneficiaries have minimal prospects of obtaining formal employment. The conclusion is therefore that the beneficiaries should be trained in a more practical way so that they can continue farming for themselves and be in control of their own farming. They should be given the independence of choosing the crops they want to plant and be granted more responsibility towards their own farms.

Some of the reasons that lead to the projects’ failure, as observed by the researcher, include the following:

- There was a failure to recruit people with a real interest in agriculture.
- There is a high rate of unemployment in Umzimvubu, therefore people viewed the cropping scheme as a form of employment, and only a few had any interest in agriculture.
- Beneficiaries were not asked what type of farming they were interested in; a project was simply imposed to them.
The cropping schemes provide the projects with all production inputs. The responsibility levels of the participants are low. Maize is a seasonal crop and requires timeously inputs from outside for planting, which leaves the participants with virtually nothing to do. Their only responsibility is to be present and observe when the hired contractors plant the fields. The production inputs are provided and delivered to the projects by the Department of Agriculture. The procedures of the maize scheme leave the beneficiaries with no sense of ownership of the project. Some beneficiaries do not know what the procedure for planting entails and do not know how it is done and why it is done, because nothing is explained to them. All the participants know is that they have to contribute money in order to plant each season. As already mentioned, the money invested in the project by the participants is not justified by the return they receive. This then proves that resources were not used efficiently to secure the expected returns. The arable land is used to its maximum as the beneficiaries come together and combine their individual fields in order for the project to work properly; even those who do not own fields are accepted to join the projects and they are not marginalized.

Therefore, it is the researcher’s conclusion that projects fail because there was an initial inability to do a thorough feasibility analysis and selection of individual potential villages that can accommodate and work successfully with the cropping schemes. The beneficiaries should have been involved in the planning of the cropping scheme. They should have been given the opportunity to give consent on whether they are interested in farming or not, because it was evident that few where interested to participate in farming. The interested parties should have been given a chance to say which part of farming they are interested in; the DoA should not have assumed that everyone wants to farm maize.
In light of the fact that the DoA knows that the programme will be under dry land, they should have chosen a crop that will withstand dry land conditions thereby minimising the losses and risk to beneficiaries, every year these beneficiaries carry these losses as the maize harvest doesn’t amount to much but yet the contractors benefit the most from these programmes.
5.7 RECOMMENDATIONS

5.7.1 Market Integration

Markets are instilled with power relations; they are not neutral. According to Harriss-White and Heyer (2010:7), markets have a potential to work for the poor, but can also work against them or be irrelevant to them. During the focus group discussions, participants indicated that, to them, the formal market seems unfair as they do not make substantial money even if they do send their produce to the nearby market, because their maize is not of good quality. The market also requires maize on a larger scale than what the projects deliver. Furthermore, the market functions according to the South African Futures Exchange (SAFEX) price. Rural people do not understand the SAFEX rate and its function; therefore, they regard the formal market as irrelevant to them.

These large-scale investments are often portrayed as “win-win” solutions, with the expectation that agribusinesses will gain returns from their investments and at the same time optimize the welfare of the rural poor, such as in Umzimvubu. In reality, the social reproduction needs of the project beneficiaries are often superseded by the importance of the reproduction of the capital invested. As was the case with AsgiSA, the proceeds intended for the beneficiaries were inadequate, amounting to 10 per cent of the yield of maize. Inadequate to divide amongst the project beneficiaries, this scheme saw beneficiaries receiving 5 bags (50kg) of maize, which was supposed to feed the household till next harvest season. This can hardly be regarded as food security.
Thus, these schemes should not be portrayed as “win-win” solutions; strategies should be revised and appropriate power restructuring is necessary. This could be done at ground level between the villagers and state capitalist enterprises (cropping schemes), together with other powerful role players, to help support smallholder farmers, as is one of the main functions of cropping schemes.

5.7.2 Acknowledgement of diversity of rural households

The government did not consider that each of the communities having distinctive characteristics and requirements. Policy interventions are more effective if they deal with each intended beneficiary population as a unique entity. According to Mtero (2014:248), one of the recurring problems in policy interventions broadly, and particularly in the South African context, has been the failure to differentiate and quantify the so-called “target beneficiaries’. In the South African context, there is a common assumption that rural households are homogenous, omitting the fact that rural areas are heterogeneous and diverse and therefore require target-specific interventions. Rural households are not all the same, as observed by the researcher; there are a few well-to-do households within each community or village in the research sample. This rural elite does not experience much difficulty when contribution money is collected as they can afford it.

Thus, when designing the cropping schemes, those responsible should consider the diversity and differentiation that exists in the rural areas and acknowledge the fact that not every household will find it easy to contribute towards production costs of the project. Social differentiation remains evident in the rural areas, in spite of structural underdevelopment that was caused by historical dispossession.
This simply means that rural households in each village of Umzimvubu are not equally disadvantaged or socio-economically positioned. There is a vast difference in access to means of production such as land, labour draught power (cows, horses, donkeys), wages or income, etc. Development strategies often assume homogeneity and treat all rural households as a uniform and undifferentiated category. This is evident from the fact that the contribution fee for the project is the same for every beneficiary household, without a background financial check or affordability consideration. The majority of the beneficiaries are involved in the projects at levels that are only sufficient to meet household food needs. The less well-off households still need to share their maize with livestock Therefore, for these beneficiaries, social reproduction needs are the main reason for involvement in the projects.

During the focus group discussions, it was established that there are some beneficiaries who own tractors. These beneficiaries tend to offer mechanization services to their village locals. The local tractor owners should have been involved as opposed to resources being directed to established contractors from big cities.

The norm in the cropping schemes is such that resources are channelled to “classes of capital” (state bureaucrats, development consultants, contractors or mechanization service providers) outside of the local villages that are supposed to develop through the cropping scheme interventions.
5.7.3 Nurturing existing indigenous methods

It was evident through this study, policy interventions also tend to ignore indigenous knowledge. Cropping schemes tend to introduce new production activities and fail to acknowledge traditional practices and capacities. In new agricultural schemes, this is often associated with policy biases that favour large-scale, high-input forms of production as opposed to subsistence forms of agriculture. The focus group participants stated that the cropping schemes come with new ways of planting; though it is easy and less labour-intensive, it is new and unfamiliar to them. The beneficiaries are used to intercropping methods and incorporating more crops at planting, such as pumpkins and beans, in the same planter to grow together. Now the cropping scheme strictly plants maize. The beneficiaries were not comfortable with this style of cropping and feel their household needs should be considered as they also contribute towards the production costs.

5.7.4 Increased community participation and inclusivity in development

When massive agricultural schemes are being introduced to rural villages in the Eastern Cape, traditional leaders are used as the channel for introducing the schemes to their villages. The leaders call community gatherings (imbizo) to introduce the scheme. The power dynamics in the gatherings are often ignored. When the scheme has been accepted by the traditional leader or chief, it is not easy for ordinary villagers, especially women, to voice their concerns pertaining the scheme. Senior men and sub-headmen are mostly the vocal parties at community gatherings. The chief makes the final decisions on all issues pertaining to the village. The beneficiaries indicated that their opinions should be considered when the scheme is being introduced so as to avoid issues such as disparity about cultivation practises.
5.7.5 Training and empowerment of beneficiaries

Beneficiaries should be trained and this aspect should be mandatory on the part of the state. Food security interventions should be established where beneficiaries will be trained in practical agricultural technical and production techniques, marketing and marketing strategies. Policies should consider ways of including attractive incentives, education and promotions to encourage younger adults to participate in community projects. Such programmes should focus on youth development strategies. As was observed, the youth are not interested in agricultural projects – yet they are the vigorous ones that need to be at the forefront of running these cropping schemes.
5.8 FINAL DISCUSSION

In the world today, the disadvantaged position of smallholders, in relation to global and national agro-food chains, experiences the “reproduction squeeze”, as do small-scale farmers in areas such as Umzimvubu. Project failure occurs against the background of limited employment opportunities in the formal sector of the economy; aggravated by the fact that the majority of rural inhabitants do not have secondary education to allow for formal employment. Traditional employers, such as the mining industry, have also restructured due to the global economic meltdown and this resulted in the return of many men who were employed in the mines.

The majority of agricultural development policies are inclined to an agrarian structure based on large-scale agricultural production instead of small-scale production driven by rural households. At the forefront of the agricultural schemes are “state enterprises” for large-scale farming, such as AsgiSA, that play a significant role. The investment that was made by AsgiSA did not benefit the poor Umzimvubu locals -- instead, “classes of capital” (agribusiness, consultants and contractors) from outside Umzimvubu benefited more from the AsgiSA and MFPP maize schemes as they acquired profits from providing their products and services.
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