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The Role of the Dohne Agricultural Research Institute in Rural Agricultural Development in the Eastern Cape.

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DECLARATION:

In accordance with Rule G5.6.3, I hereby declare that the above-mentioned treatise/dissertation/thesis is my own work and that it has not previously been submitted for assessment to another University or for another qualification.

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ABSTRACT

The decline of sustainable farming in the past twenty years in the villages of Amahlathi Local Municipality in the Eastern Cape Province is a cause for concern as this has resulted in reduced food security and increased levels of poverty and unemployment in the villages. As this decline continues to escalate even to date, this study was intended to investigate the role that could be played by the Dohne Agricultural Research Institute in the reduction of poverty through sustainable agricultural activities in these villages.

Using a case study of Kubusi village in Amahlathi Local Municipality, data was gathered through interviewing farming and non-farming households as well as the extension officer for Kubusi village and Dohne officials in order to understand the reasons for and the nature of the decline in farming activities in the villages. The study was conducted against the background of sustainable livelihood (SL) theory.

Important findings revealed that economic factors, primarily lack of money to buy fence and hire tractors to plough are primary causes for the decline, this followed by the effects of global warming and the lack of interest by the young generation to participate in crop farming. The study recommends that the government of the Eastern Cape should intervene through the Dohne Agricultural Research Institute in reskilling rural people in modern farming methods and assisting rural farmers with inputs, primarily fence, tractors and irrigation systems.
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CHAPTER ONE

INTRODUCTION TO THE STUDY ON: THE ROLE OF DOHNE AGRICULTURAL RESEARCH INSTITUTE IN RURAL DEVELOPMENT IN THE EASTERN CAPE

1.1 BACKGROUND

The World Bank (2002) reported that agriculture remains the main source of livelihood for an estimated 86 percent of rural people in developing countries. This is because, in the rural areas, agriculture has the capacity to reduce poverty by harnessing the productive capacity of the poor’s very assets, land and labour and by lowering and stabilising food prices and providing opportunities of employment and rural economic growth. Agriculture is defined as the production of food and goods through farming and includes the production of crops (either for commercial or subsistence use), livestock rearing or the combination of both (Shisana et al: 2014).

Reflecting on a global scale on the importance of food security and rural development, Modi (2015) states that “a recent analysis by the Food and Agricultural Organisation of the United Nations (FAO, 2014) suggests that the world population is increasing to surpass 9 billion by 2050 and that there is a challenge of feeding people with diets that have more protein and other nutrients”.

The crisis that is posed by the ballooning growth in world population is reported by Bruno, L (2014: 1) in the African continent, where he brings our attention to the challenge of youth unemployment in the continent. In reflecting on this challenge, he gives a global view first by saying that:

In relative terms, the youth (un)employment challenge affects every region-developed and developing countries- a feature stressed by the world Development Report on “Jobs” (World Bank. 2012).

In the same note, he observes that:

“Due to the characteristic of its demographic trends, Africa is the region of the world where this challenge is–and will increasingly be-a deep concern: 60% of the world’s labour force growth between 2010 and 2050 will be in Africa; 60% of the African population today is under 25” (ibid: 1).
Bruno (2014: 1) concludes his point with the observation that “African institutions and governments are strongly committed to addressing this challenge” and that “In this particular context, the importance of rural population in Africa, in spite of a strong and continuing process of urbanization, translates into a very specific position of agriculture development, which is the main source of activity of this population. He further notes that agriculture will have a dramatic role to play in the coming decades because it has a ‘potential’ to fuel sustainable growth process, providing jobs and supporting diversification” (ibid).

The sentiments expressed by Bruno (2014) above concur with one of my study objectives, that of driving the rural youth who are detached from farming back to this activity, as with the energy they possess, they have the potential to fuel sustainable agricultural growth in their respective localities.

In the South African context, the National Development Plan (NDP) states that, since 1994 the main challenge for rural development has been the marginalisation of the poor, with many rural areas and households trapped in a vicious cycle of poverty. The NDP further observes that rural areas and communities require greater social, economic and political opportunities to overcome the legacy of marginalisation and poverty. (Rural Development Framework. 2013: 13). Elaborating on the sentiments stated above, the Minister of Rural Development, Nkwinti, G (2011) states that there is a general consensus that black rural poor population cannot easily escape the trappings of poverty other than through agricultural means since land is the only economic resource that is readily available to the majority of this population (Rural Development and Land Reform. Strategic Plan 2011-2014: 1).

Spurred by the decline of sustainable farming practices and increased poverty and food insecurity in the villages around Sutterheim in the Amahlathi Municipality of the Eastern Cape, I decided to undertake this study. The core objective is to induce the revival of farming practices in the area through the support of Dohne Agricultural Research Institute hereafter referred to as Dohne. There is a great anticipation that when Dohne becomes involved in stimulating rural farming in the villages of Amahlathi,
there would be active participation in sustainable agriculture by the villagers in the area.

1.2 CONTEXTUAL BACKGROUND ON THE CASE STUDY OF KUBUSI VILLAGE

The focus area of this study was Kubusi village, being identified for its proximity to the rural town of Sutterheim (2km away) and 3km to Dohne. Dohne was identified because of the role it plays in developing and assisting commercial as well as rural farming in order to increase benefits (food security) of this type of farming to rural people in the Province. The second reason was the human resource employed by the institution, such as agricultural scientists (crop and animal), researchers and the modern farming equipment the institute houses and utilises in order to deliver in its Department of Rural Development and Agrarian Reform mandate (hereafter referred to as DRDAR) of conducting research to assist commercial and rural sustainable farmers in the entire Eastern Cape Province. Also, the close proximity of Kubusi to Dohne should be viewed as another advantage in promoting rural farming as Dohne officials could easily access Kubusi village at any given time with little to spend on time travelling. This in turn should increase their monitoring and evaluation frequency of their development ventures in the village.

Below is an aerial photograph that shows the proximity of Kubusi village in relation to the rural town, Sutterheim and Dohne Agricultural Research Institute. The strategic location of Kubusi to the commercial center like Sutterheim town should be viewed as an advantage in promoting rural farming into business venture by Kubusi community.
This chapter introduces the main concepts and contexts on which this research was built and addresses the research questions, aims, objectives, research design and chapter outlines of the treatise.

1.3 RESEARCH QUESTIONS

This research is intended to examine why there was (is) a decline in sustainable farming in the villages of Amahlathi and how Dohne can provide assistance to help reverse this trend.
This study answers the sub-questions below:

- What are the causes of the decline in agricultural activities in the villages under study?
- What is the knowledge, perception and expectations of the local villagers of Dohne with regards to their sustainable farming practices?
- How can Dohne implement and improve outreach programmes?
- How can Dohne draw the interest of youth to rural subsistence farming?
- How are families coping in terms of food security in the face of declining subsistence farming?

1.4 AIMS AND OBJECTIVES OF THE RESEARCH

The central aim of the study is to investigate the role that could be played by Dohne in the reduction of poverty in Amahlathi through sustainable subsistence agricultural activities.

The specific objectives of the study are as follows:

- To assess the current agricultural practices of smallholder and subsistence farmers in terms of farming methods in the villages of study, identifying the benefits and constraints prevalent in the use of such methods through observations and interviews.
- To instill in the rural people and subsistence farmers the attitude of sustainability and also the importance of farming for commercial gains.
- To formulate a strategy that could be a model to involve the Rural Development and Agrarian Reform Department through Dohne in the revival of subsistence farming in Amahlathi villages.
- To identify a communal piece of land and families that have large gardens in the villages where crop agricultural research projects/pilot projects could be launched by Dohne in the villages.
- To encourage the involvement of unemployed men, women and youth to take part in the agricultural projects that would be launched by Dohne in their villages and to see the scaling up of such projects to family household fields for
maximum results in terms of yields and the imparting of modern farming skills to the generally poor population in the villages.

1.5 CONTEXTUAL BACKGROUND

The emphasis on the importance of farming as means of survival to rural people is highlighted in the ANC government’s current official document, the National Development Plan (NDP) 2030, with the assertion that:

Traditionally, agriculture was a livelihood asset for the rural poor when other sources of income fell away. This role was always underdeveloped because of apartheid, but it is diminishing further due to increases in social grants and employment opportunities elsewhere. Agriculture, however, has the potential to expand if the necessary environment is created. Better land use in communal areas could improve the livelihoods of at least 370 000 people (An Integrated and Inclusive Rural Economy: 221).

The narrative we get from the government’s NDP above is reflective of the socio-economic living conditions in Amahlathi villages, which is now largely grant-dependent, among both the elderly, through the old age pension, and the youth through the child support grant. This represents a drastic change in the life the people in these villages used to live, when they depended on their sustainable livelihoods for their entire wellbeing, rural agriculture being their main source of living.

Since the African National Congress (ANC) came into power following the 1994 democratic elections, there have been a number of policy promulgations and implementations regarding rural development. Most of the policies targeted improvement of rural agriculture. One example is the Comprehensive Rural Development Plan. A new ministry was created, that of Rural Development and Land Reform under Minister Gugile Nkwinti (Rural Development and Land Reform. Strategic Plan 2011-2014: 1) and a number of policies, both nationally and provincially, were put in place.

The establishment of Rural Development Agency (2013) has to be viewed as a practical expression of the ANC government in putting the theory of rural development into practice at national level which was established to mobilize, co-ordinate and manage resources, finances for rural development projects, and coach and train participating co-operatives in business and managerial skills. The agency is meant to
co-ordinate national government spending on rural development projects in all provinces of South Africa.

The Agrarian Transformation Strategy which forms part of Rural Development Framework (2013: 9) advocates that, in order to achieve food security for the country and rural communities, cropping and livestock farming have to be prioritised. For successful cropping, which is the primary focus of this research, the framework highlights that economic infrastructure and inputs such as agro-parks, fencing, seeds, fertilisers and extension support are the key ingredients for rural farming communities. *(ibid).*

Acknowledging the potential development that could be promoted by youth engagement in rural agriculture in Africa, a continent that is facing the growing challenge of youth unemployment at an alarming rate, Bruno, L (2014) observes that African governments have to reengage in sound rural development policies powered by the engine of agricultural growth.

In taking care of the potential that the youth possess as future development drivers in South African rural areas, the National Development Youth Strategy articulates that job creation and skills development for the youth in the rural areas will ultimately have a positive impact on the future of development and sustainability of the rural areas. *(CRDP: 2013).* In taking care of the challenge of developing rural youth, the “National Rural Youth Service Corps” (NARYSEC) was launched with the main aim of enrolling and developing youths aged between 18-35 years to be paraprofessionals who will be trained to work with their own communities and municipalities. *(ibid).* This is one area that the researcher will pay special focus into as I am of the opinion that youth involvement is critical in the sustenance of rural farming as their energy could be the key contributor to farming activities in their families.

In the Eastern Cape, it is important to mention the Eastern Cape Rural Development Strategy which is not only intended to improve rural livelihoods in the province but also to curb rural-urban migration, as it is noticed that skilled workers leave the rural parts of the Eastern Cape to cities or other provinces where work opportunities are not scarce *(Matte, 2009).*
The establishment of the Eastern Cape Rural Development and Agrarian Reform Department is the latest development in the province. It is noted with sadness that despite all the efforts by the ANC government to change rural farming for the better, there are not enough good results to show for those, as sustainable farming continues to decline in Amahlathi Municipality.

Below are the issues that directly relate to rural farming which I am going to briefly unpack with the aim of justifying my epistemological point of view regarding rural farming. These are (i) Poverty, (ii) Historical Context of farming in the Eastern Cape and (iii) Food security.

1.5.1 Poverty

The issue of hunger and poverty is given priority both nationally and internationally. In the list of the eight United Nations Millennium Development goals, the goal of eradicating extreme poverty and hunger is given priority (World Development Report. 1990: 15). The United Nations (UN) does come up with specific targets, one being to halve the proportion of people who suffer from hunger between 1990 and 2015 (http://www.un.org.milleniumgoals/)

The international involvement of the UN in advancing projects that intend to eradicate poverty across the globe through agricultural means continues to this day (World Development Report. 2008). In taking the lead, the UN has established an array of international organisations that seek solely to reduce food shortages and eradicate hunger around the world (ibid). Agencies like the Food and Agricultural Organisation (FAO), the International Fund for Agricultural Development (IFAD) and the World Food Programme (WFP) are household names in Africa due to their agricultural development efforts in assisting governments and development agencies in many countries. (ibid).

Poverty reduction and ensuring household food security are important policy goals in developing countries, particularly in sub-Saharan Africa. Many authors agree that for this region to be able to meet the Millennium Development Goals (MDGs) of halving poverty and hunger by 2015, this region needs to give priority to smallholder agriculture (Smith, 2004; Matte, 2009; Tshuma, 2012). As 2015 is the year the study
is undertaken, there is little to prove as progress towards the fulfillment of halving poverty in South Africa and the entire SADC regions. This challenge is high in the agenda of the South African Development Community (SADC) which is the group of 15 countries in the Southern African region (South Africa being the principal member) that share a common vision in terms of integrated economic growth and development (Waterloos. 2014).

In response to the international efforts of the UN that are intended to reduce rural poverty, the South African government has to be credited for its efforts in attempting to create synergy between UN endeavors and the creation of a climate conducive for the implementation of UN rural development programmes (Ellis. F.1999). Waterloos (2014) reveals how South Africa has responded to the challenge of formulating integrated rural development policies (CDRP) for smallholder farming against the background of the UN’s International Year of Family Farming.

Efforts by the government to promote rural development and the eradication of rural poverty are further noted by this statement: “Since 2007, ANC places a renewed emphasis on a smallholder development strategy” (Waterloos. 2014: 2). The NDP (2012) clearly states the motive of placing special emphasis on job creation in the rural areas. It is acknowledged in the document (NDP) that there is no sustainable income for rural households, this making sustainable agriculture the mainstay of the villagers, a situation faced by villagers in Kubusi, the village of study.

1.5.2 Historical context of farming in the Eastern Cape

In the Eastern Cape, farming has a long history as the major source of livelihood for the people of this province. (Ellis. F.1999). As early as the years of first contact with the white colonialists, rural farming had been the mainstay of black people in the area known as Eastern Cape today. (Matshe, I. 2009). Agricultural activities were intensified more during the time of Bantustan, when Eastern Cape was then divided into two homelands, Ciskei and Transkei. The inhabitants of these two homelands had no choice but to rely heavily on this economic activity (rural farming) for their livelihood as there were no major secondary industries in the two homelands, like mining and fishing (ibid).
In acknowledging this predicament of rural people, the ANC government, nationally and provincially, has made strides in ensuring that rural farming receives the maximum support it deserves from both tiers of government through a number of laws that are intended to see growth in rural farming in terms of yields and sustainability (Lahiff, E. 2003). Below are the laws and policies formulated by the Eastern Cape government.

The newly established Department of Rural Development and Agrarian Reform after 2012 national elections is one indication of how government of the Eastern Cape put value to rural farming in order to curb food shortages, not only in rural areas but in the entire Province.

The Eastern Cape Agricultural Development Act (Act 8 of 1999), with the purpose of promoting, revitalising and sustaining agricultural development in the Eastern Cape Province is worth mentioning in support of the view stated above.

The Provincial Growth and Development Plan (2005) serves as a tool that encourages and promotes key stakeholders for creativity and active participation in economic development and alleviation of poverty (Lahiff, 2003).

The Eastern Cape Rural Development Strategy (ECRDS) is aimed at reducing urban-rural migration in the province and to redeem the underdeveloped agricultural industry of its association with poverty and unemployment (ibid).

The National Environmental Management Act (Act 107 of 1998) is aimed at ensuring that in the process of development activities and initiatives, any form of degradation of the environment is avoided. This act should be noted for its explicit support of sustainable development that I am going to reveal more about in chapter: 3.

1.5.3 Food security

Addressing food security and sustainability, Berry, M et al. (2014), pose a rhetorical question, whether food security can exist without sustainability. In answering this question, showing the inter-relatedness of the two concepts, they conclude that:

Sustainability should be considered as part of the long-term time dimension in the assessment of food security. From such a perspective the concept of sustainable diets can play a key role as a goal and a way of maintaining
nutritional well-being and health, while ensuring the sustainability for future food security. Without integrating sustainability as an explicit dimension of food security, today’s policies and programmes could become the very cause of increased food insecurity in future.

The South African National Policy on Food Security (2013) defines food and nutrition security as:

> Access to and control over the physical, social and economic means to ensure sufficient safe and nutritious food at all times, for all South Africans, in order to meet the dietary requirements for healthy life (p. 8).

The policy document does not paint a beautiful picture about South Africa in terms of food security as it reports that the recent assessment of food security in South Africa showed that, in relation to the affordability, availability and equality of food, the country ranked 40th out of 105 countries (ibid: 10). More worrying to me is the revelation that Hunger Index indicates that, in rural areas 58% of households experience hunger compared to 46% in urban areas (ibid). This report justifies my concern about the poverty situation in Amahlathi villages in Stutterheim.

Waterloos (2014:1) reports that 2014 is the UN’s international year of family farming (IYFF). He further states: “The IYFF’s intention is to focus attention on the role of family and smallholder farming in eradicating poverty, food security, improving livelihoods, managing natural resources, providing eco-service and achieving sustainable development” (ibid: 1). The statement above bares testimony to the my assumption that, the poverty that prevails in Amahlathi villages could be curbed if there could be an effort by Dohne to revive family farming of in the villages concerned.

Similar words are echoed by Da Silva (2013) with his observation that it is important to remember that many family farmers, especially subsistence farmers, are part of the world’s food insecure population that live in the rural areas of developing countries. The significant role played by subsistence farmers in reversing food insecurity internationally is acknowledged, by the IYFF, recognising that family farmers are leading figures in responding to the double urgency the world faces today: improving food security and promoting sustainability (ibid).

Exploring the situation in Africa, Uwabakurikiza (2012) reports that agriculture provides employment to 85% of the population of Rwanda and that farming is practical
throughout the year. Successful examples such as the food security programme (farmer field schools) in Rwanda were reported to be prevalent. In these schemes farmers were given adequate training and learned “by doing” (ibid: 2).

The dilemma of food insecurity in the villages of Amahlathi is not a unique situation in the Eastern Cape Province or in South Africa. The report on Hunger Index reveals that at provincial level, prevalence of households experiencing hunger was highest in the Eastern Cape (66.7%), Northern Cape (65%) and Limpopo (62%) with the Western Cape having the lowest prevalence (29%) (National Policy on Food and Nutrition Security. 2013: 9). This challenge is reflected in the ANC government’s articulation with regard to sustainable rural agriculture in the NDP (2012). The document stipulates that food security should be stimulated “with the intended outcome of broadening ownership of assets, a food trade surplus of which one third is produced by small-scale farmers, and household food and nutrition security” (ibid). This has resulted in the creation of ministry of Rural Development and Land Reform nationally and Rural Development and Agrarian Reform in the Eastern Cape after the 2012 national elections.

In the National Policy on Food Security document (August 2013), serious food security challenges facing South Africa are highlighted. The following are points noted:

- Inadequate safety nets and food emergency management system to provide for all who are unable to meet their immediate food needs or mitigate the impact of natural and non-natural disaster on food security.
- Citizens have inadequate access to knowledge and resources for nutrition to make optimal use of nutritious and safe diets.
- In case where productive land is available, it is not always utilised optimally for food production, often for wants of inputs (including finance, equipment, and water) or skills.
- There is limited access to processing facilities or small-scale primary producers, including farmers, fisheries and forests.
- Climate change and altered patterns of land use pose a threat to domestic production.
- There is not adequate, timely and relevant information on food security (ibid)
The policy document further reveals the problem of land utilisation as another contributing factor to food insecurity in South Africa. The document reports that there has been an overall loss of high agricultural potential land to non-agricultural activities such as mining and housing developments, and in period between 1994 and 2009 then overall area under food production declined by 30% (ibid: 13),

Van der Ploeg (2011:439) observes that currently, some 1.4 billion people are living on less than US$1.25 a day and are in extreme poverty, and that the majority of those are living in the countryside. He asserts that most of the 1 billion rural poor depend partly or entirely on farming. He argues that the recent report compiled for the International Fund for Agricultural Development (IFAD), The Rural Poverty Report, has revealed that “there is a greater incentive for investment in rural areas of developing countries and greater opportunities for agriculture, including smallholder agriculture to play a key role in ensuring food security”. An interesting point he makes about this report is that “as some people enter poverty, others succeed in struggling to get out of it” (ibid).

The same challenge that faces South Africa concerning food security is also noted by De Cock et al. (2013) with the observation that although South Africa is food secure as a nation, many households remain food insecure. He observes that South Africa has developed a strategy in recognising several key food security challenges in the Integrated Food Security Strategy (IFSS) which again is aimed at identifying what sustainable livelihoods a specific community possesses so that those agricultural livelihoods which are not fully developed for the benefit of the rural population could also be developed for the benefit of the rural farming community (IFSS, 2002).

Sinyolo, S et al. (2014: 145) argue that poverty reduction and ensuring household food security are important policy goals in developing countries, particularly in sub-Saharan Africa. They argue further that “in facing the challenges posed by Millennium Development Goals (MDG) of halving poverty and hunger by 2015 in this region, it requires giving high priority to smallholder agriculture” (ibid).

In South Africa, as in any developing African country, talking about poverty is synonymous with talking about rural life, the daily economic and social challenges faced by people in the villages. This in simple terms suggests that in its understanding
of poverty and in dealing with poverty, the government has to come up with a vision that aims at attaining universal physical, social and economic access to sufficient, safe and nutritious food by all South Africans all the times to meet their dietary and food preferences for an active and healthy life (Gumede, V. 2010). The ambition expressed above calls directly for the government of South Africa to invest more in rural farming so that the concept of a food-secure country applies not only to people in urban areas but also to people in rural areas, and that the growth of farming in rural areas will secure cheaper prices while food will be basically produced primarily for consumption, with the surplus being sold to the people in towns.

This is a strategy I envisage, that of Dohne promoting rural farming in the villages of Amahlathi so that the villagers have food security plus a surplus sold in the nearest town, Stutterheim, with the groceries shops being their clients and people from the township and villages being the main consumers of such produce.

1.6 METHODOLOGY

Methodology refers on how one applies one or more research designs to one’s research problem. In case of this research, a case study of Kubusi village has been used to gather data, through interviews, from ten (10) family heads, five (5) being those who were still involved in rural farming and another five (5) being those who were no longer involved in sustainable farming,

Questions were designed with the intention to understanding from the villagers what affected their rural farming negatively, this leading to its decline in the village of study. The choice of the participants was through raffle, and analysis of the data was done in order to understand the contributing factors to the decline of rural farming at Kubusi, as reported by the villagers. The methodological components are dealt with in detail in chapter three.

1.7 CHAPTER OUTLINE

This research is divided into these chapters:
Chapter 1. Introduction: This chapter introduces the topic and study area, explains the research problem, states the research questions, aims and objectives and gives the contextual background to the study.

Chapter 2. Conceptual Framework: Sustainable Livelihoods. This chapter focuses on existing literature on sustainable agricultural development, thus providing the framework for the study with specific focus on food security, poverty and rural development.

Chapter 3. Methodology. Here, research approach, methods and tools for gathering data and their functionality are explained. Research sample size and population are outlined in detail as well as data analysis, research verification and research ethical considerations.

Chapter 4. Findings of the case study of Kubusi: The findings of the research are exposed with the aim of justifying the research hypothesis. A discussion of the findings related to the framework is presented.

Chapter 5. Conclusion of the study: This chapter summarises the study, draws conclusions and makes recommendations based on the findings.

1.8 CONCLUSION

This chapter has dealt with the contextual background of the Kubusi village case study by giving a brief history of the village of study’s rural farming. In the process, I have given rationale behind my choice of Kubusi village as the case study of my research, highlighting its strategic location to Stutterheim rural town in Amahlathi Local Municipality and its close proximity to Dohne Agricultural Research Institute.

Research question, aims and objectives have been spelt out in this chapter and rural development concepts that relate to rural farming, poverty and food security have been unpacked to justify my undertaking of this study. In this chapter, the research methodology adopted for the study has been briefly explained with interviews chosen as data gathering technique. Lastly, chapter outline has been given which explained the flow of chapters and summary of its contents.
CHAPTER TWO

CONCEPTUAL FRAMEWORK: SUSTAINABLE DEVELOPMENT, SUSTAINABLE LIVELIHOODS

The purpose of this chapter is to present the concepts and theory that inform this study. The concept of sustainable development is unpacked in general and further looked at in the South African context. Secondly, the concept is further explored, linking it with rural development and the role played by agriculture in sustainable development. Thirdly, sustainable livelihoods are investigated at Kubusi rural context, looking at the available assets that rural people depend on for their survival. Lastly, using a proposed framework by Scoones, I (1989), sustainable capitals will be investigated at Kubusi village, as this should give guidance on what approach should be followed in prioritising development initiatives at Kubusi.

2.1 SUSTAINABLE DEVELOPMENT

The concept sustainable development originates from the Brundtland Commission’s report of 1987 on the global environment and development (Redcliff: 2005). The Commission was instituted as a result of growing awareness of the global links between mounting environmental problems, socio-economic issues to deal with poverty and equality and concerns about a healthy future for humanity (Hopwood et al. 2005). The commission defined sustainable development as “development that meets the needs of the present generation without compromising the ability of future generations to meet their needs” (WCED: 1987: 6). Hopwood \textit{et al} (2005: 38) give this context for sustainable development:

For most of the last couple of hundred years the environment has been largely external to humanity, mostly to be used and exploited, with few special areas as local. On the whole the relationship between people and the environment was preserved as wilderness or parks. Environmental problems were viewed mainly as humanity’s triumph over nature.

This misguided notion above changed with the Brundtland report, which recognized the dependency of humankind on the environment to meet their needs and for their own wellbeing in a much wider sense than merely exploiting resources (WCED: 1987). The report observes that ecology and economy are becoming even more interwoven
– locally, regionally, nationally and globally (WCED, 1987: 7). It stresses that humanity, whether in an industrialised or a rural subsistence society, depends on the environment for basic existence and security.

Without contradicting the generally accepted definition above of sustainable development by development scholars, Daly (1990) makes a distinction between “sustainable growth” and “sustainable development”. He argues: “To grow means to increase naturally in size by the addition of material through assimilation or accretion. To develop means to expand or realize the potentialities of; bring gradually to fuller, greater, or better state.” (ibid: 1). This clarity brings to light that if something has developed, it has gained a qualitative improvement or unfolding of potentialities and the element of sustainability is eminent or possible as the process is likely to take a longer time in its unfolding. It is safe to conclude then that development becomes sustainable if it takes a longer time in unfolding and is able to withstand the shocks and stresses that might prevail in the process of unfolding.

The concept of sustainable development came about out of concern that there was little regard to the way human beings interact with their immediate environment (nature) in pursuit of socio-economic growth. The dilemma that is caused by mankind’s excessive use of natural resources (fossil fuels) and manufactured materials is noted by Redclif (2005: 213) who postulates that:

The means we have used to overcome resource scarcity, including substitution of some natural resources, and “cleaner” environmental products and services, may have contributed to the next generation of environmental problems. (p. 213).

Massive industrialisation driven by capitalism which has led to a scarcity of resources in the 21st century is seen as a main cause of environmental degradation. Hopwood et al., (2005) observe that the over-exploitation of natural resources contributes to the next generations having problems in meeting their needs. This has led to dilemmas such as global warming, ozone layer destruction (thinning), extinction of species and rising sea levels, to mention a few, all these being the direct results of such indiscriminate exploitation of natural resources (ibid).
In the discourse of sustainable development, there is perceived intersection between environment, society and economy which are conceived of as separate although connected entities (Giddings et al. 2002:188). The connectedness of the three sectors comes into play when mankind (society), in pursuit of economic growth, resorts to exploiting the environment around it and beneath the earth, such that today we find ourselves contributing to the next generation’s environmental problems.

In highlighting the pivotal role that the Brundtland Report played in alerting humankind to unsustainable living, Daly (1990) commends the commission for its great contribution in emphasising the importance of sustainable development and thus forcing it to the top of the agenda of the United Nations and the multilateral development banks. Giddings et al (2002) further recognise the contribution of the commission report with their observation: “After initial reluctance, 95% of large companies in Europe and the USA now believe that sustainable development is important” (p. 187). They reveal that more than 150 of the world’s major companies in mining, oil and gas, automobiles, chemicals, logging, banking and finances, cement, electricity generation, drugs and bio-technology are members of the World Business Council for Sustainable Development (WBCSD, 2001).

It must be noted however, that many environmentalists – including Friends of the Earth and Greenpeace (internationally known for its life-risking efforts against whaling) – are not convinced that business and international economic organisations could lead sustainable development agenda while still pursuing globalisation (ibid. 188). Jackobs (1996: 51) argues that “the path of globalization. . . will not succeed in eliminating poverty, it will increase it.” The discontent and disapproval of mixing sustainable development with capitalist economy is observable in the remark that “Brundtland’s ambiguity allows business and governments to be in favour of sustainable development without any fundamental challenges to their present course, using Brundtland’s support for rapid growth to justify the phrase “sustainable growth” (Hopwood et al, 2005: 40). Many development scholars criticise the notion of “sustainable growth” as a “morally bankrupt solution to poverty” (ibid). They argue that it promotes high levels of consumerism that goes with capitalism.

Another area of debate has emerged between views of weak and strong sustainability, according to Haughton and Hunter (1994: 36). The concepts “weak sustainability” sees
natural and manufactured capital as interchangeable with technology able to fill human-produced gaps in the natural world (Daly and Cobb, 1989). This view is strongly attacked with ridicule by the proponents of “strong sustainability”, Rees (1989) and Roseland (1989), with the argument that human-made capital cannot replace a multitude of processes vital to human existence such as the ozone layer, photosynthesis or the water cycle. It must be noted that the debate around strong and weak sustainability is conducted around environmental issues without taking into account socio-economic issues. It goes without saying that “true” sustainability should try to balance “environmental needs” with “human needs” (Scoones, 1987).

I feel that the concept sustainable development cannot be ignored as revival of farming in the villages of Amahlathi Municipality has to be approached with the ethos of sustainability in mind, thereby maximising the benefits for the rural people in any development endeavor. With the awareness that today’s development should not create problems for the future generations, this will be the guiding principle in putting the theory in practice.

### 2.1.1 Sustainable Development in the South African Context

South Africa’s National Framework on Sustainable Development (2008) states that:

> South Africa aspires to be a sustainable, economically prosperous and self-reliant nation state that safeguards its democracy by meeting the fundamental human needs of its people, by managing its limited resources responsibly for current and future generations, and by advancing efficient and effective integrated planning and governance through national, regional and global collaboration.

Making an evaluation of where South Africa stands in the regional and global stage on sustainable development, it is pleasing to note that South Africa is not lagging behind in terms of sustainable development. This is acknowledged by the Minister of Environmental Affairs with the assertion that:

> As a country, we have taken tremendous strides towards the achievement of sustainable development. However, as we increasingly face the impacts of a globalized world, there is still much to be achieved (People- Planet-Prosperity: A National Framework for Sustainable Development in South Africa. 2008: 3)
South Africa is not only a signatory to the United Nations, it also subscribes to Millennium Development goals set up by UN (Rennkamp, B. 2012). As an active member of the international community that takes SD as a serious challenge, the country continues to host international sustainable development events such as World Summit on Sustainable Development held in Johannesburg in 2002 in which the attendants all agreed that the greatest challenge to date was dealing with poverty (ibid). The outcomes of the meeting, the Johannesburg Plan of Implementation (JPOI) set out targets for the countries to achieve sustainable development, inclusive of the MGDs. (People-Planet-Prosperity: National Framework on Sustainable Development. 2003).

South Africa has recently been the host (August 2015) to international community for the conference held in Johannesburg on Sustainable Forest Management and Conservation. This again proves South Africa’s commitment to sustainable development and concern about the negative impact of deforestation to the environment such as increased carbon dioxide and reduction of value of forests as livelihood to some communities.

On sustainable agriculture, South Africa is hindered by numerous factors like poor rural infrastructure, globalization, natural resource constraints, shortage of skills and climate change. (Policy on Agriculture in Sustainable Development. A Discussion Document. 8th Draft). The policy on agriculture therefore emphasizes the integrating and harmonizing of the three pillars of development which are: (i) social (people), (ii) environment (planet) and (iii) economic (prosperity) (ibid). By the same token, the policy document observes that there is absence of a coherent national policy framework and suggests that the main tools towards sustainable agriculture are policy and agrarian reform, participation, income diversification, land conservation and improved management of inputs. (ibid).

The social challenges that this research is concerned about, the high unemployment rate that is so prevalent in Amahlathi, poverty and food insecurity that have triggered this research, crime and prevalence of HIV/AIDS, homelessness are aspects highlighted in the policy document on sustainable agriculture, this strongly legitimising the undertaking of this research.
It must be stated that in South Africa presently, government constantly finds herself in conflict with the previously land-deprived Black population which sees little value in sustainable development through conserving the environment due to land hunger. Informal settlements spring up everywhere, even in areas that have been declared protected for their ecological value. This become a classical example where socio-economic needs clash with environmental value of land.

2.2 RURAL DEVELOPMENT

If the South African government is to successfully abate the problems of hunger, poverty and food insecurity in rural areas, it has to put the theory of rural development into practice. Rural development is defined by Mosel (2003) as the process of improving the quality of life and economic well-being of people living in relatively isolated and sparsely populated areas. Mosel (2003) further argues that rural development has traditionally centered on the exploitation of land-intensive natural resources such as agriculture and forestry, (ibid). Paramount to this definition is the mention of people’s dependency on land as the main source of their livelihoods.

Olivier, N J et al. (2010: 101) hold that in April 2009, with the advent of the Zuma presidency in South Africa, rural development became one of the key priority programmes for the next five years (2009-2014). They identify three phases of rural development policy implementation in South Africa: (i) 1994 to 2000 (the Reconstruction and Development Programme/RDP); (ii) 2000 to April 2009 (the Integrated Rural Development Strategy and its implementation) and (iii) April 2009 to the present (the Comprehensive Rural Development Programme) (ibid. 102).

RDP was implemented in South Africa under the stewardship of former President Nelson Mandela after 1994 democratic elections, aimed at addressing the immense socio economic problems brought about by the consequences of struggle against the former apartheid government before 1994. (Nelson Mandela. The Reconstruction and Development Programme Preface. 1994).

In their document titled: Towards A Workable Rural Development Strategy, Delius, P & Schirmer, S (2001: 4) make the following contribution in justifying and contextualising the implementation of RDP policy:
Land reform and agricultural development are both important and worthwhile in making a difference and tackling the inequalities perpetuated by initiatives of apartheid, but agriculture alone cannot be the central pillar of workable rural development programme.... and that land reform and agricultural development policies must be part of more comprehensive, integrated rural development policy. Rural development interventions should be based on realistic budgets, an understanding of what rural people want and how existing interventions could be improved and linked to the priorities of people on the ground.

They allude that it was in this phase of agricultural transformation in South Africa that women’s contribution in rural farming got special attention in terms of support it needed from the government (ibid). What is evident from the deliberation made above is that RDP adopted a bottom up approach (participatory approach) that is meant to redress the injustices of the past in the agricultural sector in South Africa, dealing with the issues reported by the people on the ground.

The Integrated Rural Development Strategy envisaged the following objectives:

- Enhanced food security
- Providing a conducive environment for agricultural production and economic returns
- Reducing poverty through rural development
- Reducing the environmental impact of agricultural production
- Improving access to international agricultural markets
- Comprehensive Rural Development Programme was established with the aim of creating vibrant, equitable and sustainable rural communities.

The strategic objective of CRDP is agrarian transformation, which has to be fulfilled by accomplishing the sub-objectives mentioned below:

- effective spatial integration, land use planning and regulatory system which promote optimal land utilisation and production,
- successful land reform, including secure tenure that promotes agricultural development, increased production and food security,
- enterprise development to stimulate the rural economy that creates jobs, human wellbeing and sustainable environment,
human development through increasing and diversifying the rural skills base,
infra-structure development to support access to quality services and economic opportunities. (Rural Development Framework. 2013:10).

In implementing its vision, the CRDP targeted uprooting poverty by creating vibrant, equitable and sustainable rural communities (ibid).

The ANC government’s bias towards the rural poor is well evidenced by the newly established Department of Rural Development and Land Reform (DRDRLR) in 2009, which is responsible for rural development at both local and national levels (ibid: 115). The new department was created after it was recognised that the social and economic transformation of South Africa would be incomplete without the implementation of fundamental interventions to address the challenges faced by the people in the rural areas (DRDRLR. 2012, 10). The establishment of the new ministry is intended to make life bearable and sustainable in the rural areas of South Africa. The report reveals that:

For the first time in its history, the country would have a ministry dedicated to the social and economic development of rural South Africa; committed to ensuring that South Africans residing in the rural areas enjoyed the same benefits as their urban cousins (ibid).

The intention of the new department to curb the migration of skilled human capital from rural to urban areas should be noted from this statement, but that depends on the implementation of the department’s policies and objectives for its success.

In the government’s recently released National Development Plan 2030 (NDP), it is stated that by 2030, South Africa’s rural communities must have better opportunities of participating fully in the economic, social and political life of the country. The NDP explicitly states: “Rural economies will be supported by agriculture and where possible, by mining, tourism, agro-processing and fisheries (An Integrated and Inclusive Rural Economy (p. 218). The stipulations made in the NDP should be viewed as a challenge to development practitioners, as the reality tells a different story, that some land restitution farms handed to rural black beneficiaries have been unproductive since the land was transferred (Matshe. I. 2009).
From all the policy frameworks mentioned above, it is clear that rural development and sustainable farming calls for the government and donors to be prepared to make finances available in order to drive these initiatives that are intended to make rural areas habitable and be sources of sustainable livelihoods. Moreover, a string of frameworks or policy formulations are useless without monitored implementation.

This study therefore has been influenced by the knowledge that there is a serious commitment on the government’s side to transform rural lives for the better through agriculture and that there is financial assistance available for the rural people who have little knowledge of how to access it. Armed with the knowledge of what policies are in place, the researcher intends to see revival of sustainable farming in Amahlathi, whereby Dohne becomes the rural development implementing agent in Amahlathi with full knowledge of the government policies that would justify their development initiatives.

2.3 AGRICULTURE

Closely linked to rural development is agriculture. The policy document on sustainable agriculture in South Africa observes that “agriculture can make significant contributions to the reduction of poverty levels and a sector from which most rural poor derive their livelihoods, and both rural and urban people obtain most of their food” (Department of Agriculture. Policy on Agriculture in Sustainable Development. A Discussion Document. 8th Draft).

The inclination of the ANC government toward the rural poor is well evidenced, not only through its rural policies. The newly established DRDLR, which is responsible for rural development at both local and national levels, bears testimony to the South African government’s shift of focus (ibid: 115).

Citing the Brazilian success in promoting rural agriculture for food security and unemployment and supporting commercialisation of production, Rocha et al. (2012) states that over the past two decades Brazil has made significant progress in reducing hunger and other manifestations of food and nutrition insecurity, thus meeting the first United Nations Millennium Development Goal of reducing poverty and malnutrition by
the end of 2009. The researchers reveal the simple strategy that was adopted by the Ministry of Social Development and Fight against Hunger in Brazil.

Food Acquisition Programme adopted by Brazilian government promoted direct crop and milk purchase by the government for building food stocks to be used in government food programmes such as school meals, popular restaurants, community kitchens and food banks (ibid: 523). They conclude that the programme provided a stimulus for greater organization of small family farmers into cooperatives and associations. It is interesting to note how national government can come up with programmes that support rural agriculture development and at the same time enhance good health status of the rural population.

It must be noted that South Africa has adopted this strategy whereby schools are encouraged to buy vegetables from local people to feed children at schools (School Nutrition Programme), but it is still early to report positive results about this programme in terms of increased rural productivity and commercialization of rural farming as we see in Brazil.

Presently in the Eastern Cape, provincial government has created within the Department of Social Development a subsection that is solely dedicated to deliver women support for women development in Agriculture by supporting women agricultural projects. The latest development in the Province, after 2012 elections is the establishment of DRDAR which is also solely created to advance the rural farming in the province through Provincial government support.

The NDP states that all South Africa’s rural communities must have better opportunities to participate fully in the economic, social and political life of the country (NDP. 2030). “Rural economies will be supported by agriculture and where possible, by mining, tourism, agro-processing and fisheries” (An Integrated and Inclusive Rural Economy) (NDP: 2030: 218). The stipulations made in the NDP should be viewed as a challenge to development practitioners, as the reality tells a different story – that some of land restitution farms handed to rural black beneficiaries have been unproductive since the land transfers (ibid).
2.4 SUSTAINABLE LIVELIHOODS

Sustainable Livelihoods as a concept was coined after the Brundtland Commission on Environment and Development in the Brundtland Report of 1982. It was in that document that the term sustainable development came into being (Scoones. 1998). Scoones, I (1972) defined livelihood as comprising the capabilities, assets and activities required for means of living, and that “a livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities while not undermining its natural base” (ibid. 147).

Putting this statement into everyday language, Scoones refers to natural resources as livelihoods since they provide the means of living to the human and animal world. Since they provide food, shelter, clothes and all the needs human beings have for their economic survival, all those are grouped as livelihoods by Scoones (1998).

These resources become sustainable if they can withstand exploitation by man and not perish, that is, withstanding both stress and shocks. To make an example, where a livelihood like forest is used in an unsustainable manner by villagers who cut trees down indiscriminately, the consequence is deforestation, which further leads to soil erosion, a serious negative effect on the environment and on human beings as the land becomes ravaged by uncontrolled running water that creates dongas, which are not good to either livestock or human beings in terms of farming activities.

In South Africa, the National Environmental Management Act (NEMA) (Act 107 of 1998), was promulgated to ensure that all development activities are socially, environmentally and economically equitable; while preventing any form of degradation to the environment. This Act propagates the use and exploitation of non-renewable natural resources to be carried out responsibly and equitably and take into account the consequences of depletion; and the conservation of resources for future sustainable livelihoods (Carney. D (Ed) 1998). In the context of preserving our natural resources as a country and yet continuously depending on them, NEMA should be viewed as a guiding policy that is intended to always ensure that, in pursuit of our socio-economic development as a nation, we guard against depleting the very livelihoods our future generations depends on.
2.5 SUSTAINABLE LIVELIHOODS APPROACH

Looking at scholarly texts, it is worth noting that the concept of sustainable livelihoods (SL) is relatively not new in the field of development studies. According to Carney, D (2001), within Department for International Development (DFID) active discussion on SL approaches began in 1989, building on the work of Institute of Development Studies amongst others. Krantz, (2001) reports that the idea of sustainable livelihoods was first introduced by the Brundtland Report in 1982.

Krantz (ibid) elaborates on the delicate relationship between human demands and nature with the warning: “Of various components of a livelihood, the most complex is the portfolio of assets, out of which people construct their living, which includes both stresses and shocks.” It is this delicate balance that becomes a challenge to rural communities when their socio-economic needs would undermined the need to conserve or use their livelihoods sustainably but rather exhaustively. When such a balance is not reached, rural people are exposed to unsustainable lives, the end results being food insecurity and poverty.

The Sustainable Livelihood Framework, hereon referred to as SLF provides a checklist by which constraints on livelihood success can be measured and prioritised for action to remove these constraints and links between them identified (Ellis, F. 1999). Elaborating on the functioning of the SLF, Carney states that the framework provides a checklist of important issues and sketches out the way these link to each other, draws attention to core influences and processes, and emphasises the multiple interactions between various factors which affect livelihoods (DFID. April 1999).

Development scholars advise that the framework should not be centered on people but on available livelihoods and does not try to represent the reality. It is only a model that could be adapted to various contexts. Its aim is to help stakeholders with different perspectives to engage in structured debate and coherent debate about the way in which livelihoods interact. They argue that this, in turn, should help in the identification of appropriate entry points for support of livelihoods. (ibid).

The contribution made by Carney, D and Ashly, C (1999) with the remark that the SLF helps users to identify “pressure points” that are likely to have a significant livelihood impact. They warn that the resources are limited and the framework itself may be of
little help in determining which of the many “pressure points” should be addressed first and how. This should be viewed as promoting all stakeholder participation. This happens when decision has to be taken as to what development initiative (pressure point) needs to be prioritised first. Taking such decision will need to involve government officials, development practitioners and development recipients, the villagers of Kubusi in the case of this research.

Below is a sustainable rural livelihood framework which was used as a tool to investigate the context of Kubusi village in terms of sustainable livelihoods present to sustain rural people in the village.

![Sustainable rural livelihood framework](image)

**Figure 2.1: Sustainable rural livelihood: A framework for analysis** (adapted by Scoones, I).

As the framework outlines, **context, conditions and trends** in the village that is to receive rural development initiatives should be considered first. This refers to environment in which people live, their history, policies, both social and political that they observe, the climate that is experienced by people living in the village that is to receive development inputs. These should be investigated by the potential development agents before the implementation of the developmental initiatives. It is
also important to observe demographics and social differentiation as villagers sometimes focus on different economic activities for their sustainability.

The second aspects the framework touches on are livelihood resources or livelihood assets. This refers to (i) natural sources (natural capital) such as land, river or forest that development endeavors would be based on, the resources that stand to be sustainably exploited by the villagers for their own livelihoods. The framework includes other capitals such as (ii) human capital- the combination of skills that the development recipients possess that could be utilised for their own development in the villages. The (iv) financial capital-refers to the chances that the villagers may have in getting financial help such as making loans or accessing micro-finance to upscale their rural farming, savings they have made in the past years from their farming activities, profits they make by selling their surplus produce and livestock they possess. Lastly, there is a mention of (v) social capital-which refers to social groups, organisations such as CBOs and NGOs that could be willing to assist the villagers in their development ventures. These groups could contribute in the rural development by organising funds and other agricultural inputs for villagers like seeds or by becoming the direct consumers of the produce by buying or selling for the villagers.

The third issues the framework talks of are institutional processes and organizational structures, which according to the framework will determine the accessibility of livelihood assets to people in the village to be developed. In everyday life, this would refer to the decisions taken by the spheres of government, nationally, provincially and locally, as to how resources have to be shared among rural people. A classical example would be allocation of resources by the local municipality to the villages in Amahlathi, particularly the tractor or provision of seeds or any agricultural inputs. This also refers to positive responses the villagers may get from decision making bodies (municipality) about their livelihood needs such as allocation of more land for livestock grazing (by the local municipality) or provision of fence.

Fourthly, the framework talks about livelihood strategies, which refers to a combination of all activities and possibility of choices that the villagers could explore to achieve their livelihood aspirations. One example that would involve livelihood strategies would be crop diversification or moving from urban to rural areas to start farming.
Lastly, the framework mentions **sustainable livelihood outcomes** that stand to be realised by the recipients of development initiatives when there is increased number of working days by villagers, increased well-being and capabilities and reduced poverty. The framework demonstrates that when sustainability is achieved and resilience of assets is enhanced, all this increases the natural base assets of the rural area under development.

Carney (2001) reports that there are five key indicators of achieving sustainable livelihoods, according to the International Development Studies (IDS) framework for analysis. These are:

- **Creation of working days**: the results of an intervention for sustainability should yield an environment that will create work opportunities for villagers, whether for cash payment or for their subsistence production, and this results in food security. As noted by Sen (1975: 5), there are three aspects of employment: income (working for a wage or salary), production (employment providing consumable output) and recognition (where one works to be acknowledged for one’s participation, recognition being the reward itself). I intend to see people at Kubusi gaining improved production out of their agricultural activities this culminating to them gaining income by selling their surplus produce.

- **Poverty reduction**: the success of livelihoods promotion should be indicated by a drop in the extent of poverty in the areas of study. In the case of the research, this should be indicated by food security and less vulnerability to hunger and diseases on the part of the villagers in Kubusi and the entire Amahlathi.

**Wellbeing and capabilities**: this is the state when intervention livelihood beneficiaries are able to do whatever they want with what they have accumulated. Sen (1984; 1987) concludes that capabilities are “what people can do or be with their entitlements”. This implies that, if the development initiatives implemented by Dohne are successful, it should be easy for the people in Amahlathi villages, particularly at Kubusi to invest what they have accumulated as surplus from their farming in educating their children and re-investing their savings
elsewhere. This could be buying better performing farming implements for greater yields.

- **Livelihood adaptation, vulnerability and resilience**: these refer to the ability of a livelihood to be able to cope with and recover from stresses and shocks, a key indicator of sustainability of livelihoods. This is a challenge villagers will always have to take care of, guided by the researchers, as it will continue to ensure the safe and sustainable exploitation of their natural assets/capitals.

- **Natural resource base sustainability**: Conway (1985) and Holling (1983) define this phenomenon as the ability of a system to maintain productivity when subjected to disturbing forces, whether stress or shock. In the case of Kubusi village, if the irrigation system is a success, as I propose in my findings of this research, the exploitation of the resource, Kubusi river, should not compromise the availability of the water for consumption by animals or its quality in terms of pollution.

The SL indicators above should assist development agents like Dohne researchers as tools to be used to consciously monitor and evaluate the outcomes of their interventions, should they be involved in reviving sustainable farming in Kubusi and other villages in Amahlathi, as I so wish. Primarily, the indicators above should help Dohne researchers in evaluating the positive impact of their development initiatives in Kubusi and the SLF should serve as a guide for the projects’ implementation.

### 2.5.1 Study Framing

This study draws its framework from two theoretical backgrounds, the SLF adapted by Scoons, I and that of Carney, D (2001) where the five livelihood capitals inform the potential method of implementation (approach) of any development project in the village of study. This research assumes that development practitioners should make a diagnostic study of the village of implementation first, to identify available capitals, as this should influence the decision which “pressure point(s)” or “livelihood capital(s)” to tackle first. In identifying what capital to develop first or to promote, Carney, D and Ashly, C (1999) advise that priority should be given to the capital(s) that is/are likely to have significant impact in the community and in the automatic development of other capitals as well.
As for this study, the capital that should be targeted first is the one that exposes the villagers most to vulnerability, the physical capital, the fence, as dealing with this capital should result to the ripple effect of increasing the value of other capitals in the village. Proper fencing should result in increased sustainability of the development ventures by creating a safe cropping environment from livestock destruction and village thieves.

Secondly, this study is influenced by Carney, D (2001) who talks of five key sustainable indicators as outlined by the IDS in this chapter. For project implementers (Dohne researchers) to know the significance of their interventions (impact), some of these indicators should be met, for the interest of this study, starting with poverty reduction, as it is the primary driver for the undertaking of this study. In the process of striving to eliminate poverty, other indicators should be met as well.

It is my opinion that all five livelihood resources (financial, physical, human, social and natural) that Scoones talks about in his framework should be investigated, as it is the outcomes of that investigation that should suggest which pressure point to target first, their availability or not in the village of study. Same with sustainability indicators, I suggest that project implementers should gunner to answer to all of them but targeting primarily poverty reduction, as this should lead to the fulfilment of other indicators as well.

2.6 CONCLUSION

This chapter has to a certain extent exposed how South Africa is food insecure and how food security has been promoted by national and provincial government of the Eastern Cape through policy promulgations. Secondly, the relationship between sustainable development and rural development has been highlighted with the aim of understanding the benefits of fostering this relationship for the improvement of sustainable agriculture in the villages. Sustainable Livelihood Framework has been discussed as a tool to be utilised in implementing rural development strategy and I have made an effort to unpack what the framework entails. Lastly, five sustainable livelihood indicators have been highlighted as monitoring and evaluation tools to assess the realization of the rural development interventions in the village of study.
CHAPTER THREE

METHODOLOGY FOR THE CASE STUDY OF KUBUSI VILLAGE

3.1 INTRODUCTION

Methodology refers to how one applies one or more research designs to the research problem (Hofstee, E. 2006:108). Patton (2002) elaborates to say that Research Methodology refers to the techniques, procedures and methods that are used in implementing a research design or plan and that it includes the systematic study of methods that are or can be applied in a discipline. He concludes to say that this is a general approach the researcher takes in carrying out the research project.

This chapter discusses the research methodology of the thesis which includes the following: research paradigm, the methodological approach, research type, research design and methods, the research tools, data analysis, verification and ethics.

3.2 PARADIGM OF THE RESEARCH

After carefully considering different types of paradigms that exist to conduct social research, I concluded that interpretivism best suited my philosophy, my fundamental beliefs, the paradigm I fall in. Giving the origins of this perspective, Niewenhuis (2010) reveals that it developed in the 19th century as a philosophical theory of meaning and understanding, and also of literary interpretation.

With my curiosity of understanding the cause(s) of the decline of subsistence farming in Amahlathi villages, my quest for this knowledge is better explained by theorists such as Friedrich Schleiermacher and Wilhelm Dilthey (2010). According to them, understanding is “the process of psychological reconstruction, whereby the reader reconstructs the original intention of the author”. In this view, the text is the expression of the thoughts of its author. This was in line with my belief that, if I had to know the cause(s) of the decline in rural farming in Amahlathi villages, I had to interpret the texts, which were the thoughts expressed by villagers (the authors) in Kubusi during interviews, villagers being the authors about the potential causes of the decline of their farming. In highlighting this process, Niewenhuis (2010) concludes that interpretive studies generally attempt to understand phenomena through the meanings that people
assign to them, in this case the meanings assigned by Kubusi villagers to their phenomena, the decline of their farming and the subsequent food insecurity and poverty.

The interpretivist perspective, according to Maree (2010) is based on the following assumptions, that:

- Human life can only be understood from within - meaning that interpretivism therefore focuses on people’s subjective experiences, on how people “construct” the social world by shearing meanings, and how they interact with or relate to each other. In studying the phenomena (decline in rural farming in Amahlathi), I used the research techniques (interviews and observation) that helped me understand how people interpret and interact within their social environment.

- Social life is a distinctively human product - interprevisists believe that reality is not objectively determined, but socially constructed (Husserl. 1965). This notion is fueled by the underlying assumption that by placing people in their social contexts, there is greater opportunity to understand the perceptions they have of their own activities. This was particularly the case with the villagers at Kubusi, whom I visited in their homes to conduct interviews.

- The human mind is the purposive source or origin of meaning - this implies that by exploring the richness, depth and complexity of phenomena, I could begin to develop a sense of understanding of the meanings imparted by Kubusi people to the declining of their subsistence farming and their social context (the experienced hunger/poverty, unemployment and food insecurity). Through uncovering how meanings were constructed by the villagers in the village of study, I could gain insights into the meanings imparted by them and this improved my comprehension of the situation as a whole.

- Human behavior is affected by knowledge of the social world - interpretivism is of the view that there are multiple and no single realities of phenomena, and that realities can differ across time and place. There is thus a two-way relationship between theory and research. Social theory informs our understanding of issues, which, in turn, assists us in making research decisions and making sense of the world. As I conducted interviews to a wide range of
age groups, this helped me in understanding the different perspectives and interpretations assigned to the declining rural farming by different age groups in the village of study all reflecting to their own different life experiences.

- The social world does not “exist” independently of human knowledge – it is believed that as researchers, our knowledge and understanding of phenomena constantly influence us in terms of types of questions we ask and the way we conduct our research. This was reflected in my questioning of the rural farming to the villagers in Kubusi which was influenced by my prior knowledge of the farming in the village before the decline.

3.3 RESEARCH APPROACH

Maree (2007:51) argues that “qualitative research focuses on describing and understanding the phenomena within their naturally occurring context they call “naturalistic context” with the intention of developing an understanding of the meaning(s) imparted by respondents of interview. He describes the situation as “seeing through the eyes of the participants”. It was for this reason that I chose to conduct interviews (a qualitative method), as they offered me an opportunity to be personally closer to the villagers and journey with them in their narration of their farming stories. This allowed me to be able to describe the rural farming dilemma in Kubusi through the meanings that the villagers had as participants (interviewees) in the research process.

As qualitative research approach is concerned with understanding the processes and the social and cultural contexts which underlie various behavioral patterns and is mostly concerned with exploring the “why” questions of research (ibid), it was my interest to know “why” there was/is a general decline in sustainable farming in the villages of Amahlathi and “how” the decline was/is affecting the villagers in their daily lives so that Dohne might intervene to reverse the decline.

Holloway and Wheeler (1996) talk of focusing on the meanings and interpretations of research participants, something that naturally took place when I interviewed research participants.
3.4 RESEARCH TYPE

This research is explanatory in nature as it seeks to answer my question “Why is there a decline in sustainable farming in the villages of Amahlathi?” This is the question that has led me to want to establish explanations for this new phenomenon which has brought with it poverty and suffering to villagers who used to live lives of fulfilment and abundance.

This research project is informed by an empirical research question which is explanatory in nature, requiring an explanatory research design. This is a kind of research which asks “why” questions: why this happen, how did it happen, what processes are at work? (Mathew and Ross, 2010). This research is the first conducted in Amahlathi with the aim of explaining the cause(s) of the decline in subsistence farming among villagers in this local municipality.

3.5 RESEARCH DESIGN

Research design is defined by research scholars “as a plan or strategy which moves from underlying philosophical assumptions to specifying the selection of respondents, the data gathering techniques to be used and the data analysis to be done” (Maree. 2007: 70). In case of this study, I opted for a case study as a suitable design for this research.

Defining a case study research, Bromley (1990: 302) states that it is a “systematic inquiry into an event or set of related events which aims to describe and explain the phenomenon of interest”. Yin (1984:23) complements the statement above by defining the case study research method “as an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used”. Taking into consideration the research problem, the decline of sustainable farming in the villages of Amahlathi, I could not see any better research design that would give me liberty to scrutinise the factors that might have contributed to the dramatic shift in the lifestyle of the villagers. All this investigation was done in the natural context of villagers’ living space, the village.
One more advantage of using the case study as a research design was that it allowed me to observe independently other influential factors that might have contributed to the decline of rural farming in the village of study without relying on a secondary source. With the case study method, I could quickly verify and corroborate information from the villagers through observation and interviews.

The research design comprises two components of data collection methods: observation and interviews.

Observation is what primarily triggered this research as I resides in Amahlathi Municipality, close to the village of study, Kubusi. Defining observation, Nieuwenhuis (2007) states that it is a systematic process of recording the behavioral patterns of participants, objects and occurrences without necessarily questioning or communicating with them. As a qualitative data gathering technique, I used observation in order to gain deeper insight and understanding of the phenomenon being observed (ibid: 120). As there are different types of observation, I chose to adopt a “complete observer” posture, as I was a non-participant observer looking at a situation from the perspective of a visitor in the village in which I visited to collect data through interviews (Maree, 2007: 85).

3.6 RESEARCH METHODS

The research design comprises two components of data collection: observation and interviews. One of the two methods used was observation.

Observation is what primarily triggered this research as I reside in Amahlathi Municipality, not far from the village of study, Kubusi. Defining observation, Nieuwenhuis (2007) reveals that it is a systematic process of recording the behavioral patterns of participants, objects and occurrences without necessarily questioning or communicating with them. As a qualitative data gathering technique, I used observation to gain deeper insight and understanding of the phenomenon I was observing, the dramatic decline of sustainable farming by villagers, with its negative socio-economic consequences.

Before arriving at the village of study, I went there with the anticipated aspects to be answered without asking any person but through my observations. I went to the village
of study wanting to know to which extent the youth was involved in rural farming, the age of the people that were still involved in farming and their gender differences. More, I wanted to know about the land ownership in terms of gender. For the purpose of recording what I observed, I used running records, meaning that I consistently took notes of things of interest that I observed during my visit to the village of study, what is known as field memos in the research world.

After I had gathered villagers to a general meeting to appraise them about my study, calling both those who were still farming and those who had given up farming, I could not miss the assumption that at the end they were hoping to get funding through my visit to the village. They assumed that I was a government or NGO agent.

The second method I used was semi-structured interviews, in accordance with interview guides. Semi-structured interviews are the types of interviews that allow the researcher to draft a set of predetermined questions based on the researcher’s area of interest (Mathews & Ross, 2010). Another advantage of using semi-structured interviews was that they allowed me to corroborate data emerging from other data sources, that is, the interview responses from different participants in the village of study.

The interviews allowed me to ask probing questions on a wide range of contexts. The importance of probing questions with a view to adding quality to the data gathered is credited in the qualitative research world for its benefit in maximising the amount of data and its verification simultaneously. This assisted a lot in my data validation. Interchangeably, I used both probes, elaboration probes when I needed a full picture of the situation presented by the respondent or clarification probes when validating my understanding of whether what had been said was correct. Maree (2007) broadly explains this process as a two-way conversation in which the interviewer asks the participant questions to collect data and to learn about the ideas, beliefs, views, opinions, and behaviors of the participant. I chose Interviews for being suitable for this research as they gave me space to interact intimately with the villagers so as to obtain authentic accounts of their experience in rural farming.
3.7 RESEARCH TOOLS

Semi-structured interviews allowed me to draft a set of predetermined questions, by using interview guides based on the area of my research interest. I had to prepare two sets of interview guides, for both farming and non-farming family heads. The interview guides were composed of 12 questions and prompt follow up questions (when need arose) that probed the following broad areas of concern:

- why the family was involved in rural farming and the general perception of villagers of their declining subsistence farming,
- (ii) what constraints they were faced with in their farming,
- (iii) how much interest did the youth show in rural farming,
- (iv) what help were they hoping to get from government or Dohne and
- (v) how they were coping with food insecurity (see appendix. Fig: 3; 4; 5).

The importance of probing questions thus adding quality to the data gathered became evident in the process and I fully exploited this opportunity in my data gathering session.

I also prepared an interview guide for my key informant, the Extension Officer for Kubusi village. In preparing for semi-structured questions for this interview, I focused on:

- the official responsibilities as the Extension Officer in Kubusi,
- the perception of the declining rural farming and constraints to farming he has identified in Kubusi,
- his intervention plan,
- his perception of youth involvement in farming in the village,
- the nature of support he was getting/expecting either from Provincial government or Dohne to improve the situation.

Twelve semi-structured interview questions were also prepared for the officer with prompt follow-up questions when need arose.
The last set of interview guides were for my other key informants, two Dohne crop scientists researchers. A set of interview questions were prepared for Dohne officials that broadly probed:

- the general government policy mandate of Dohne in the promotion of rural farming/food security in the Eastern Cape,
- their experience in dealing with the villages in Amahlathi,
- their personal assessment/perception of the declining rural farming in Amahlathi villages and possible mitigating measures,
- their method/approach of intervention when need arises in the villages.

In this instance, I prepared 11 semi-structured questions with prompt follow-up question when the need arose.

To perform my observation, I went to the village of study with the list of issues I had in mind for my observation, the observation checklist. I went there wanting to note something about the:

- age of the people that were still involved in rural farming,
- gender differences of the participants in my research,
- type of people who owned land and
- the high number of fields that were left unused and not fenced.

Lastly, I wanted to see what strides the Extension Officer has made on the ground, in terms of implementing projects or helping in that process that would be meant to assist villagers, to justify his presence in the village.

3.8 RESEARCH PROCESS

I visited the village of study, Kubusi, where interviews were conducted. I had to inform a local councilor first about my intention of conducting the research. After getting the permission from the councilor, I gathered villagers, appraised them as well of my research intentions and selected the sample for the interviews from them, which is what I call target population.
A target population includes people, objects or places from which the researcher plans to draw the sample for data collection (Lesley, 1999). In the case of this research, the target population was all the residents of Kubusi village, roughly eight hundred households. **Criterion-purposive sampling** was used for interviews from the case study to identify the research participants, first by identifying all family heads who were still farming and those who were no longer farming, for whatever reasons.

According to Maree (2007), criterion purposive sampling decisions are not only restricted to the selection of participants but also involve the settings, incidents, events and activities to be included for data collection. He further charges that, sampling implies that one decides at the design stage of a study the typical characteristics of the participants to be included (criteria to be met) and the number of participants in the data gathering process. He goes on to explain that criteria might include age, place of residence, gender, class, profession, and marital status (*ibid*). The criteria chosen were those that assisted the researcher in selecting those participants most likely to possess the experience, or know about, or have insights into the research topic which is the decline in rural farming in Kubusi. This is exactly what guided my selection of the sample. I focused first on the people who had land, who were household heads, who were once involved in farming, or who were still farming, either males or females and not older than 60 years.

In the village of study, ten family heads were purposely selected for interviews. I selected ten family heads because the number had to be manageable due to the time available for the research project as I am not a full time researcher. Secondly, by looking into family heads for my research questions, there was a better chance that I was going to get first-hand information as family heads, whether male or females, are usually the people who are directly involved in rural farming to feed their families. During the public gathering I called, family representatives were requested to forward their family heads names, written down in a small piece of paper for balloting to choose interview candidates. There were two broad categories, the “still farming families” and “no longer farming families” heads. It was from these two categories that interview subjects were selected randomly (raffled). I randomly selected the participants for interviews so as to minimize the chance of being biased to certain families as I know
some of the family members. For still farming families, there were twenty seven names and for the non-farming families there were only eleven names.

I chose five respondents from families that were still farming. The purpose of including this group of families was to understand the nature of the difficulties they were experiencing in their farming. The other five respondents came from family heads who had previously been farming but had not done so for the previous two to five years. From this group I wanted to know the factors that had led to their decision not to farm anymore. I decided to choose these groups since both had knowledge and experience of farming in Kubusi, which made them relevant for the research question as suggested by criterion sampling above.

I felt the need to include Extension Officer for interviews in this study since he works for the government to improve rural farming in the village of research. It was my understanding that through the extension officer, I could gain an independent insight into the farming circumstances of the villagers of Kubusi, as well as the challenges faced by the villagers from the perspective of the official who has an element of scientific approach in looking at and solving farming problems. This insight would be independent in the sense that the extension officer, by virtue of his status as a non-resident of Kubusi, might have viewed the situation from a different perspective. His views would be independent because of his status as a government representative.

Lastly, I considered the extension officer a source of information in indicating the strengths and limitations of my ambitions in my quest to see sustainable farming revived in Kubusi, with the involvement of Dohne. He would also be aware of the resources the Eastern Cape government could offer to the villagers in her quest of improving food security and eradicating poverty in the rural areas of the Eastern Cape.

Dohne officials were identified on the basis that they were already involved in improving food security levels in other regions and villages of the province, as crop scientists. The institution is expected to make some interventions that would stimulate positive results in Kubusi farming and later on in villages throughout Amahlathi. It naturally came to my mind that, if Dohne is to be involved in the challenge of improving the decline in sustainable farming in the villages of Amahlathi, it was logical for me to first know the strengths and limitations in the existing official mandate that guides
Dohne officials in their interaction with villagers in pursuit of food security and hunger eradication in the province. Furthermore, it was my interest to know whether Dohne had a plan in hand outlining its approach in facing challenges similar to the one posed by the research question.

The whole process of data collection took a full three weeks. I spent two weeks at Kubusi village. The process took longer than anticipated as I was the working person who had to visit the village during afternoons after work. In some instances, appointments were missed by villagers as they had to attend to family issues. This resulted in me having to visit one respondent more than once.

There were challenges during the research process. Although the villagers were told that two groups from the village were required for the interviews, the farming and the non-farming families, all those who I visited for interviews claimed to be farming, only for the researcher to discover through his questions that this was not so. I could not make villagers account for this turnaround as I suspected that the self-proclaimed farming villagers were hoping to get something first before the non-farming group. Since it was still early for the year’s ploughing season, I could not independently verify who was still farming and who was not. Another problem I experienced was the limited time I spent in the village due to having to visit the village during the afternoons. This made me see fewer villagers on a given afternoon.

3.9 RESEARCH ASSUMPTION AND DELIMITATIONS

This research has been influenced by the researcher’s point of view/assumption that the poverty and unemployment prevailing in the villages of Amahlathi Municipality is due to the decline of subsistence farming by the villagers. This is a socio-economic situation that could be improved should the people of these villages be assisted by Dohne with technical and scientific advice. The fact that the area’s vast tracts of communal land are no longer tilled (by the villagers) is a testimony that the villagers have a problem in maintaining their lifestyle of subsistence farming, a change which affects their sustainable living negatively. Since the study will be focused on one of the villages of Amahlathi, Kubusi, it is my wish that, in case of positive results following intervention, Dohne produce a model it will use as an intervention strategy that could
be applied in other villages as well (scaling up of the intervention) in all the villages of Amahlathi.

As a person who is familiar with rural life in this area and having witnessed how people of this area have sustained themselves through sustainable farming for food security, sometimes with surplus produce, I could not help but contrast those times of plenty with the existing poverty and food insecurity which is the order of the day in the villages. I deliberately refer to the villagers’ farming practices as “sustainable farming” as in their farming methods they have never relied on chemicals in a form of fertiliser to induce good harvests, rather, they used organic manure from cow dung and organic compost to feed the soil for better harvests. In simple terms, there was food security in the villages of Amahlathi and people never found themselves having nothing to do as there was always work to be done in the form of tending their gardens or crop-fields.

Noting that DARI is an institution situated in Amahlathi with a provincial mandate to support commercial and subsistence farmers equally (with livestock and crop farming advices), it stands to reason that its close proximity to the people of Amahlathi should have positive outcomes in their agricultural livelihoods.

With their research skills background, scientific farming methods knowledge (as crop and animal scientists) and farming technology at their disposal, Dohne personnel can advise on development of crop varieties that may suit the soil type of Kubusi village (crop diversification) and they can assist villagers on how to deal with the climate change in their crop farming. They can advise on which biological pest and disease control methods will best suit farming villagers, how to launch an irrigation system for the villagers as Kubusi has access to a river that never dries up.

3.10 DATA ANALYSIS

Literature on qualitative data analysis documents a range of approaches, processes and procedures whereby researchers extract some form of explanation, understanding and interpretation from the qualitative data collected of people and situations they are investigating (Nieuwenhuis, 2007).
The observation that qualitative data analysis is usually based on an interpretative philosophy that is aimed at examining meaningful and symbolic content of qualitative data is what has driven me to conclude that, based on my interpretative chosen paradigm of this study, **content analysis** is best suited for this research. Through this analysis, I tried to establish how participants in Kubusi understood the meaning of their situation. With the use of interview transcripts, I tried to identify and summarise message contents of their narratives.

The comment by Nieuwenhuis that “sometimes content analysis is used when working with narratives such as diaries or journals, or open-ended questions on surveys, interviews or focus groups” (2007:107) justified my decision of choosing content analysis approach for data analysis. My content analysis became possible after I had organised my data through **coding method**, defined by Maree (2007) as a process of reading through the transcribed data (interview transcripts), line by line and dividing it into meaningful analytical units.

Due to the nature of my research paradigm, that of interpreting what the research respondents perceive of their farming situation in Kubusi, I had to adopt **inductive coding** during the my data analysis. Maree (ibid: 107) explains this process by saying that “inductive codes are developed by the researcher by directly examining the data”. I could not choose “**priori coding**” as that would have meant I went to Kubisi village with pre-determined responses as this type of coding is used when the researcher “decides to develop a set of codes before examining the current data” (ibid).

It was after inductive coding that I could start a process of **enumeration**, **categorisation**, and searching for relationships and patterns from the data gathered and it is only then that the data become relevant.

### 3.11 VERIFICATION

Mindful of the possibility of becoming subjective during the process of data collection of the situation of the villagers in the village of study, and becoming biased regarding the stories told by the villagers of their situation, this leading to be too sympathetic towards the villagers, I decided to apply strategy known as “**member checking**” where the I verified my understanding of what I had observed or had been told by the
respondents with other respondents in the village of study. (Nieuwenhuis in Maree (ed), 2007). What I did was to pose certain statements expressed by villagers during interviews to other villagers as questions during the interview process. In some instances, I would want the opinion of the extension officer on a matter that the villager has alluded to. Typical example was to know from the Extension Officer why villagers struggled to access the Municipality tractor. This strategy was of double benefit to me as it assisted to further perform the “probing” of responses given by the interview respondents in the village during interviews. Maree (2007) explains the benefit in this approach as being that, the researcher has the opportunity of instantly correcting errors of fact in the data collected.

3.12 TRIANGULATION OF DATA

Triangulation, which I achieved through the use of different methods-interviews, observation and key informants, is another form of data verification. Terre Blanch (2004) concludes that triangulation is critical in facilitating interpretive validity and establishing data trustworthiness. McMillan and Schumacher (2001) elaborate by saying that triangulation is helpful as it reduces the risk of chance associations and systematic bias, and relies on information collected from a diverse range of individuals, teams and settings using a variety of methods. The involvement of the Kubusi extension officer in the list of interview respondents was intended to allow triangulation of all that was said by interview respondents in the village of study, as both were expected to reflect on the same context – village farming – responding to similar questions. The extension officer for instance highlighted the disappointment of having to work with elderly people in the village while young people showed little interest, something that was not mentioned by any of the villagers during interviews. The same was reported by the Dohne scientists during interviews, the lack of youth participation in rural farming, a disappointing experience when they worked with the villagers in other areas, something they termed a “generation gap”, this reflecting on the youths’ lack of interest in rural farming compared to their parents.

3.13 RESEARCH RELIABILITY

In defining reliability, Pietersen and Maree (2007) opine that “if the same instrument is used at different times or administered to different objects from the same population,
the findings should be the same. Put in simple terms, reliability is the extent to which a measuring instrument is repeatable and consistent.

For this research, reliability involved the Dohne officials who were asked to check the consistency of questions asked during interviews whether they were addressing the research aims and objectives. This refers to the interview questions for both farming heads and non-farming heads of the families. As research experts in their own right, the researchers could easily identify deviation from the question and the intended research aim or objective it intended to address, but fortunately, they accepted the questions as fulfilling the desired outcomes, as my supervisor did.

3.14 RESEARCH VALIDITY

Maree (2007) defines validity of an instrument as referring to the extent to which it measures what is supposed to measure. He elaborates that in the human sciences, this is problematic since instruments need to measure human emotions like anger and motivation.

The validity of the data collected during interviews from findings were taken care of by providing copies of the draft report to the Kubusi Extension Officer so that he could add remarks and written comments based on his knowledge of the farming context of Kubusi. I requested the Extension Officer to verify what was said by the villagers, by writing comments where there was a need. Nieuwenhuis term this process stakeholder checks which, he claims, enhance the credibility of research findings by allowing research participants and other people who may have specific interest in the research to comment on or assess research findings, interpretations and conclusions.

3.15 ETHICS

Ethics refers to all considerations that the researcher has to undertake before engaging with his or her subjects of research in order not to prejudice, expose to harm or exploit the subjects of research for personal gain. Ethical considerations are simply meant to protect the integrity of the research subjects (Maree & Van der Westhuizen. 2007). Not only human beings need to be protected against abuse by the researcher but the environment as well, if the study has potential to affect the environment negatively (ibid: 118).
This would start with the permission that an academic researcher has to obtain from the ethics committee of the institution he/she is studying with before he/she may engage with the subjects of his/her study (Hofstee. 2006).

In case of this research, I categorically stated to the university’s ethics committee that no elderly people (aged over 60) would take part in the research interviews. I fully complied with this undertaking as many elderly people, who wanted to take part in the interviews were respectfully turned down in the village of study.

In order to deal with the ethical issues, especially that of the confidentiality of results, the findings of the study and the protection of participants’ identities, I gave an undertaking to the interview participants identified in the village that everything they disclosed would remain confidential. Secondly, the respondents were told of the purpose of the research and were informed what to expect and what not to expect. The respondents were informed that their participation was voluntary and that there was no money or any other material reward. I fully complied with the ethical clearance process of the university to maintain full ethical transparency and the ethical clearance certificate is attached as Annexure A.

3. 16 CONCLUSION

In this chapter, the research methodology has been discussed and its related concepts. I have justified my choice of the research paradigm, methodological approach, type of the research, research design and methods, research tools for data collection and the data analysis approach, data verification and triangulation. Lastly, I have explained how I have addressed research reliability and validity and ethical considerations.
CHAPTER FOUR

FINDINGS: EMPIRICAL EVIDENCE FROM THE CASE STUDY ON THE DECLINE OF SUSTAINABLE FARMING IN KUBUSI VILLAGE

4.1 INTRODUCTION

This chapter focuses on the presentation of data collected during the course of the research. An analysis of the findings in the format of discussion follows. The first section, therefore, deals with reporting of responses to the interview questions, whereas the second part provides a qualitative analysis of the findings.

4.1.1 Empirical findings

None of the evidence that is presented and analysed was from any of secondary source but from interviews I conducted at Kubusi village.

4.1.2 Demographics

During the interviews, I noted that a significant number of households were women-headed as 40% of the interview respondents were women. Surprisingly, even those elderly persons who I excused to participate due to their old age were women. This alone demonstrates the importance of women’s involvement in rural agriculture, which is why the South African government always pay special attention in empowering rural them through its development policies.

The researcher also noted the high number of unemployed participants, which was 100%, as all the participants reported to be unemployed, this again confirming the hardship faced by the people in the village of study. It was revealed by the women who mostly were widowed that the reason for their continued involvement and not giving up sustainable farming was due to the fact that, there were children to feed regardless of being employed or not, and that there were no male figures at home who would work for cash to support the families.
4.1.3 Reported causes of the decline of agricultural activities in Kubusi

The reported main cause of the decline in rural farming in Kubusi could be attributed to inadequate fencing. This problem led to damage to crops by roaming livestock.

Without a good fence it was always difficult for the villagers to monitor the movements of their livestocks by day and by night. There was fence that was put up by the Municipality, but after repeated cases of stripping and stealing of the fence the Municipality simply stopped fencing. The villagers on their own are unable to raise any funds to buy fence. One non-farming villager for instance expressed his disappointment with the situation in Kubusi with the comment that “the grazing camps were not fenced either; this was exacerbating the problems caused by livestock to the village farmers,” and that continuing with farming was like “throwing the money to the running stream of water” (Respondent: 2. August: 2014).

“Those of us who tried to fence our fields suffered the consequences of theft as the wire was stolen at night by some villagers for domestic fencing,” reported the still farming villager (Respondent: 7.6 August 2014). The villagers reported that the establishment of the new settlements due to RDP housing in the village was fueling this theft of fence.

Added to the problem caused by livestock to rural farmers was the challenge posed by thieves who would steal the produce even before the village farmer had started harvesting – this was reported by the majority of the village respondents. The impact of hunger and food insecurity was reported to have reduced young and old into thievery in the village of study. The still farming respondent complained of having to endure “the strain of having to literally watch for thieves in his maize field day and night” in order to get “reasonable harvest out of (his) sweat of months” (Responded: 7. Ibid).

Of the respondents, most mentioned their struggle to access tractors to plough their fields, especially with the high cost of hiring one – upwards of R1 400. The fees were perceived to be exorbitant by all interview respondents as they mentioned their unemployed status, one villager saying “we had to rely on our relatives and family
members who were working in the small local chemicals plant, Newden, and chicken abattoir, ANCA, or working away from Stutterheim in big cities” (Respondent: 5. 5 August 2015).

Of the respondents, a significant number mentioned the handicap of not having the money in good time for ploughing. As a result they were not using their fields fully as they had to resort to using their oxen (those who still have them) “which were not fit enough or numerically not enough on occasions” for the task at hand (Respondent. 3. 5 August 2014). For that reason, some of the respondents had decided to continue farming only in their gardens, leaving the fields lying fallow. The extension officer reported that on average, the people of Kubusi own 3ha of land per family.

As a testimony to the claims made by the villagers, the researcher could observe at first-hand what was said by the villagers during his visits to the village, as stretches of fields lay unfenced, covered with grass and weeds, a sign of their desolation.

Other family members, two widowed women agreed that although they had some cows at their homes to use for ploughing, they did not have men in the family to do that kind of work. They contend that this “necessitated that we go out to look for the services of a tractor, just like those who had no cows” (Respondent 6. 6 August 2014).

A significant number of respondents mentioned their struggle to buy seeds whenever the season arrived to start planting. They said they would reserve some seed from the previous year’s harvest, but would be forced to use it for food when the times were tough. The villagers reported that sometimes they had to share what was left with extended family members who were not involved in rural farming (for various reasons), thus reducing what could be called the “surplus harvest which was always reserved as seeds for the coming ploughing season” (Respondent 5. 5 August .2014). This was one aspect that respondents mentioned to be hard to resist as they would resort to consuming what they had reserved for the next ploughing season than going to money lenders known as “loans sharks”, for money to buy food.

Most of the respondents complained about bad weather as a factor that hampered sustainable farming at Kubusi. They said weather patterns had changed, explaining: “It confused our timing of starting to plough, as rains came late or earlier than
expected” (Respondent 1. 4 August 2014). Damage to crops caused by heavy rains was highlighted; the respondents arguing that “this sometimes made it difficult to perform weeding, thus rendering crops to waste and only good as fodder for livestock” (Respondent 1. ibid). In the same vein, drought was noted as a hindrance to good harvest or timely ploughing of the fields. “The late coming of rains would put us off from the ambition of making our fields useful to our plight of poverty and hunger”, according Respondent: 5 (5 August. 2014). The researcher could easily understand that the causes of changed weather patterns were due to global warming, a phenomenon caused by unsustainable human lifestyles.

Below is a summary of the major constraints that have been mentioned by the villagers in Kubusi.

**Table 4.1: Major constraints faced by Kubusi sustainable farming families.**

<table>
<thead>
<tr>
<th></th>
<th>Fence</th>
<th>Technical assistance</th>
<th>Weather</th>
<th>Seeds</th>
<th>Theft</th>
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<tr>
<td>Revealed by villagers as the major constraint as its absence encouraged theft by fellow villagers and crop destruction by animals</td>
<td>Lack of financial capital limited villagers to hire this physical capital</td>
<td>Changed weather patterns confused villagers when to start ploughing and they could not mitigate drought and storms that destroyed crops</td>
<td>Food insecurity resulted in consumption of seeds that could not be recovered during planting season due to lack of finances</td>
<td>Poverty has compelled villagers to thieving as unemployment reigned supreme in the village</td>
<td></td>
</tr>
</tbody>
</table>

Revelations from the villagers above have truly attested to my suspicions that there were some factors beyond the control of the villagers that could have triggered the negative trend in sustainable farming of Kubusi villagers.

The reported lack of fence that triggers a chain reaction of negative outcomes, such as theft and livestock destruction of crops was readily observable to everyone.

The lack of finances to buy seeds and hire tractors during the ploughing and planting time has also been indicated by the villagers as one factor that has led many families to abandon farming. The lack of technical support in the form of tractors drew many villagers out of family farming. Many of these have government grants as their as their main source of income.
It is for this reason that the I am of the opinion that villagers need external help to revive the rural farming in Kubusi and the entire Amahlathi through the assistance of Dohne (their scientific expertise and resources) and provincial government (for funding). Dohne will help with their advanced weather forecasting and organisation of farming inputs and implements in partnership with government. More of this will be unpacked under discussion section.

4.1.4 The coping mechanisms of food-insecure families at Kubusi

Most interview respondents agreed that they were involved in sustainable farming for one primary reason, to feed their families. Secondly, they all agreed that there was a decline in their farming activities due to the constraints mentioned above.

All of the respondents revealed unanimously that they bought food from hawkers in the village or the nearest town, Sutterheim, a shift away from relying on harvesting from their gardens or crop fields. They were quick to mention “the suffering they had to endure due to high food prices, this coupled with a lack of income, as the majority of the respondents were unemployed” (Respondent 3, 5 and 8. 5 August 2014).

The effect of food insecurity was highlighted as one reason that all of the families refused to let go of subsistence farming “as sometimes it was not easy to always have hard cash to buy food, even maize meal, which is the staple food of us villagers” (Respondent: 5. 5 August. 2015). It was revealed by some of the villagers that when crop farming could not sustain them, “they had to resort to selling livestock to neighbouring commercial stock farmers to obtain cash for buying seeds or for hiring a tractor during ploughing season: (Respondent 9. 5 August 2014). Periods of economic hardship were mentioned as the primary cause for the selling of livestock “at very cheap prices” to local white commercial stock farmers” as the last resort and a norm to all cattle-owning families. (Respondent 7. 5 August 2014).

The fact that a white farmer “would buy a cow at half the price and charge double the price when selling the same cow to another black person or at auction did not deter villagers from approaching neighbouring white farmers for quick cash at times of financial need” (Respondent 10. 6 August 2014). For this reason the extension officer is of the opinion that “apart from assisting the Kubusi villages in crop farming, villagers
need to improve the bloodline of their livestock as beef and milk breeds, thus making this livelihood of maximum benefit to the villagers" (Kubusi extension officer: 15 August 2014).

All of the respondents confessed to consuming part or all of what they had kept as seeds, especially maize, for the coming year’s planting to deal with starvation.

Below is a table that summarises the coping strategies used by the rural farming community at Kubusi in times of poor harvest due to unfavourable weather (drought or heavy rains).

<table>
<thead>
<tr>
<th>Buy food</th>
<th>Consume seeds</th>
<th>Sell cows</th>
</tr>
</thead>
<tbody>
<tr>
<td>The majority of the villagers reported that they buy food during the time of bad harvest</td>
<td>A significant number revealed that they resort to consuming seeds (maize &amp; potato)</td>
<td>The minority resort to selling their cows, as a last option in times of desperation</td>
</tr>
</tbody>
</table>

Interestingly, buying food is the ultimate coping strategy to all villagers when threatened by food security. This must be noted against the background of high unemployment rate of rural farmers which implies that it must have been a struggle to villagers to raise cash for food.

The low percentage of families selling cows to white farmers lately is indicative of the reduced number of households that still own cattle, reasons such as the over reliance on this livelihood as financial capital by villagers and the frequency of natural disasters like drought as highlighted above.

4.1.5 Current agricultural methods in the village.

Most of the village respondents mentioned “the use of and reliance on cow manure as an input to induce better harvests”. There is a general reliance on the part of all respondents “on the use of tractors in tilling the soil, even among those who have cows, due to a lack of people competent to yoke cows” (Respondent: 4.5 August. 2014). Many of the respondents in the village complained about the “changed and confusing weather patterns” that made them “lose the right timing to start ploughing” (Respondent: 15 August. 2014). Almost all of the respondents reported they used
manure as an input for better yield. The few who mentioned the use of fertiliser said "it took the place of the manure they used to use after they ceased to own enough cows, through either drought or sale" (Respondent: 5, 9. 5 August 2014). They were happy with the results of using fertiliser but were not happy with the cost of its purchase. Although the villagers used fertilisers, it became clear that “there was limited understanding of the chemical composition of the fertilisers and their long-term damage to the soil” (Kubusi extension officer. 15 August 2014). The researcher observed that there was little awareness of the damage chemicals might cause to other sustainable livelihoods, for instance, the river bordering the fields.

The reliance on organic cow manure proved to have been a long-standing practice in the village which saved the villagers from buying expensive fertilisers. Much as manure has been the input of choice, it must be reported that even this organic input is no longer readily available due to the decline of livestock in the village of study, “as many families have sold their cows or cattle have died due to drought” (Kubusi extension officer. Ibid).

It looks like there is not much left to sustain rural farming in Kubusi as the financial situation does not allow villagers to hire tractors in the face of their declining livestock reduced by natural and financial needs on a daily basis, this making it difficult for the villagers to rely on this livelihood asset. The declining availability of manure as an organic input due to loss of livestock makes crop farming more expensive as some families have to rely on chemical fertilisers.

4.1.6 Local perceptions of Dohne by villagers at Kubusi

Most of the respondents did not know of the functioning of Dohne, they had merely heard the name. The few who did know of the institution simply thought it was meant to assist white farmers only. They did not know how to access help from the institution as rural farmers. Few of the villagers were aware that if one had a problem with one’s livestock, one could approach the agriculturalists at Dohne – but they regarded that as a favour done by kind people at Dohne. They did not know that it was within Dohne’s mandate to assist villagers with their crop farming problems, when asked.
Very few of the respondents knew about the functioning of Dohne. They were aware that the institute helped rural farmers but did not know how to access its help. They knew that Dohne was actively involved in upgrading the livestock of villagers in some other areas. They even mentioned their awareness of the Dohne Merino as a sheep breed produced at that institute. All of the respondents said “they would wholeheartedly welcome the intervention of Dohne in their farming problems” (Respondents at Kubusi. 5 August. 2014). What was surprising to me was that the people of the village did not know much about this government institution, which has a huge responsibility for improving and promoting rural development through agriculture as the Dohne crop researcher indicated in his interview response. This was the indication of a big problem, of the villagers not knowing what government institutions they could go to for assistance in their rural farming. This was one example of the lack of human capital in the village, which I am going to thoroughly explore in the discussion section.

Below is the table that summarises the perceptions of Dohne by people at Kubusi.

Table 4.3: Responses of villagers about Dohne

<table>
<thead>
<tr>
<th>Knew about Dohne</th>
<th>Did not know about Dohne</th>
<th>Did not know how to access help</th>
<th>Dohne did favours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few interview respondents knew what Dohne is all about</td>
<td>The majority did not know what the institution was all about, just hear the name</td>
<td>Few knew about the functioning of the institution, but did not know how to access its help</td>
<td>Few thought that Dohne was about animal and crop farming for whites, did favours to black rural farmers</td>
</tr>
</tbody>
</table>

The lack of human capital in Kubisi was vividly demonstrated by the high number of people who did not know the functioning of the government institution. This must be attributed to the low level of literacy of people in the village as there is a perceived correlation between high literacy and strong human capital in development studies. This explained by the awareness of educated people of the functioning of institutions, both public and private.
4.1.7 Dohne’s official mandate and its intervention approach to rural farming

These were the responses to the research questions asked to the two Dohne officials, a crop research manager and an entomologist (pest controller). The questions sought to know in depth Dohne’s mandate in promoting rural agricultural development in the Eastern Cape.

In their separate responses, the officials both stated that Dohne becomes involved in agricultural development in rural areas in order to:

- promote “food security” by developing/promoting small scale farming as per its mandate from the Department of the Eastern Cape Department of Rural Development and Agrarian Reform (ECDRDAR) under MEC Mlibo Qoboshiyane (Dohne officials: 13 August 2015).

They emphasised that they took their mandate from the provincial department, “a relatively new department of the provincial government tasked with a broad mandate of developing rural communities in terms of promoting food security programmes and supporting rural farmers with agricultural expertise” (Dohne respondent 2. 13 August 2014). It was for this reason that Dohne officials responded with enthusiasm to the research question and interview challenge from the researcher.

In his personal response, the research manager welcomed the interview question that wanted to know the reason(s) for their insignificant impact Amahlathi villages in changing the desperate situation of farming villagers while they were situated at the center of this Municipality. The research manager from Dohne made it clear that their involvement in communities was “needs driven” as they only became involved in the rural areas to intervene by employing the “farmer field schools” approach when invited by the extension officer in charge of a particular locality/ community. This happens after the extension officer has identified the problem(s) that require(s) their researched knowledge (Dohne respondent: 1. 13 August 2014). He explained this approach as “on field training of community members” and that their intervention involved practical demonstrations in the “villagers’ own fields”, in doing so “intervening while also training the villagers” (Dohne respondent 2: 13 August 2014)

In scaling up their researched intervention method(s) to the broader community, Dohne officials both revealed that “they would hold farmers’ days” to
(i) transfer information to villagers at large and
(ii) to do demonstration trials which would entail giving practical lessons to
the villagers, allowing them to learn modern farming methods by doing
practical examples shown by researchers (13 August 2014).

They regretted that their valuable knowledge “could not help the people in Amhalthi”
but reiterated that they would take the challenge of getting involved in the villages “at
any given time should somebody, like the extension officer pose it” (Dohne respondent
1. 13 August. 2014).

The lack of enthusiasm among young people to take part in crop farming was reported
by both the Dohne researchers and the Kubusi extension officer, this corroborating
what the researcher has already noted when he conducted interviews in the village.

They failure of the elderly people to impart/transfer rural farming skill to the youth in
the villages was reported as a negative impact on rural agricultural development They
refer to the phenomena as a “generation gap” that emerges when “the younger
generation, especially unemployed youth” became less involved in agricultural
activities and in this way “burdening youth” became less involved in agricultural
activities and in this way “burdening youth with the duty of working the
fields alone” (Dohne respondent 2. 2014). This was happening despite their lower
energy levels and hence they could not cope with some of the manual labour aspects
of crop farming. This was a disappointing revelation to me as one of my objectives
was to see young people participating in Dohne’s rural farming projects. The near-zero
participation of youth in interviews confirmed what was reported by both the extension
officer and Dohne officials. This issue will be dealt with during the discussion phase of
the research data, as it impacts directly to one of the research objectives.

The Dohne officials highlighted the “involvement of Dohne in both crop research and
animal blood line improvement in the villages outside Amahlathi”, but highlighted little
involvement in certain villages of Amahlathi which, they admitted, should not have
been the case (Dohne official: 2. 13 August. 2014). This was demonstrated by the
visible decline of sustainable farming in the villages around Dohne despite their
presence.
The researchers further complained of global warming and climate change as a major obstacle they had to mitigate when engaged in intervention programmes. It disturbed their expected outcomes and in turn prolonged the time spent in trial periods, sometimes with little in terms of resources available.

The use of organic manure and garden compost was championed by Dohne researchers as the most sustainable means of fertilising the soil and being user-friendly in terms of sustainability aspect and accessibility to the rural poor population. The recommendation for cow manure was coupled with the fact that most rural farmers are livestock farmers as well, which means cow manure is easily accessible compared to chemical fertilisers that are expensive for rural farmers. However Dohne officials did not rule out commercial fertilisers but were concerned of their long-term consequences to the land and the environment at large (ecology). They warned that, without scientific knowledge, the use of chemical fertilisers/inputs could do more harm than good to crops and the financial wellbeing of farmers as they are expensive to buy and lead to the soil being dependent on their use.

Below is what I summarise as Dohne Intervention Strategy as revealed by the researchers through interviews. They revealed that:

(i) Dohne becomes involved in agricultural development ventures in the villages only when invited to deal with a problem that has already been identified by the extension officer;

(ii) Dohne conducts on-site training for rural communities through the strategy termed “farmer field schools” mentioned above;

(iii) in scaling up its intervention strategy and researched information, Dohne holds demonstration trials for the broader community so that farmers can “learn by doing” as means of sharing information;

(iv) Dohne does not rely on funding or organise agricultural funding for rural poor communities but rather uses the resources the institute has in pursuing intervention programmes;

(v) Dohne promotes the use of organic inputs more than chemical fertilisers,

(vi) Dohne assists rural farmers in both crop and animal farming; and

(vii) Dohne carries the ECDRDAR mandate and is the implementing agent of this department in the province.
4.2 DISCUSSION

Looking back in Chapter 2, the Sustainable Livelihoods Framework (SLF) is worth mentioning at this stage, as the researcher is relating the research findings to the conceptual framework of this research. The SLF provides a checklist according to which constraints on livelihood success can be measured and prioritised for action to remove such constraints and links between them identified (Ellis, F. 1999). Below are sub-headings adapted from SLF that guided the discussion on the findings of this research.

4.2.1 Financial capital

The research findings have corroborated researcher’s perception about the decline in sustainable farming in Kubusi. The reports by the research respondents in the village have revealed that a number of families have stopped subsistence farming due to constraints such as a lack of money to buy seeds, erect fence and hire tractors. Scoones (1989) reports the following about financial capital that, it is savings that the people in the community might have, possession of credit cards, cattle etc. As Figure 1 indicates, almost all the interview respondents reported to be unemployed, something that did not surprise me, based on the rural nature of Amahlathi Municipality. That people struggle to pay for a tractor or buy fence or seeds, to the point of abandoning farming, bears testimony to the lack of financial capital among farming villagers in Kubusi. The respondents have in fact testified that, it is due to their lack of financial capital that they refuse to let go of sustainable farming as they have no other alternative to sustain themselves.

There is a high rate, by most respondents, of consuming what has been reserved as seeds when money is not there to buy food. The high rate of theft reported by the respondents (Figure 2) in the village indicates the dramatic consequences of living in absolute poverty where residents are inclined to steal because they lack money to buy what they do not have. The decline in live-stock farming among villagers, due to overselling their cows at bargain prices to commercial farmers reflects the dire need of hard cash that confronts the villagers on daily basis.

In the context of Kubusi village, the lack of financial capital seems to have a ripple effect in the villagers’ general development as natural capital, the land is a livelihood
the villagers are secured with. Even though they own the land, it does not fully sustain them due to the lack of necessary inputs to carry on with their family farming.

It could be argued therefore that, rural farming in Kubusi could be stimulated by the injection of financial capital, whether as hard cash to buy the fence or tractors that the majority of villagers depend on for ploughing or directly be supplied with these inputs. The inputs above could be provided by the ECDRDLR or ECDRDAR or any NGO that is interested in the promotion of food security in the village. These would be practical steps of putting rural development policies into practice.

4.2.2 Physical capital

This refers to farm implements, ploughs, roads, fence and tractors the farming community might possess (Scoones. 1989)

Aside from the frustration the villagers experience in the struggle to secure a tractor, the lack of fence has been identified as the major contributing factor to the decline of rural farming at Kubusi, this reported by the majority of the interview respondents (Figure 2). The lack of this physical asset also knocked many families out of farming, either due to the prevalence of fence theft by other villagers or merely damage to the existing fence. The lack of fence was reported to be gradually destroying sustainable farming as it facilitated the theft of crops by other villagers and allowed livestock to destroy crops. Some villagers reported that they had decided to stop crop farming in their fields as that resulted in crop farming families being in conflict with livestock farming families, leading to family feuds in the village. Those who could continue, have reported to be focusing in their gardens for sustainability. The issue of fencing rated as priority No 1 in the needs of the villagers, as most of them expressed their wish that the government intervene in this matter.

The lack of the fence and the money to buy it calls for immediate intervention by the government in the province as there are few chances that the villagers could raise funds in their own to buy this asset. Their unemployment status prohibits their ambitions to restore rural farming back to its former glory and make it a dependable socio-economic activity. By providing fence or money to buy it (by the government of the Eastern Cape Province), could change the lives of villagers for the better, as this
asset could be communally owned and the land fenced be jointly used, as it used to be the situation in the past. The enthusiasm shown by the villagers to continue with sustainable farming justifies this recommendation.

In the list of challenges reported by the villagers, the struggle to hire tractor rated high as it was reported by 80% of the respondents (Figure 2). Tractor is not only expensive to hire but also difficult to secure as there are few or sometimes none in the village. When the one that is owned in the village has a mechanical problem, villagers suffer more as they have to look outside the village and be part of a long queue waiting for the services of the municipal tractor, which is very expensive for villagers. Besides the high prices charged by the municipality, the waiting for a turn to use a tractor is reported to be the frustrating one, as all the villagers in the entire Amahlathi want this municipal services.

The significant decline in the ownership of cows seems to further handicap many families to continue with their farming, hence some families gave up their valuable pieces of land for settlement as it continued to be a useless asset, this again calling for the intervention of the NGOs or government (ECDRDAR) by providing the villagers with tractors, if rural farming in Kubusi is to be saved. The actions of the department mentioned above, of providing tractors to the villagers will be in line with its mandate. This is what other villagers benefit from these departments anyway.

Regarding access roads for Kubusi villagers, all is not doomed as in figure: 4.1 below, we can see that the village gravel roads are maintained by the Amahlathi Local Municipality, connecting the villagers to Stutterheim rural town, which is the commercial center of the entire Amhlathi villages. Easy access of town to villagers could increase chances of scaling up their rural farming and farm for commercial gains as they will have direct market, the grocery shops in town and people from other villages around who frequent the town. This idea is in line with what is espoused by the CRDP which regards access roads to villages as key in the process of recapitalization programme to drive forward rural development through agriculture.
4.2.3 Natural capital

Kubusi villagers are endowed with this capital – that is, the land they possess and the never-drying river that runs below the village. It has been reported by the extension officer that each farming family in Kubusi owns an average of 3ha of land. As a testimony to the abundance of land, some families have given over their non-utilised fields for new settlements (RDP houses). It was the visible non-use of this abundant land that triggered my interest in undertaking this study. It is unfortunate that this capital is not fully utilised, as that depends on financial capital that is not there at Kubusi to drive rural farming forward.

4.2.3.1 Kubusi river—the Natural Capital with a potential for Irrigation System

The SLF talks about “pressure points” that have to be identified before development projects are implemented in the area to be developed. The frame work further advises that the decision as to which pressure point to deal with first should be influenced by the limited resources available (DFID. 1999).

The fact that Kubusi is endowed with a river that never dries up is an advantage the villagers have to exploit in a form of irrigation system to improve their sustainable rural farming. This again calls for the intervention of the government of the Eastern Cape in realising this development venture.

The river should be the driving force in the revival of sustainable subsistence farming in the village, taking it to greater heights if harnessed for an irrigation system. If this could be done, people of Kubusi could engage in crop rotation and diversification and beat seasonal constraints. These two possible farming strategies could quickly transform rural farming at Kubusi to a level of producing agricultural entrepreneurs.

Down-stream, many white commercial farmers have for many years relied and still rely on this river for their farming livelihoods, with vegetables and maize being their major produce. However, it is disappointing to have observed that only a few of interview respondents in the village could see this potential benefit from this natural asset.

The fact that the villagers could not see the benefit of this river for their farming other than being the source of drinking water for livestock should be attributed to their financial constraints as they could not dream of the irrigation system since it is beyond
their financial power to install one. It should therefore be the duty of the Extension Officer to present this development opportunity to the Local Municipality first, as this should provide them with the strategy to advance their Local Economic Development (LED) programme to the government of the province, the ECDRDAR or ECDRLR, as a mouthpiece of the villagers.

With the installation of the irrigation system, there is a greater chance that the youth of Kubusi might be persuaded to take up rural farming and become agricultural entrepreneurs. Moreover, the availability of the irrigation system would make things easy for the Dohne officials to launch their development projects throughout the year as there would be no hindrance from dry weather.

Below is an aerial photograph showing the strategic location of Kubusi village to Kubusi River.

![Figure 4.1: An aerial photograph showing Kubusi village and Kubusi River.](source: Google Earth. Date: 25. 04. 2015)
4.2.4 Human capital

Talking of human capital, Scoones (1989) refers to types of skills, education level and the health of a household of people in the community as human capital. There is little positive to report about this aspect at the village of study. The absence of youth in sustainable farming must be noted as a warning alarm for the downward spiral of sustainable farming in the village under study. As the saying goes, the youth are the future, without young people getting involved in this activity, rural farming has no future in the village of study and the entire province.

The lack of human capital in the village of study was further indicated by the absence of literate people. Very few of the respondents had matric qualifications and consequently, there was little knowledge of the functioning of Dohne by the villagers. However, the absence of educated people did not mean that there was no knowledge possessed by the villagers. This was demonstrated by their indigenous knowledge of the right time to start ploughing and what seeds to preserve for the next season of planting and their use of the organic input, manure.

I was hoping that the better-educated youth had taken up farming from their aging parents in the village of study, but the data gathered disproved this hope. The generation gap that the research exposed in rural farming participation in Kubusi should be a cause for concern as it is an indication of the spiraling decline of rural farming, not only in the village of study but in the entire province, as Dohne researchers have indicated about this negative trend. This is a negative development that directly threatens not only my ambition, in terms of rural development in agriculture, but government ambitions as well, both provincially and nationally hence the development of National Recruitment Youth service Corps (NARYSEC) which I elaborate more on, below.

By nature, farming demands energy and is labour-intensive. This lack of participation by young people in Kubusi (and elsewhere in the province), as revealed by Dohne officials, was a disappointing outcome to me, as I was hoping that Dohne would target youngsters in their intervention so as to inculcate the spirit of agricultural entrepreneurship in the young people of Kubusi and the rest of Amahlathi. This would be realising the goals rural development in practical terms.
In support of the participation of the youth in agriculture as a labour force that will strongly shape Africa’s economic future, Bruno (2014: 1) reveals that

The youth employment challenge concerns every country in Africa, regardless the economic growth rate and strong diversity of its 55 states. This challenge results from a massive increase of young workers,...from the slow pace of job creation and ill-adapted education systems with regard to the needs of African economies.

It must have been for the reasons explained above that the South African government, through Rural Development Framework (2013), endorses the idea of youth participation in rural farming by establishing the National Rural Youth Service Corps (The NARYSEC). Government envisages that job creation and skills development for the youth in rural areas will ultimately have a positive impact on the future of development and sustainability of rural areas, if attended to. The main goal of the agency is to enroll and develop youths aged 18-35 years to be paraprofessionals who will be trained to work in their own communities and municipalities, and eventually, leading to the creation of permanent employment opportunities, enterprises and industries in the medium to long terms. (ibid). In line with the researcher’s vision, one of the NARYSEC’s objectives is to “train youth through specifically developed programmes linked to community needs in rural areas and to capacitate youth in retaining knowledge and technical skills acquired during training”. (ibid: 19). In the case of Amahalithi villages this will be possible through the involvement of Dohne, an institution that has the necessary human and equipment resources to carry out these trainings, as I have proposed.

The generation gap that I have exposed in rural farming participation should be reduced in Amahlathi through the NARYSEC approach, as it has been indicated that the energy that young people possess, which ought to be taking rural farming to another level, could be better channeled to agricultural activities that will improve the lives of present and future generations and contribute in the building of food secure rural areas. .
4.2.5 Social capital

This refers to people grouping themselves together into organisations and networks so as to increase their potential and benefit from their diverse skills and knowledge.

The common practice of sharing the harvest among families still farming with those who have not carried on with sustainable farming was an indication of pledging communality by the farming villagers with those faced with food insecurity. This in turn indicates the presence of social capital in the village of study.

The fact that families still cared for each other was one positive aspect revealed not only “through the sharing of harvest with other family members or ordinary neighbours”, (Respondent: 5. 5 August. 2014) but also with the concept of villagers “working together during the time of sowing and harvesting” (ibid). This should be viewed as a demonstration of the potential the people of Kubusi have in forming co-operatives as within a co-operative environment working together would naturally prevail. This is, afterall, what they have been doing as a community, this being their way of life.

The absence of organised agricultural co-operations in Kubusi is a challenge to the Extension Officer to encourage the local people to form these before it is too late as a condition to access department funding.

Talking about the livelihood indicators, since there is (are) no project(s) implemented yet as I propose in the study, I envisage the following outcomes regarding sustainable indicators:

(i) **Creation of working days** - this should be the outcome achieved once the villagers constantly go to the project site voluntarily because they see the need to do so, in order to work and tender what they have sown and are selling for cash. The rewards of what they have worked for should be the driving force, not the instruction from Dohne agents.

(ii) **Poverty reduction** - this should be achieved when there is reduced food insecurity in the village and sustainable farming could be diversified and scaled up for other sources of food. There should be improved availability of nutritious and healthy food to the villagers and improved health conditions. One major indicator of the success in this aspect will
be the eradication of crop theft by villagers and increased livestock farming.

(iii)  **Well-being and capabilities** - these should be achieved when, out of profit made from sails of crops, the villagers are able to send their children to school well clothed, and free of hunger. This could also be indicated by the ability of the villagers venturing into another businesses, diversifying or scaling up what they are busy with or not solely dependent on crop farming for their livelihood.

(iv) **Livelihood adaptation, vulnerability and resilience** - this should be indicated by the ability of the villagers to continue with their improved positive life-style without feeling vulnerable anymore as a result of the outcomes of Dohne intervention programmes. Also the implemented change, the introduction of the irrigation scheme should not bring about further threats to the lives of the villagers by reducing the availability of free running water for other people down-stream, or reduce its’ availability to livestock in the village.

(v) **Natural resource base increase** - this should be the ultimate indicator of sustainable life in the village as this would be the testimony that, in all their efforts, Dohne researchers have made sure that the sustainability measure do not cause any harm to the environment in their development endeavors. Through their development endeavors, Dohne should unearth and promote more available livelihoods that the villagers were not aware of.

### 4.3 CONCLUSION

Although the villagers in Kubusi have natural capitals, namely land and the river at their disposal, it has been shown by the research that these livelihood assets do not benefit them much as most the land was not used by villagers due to constraints such as the lack of financial capital.

As for the river, the potential of it being used for irrigation system seems to be a farfetched dream to the villagers at Kubusi, as only one respondent noted this potential value of this natural asset to their rural farming.
Although lack of financial capital seems to affect other types of capitals as well, it could be argued that the provision of fence to Kubusi villagers could change the nature of their sustainable farming for the better.

Data analysis and the findings reported in this chapter strongly support my observation that, in many ways, the villagers of Kubusi are faced with a severe decline in sustainable agriculture. Other than the provision of the inputs such as fence and tractor, I am of the opinion that sustainably exploiting Kubusi river for an irrigation system could further draw people back to sustainable farming. This would reverse all the misfortunes brought by the decline in rural farming and increase food security, thereby eradicating poverty and unemployment that is so prevalent in the village of study and entire Amahalthi villages.
CHAPTER FIVE

INSIGHTS DRAWN FROM THE CASE STUDY ON SUSTAINABLE FARMING IN KUBUSI VILLAGE IN AMAHLATHI

5.1 INTRODUCTION

This chapter summarises the study and draws conclusions and recommendations based on the findings. This section covers the summary of the study, research recommendations, implications for further study and insights from the study.

5.2 SUMMARY OF THE STUDY

This research was conducted to respond to the developmental dilemma of a decline in sustainable farming in the villages around Stutterheim in the Eastern Cape’s Amahlathi District Municipality. This decline in sustainable farming increased food insecurity in the villages, resulting in an escalation of poverty and unemployment in the villages. This research therefore is intended to establish the causes of this decline and how the Dohne Agricultural Research Institute can intervene to reverse this socio-economic challenge. I am of the view that in focusing on Kubusi village as a case study in this research, it is possible to develop a strategy that could be used by Dohne in its intervention not only in Kubusi but in other villages as well in Amahlathi.

The primary aim of this research was to see poverty reduced and conditions in the rural population of Amahlathi improved through sustainable agricultural activities with the assistance of Dohne. Also this research is intended to produce strategies that will reduce unemployment among the rural poor in this area.

With regard to the findings of this research, I have identified through interviews that there was no single cause for the decline in sustainable farming, but multiple interrelated causes. Using the sustainable livelihood framework (SLF) as the tool for evaluating the context of sustainable farming in Kubusi, the researcher established that financial capital to buy the necessary inputs like fence and tractor(s) and seeds was the key that would unlock the full potential of sustainable development at Kubusi. The lack of informed people at Kubusi deprived the villagers of the vital knowledge of how Dohne could assist in their rural farming. The lack of participation in rural farming
by young people is noted with great concern as they are the future of sustainable farming in Kubusi and generally, in the country as a whole, hence the national government has established NARYSAC. With the natural capital, the land that they have, there is great potential for promoting both crop and livestock farming at Kubusi, provided the farmers are assisted with fence, a dire need for the farming villagers.

The following research questions were answered by the research findings:

- To the question of Dohne getting involved in assisting rural farmers at Kubusi, I have discovered that this ambition that I have could be fulfilled by Dohne when the need for their intervention has been raised by the Extension Officer for Kubusi.
- To the second question posed to the villagers about the decline in their rural farming, I have discovered that a number of factors are involved in this, all driven by the lack of financial capital but not excluding the changed weather patterns. That is why I strongly suggest that government must intervene in the rural farming at Kubusi with all the necessary inputs.
- To the question how much the villagers knew about the farming help they could get from Dohne, I was disappointed to discover that there was little knowledge by the villagers of what interventions Dohne could offer to their subsistence farming, hence I am of the view that the Extension Officer once more should take the lead in connecting the villagers with the institution.
- On promotion of rural farming to the youth, through the establishments of Farmer Field Schools, the youth could be drawn to rural farming, this being espoused by the existing government programme, the NARYSEC.
- In establishing how the villagers were coping during hard times, I have discovered that much as there is little left in the coping strategies of the villagers, there were some coping means that the villagers employ which did not help much but rather exacerbated food insecurity as the selling of cows and the consuming of seeds (potatoes and maize) was irreversible, this reported by villagers.

I attained the research objectives in the following manner:
• In assessing the current agricultural practices of smallholder farmers in the village of study, I discovered that there were less benefits and more constraints as indicated in Table: 4.1(p. 52)

• I have managed to formulate a strategy in a form of a model that I propose could be used by Dohne when implementing its intervention programmes in Amahlathi. (See fig. 5.1, p. 73).

• In identifying the piece of communal land for the implementation of crop research projects, I am making a proposal that the land that boarders the Kubusi river in fig: 5.2 (p. 74) below be identified and be made projects site for implementation.

• In the scaling up of the crop farming projects, my proposal is that when the recipients of intervention programmes by Dohne have reached the release period, on the third year period of training, they should be encouraged to expand their knowledge by implementing what they have learned in their household fields. Practically, this could be done concurrently with the training. Also there is a possibility that the villagers could train each other in their own spare times or those that are not part of the training could easily copy from their fellow villagers, this being extend to other villages in Amahlathi.

• My proposal that farmer field schools be implemented and the youth be involved addresses the involvement of youth, this guided by the NARYSEC objectives of making youth in the villages “agricultural paraprofessionals”

• With both young and old family members involved in crop farming trainings by Dohne, there is a chance of people graduating to not just being sustainable farmers but rural farming entrepreneurs.
5.2 Implications

Below is the researcher’s model suggesting the involvement of Dohne in rural farming at Kubusi.

![Diagram showing the proposed model for intervention at Kubusi village by Dohne or any Development Agency.]

Figure 5.1: The proposed model for intervention at Kubusi village by Dohne or any Development Agency

The top box represents the status quo at Kubusi village, the stealing of fence by fellow villagers resulting in major challenge of crop destruction by livestock. All villagers complained about this, crying out for the need of a fence in Kubusi for the crop fields as well as for grazing camps where livestock is kept. I suggest that if fence could be made available, there would be considerable improvement in the livelihoods of the villagers. The fence would provide the following opportunities/possibilities; (i) communal fields, (ii) formation of co-ops, (iii) shared resources/inputs and (v) and
possible implementation of irrigation scheme. Provision of fence would be a game-changer to farming by the villagers in Kubusi.

Before the erection of fence, there should be a programme of advocacy by stakeholders (extension officer/councilor/government representatives/municipal rural development official) that would demonstrate the importance of fence to the villagers as their livelihood asset in their subsistence farming. This should be intended to enhance communal ownership of village assets by all in the villagers and to halt the theft of fence.

The provision of fence should result in a properly fenced portion of land that can be used communally by all those interested in crop farming in the village. This means dividing the land into equal plots that could be used by groups of people/households in the village. I believe that, with the provision of fence to the villagers, more positive outcomes could be attained as there could be a chance for Dohne establishing farmer field schools for villagers in a secured environment. The fence would reduce the roaming of live-stock that fuels family conflicts in the village.

Below is the aerial photograph of Kubusi village and the piece of land marked with numbers: 1366 zoned with orange line which I suggest could be fenced and be divide into plots for villagers to embark on their agricultural projects under the guidance and supervision of Dohne officials.
Figure. 5.2: The aerial photograph that shows the area for projects implementation at Kubusi village. Note its easy access to Kubusi River (lined by thick vegetation along the orange line) for irrigation system implementation. (Source: Google Earth. Date: 25. 04. 2015)

As there is a possibility that villagers could group themselves into co-ops and work together, this should maximise the availability of labour for maximum outputs in terms of yields. It must be remembered that government is more prepared to fund and support groups of people rather than individuals, so it would be better for villagers to form co-ops (Kubusi Extension Officer: 15 August 2014).

Communal fields provide an opportunity for intervention by Dohne in the sustainable farming of villagers in a convenient way as all farming families would be clustered together at once in the communal fields for whatever agricultural demonstration or trainings that are to be provided. It would also be convenient for Dohne officials to locate the farming villagers in one place, particularly the youth that is highly targeted by this research, to make them active participants in rural farming. What I am suggesting above is a ‘farmer field school approach’ which was mentioned in Chapter Two.

In explaining the international significance and popularity of farmer field schools, Todo, Y and Takahashi, R (2013: 363) reveal that extension of agricultural technologies using farmer field schools has been promoted by Food and Agriculture Organisation (FAO) and implemented in many less developed countries. Citing the Ethiopian approach on farmer field schools, they report that:

The farmers participated in the school for 1 year and learned new agricultural technologies and practices such as farm management, seedbed preparation, proper spacing, new varieties and sowing methods. Participants were limited to 16 male and 16 female subjects in each school year of each school. Participants attended lectures on agricultural technologies in (open-air) classes and training at experimental plots for 3–4h every week. The main crops produced in the experimental plots were vegetables such as cabbages, onions, carrots and beets (ibid).

In showing the impact of farmer field schools on income, Todo and Takahashi (2013: 377) conclude that, “by participating in farmer field schools, households increased their income by 46-164 per cent” and that “the effect of the farmer field schools on
agricultural income is quite large”. In terms of the impact of farmer field schools on farming methods, they reveal that rural farmers became 17 percent more likely to use new varieties and sowing methods. They observe that the positive effect on the use of new varieties is particularly consistent with the fact that new variants were intensely promoted in the farmer field schools (ibid: 378).

With the farming villagers all working in the communal fields, it would be easy for them to share whatever inputs they are supported with (seeds, fertilisers and the use of a tractor that they might perhaps co-own) according to the needs identified. This again would promote the working of villagers as teams, thus making farm labour easier.

When inputs are shared equally by the farming villagers, it becomes easy to decide on crop diversification so that consumers outside the village can be provided with a variety of crops. This would promote the idea of farming not only for subsistence but for commercial gains as well.

An irrigation system will allow opportunities for crop rotation, again creating a better chance for higher yields throughout the year, thus reducing constraints like seasonality.

A scenario where the villagers farm together would provide an opportunity for establishing an irrigation system (whether by the national government or local government, Local Municipality or development agency) that would benefit not just individual families but the broader community too, and so minimising the costs of installing an irrigation system which might otherwise only supply individual household fields scattered around the village. In essence, the communal irrigation scheme I envisage is a cost saving and broad based project.

In promoting the idea of an irrigation system in rural farming, it is interesting to note what Sinyolo et al. (2014: 145) say on the matter.

The potential of smallholder irrigated agriculture to enhance food security and alleviate rural poverty has led the South African Government to prioritise and invest significantly in irrigation establishments, rehabilitation and revitalisation (2014: 145)“.
Supporting the idea of rural irrigation, Namara et al (2010) endorse this development initiative with the addition that access to irrigation increases the area under cultivation and crop intensity, and decreases crop losses. Hussain and Wijerathan (2004) conclude that it leads to poverty reduction by expanding opportunities for higher and more stable incomes, and by increasing prospects for multiple cropping and crop diversification. All the views above endorse my positive views on a possible irrigation system in Kubusi.

If all these proposals come to fruition, there would also be an opportunity for Dohne to extend their focus from crop cultivation to livestock farming as well.

As shown above, the lack of fence has been reported as leading to the destruction of crops by livestock. With a fence to keep livestock out of cultivated areas, Dohne could intervene by improving the bloodline of cattle at Kubusi so that they can provide both quality milk and better beef. This would in turn improve the livestock value for the people of Kubusi so that when they sell they obtain better prices. Using milk cows to produce milk for sale could also lead to the development of commercial livestock farming by keeping dairy cows.

Secondly, since this research has categorically exposed the lack of youth interest in rural farming, this confirmed by both Extension Officer in Kubusi and Dohne officials, it would be interesting for a study to be conducted, specifically looking at youth perceptions of rural farming and their proposals and interests that would bring them closer to this activity. The study should try to come up with a clear methodology of engaging the youth in farmer field schools to be the paraprofessionals NARYSAC envisages.

5.3 INSIGHTS FROM THE STUDY

This study has revealed the hidden reality that, although there is a great deal of hype surrounding government promotion of rural livelihoods, through a plethora of development policies, there is still a lot of work to be done concerning what the government should be offering to the rural people through its intervention programmes. The distribution of resources in the rural areas tends to be uneven, and some communities receive little or no help at all from government if their public
representatives have little regard for their plight. If the villagers suffer more in terms of human capital, they tend to miss whatever that is legally due to support them as they have no one who is an insider who could be their voice.

The decline in sustainable agriculture calls for community leaders in all the villages of Amahlathi and their public representatives to approach the Department of Rural Development and Agrarian Reform with the knowledge of what Dohne could do for them in reversing the decline in their subsistence farming.

The research has also made the discovery that rural farming is no longer self-sustaining, this indicated by the scarcity of simple things like cow manure and the consumption of seeds by the villagers. These inputs used to be in abundance in the villages when farming was still self-sustaining, which implies that if the theory of rural development for food security is to be realised in the villages of this province, there should be some means of information dissemination to the rural and mostly illiterate citizens of this province about the possible interventions the national and provincial government could provide, starting from providing funding in the form of micro-loans to the provisioning of agricultural inputs. Such assistance should be provided on condition that household members have been trained in the farmer field schools and Dohne continues to monitor the progress up until one or more sustainability indicators proposed in Chapter Three are achieved by the households.

This study has also exposed the looming danger of a further decline in rural farming due to the youth’s detachment from rural (family) farming. The generation gap mentioned by the Extension Officer and Dohne researchers is a testimony of the things that have gone wrong, such as the lack of rural farming knowledge transferred from the elders to the younger generation, this happening for two reasons, one being the youth’s perception of farming as a dirty menial job of low status meant for older and illiterate people and secondly that the decline in livestock farming has rendered young boys with nothing to look after in their spare times. This has left boys with no chance to even learn how to yoke cows, let alone handling of the ox-pulled plough. It is this lack of responsibility that ends up driving the youth into taking drugs or joining all social ill activities as a way of passing time.
It is this information gap that demands for the establishments of farmer field schools that could be run by Dohne in the Amahlathi villages, to train youths and old ones in modern farming methods, as the youth in the villages know little about crop-farming, from tendering seedlings to transplanting them, a skill that used to be imparted by teachers at school during gardening periods, assisting parents at home.

Lastly, the study has exposed the disaster of removing crop/food gardening in school syllabi by government for the younger generation, as this used to be the bases of learning how to produce food from the soil. This was when villagers, as a result, were less threatened by food insecurity and poverty, as the life in Kubusi villages used to be.

5.4 CONCLUSION

It is my hope that the findings of this study on the declining rural farming in Kubusi village and other villages in Amahlathi Municipality fulfill my desire as a researcher to alert the people in power in the province, who are entrusted with the duty of improving the lives of the rural population in the province and saving them from the danger of theorising more about rural development than acting accordingly.

It is my conclusion that, through NARYSEC programme, the youth in the villages in Amahlathi could be drawn back to subsistence farming being attracted to the stipend that the programme offers. The programme will offer an employment opportunity that is so scarce to them, hence the attraction to it. Secondly, the implementation of an irrigation system in Kubusi village after the provision of the fence could make things easy for Dohne to get involved in Kubusi in rural farming to change the situation for the better.
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Annexure: A: Ethics Clearance For Treatises / Dissertations / Theses

ETHICS CLEARANCE FOR TREATISES/DISSERTATIONS/THESSES

*Please type or complete in black ink*

**FACULTY:** Business & Economic Sciences

**SCHOOL/DEPARTMENT:** Development Studies

I, Tanale, Jenna the supervisor for Bolana, K. K (student number) 211257702 a candidate for the degree of Masters in Development Studies with a treatise/dissertation/thesis entitled (full title of treatise/dissertation/thesis):

**The Role of Dohne Agricultural Research Institute in Rural Agricultural Development in the Eastern Cape** considered the following ethics criteria (please tick the appropriate block):

<table>
<thead>
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<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

87
- Is there any risk of harm, embarrassment of offence, however slight or temporary, to the participant, third parties or to the communities at large?

- Is the study based on a research population defined as ‘vulnerable’ in terms of age, physical characteristics and/or disease status?

<table>
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<tr>
<th>Are subjects/participants/respondents of your study:</th>
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<tr>
<td>Children under the age of 18?</td>
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<td>NMMU staff?</td>
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<td>NMMU students?</td>
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<td>The elderly/persons over the age of 60?</td>
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<td>A sample from an institution (e.g. hospital/school)?</td>
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<td>Handicapped (e.g. mentally or physically)?</td>
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- Does the data that will be collected require consent of an institutional authority for this study? (An institutional authority refers to an organisation that is established by government to protect vulnerable people)

- Are you intending to access participant data from an existing, stored repository (e.g. school, institutional or university records)?

- Will the participant's privacy, anonymity or confidentiality be compromised?

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<th>Are you administering a questionnaire/survey that:</th>
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<td>Collects sensitive/identifiable data from participants?</td>
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Does not guarantee the confidentiality of the participant and the data?  
Will offer an incentive to respondents to participate, i.e. a lucky draw or any other prize?  
Will create doubt whether sample control measures are in place?  
Will be distributed electronically via email (and requesting an email response)?  

**Note:**  
- If your questionnaire **DOES NOT** request respondents' identification, is distributed electronically and you request respondents to return it *manually* (print out and deliver/mail); **AND** respondent anonymity can be guaranteed, your answer will be NO.  
- If your questionnaire **DOES NOT** request respondents' identification, is *distributed via an email link and works through a web response system* (e.g. the university survey system); **AND** respondent anonymity can be guaranteed, your answer will be NO.  

Please note that if **ANY** of the questions above have been answered in the affirmative (**YES**) the student will need to complete the full ethics clearance form (**REC-H application**) and submit it with the relevant documentation to the Faculty **RECH (Ethics) representative.**

and hereby certify that the student has given his/her research ethical consideration and full ethics approval is not required.

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SUPERVISOR(S)  DATE

________________________  ____________________
HEAD OF DEPARTMENT  DATE
Annexure B: List of prepared questions for interviews.

THE RESEARCHER WOULD LIKE TO THANK THE FAMILY FOR THEIR WILLINGNES TO PARTICIPATE IN THIS RESEARCH

- Why is the family pursuing crop farming? (to probe if the family solely depends on sustainable farming for income—to probe the research question)

- How long has the family been pursuing farming and why? (to ascertain the reliance of the family in sustainable farming as a main source of income)

- What challenges are you encountering as family in pursuing farming? (to assess hardship faced by rural farmers that has led to food insecurity)

- Has the family experienced increase or decrease in terms of yields in this past 3 years? (to assess if there is increase or decrease in food security in the farming families)

- If there is an increase, in terms of yields, what could be the cause for such a positive change? (to assess sustainability in their farming methods that lead to increased yields)
• If there is a decrease, what could be the cause? (to investigate the causes of food shortages in the villages)

• What are the future ambitions of the family with regards to sustainable farming? (to know if the family has any ambitions of farming beyond their immediate needs/ to form for commercial gains)

• If government could offer help, what kind of assistance would the family want to receive to improve its sustainable farming? (to assess if the family has business ambitions in farming other than sustainability)

• Since DARI is a government institute dealing with agricultural activities around the country by advising and helping commercial farmers, how do you think sustainable farmers like you in the village should be assisted by DARI? (this question is intended to check if rural farmers are aware of the agricultural benefits and assistance that national and provincial governments are obliged to offer to them as per relevant policies)

• Other than the maize that is commonly ploughed in the village, has the family ever tried different crops? (this is to know if villagers are aware that for food security, they have to diversify and rotate crops and that culminating to rural jobs)
If there could be assistance from government, what other crops would the family want to try and why? (to check from their indigenous knowledge if they are aware that for food security, they can produce different types of crops instead of buying from the nearest town what they don’t have)

If there is/ there could be surplus produce, what does/would the family do with it? (to see if the villagers are mind-full of their vulnerability to food shortages as rural people and are concerned about food security)

THE RESEARCHER THANKS THE FAMILY MEMBER FOR ITS PARTICIPATION IN THE PROJECT AND THE VALUABLE INFORMATION IT HAS PROVIDED!!!
LIST OF PREPARED QUESTIONS FOR THE NON-FARMING FAMILIES

- Why did the family stop farming? (to check the impact of poverty and vulnerability in the family?)

- When is the last time did the family farm? Year? (this is to assess what other alternatives do villagers have to maintain their living/how they mitigate the life of want/? dependence from other sources such as grant)

- What are the other means of livelihood in the family other than the discontinued sustainable farming? (to check what other sustainable resources available to the villagers that could be expanded on?)

- How is the family surviving the challenge of food insecurity since the discontinuation of sustainable farming? (what alternatives that the villagers have embarked on to maintain their living in the face of poverty/to what extent do the villagers depend on grants?)

- What kind of assistance does the family expect from the government in order to go back to sustainable farming? (to check if they are aware of government interventions in promoting rural agriculture)
• If DARI could offer assistance to the family to revive the sustainable farming, what kind of help would the family want? (again this is to check the knowledge of the villagers about the functioning of DARI as a government entity in agriculture?)

• Given this second chance to start sustainable farming, what are the things would the family do differently? (to check if the villagers still find sustainable farming as the primary reliable way of life in their socio-economic environment?)

• If the family could be back into sustainable farming with good results in terms of harvest, what would be done with the surplus produce by the family? (to check if the farmers are aware of their vulnerability in terms of food security and what business ambitions are there should there be good harvest/ do they take farming as a potential source of employment?)

THE RESEARCHER THANKS THE FAMILY FOR ITS PARTICIPATION IN THE PROJECT AND FOR THE VALUABLE INFORMATION IT HAS PROVIDED!!!
THE LIST OF PREPARED QUESTIONS FOR THE EXTENSION OFFICER IN KUBISI VILLAGE.

The researcher informed the Extension Officer about the purpose of the interview first and his right to remain anonymous if he wished so (confidentiality rules were explained to him).

- How many years have you been placed as an Extension Official for the village? (to understand the extent to which the officer has been exposed to the declining farming in the village)

- What is your observation of the declining rural farming in the village/ what do you think are the causes? (to get the inside official opinion of the problems/constraints faced by the farming community in the village)

- What are your duties as an Extension Officer in the village? (to understand his official mandate in terms of rural development)

- What projects have you undertake with the villagers since your arrival in the village/or those that you plan to undertake (to assess if there are plans in place that are meant to curb the declining subsistence farming)
• If there is/are a planned project(s), with whom do you work with/intend to work with locally or governmentally (to understand the extent of the Officer working with Municipality or other government entities)

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• What knowledge do you have of Dohne? (to assess the relationship between Dohne and the Officer with regard to dealing with farming problems of the villagers)

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• If the need arise, how would you involve Dohne in assisting in the arrest of declining farming in Kubusi? (to assess how Dohne could be involved in Kubusi farming and work with the Extension Officer)

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• If there is funding needed in the intervention programme, where would you access funds? (to assess implementation of national government/provincial policies in place on funding rural projects)

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• How much is the youth involved in rural farming in the village (to establish how big is the challenge of involving youth in rural farming in the village)

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• What are the chances of villagers fulfilling the ambition of government, that of becoming rural farming entrepreneurs one day (to assess if the Officer shares this vision as well)

THE RESEARCHER THANKED THE EXTENSION OFFICER FOR HIS PARTICIPATION IN THE INTERVIEW AND FOR THE VALUABLE INFORMATION!
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THE RESEARCHER THANKED THE EXTENSION OFFICER FOR HIS PARTICIPATION IN THE INTERVIEW AND FOR THE VALUABLE INFORMATION!
SEMI-STRUCTURED QUESTIONS PREPARED FOR THE DARI OFFICIALS

- What is the official position of DARI with regard to supporting rural farming? (this is to check the official mandate DARI has in promoting rural agriculture)

- If there is any active involvement in promoting rural agriculture, what strategies does DARI employ in promoting sustainable agriculture? (to check the implementation of the policy)

- In the whole of Amahlathi Municipality or outside Amahlathi, is/are there any project(s) that DARI has been involved in? (to check the scope of their operation and their carrying out of their mandate in the villages rather than supporting white farmers only)

- When does DARI get involved in the rural agriculture to support sustainable farming/is it after a call for intervention from the villagers or does DARI voluntarily get involved after observing the need? (to establish the readiness/willingness of DARI to be involved in rural agricultural intervention)

- If the intervention demands funding, who organises the finances from government/loans from banks/microfinance? (to assess how easy/difficult it is to source funding from government)
• If there are any, how many intervention projects has DARI successfully implemented in or outside Amahlathi Municipality? (to assess the impact of their sustainable strategies)

• Are there instances of sustainable agricultural interventions that have culminated into projects being small family businesses? (to assess the strategy of DARI diversification of sustainable livelihoods)

• Since there is the noticeable decline in the villages of Amhlathi, what intervention strategy does DARI have to revive sustainable farming in these villages, as the research aspires for one? (to assess the readiness and adherence of DARI to their mandate of rural development)

• If requested to make intervention, what kind of partnership/approach will DARI expect to engage in with the villagers (to view if they allow stake-holder participation in their sustainable intervention methods)

• How long would such intervention take to bare results for the villagers? (this is to assess how long will it take for the villagers to start feeling the impact of the intervention results and start preserving food for security reasons and commercial gains, if chances allow, as the researcher aspire)
• If there is a need for funding of the intervention project, who will organise such funds, between the villagers and DARI? (this is intended to know how far does the policy versus implementation go)

THE RESEARCHER THANKS THE PARTICIPANTS FROM DOHNE FOR THEIR VALUABLE TIME.