



University of Fort Hare
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FACULTY OF SCIENCE AND AGRICULTURE
UNIVERSITY OF FORT HARE

Department of Agricultural Economics and Extension

Theme:

*A SOCIO-ECONOMIC IMPACT ASSESSMENT (SEIA) OF THE DUTYWA AGRIPARK
PROJECT ON PROJECT BENEFICIARIES IN MBASHE LOCAL MUNICIPALITY OF
THE EASTERN CAPE PROVINCE.*

Submitted

By

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A Partial Fulfilment for the Requirement of Master of Science in Agriculture- Agricultural
Economics

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DEDICATION

To my late Grandmother, Norah Nosisi Ncapayi

DECLARATION

I, hereby declare that this thesis is my original work, and has not been submitted in partial or entirety for degree purposes to any other university. All the work that was written by other authors and used in the thesis is fully acknowledged.

Signature.....

Phiwokuhle Thulani Magida

Date.....

ACKNOWLEDGEMENTS

I am indebted to my supervisor, Dr Nomakhaya Monde for her tranquillity and forgiving heart, without you I would have not been able to produce this document and i would not have financial assistance to begin with. Till the last moment you always set me to go and find my own answers and provided the guidance because you believed I could always do better. It has not been easy coaching a person whose life was just beginning but with maternal touch you have managed. To my colleagues at work and my fellow students, thank you very much for your support and my work supervisor Mr Sotana, thank you for the flexible hours.

To my mother, Ms Nothemba Mandlana thank you for believing in me and allowing me to indulge on academic knowledge and self development and to my family at large, your support was amazing. I would also like to thank my fiancé and my son for their encouragement and believing in me, you have been the cornerstone of my quest of enlightenment. I would also like to acknowledge and thank my sponsor, Community University Partnership Program (CUPP), for funding this research. Without them, it would have been very difficult to undertake this work and produce this report.

I thank the respondents from the four villages of Dutywa for their willingness to devote their time completing ample and detailed questionnaires, without their contribution this document would not exist. I would also like to extend my sincere gratitude to those who assisted me during my data collection and data analyses, with special reference to Mr Skhwela and Mr Jubane, thank you very much for assistance.

To GOD Almighty, your love, grace, blessings and wisdom did not go unnoticed. It is because of you that I am where I am today it and it is also through your love that I had the wisdom and courage needed to carry on through my research. You gave me strength to go on even when things did not seem so promising and I will forever be grateful for the great mind that you have given me through my studies. AMEN.

ABSTRACT

Poverty, inequality and unemployment have always been challenging first in South Africa with special reference to rural South Africa. These persistent challenges with severe impacts on black population are believed to be the results of the previous governance in South Africa. Policies have been formulated, reformulated and others implemented in a form of development projects which have achieved little success in pursuit of combating these challenges. However, in the process of achieving rural development through developmental projects, a fundamental stage in the life cycle of these projects is often omitted or given little attention. This stage is the monitoring and evaluation stage which is critical to ascertain potential impacts (both positive and negative) especially if the project is to be replicated and achieve its objectives as postulated in the millennium development goals.

This thesis attempted to carry out a Socio-Economic Impact Assessment (SEIA) of the Agripark project implemented at Dutywa on the livelihoods of communities directly affected by this project. The Agripark project is a project that comprises three linked components, a seedling nursery, an agro-processing facility and a sizeable feeder plot and has been implemented to benefit four villages. This project has been implemented as the second Agripark project by the University of Fort Hare in partnership with the province's Department of Agriculture. To track change after the implementation of the project, data were collected from the same respondents that were interviewed for the baseline study, therefore, the same sample size that was used in the baseline study was also used for this study. As a tool for data collection, a questionnaire was developed to elicit the required information and was interviewer administered during data collection.

The results of the study revealed that Agripark project has impact on both social and economic wellbeing of the households. The processing unit of the project was not yet functioning therefore the project was not fully effective thus the impact was not as intended by the project when the study was carried out. Skills transferred were only on production but only a small number of people could receive them. These households largely relied on external sources of income mainly on social grants and their contribution to total household income had increased to 88% in 2011 compared to 80% in 2008.

As much as the increase in incomes cannot be entirely be because of the project but Agripark had a positive impact on household incomes through wages of those employed there and through increased profitability of hawking vegetables. The proportion of household earning incomes less than the Poverty line fell from 85% in 2008 to approximately 79% in 2011. The household complemented their staples with a variety of vegetables and the main source of these vegetables was Agripark even though own production was declining. Even though food was still the main item of these households expenditure, the proportion of income spent on food fell from 64% in 2008 to 48% in 2011. There were no environmental impacts found.

From the descriptive analysis, the project had impact on the livelihoods of these households because it brought change on the household expenditure as a result of the income earned by those who are working in the Agripark. There was an improvement on risk of food insecurity through cheaper vegetable that both physically and financially attainable. However, as much as the project had positive impact, there were also concerns raised by the respondents that the employment was only biased to certain individuals which cased stress to some households. Furthermore, the empirical analysis of the selected variables showed that participation in Agripark had an impact on economic wellbeing of the beneficiaries. Thus, funding must be made available to the project so that it can upgrade their electricity and have the processing plant running as it may be the major source of employment, skills development and achievement of its objectives.

Key Words: Rural livelihoods, rural development, household incomes, social and economic impacts, Agripark, environmental impact.

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LIST OF ACRONYMS

AE	: Adult Equivalent
BRS	: Bureau of Rural Sciences
CGG	: Centre of Good Governance
DARD	: Department of Agriculture and Rural Development
DEAT	: Department of Environmental Affairs and Tourism
DFID	: Department for International Development
DOA	: Department of Agriculture
EIA	: Economic Impact Assessment
EU	: European Union
FAO	: Food and Agriculture Organization
GEAR	: Growth, Employment and Redistribution
ISRDS	: Integrated Sustainable Rural Development Strategy
LED	: Local Economic Development
PDL	: Poverty Datum Line
PROVIDE	: The Provincial Decision-making Enabling Project
RDP	: Reconstruction and Development Program
SEIA	: Socio-Economic Impact Assessment
SIA	: Social Impact Assessment
GDP	: Gross Domestic Product
SLF	: Sustainable Livelihood Framework
SRL	: Sustainable Rural Livelihoods
StatsSA	: Statistics South Africa
UN	: United Nations
WB	: World Bank

CHAPTER 1: INTRODUCTION

1.1. Background of the Study

It is a phenomenon commonly comprehended and accepted that during the apartheid regime Black South Africans were removed from valuable productive land for agricultural purposes which were the main source of subsistence for the Black South Africans. Evidence to this, Hebinck and Lent (2007) indicated that before the arrival of the British Settlers, agriculture along with other natural resource utilizing activities was at the utmost importance to the livelihoods of the South African people. However, agriculture has lost its overall importance to rural people and people are more dependent on other sources of income and subsistence. According to Thwala (2003), there were decrees that were established to ensure the eviction of black population from productive land which includes the notorious Natives Land Act 9 of 1913 and the supplementary legislation in 1936 of Land Act 18 and, the further consolidation of homelands and the clearance of black spots exacerbated the situation.

Due to these statutes, serious inequalities in incomes and standards of living are a characteristic of the Eastern Cape Province and, according to Human Science Research Council (HSRC) (1996) the distribution of income among rural households has been described as the most unequal in the country. Furthermore, even among geographic regions, poverty and inequality between rich and poor is apparent. For example, out of nine South African provinces, three of them have a human development index (HDI) that ranks among the lowest in the world. These provinces are the Eastern Cape, KwaZulu-Natal and Limpopo with HDI of 0.48, 0.58 and 0.40, respectively (HSRC, 1996)

South Africa is estimated to hold over 47.4 million people with diverse origins, cultures, languages and beliefs. According to the mid-2009 estimates of statistics for South Africa, the population had increased to 47.4 million from the 44.8 million recorded in the 2001 census (PROVIDE, 2009). With this population growth rate, South Africa is rated as a middle class economy country with adequate per capita income level, however, it is characterised by high levels of poverty, especially in rural areas. May, *et al* (1996) found that 22% of the rural

population falls into the lower rank of a four scale indicator with approximately 75% of these households falling below the PDL and, in 2005, Byerlee, Diao and Jackson (2005) showed that approximately 70% of South Africa's poor people live in rural areas, and about 70% of the rural residents are poor. Their incomes are constrained because the rural economy is not sufficiently vibrant to provide them with remunerative jobs or self-employment opportunities. Their cost of living is high because they spend relatively more on basic social services such as food and water, shelter, energy, health and education, and transport and communications services (Byerlee, Diao and Jackson, 2005). Poverty extends beyond insufficient income and includes other form of deprivation including access to essential services and marginalisation of the rural poor.

The development of the agricultural sector can be taken as a case in point, although much the same argument can be made about the development of mining and other sectors important to the rural economy. Even though South African agriculture is dualistic in nature it produces less jobs and means for rural households to construct and sustain their livelihoods. For example, commercial agriculture has followed a more capital-intensive growth path and it uses more capital and less labour, therefore producing less jobs. On the other hand there is subsistence and communal agriculture with significant resources lie unused and produces no jobs and little food production for rural livelihoods to thrive. Furthermore, PROVIDE (2005) also states that employment opportunities in commercial agriculture were (and still are) largely limited to unskilled workers and thus poorly paid, and more than half of total employment in commercial agriculture is of a seasonal and temporary nature only. Therefore, because of their poverty and vulnerability, rural households commonly resort to a variety of different strategies to ensure their survival so that it has become more appropriate to describe their economic activities as livelihood strategies rather than jobs or employment (Scoones, 1998; May, 2000; Ellis, 2000). Thus the development of the agricultural sector, with special reference to the development of communal and subsistence agriculture is very important.

A number of studies conducted in the central Eastern Cape, to mention a few, showed that the situation regarding poverty in this Province is not getting any better (Fraser, Monde and Van Averbek, 2003; Monde, 2003; Monde, *et al* 2005). For example, FAO (2002) stated that the World Bank (WB) and United Nations (UN), among other organizations, have persistently

pursued development efforts to address the unacceptable reality of such levels of rural poverty. Yet, in spite of sustained efforts, the rural poverty situation has changed a little in most of the developing world making it clear that the WB and the UN will not be successful in meeting their overall poverty reduction objective and meeting the commitments of the international community to halve poverty by 2015, as contained in the Millennium Development Goals, unless it helps reduce rural poverty quickly first.

Therefore, rational and effective planning and implementation of rural development, and framing a successful rural development strategy will to a large extent depend upon taking into account and understanding the diverse and complex realities that constitute the rural livelihoods. Hence a situation analysis was carried in 2008 to gather social, economic and environmental information about the target group, to build consensus and working relationships among the government bodies, organizations, donors and grassroots people for an effective planning and implementation of the Agripark project. Agripark is one of the developmental initiatives that the University of Fort Hare in collaboration with the Provincial Department of Agriculture and Rural Development (DARD) have launched in April 2009 with the idea that the Agripark will have an effect on the Mbashe green revolution pilot as outlined by the Office of the Premier's Service Delivery Report of 2007/08 (Premier's Office, 2008). The Agripark project which is not only in South Africa but an international concept is discussed in section 3.2 outlining its mission, objectives and its actual purpose.

1.2. Problem Statement

South Africa is one of the developing countries where agriculture, as a source of subsistence and income, plays a vital role especially in the rural poor communities (May, 2000). High levels of poverty, reliance on government social assistance programs as the main source of income, from high unemployment rates which that resulted led to a high dependency ratio are the distinguishing features of rural South Africa. Within South Africa, Eastern Cape has the highest poverty rate constituting approximately 15.3 percent of the nation's total population with the highest poverty rate of 68.7% in the country (PROVIDE, 2009). Monde (2003) outlined that agriculture makes modest contribution to household income, and hardly even constitute the main

rural livelihood activity to secure household's food needs, even though it still plays a considerable role in rural livelihoods. Therefore, it is important to develop rural areas by developing the agricultural sector through agricultural projects so that agriculture could make a considerable contribution to rural livelihoods.

Thus, in response to such characteristics of the conditions of the rural poor, a developmental project was implemented at Dutywa to develop four villages through the Agripark. However, according to Michael (1984), any project introduced at any level in a community can have both positive and negative impacts on its surrounding community. Because of this, it makes it imperative and inevitable to assess the developmental project introduced to bring change within the community. There is a common mistake developers frequently do which is to focus on the implementation stage of the project and pay little or no attention to other stages of the project. The Monitoring and Evaluation (M&E) stage is very important if it is to be ascertained whether the objectives of the project are being achieved or not, thus this study is aimed at conducting this assessment. Furthermore, if the Agripark projects are to be replicated in other communities (e.g. the Agripark project to be launched in the Western Cape), it is very important that their impact on the lives of the inhabitants of the community is carefully appraised.

1.3. Hypothesis

The hypothesis of this study emanates from the fact that any developmental project introduced to a community has both positive and negative impacts on its surrounding communities as mentioned by Michael (1984). These impacts may include direct impacts to the livelihoods of the households directly involved in the project and indirect impacts which affect the communities and may be felt in the future.

The specific hypotheses of this study are:

- The Agripark project at Dutywa has an impact on the rural livelihoods of the households directly involved in this project.
- The Agripark project at Dutywa has an impact on the livelihoods of the households not involved in the project in the surrounding communities.

1.4. Research Objectives

The objective of this investigation was to investigate all the respondents that were investigated during the baseline study to allow the comparison between the situations that prior and post implementation of the project. To carry out a socio-economic impact assessment of the Agripark project on project beneficiaries at Dutywa. The study focused its enquiry within the problem statement stated above. The study focused on the Agripark project that was implemented at Dutywa of the Mbashe municipality in the Eastern Cape.

The specific objectives of this study were:

- To evaluate the impact of the Agripark project on social status of the project beneficiaries.
- To evaluate the impact of the Agripark project on the economic wellbeing of the project beneficiaries.
- To evaluate the potential environmental benefits.

1.5. Research Questions

There were three research questions for this study as the title postulates, and were:

- What was the impact of the Agripark project on the social-wellbeing of the families involved and the community as well?
- What was the impact of the Agripark project on the economic wellbeing of the families involved and the community as well?
- What were the impacts of the Agripark project to the environment?

1.6. Justification of the Study

In 2007, a situation analysis was conducted in Dutywa just before the implementation of the Agripark project. The impact assessment is usually carried out two or three years after the introduction of the new technology or project. The situation analysis study therefore made it possible to establish a change in social and economic status of the people by the development project after the Socio-Economic Impact Assessment is carried out. Kumar (2005, p156), citing Rossi, Freeman and Lipsey (1999), defined “program evaluation as the use of social research

procedures to systematically investigate the effectiveness of a social intervention program”. Hence this investigation assisted to analyze and document both negative and positive impacts with the intention of maximizing the former and minimizing the latter. Furthermore, impact assessment specifically identifies positive and sustainable outcomes associated with project implementation, support the integration of social and environmental aspects associated with the numerous subprojects into the decision making process. Impact assessment assesses the outcome of projects and its results can be used as a guide to take remedial action.

1.7. Empirical Analysis

Data was collected from households (unit of analysis) that are directly affected by the project which constituted the sample for this study. Interviewer-administered structured questionnaires were used to elicit the information required from the respondents. Ellis and Freeman (2004) indicated that it is difficult to carryout research on livelihoods, because the encompassing character of the livelihoods concept means that almost any aspect of the way people go about gaining a living is potentially legitimate to investigate. Therefore, both qualitative and quantitative methods were used to elicit data, with data on social changes captured through qualitative method and the economic changes captured through quantitative method. This implied that the questionnaire comprised of both open and closed ended questions. The sample consisted of 114 respondents (made up of 30% of each village’s number of households, from the four villages that were earmarked for the project) that were interviewed during the baseline study which was drawn from a reliable and complete sample frame of 380 households.

To answer the objectives of this study that aim at evaluating both positive and negative impacts of the Agripark project, data elicited from the respondents was analysed through descriptive statistics to generate tables, charts and graphs. The data were run through Statistical Package for Social Scientist (SPSS, ver. 20) for descriptive analysis and the SAS System was used for empirical analysis. A multiple regression analysis was applied to regress the independent variables in order to obtain their coefficients (beta coefficients, β) which were necessary in showing how strongly each independent variable (X) influences the dependent variable (Y). For example, since household expenditure was used as one of the measures of economic wellbeing, it

was also selected to be the dependent variable and multiple regression analysis assisted to assess the influence of change in household income levels, household size, participation in Agripark and age of household head. Furthermore, to check association between variables the Chi-Square test was used and the Adult Equivalent method, using the Poverty Datum Line, was used to assess the impacts on the livelihoods of these households in the study.

1.8. Outline of the Project

This project consists of six chapters, where Chapter one is an introductory chapter which gives background of the study, the problem statement key to this investigation, as well as the objectives and hypotheses of the study. Chapter two provides a profile of rural livelihoods in South Africa which outlines both the social and economic characteristics of the rural households. Chapter 3 is a review of concepts important for this study, which include a review of the SEIA concept which outlines necessary phases that will be undertaken in this study and the Sustainable Livelihood Framework. In reviewing these concepts, an effort is made to present theoretical definitions as well as the tool used to analyse the concepts that will guide the methodology for this study.

Chapter four presents the research methodology and it begins with the clear description of the selected study area, application of the SEIA framework to this study. It further provide description on how the data were collected outlining the tools used for data collection and analysis. Following this methodology chapter are the results and discussion of the study presenting the analysis and interpretation of the socio-economic impacts of the Agripark project. Lastly is the conclusion and recommendations presented in chapter six.

CHAPTER 2: A REVIEW OF RURAL LIVELIHOODS OF SOUTH AFRICA

2.1. Introduction

May (2000), indicated that idle assets and inappropriate production and investment strategies are characteristics of the rural areas of South Africa. Decisions made by previous governments, as well as the coping strategies adopted by the rural population to achieve livelihoods contributed towards this situation. This chapter reviews the livelihoods of rural South African households, putting in perspective the strategies that these households use in achieving and improving sustainable livelihoods. Under this literature review, the activities from which household are able to generate income to construct sustainable livelihoods are identified and the discussion on the depth of poverty and unemployment under which rural livelihoods are constructed is given. This chapter also outline food security status in rural South Africa and rural development in response to prevailing conditions in rural areas.

2.2. The Context for Rural Livelihoods in South Africa

According to Ellis (2000), a livelihood comprises of the assets (natural, physical, human, financial and social capital), the activities and the capabilities access these (mediated by institutions and social relations) that together determine the living gained by an individual or household. Assets, in this context, refer to basic material and social resources that people have in their possession and capabilities refer to individual or household's ability to find and make use of livelihood opportunities (Scoones, 1998). The activities refer to the ways in which the capabilities and assets are combined to achieve livelihood outcomes. Fouracre (2001), citing DFID (1999), defined a livelihoods as sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in future, while not undermining the natural resource base. Thus, the objectives of this study set to evaluate both social and economic impacts of the Agripark and evaluating the environmental benefits.

Tshuma (2009) indicated that embarking on agriculture as a tool for poverty alleviation is a general trend seen by most economists, which has led to a perception that most rural households

should engage in farming to improve their livelihoods. However, a number of studies have shown that this is not the case, because most rural households rely on income (cash and subsistence) from a number of sources which include farming (i.e. dry land cropping and livestock production) wages or home industries, remittances and recently government social assistance. Hebinck and Lent (2007) provided evidence that in these days the livelihoods of most rural households revolve largely around migratory labour, remittances and social pensions. Therefore, there is a growing tendency that rural households are losing their ability to maintain or improve their livelihoods based essential on agriculture and harvesting natural resources. In the South African context, Monde (2003) mentioned that agriculture in most rural households hardly ever constitute the main rural livelihood activity to secure income and eradicate household food insecurity. However, Carter and May (1999) indicated that although agricultural production makes a small contribution to household income, over one third of rural households continue to engage in agricultural production, making it the third most important livelihood tactic used in rural areas after remittances and wages from low-skilled jobs.

2.2.1. Poverty and Unemployment in the Eastern Cape

South African economy suffered a prolonged deterioration in real growth, domestic savings and employment creation. Providing evidence to this, May (2000) stated that by 1995 the combined outcome of the apartheid era resulted in an economy with high income inequality, wide spread poverty and high levels of unemployment. With regard to the Eastern Cape Province, Eastern Cape is recognized by being the second poorest province of South Africa after Limpopo. According to PROVIDE (2005), citing Statistics South Africa (2003), in 2003 the Eastern Cape Province contributed approximately 8.1% to the National GDP while 14.4% of the South African population reside in the this province. This therefore implies that the *per capita* GDP in the Eastern Cape is lower than the National average. According to PROVIDE (2005), the IES/LFS 2000 estimated that the province's *per capita* income is R6 774.00 in 2000, only about half the national average of R12 411.00. Therefore, these facts provide evidence that high levels of poverty, inequality and unemployment persist in the province as they do in the rest of the country.

The PROVIDE (2009) project using Foster-Greer-Thorbecke class of poverty indices, illustrated that the total headcount ratio, poverty gap ratio and severity rate in South Africa in 2007 were 44.57%, 16.88% and 7.15%. The African population has the largest share in the total for all classes of poverty 86.63%, 84.81% and 83.3% (head count, poverty gap and severity, respectively). This translated into 2 million people in households earning below than R322 per month per AE (which was the PDL in 2007). The poverty gap of 16.88% gave an indication of the average inequality between those living below the poverty line, while the severity index of 7.15% gave and indicated the severity of poverty by given a greater weight to the most poor (StatsSA, 2007). With respect to the Eastern Cape, a similar trend could be identified. According to PROVIDE (2009), the African population are dominating the poverty measures while there are few Coloured and White population in the poverty measures. The total poverty rates recorded by StatsSA (2007) for the different measures in the Eastern Cape are 62.81%, 54.69% and 51.57%, respectively. This corresponds to over 4 million people that are living below the poverty line according to headcount ratio. The African population again has the largest share in the total poverty profile with a share of 93% for all three measures.

2.2.2. Food Security in South Africa

In South Africa, the cause of hunger and malnutrition is not due to an overall shortage of food but rather an inadequate access to food by certain categories of individuals and households in the population (Anonymous, 2006). Statistics South Africa has shown that food insecurity is not an exceptional, short-term event, but is rather a continuous threat for more than a third population. The vast majority of South Africans buys their staple foods from commercial suppliers, rather than growing it themselves, and is therefore dependent on having access to cash (Anonymous, 2006). According to APU (1997), in South Africa food insecurity and malnutrition are highest in provinces with large rural populations. There are two kinds of food insecurity and are chronic and transitory, where chronic food insecurity refers to a continuously inadequate diet caused by the inability to acquire food and transitory food insecurity refers to a temporally decline in a household's access to enough food (Hart, 2009).

According to Ankomah (2001), in South Africa, as in many other developing countries, food security is a concern. Among poor households, particularly in the rural areas, a significant number is considered resource poor and therefore food insecure although South Africa is considered to be food secure at national level. The usual causes of food insecurity are lack of land, capital, tools, livestock and literacy.

There are a number of possible underlying factors to this situation which, *inter alia*, include inadequate domestic food production due to low level of scientific and technological application in the agricultural sector especially in the food subsector, low technology adoption levels by smallholder farmers, the unrecognised role of women as food producers and low research on food crops. The economic failures, that is the slow growth of formal employment in manufacturing industry and services in urban areas have led to unemployment, less work for migrants from rural areas, an increasing fraction of the workforce employed informally, falling real wages, and reduced remittances (van Zyl and Kirsten, 1992). Inadequate safety nets, because in both rural and urban areas, income is an important determinant of long-term nutritional status and bearing in mind that South African rural households rely on social security grants, which make them to be vulnerable to food insecurity (Ankomah, 2001).

In general, low-income developing countries are more vulnerable to reductions in agricultural production and, therefore, low income developing countries are more likely to experience a significant increase in food insecurity. In South Africa, for example, rural people have less access to credit and finance, which limits their ability to purchase seeds, fertilizers and other inputs needed to adopt new farming techniques which results to them producing low quantities, hence there will be food insecurity. According to Ankomah (2001), about half of South African households earn a monthly income of R1000 or less. This has serious implications for standards of living and importantly food security of many households. There is a strong link between lack of income and food insecurity, where households with the lowest incomes experience the greatest levels of food insecurity.

Policies and recommendations on how to deal with household food insecurity to achieve household food security all come to one conclusion “household food production”. According to FAO (2002) outlined that an expansion in agriculture, particularly through increasing smallholders' output of staple foods, can contribute significantly to reducing the incidence of

under-nourishment by raising local food availability, especially in poor families. Therefore, this implies that investment in agriculture especially in rural areas is a basic requirement. DoA (2002) provided evidence to this, that to overcome rural food insecurity, there is a need to increase the participation of food insecure households in productive agricultural sector activities which will result in an increase of food production to South Africans. Therefore, households need to have physical or economic access to food. Physical access implies to produce food on their own (subsistence farming) whereas economic access refers to the ability to purchase food in the market.

2.3. Structure and Composition of Rural Livelihoods

It is widely recognised that people living in poor households engage in a wide range of activities in order to generate a livelihood with which they are able to achieve food security (May, Carter and Posel, 1996). Some of these activities may involve an exchange process whereby services are performed or goods produced which may be exchanged for a cash income or for recipient goods and services and other livelihood options may include the consumption of self-produced goods, or items obtained through foraging/ hunting and gathering (May, 2000). Some activities may involve no productive action at all, but rather are based upon a transfer of income or resources and some activities may involve no more than measures which stretch existing resources a little further. The asset base of the poor counters vulnerability to poverty and the management of their complex asset portfolio represent a way in which sustainable livelihoods can be generated (Lawrence and Singh 1997).

Lawrence and Singh (1997) using quantitative data sets found that a number of activities to be identified from which rural households in South Africa are able to generate income and these include agriculture, for own consumption or sale. Secondly, small and micro enterprise activities based on the extension of distribution networks such as hawking, petty commodity production such as the making of clothes and handicrafts, and niche markets in the service sector such as childminding, money lending and contract agricultural services. Thirdly, wage labour, including migrant labourers, farm workers and traveller labourers. Following Burawoy (1975), the labour market in South Africa can be segmented into two main sectors, primary sector in which jobs are

well-paid and secure, and workers have prospects of career advancements, and secondary sector in which jobs are low-paid and offer little security and opportunities for upward mobility.

Fourthly, claiming against the state. South Africa has a well-functioning social pensions system which has a high coverage amongst the elderly in rural areas. Claiming these rights from the state in the form of pensions and disability grants has been shown to be of critical importance to household incomes (for example, see Ardington and Lund 1995). Lastly, claiming against household and community members. Migration for employment remains an important aspect of many rural people's lives, as does the reliance of the rural household upon a share of the migrant's income in the form of a remittance. As such, effective claiming of this remittance from migrants is an important livelihood tactic. Assistance is also rendered through kinship ties as well as through other forms of community reciprocity, including, work parties, outright charity and households assist one another by absorbing family members (May, Carter and Posel, 1996).

2.3.1. Rural Development: A South African Perspective

According to ISRDS (2000), rural development is understood to be multi-dimensional, encompassing improved provision of services, enhanced opportunities for income generation and local economic development, improved physical infrastructure, social cohesion and physical security within rural communities, active representation in local political processes, and effective provision for the vulnerable. Therefore, the concept places emphasis on facilitating change in rural environments to enable poor people to earn more, invest in themselves and their communities, contribute toward maintenance of the infrastructure key to their livelihoods, in short, to identify opportunities and to act on them. In the South African context, the initial rural development strategy was formulated within the framework of the Reconstruction and Development Program (RDP), but the foundation for a sound rural development strategy was also grounded in a stable macroeconomic framework provided by the Growth, Employment and Redistribution (GEAR) program adopted in 1996 (Ntshona & Lahiff, 2003). According to FHISER (2003) the RDP gave priority to reducing poverty and inequality through revival of economic growth, human resource development and broadly based ownership of assets to achieve growth with equity.

Moreover, the land reform program is an important component of rural development and is presented in the White Paper on South African Land Policy issued by the Department of Land Affairs in 1997. A number of instruments were developed in pursuit of rural development and, according to Ntshona and Lahiff (2003), these instruments included the Local Economic Development (LED) fund, community water supply and sanitation, food security, rural housing technopreneur programme, Khula-start, Spatial Development Initiatives (SDIs), Local Business Service Centres, and Small, Medium and Micro-enterprise (SMMEs) incubators, agricultural marketing, farming development, employment and skills development services, development of self-sustaining villages, etc. A number of other initiatives were launched in the agricultural sector to improve the economic potential of this sector of the rural economy. These initiatives included the Land Care Programme, and various programmes to enhance access to agricultural support services and markets, all in an effort to improve agricultural opportunities for rural households (see case study 1). This Case study 1 is one of the examples of the initiatives between government and private sector implemented to bring about change in rural areas in pursuit of rural development. It shows how the public-private partnership has improved wool production in rural areas and thus, increasing their incomes through skills development, provision of quality rams and provision of necessary infrastructure (i.e. dip tanks, handling facilities, shearing sheds, etc)

Case Study 1:

How Agricultural Interventions Increased Rural Incomes

Small producers in the former Transkei/Ciskei region of the Eastern Cape own approximately 3 million wool sheep. Prior to 1996, they sheared their sheep under poor conditions and sold unclassified wool of poor quality to traders for only R2.50/kg. Neighbouring white commercial farmers were receiving between R15 and R20/kg for their wool – mainly due to better shearing sheds and an ability to class the wool clip, and thereby delivering a better quality product.

As a part of an initiative under the Land Care programme of the Department of Agriculture, the National Wool Growers Association (NWGA) and the Agricultural Research Council (ARC) joined hands in 1996 to establish an advisory service to the woolgrowers in the former Transkei/Ciskei. Since then the NWGA has recruited 4 000 farmers in these areas as full members of the association. The ARC/NWGA assisted the farmers to erect 30 new shearing sheds with handling facilities.

A social survey of the rural communities in this area undertaken at the same time identified 6 different types of households in these communities – only 2 with any farming involvement. The study also pointed to the large group of households dominated by landless and very poor women. In discussion with the wool producers, the ARC and NWGA decided to provide training programmes for the farmers in sheep shearing and training programmes for the landless poor women in wool classing. The wool producers began to employ the trained women to class their wool clip, and the women are paid per fleece classed. The 30 shearing sheds are at present producing around 3 300 bales (150 kg each) of wool for sale at the Wool Exchange in Port Elizabeth. With the farmers now shearing under better conditions and more skilfully, and with the women class the clip, these farmers were able to sell their wool for R15 to R20/kg – prices comparable with the best clips of the neighbouring commercial farmers. One of the new sheds also won an award for the best classified wool clip. This intervention has enormous potential when scaled up to include many of the wool producers of the region. For the five communities that built shearing sheds, revenue increased five-fold, as shown below:

Revenue from wool production – before intervention (247 500 sheep) R 1 237 500

Revenue after intervention R 6 187 500

Replication of this impact to the 3 million sheep of Transkei/Ciskei would yield potential income of R74,9 million, or R60 million more than the present R14,9 million. If wool quality can also be improved through better breeding, the potential revenue can be as much as **R105 million** (almost 10 times the current revenue).

Source: ISRDS, 2000

2.3.2. Evolution of Rural Development

The concept of rural development has changed significantly during the last 3 decades. Until the 1970s, rural development was synonymous with agricultural development and, hence, focused on increasing agricultural production. According to Chambers (1983) and ADB (2000) this focus seemed to have been driven primarily by the interests of industrialization to extract surpluses from the agriculture sector to reinforce industrialization. With the focus on increasing agricultural production, the stated objective of most countries was to promote smallholder agriculture. Over time, this smallholder agriculture-centric concept of rural development underwent change. By the early 1980s, according to Fouracre (2001), the World Bank defined it as a strategy designed to improve the economic and social life of a specific group of people the rural poor. Harris (1982) further identified four major factors that appeared to have influenced the change and are: (i) increased concerns about the persistent and deepening of rural poverty, (ii) changing views on the meaning of the concept of rural development itself, (iii) emergence of a more diversified rural economy in which rural nonfarm enterprises play an increasingly important role and (iv) increased recognition of the importance of reducing the non-income dimensions of poverty to achieve sustainable improvements in the socio-economic wellbeing of the poor.

In more recent years, increased concerns on the environmental aspects of economic growth have also influenced the changes. Today's concept of rural development is fundamentally different from that used about three or four decades ago. Chino (2000) mentioned that the concept now encompasses concerns that go well beyond improvements in growth, income, and output. The concerns include an assessment of changes in the quality of life, broadly defined to include improvement in health and nutrition, education, environmentally safe living conditions, and reduction in gender and income inequalities. Today there seems to be a universal consensus that the ultimate objective of rural development is to improve the quality of life of rural people and this makes it essential to go beyond the income-related factors such as prices, production, and productivity to a range of non-income factors that influence quality of life and hence inclusiveness of rural development (Byerlee, Diao & Jackson, 2005).

Inclusive rural development is a more specific concept than the concept of rural development. In broad terms, inclusive rural development is about improving the quality of life of all members of rural society and more specifically it covers three different but interrelated dimensions (Byerlee, Diao and Jackson, 2005). The first is the economic dimension that encompasses providing both capacity and opportunities for the poor and low-income rural households in particular to benefit from the economic growth process in such a way that their average incomes grow at a higher rate than the growth of average incomes in the sector as a whole. The economic dimension also includes measures to reduce intra- and inter-sectoral income inequalities to reasonable levels. Second is the social dimension of supporting social development of poor and low-income households and disadvantaged groups, eliminating inequalities in social indicators, promoting gender equality and women's empowerment, and providing social safety nets for vulnerable groups. Third is the political dimension of improving opportunities for the poor and low-income people in rural areas, including women and ethnic minorities, to effectively and equally participate in the political processes at the village level and beyond compared with any other categories of the population within and outside rural areas.

2.4. Abridgement

An overview of the context and composition of rural livelihoods is given in this chapter, touching decisive issues such as poverty and unemployment, food security and vulnerability and how the approaches to rural development had been changing in South Africa. It is clear that rural livelihoods are characterised by underutilised resources, high poverty and unemployment rates and they embark on various activities to construct their livelihoods depending highly on the cash economy (i.e. social assistance programs). However, as much as agricultural activities make a significantly small contribution towards constructing their livelihoods, there are a number of livelihoods that still depend or consider agriculture a very important aspect of their livelihoods constructing activities. Thus, rural development has been evolving through years in pursuit of addressing basic challenges such as poverty, unemployment and inequality. As far as agriculture is concerned, rural development has been evolving to promote rural people to see that embarking on agriculture is a key instrument towards achieving rural development, alleviation of poverty and obtaining sustainable livelihoods.

CHAPTER 3: A REVIEW OF CONCEPTS APPROPRIATE FOR THE STUDY

3.1. Introduction

This chapter starts with a background overview of the Agripark as a concept, outlining its international application, its objectives, mission and vision. Furthermore, in order to assess the impact of the Agripark project, some concepts should be reviewed in order to justify the framework selected for this project. The concepts that are reviewed in this chapter for the purpose mentioned above include Socio-Economic Impact Assessment (SEIA) framework and the Sustainable Livelihood framework (SLF).

3.2. Agripark

3.2.1. An Overview of the Agripark

Agripark was initiated after a number of experiments on ecological and optimal agricultural production systems, small scale agro-processing, community-centred entrepreneurship and capacity development programmes were carried by the University of Fort Hare. There are two running Agripark projects in the Eastern Cape Province and one was initiated at the Fort Hare University which is aimed to be a centre of Research and Development (R&D) for other Agripark projects. The second one was launched in 2008 in partnership with the Provincial Department of Agriculture and Rural Development at Dutywa of Mbashe local municipality which this research project seeks to carry out a Socio-Economic Impact Assessment for, which is also a monitoring and evaluation (M&E) phase of this Dutywa Agripark project.

The Agripark initiative, promoting co-operative enterprise and other related entities, comprises three linked components coordinated and/or driven from a centre serving a number of organized communities. These elements are: (i) a seedling nursery providing plant-inputs to organized and trained community producers, who then supply (ii) an agro-processing facility that processes raw produce harvested and supplied by local producers, turning these into various food products, and (iii) a sizeable feeder plot within or close to the grounds of the Agripark that produces additional

input stock for the processing facility. The Eastern Cape office of the premier's service delivery report of 2007/08 outlined that the development of alternative and local vegetable marketing and processing facilities through an Agripark concept not only ensures off-take of excess household production but provides local employment and a local supply of processed, nutritious and preserved foodstuffs.

3.2.2. Vision, Mission and Objectives of the Agripark

Agripark is an innovative new empowerment project which aims to create hundreds of long term agri-sector jobs. The vision of the Agripark is to build a sustainable community-owned model for small and large scale vegetable production and processing and establish agribusiness empowered communities throughout South Africa. Its mission is to create sustainable self-employed jobs for the poor and unemployed of the Eastern Cape through vegetable production and value adding by agro-processing ventures of the local community level and establishes markets for the products.

The Agripark project's objectives are as follows:

- Assess baseline information and needs of the communities.
- Formation of co-operatives or relevant legal entities.
- Establishment of seedling nursery, gardens and processing units (the Agripark value adding chain).
- Contribute toward eradication of extreme poverty and employment creation.
- Create an enabling environment for the development of agribusiness entrepreneurs.
- Contribute towards human resource development e.g. skills development and sustainable utilization of resources.

According to Byerlee, *et al* (2005), inefficient marketing channels and systems characterize the developing countries such that if farmers cannot market the surplus produced they tend to produce at a subsistence level. Therefore, an innovative initiative that will address this problem and bridge the gap between production and markets for small scale farmers is inevitable and thus, the Agripark was initiated on these grounds. Fraser (2003) outlined that the Agripark would provide an effective catalyst for the implementation of innovations and research targeted for

rural community development and would also provide a two-way linkages between the Agripark and the local farmers and the communities. The result of this will be an increase in income by the business, the local farmers and the community will induce multiplier effects leading to an even larger effect on the local community and the country's economy as well.

3.3. SEIA: Theoretical Framework

A socio-economic impact assessment is a tool used to examine how a proposed development will change the lives of current and future residents of a community. The Australian Government Bureau of Rural Science (BRS) (2005) also defined the SEIA as a “useful tool to help understand the potential range of impacts of an imposed change and the likely responses of those impacted if the change occurs”. Therefore, the SEIA systematically identifies and evaluates the potential socio-economic and cultural impacts of a proposed development on the lives and circumstances of people, their families and their communities. Moreover, as the Australian Government BRS has outlined, SEIA can be a useful tool in monitoring and evaluating a developmental project because, Michael (1984) accentuated that “any project introduced at any level can have both negative and positive impacts on its surrounding society”. Therefore, the SEIA framework approach can provide information on potential economic impacts as well as important social values attached to the activity which inform likely attitudes and responses to proposed change. Thus, a Socio-Economic Impact Assessment framework has been adopted for this research project.

According to the Provention (2007) six steps were put forward which may be followed in conducting a socio-economic impact assessment. They are scoping, profiling baseline conditions, assessing and predicting impacts, identifying mitigation, evaluating significance and applying mitigation and monitoring. However, for the scope of this project the focus is on scoping, profiling baseline conditions (also referred to as baseline profiling) and assessing and predicting impacts.

3.3.1. Scoping

Scoping is a phase of preliminary analysis that identifies and prioritises SEIA considerations and required information and according to Canter (1985), scoping narrows the focus of the SEIA to issues of potential significance. Furthermore, the BRS (2005) described the scoping phase as a phase where goals and boundaries of the assessment are established and focuses on key impacts. The BRS (2005) further identified the aims that the scoping phase should determine. They are;

- Time and resources available for the SEIA
- Nature of the proposal being assessed
- Groups who are potentially impacted
- Key impacts of interest
- Extent of available information, its potential usefulness in terms of appropriate scale, timeframe, content etc and how data gaps can be addressed
- Process and methods to be used for the SEIA.

After initial scoping, the social and economic variables are selected for further assessment situations. It is of utmost importance that impact considerations should be devoted to both the impacts perceived the acting agency and to those perceived by the affected group and community. Thus, the Inter-organisational Committee (IOC) (1994) stressed that all the affected groups should contribute to the selection of the variables through either a participatory process or by reviewing or commenting on the decision made by responsible officials and the interdisciplinary team. The DEAT (2006) suggested the relevant criteria for selecting significant impacts comparable to those spelled out in the CEQ Regulations which include:

- Probability of the event occurring;
- Number of people including indigenous populations that will be affected;
- Duration of impacts (long-term vs. short-term);
- Value of benefits and costs to impacted groups (intensity of impacts);
- Extent that the impact is reversible or can be mitigated;
- Likelihood of causing subsequent impacts;

- Relevance to present and future policy decisions;
- Uncertainty over possible effects: and
- Presence or absence of controversy over the issue.

3.3.2. Profiling Baseline Conditions

This phase focuses on gathering information about socio-economic environment and context of the proposed development project which can include defining measurable indicators of valued socio-economic components. According to the BRS (2005), it is important to understand the current impacts of the activity being examined including the historical context and current status of operations and to identify the groups and communities associated with the activity. Additionally, the CGG (2006) outlined that the description of the baseline conditions should include the relationship with the biophysical environment, historical background, political and social resources, culture attitudes and social attitudes, economic and financial background and political characteristics.

Thus, the baseline study conducted in 2008 prior the implementation of the Agripark elucidated, *inter alia*, the historical context and economic and financial background. In the interest of this research paper, it is imperative to give a brief outline of how the baseline study was conducted. The baseline study was conducted to describe the conditions outlined above proposed by the Inter-organisational Committee (1994) and also to provide the basis of measuring the progress of change in both social and economic status of the people of the community involve and to ascertain the positive and negative impacts. According to the BRS (2005), the following may be identified during the phase of profiling baseline conditions, and are:

- types of activities which may be affected, who undertakes these activities, when and where
- extent/scale of activity potentially affected and the range of values associated with these activities
- historical, regulatory and other factors impacting on these activities

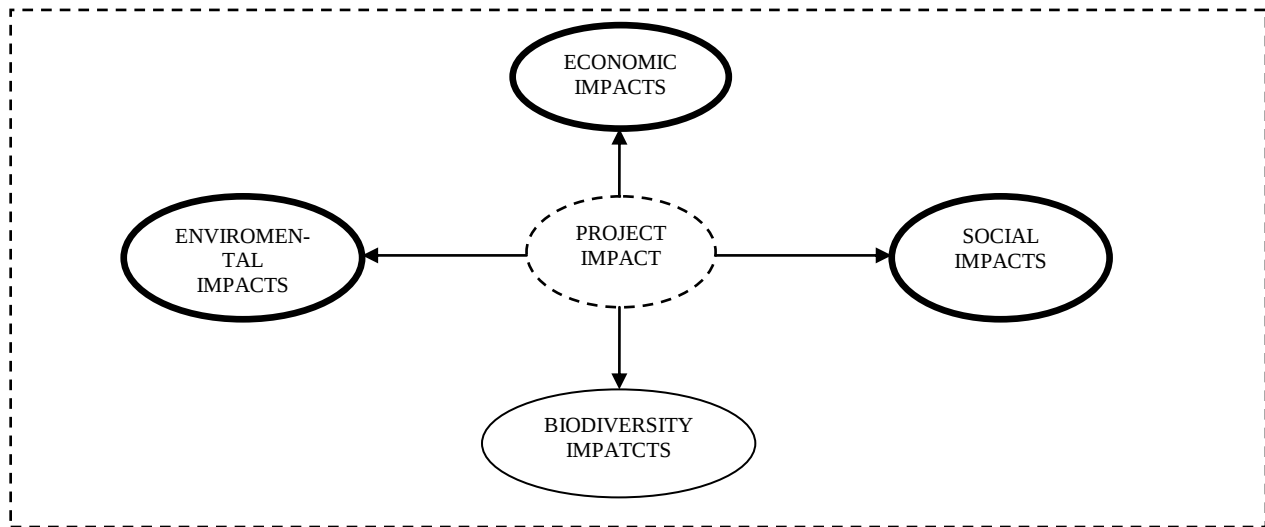
- methods of contacting people who may be affected so they can provide data about potential impacts
- geographic location of members of groups who may potentially be impacted by the proposed change and
- proportion of the group, or of their activity, likely to be affected.

3.3.3. Assessing and Predicting Impacts

Based on the analysis of information gathered from issue scoping and profiling baseline conditions the impacts are assessed and possible future impacts are predicted. Therefore, it is in this phase where the situation prior to the implementation of the project is compared to the current situation and ascertains all variations that may have occurred. According to the Inter-organisational Committee (1994), as cited by Glasson (2000), defined impacts as the “consequences to human population of any public or private actions that alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally copes as numbers of society”.

As it has been stated earlier that Michael (1984) pointed out that any project introduced at any level can have both positive and negative impacts on its surrounding society and in addition, the CGG (2006) also gave a range of impacts that a developmental project can have on its surrounding society which include social, economic and environmental impacts. For example, figure 3.1 present the impacts that a developmental project or any technology introduce to improve lives may have on its beneficiaries (i.e. social, economic, environmental and biodiversity). However, the impacts that will be assessed in this study are the social, economic and environmental impacts. The socio-economic impacts for this framework are divided into two categories, the direct (also known as primary impacts) and Flow-on impacts (also known as indirect or secondary impacts).

Figure 3.1: Multi-dimensional impacts of a project



Source: own presentation from Centre for Good Governance, 2006.

3.3.3.1. Direct Impacts

According to the BRS (2005), direct impacts are those impacts that are felt directly by those individuals, groups and firms directly engaged in the activity being affected. In this paper, direct impacts have been taken to refer to impacts in relation to the participants of the Agripark projects collectively with their families. CGG (2006) indicated that to assess direct socio-economic impacts the information and data are gathered from those identified as potentially affected by the activity and on the level and nature of potential impacts. Hence, the ideas on what is perceived to be the result of the impacts were obtained from those identified to be potentially affected by the Agripark projects. Furthermore, the direct socio-economic impacts would be further used as the variables when assessing the impacts of the Agripark projects. Some of the social and economic impacts, as identified by the BRS (2005), may incorporate the following:

- production output
- employment – e.g. location, availability, and types of employment;
- personal and/or business income
- personal and/or business expenses – e.g. changes to the cost of doing business;

- asset values – e.g. business capital items, housing;
- domestic or household food resources
- working conditions – e.g. hours worked, health and safety;
- psychological well-being – e.g. stress levels, happiness, security, family interactions,
- social services – e.g. access to, level of provision and
- social well-being – e.g. access to social networks (often called ‘social capital’).

3.3.3.2. Flow-on Impacts

The DEAT (2006), BRS (2005) and Inter-organisational Committee (1994) defined the flow-on impacts (indirect impacts) of a change as impacts that are generated at a broader level as a result of the impacts felt by those individuals, groups and firms directly associated with the change. These impacts are caused by direct impacts and the often occur latter both in time and geographical distance. According to Tshuma (2009), separating direct impacts from flow-on impacts is not an easy thing to do, however, the IOC (1994) accentuated that it is important for these impacts to be clearly identified when carrying a socio-economic impact assessment. Indirect impacts may include any direct impacts mentioned earlier, such as employment, personal and business income and expenses, asset values, etc. Thus, the BRS (2005) suggested a continuum of impact that flow-on impacts may include, as follows:

- impacts on economic activity in a region as a result of changes to consumption and production spending/activity
- changes to employment and income in a region
- changes to population in a region including age, employment, length of residence and other demographic characteristics and
- changes to levels of service provision and social capital in a community/region.

In this toolkit, flow-on impacts have been taken to refer to the impacts on the communities that are directly associated with the Agripark project (i.e. Bhomela, Rwantsini, Mangwevini and Mangati).

3.3.4. SEIA framework variables

Social variables point to measurable change in human population, communities and social relationships resulting from a developmental project. The Inter-organisational Committee (1994) suggested general headings under which a list of social variables may fall and include population characteristics, community and institutional structures, political and social resources, individual and family changes and community resources. However, Provention (2007) and DEAT (2006) also suggested a specific list of key social variables to indicate any changes in the population affected and include:

- Changes in community demographics (sex, age, dependency ratio, labour force)
- Social capital (networks of relations, communal work, leadership capability, trust in social institutions, level of understanding of constraints)
- Psychological wellbeing (stress levels, happiness, security, attitudes and perception towards proposed developments)
- Personal or household expenditure (e.g. cost of obtaining food)
- Skills and training, and
- Changes in quality of life

Economic variables and key indicators include the following

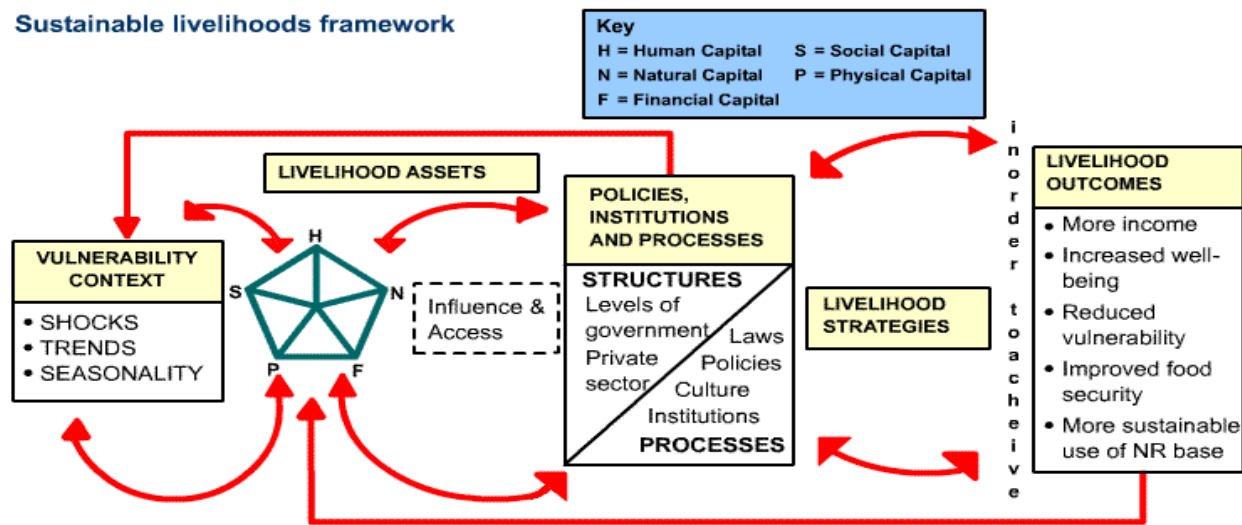
- Employment – availability, types of employment, composition (family/hired), average wage rate
- Changes in income levels (which leads to improved standards of living)
- Physical capital – storage and irrigation infrastructure (condition and availability)
- Water availability
- Risks of food insecurity, and
- Production output

3.4. Sustainable Livelihoods: A Theoretical Framework

To justify the selection of the SEIA as a framework of analysis, it was important to review another theoretical framework to show that another framework was reviewed as well. As outlined in chapter 2, a livelihood comprises the capabilities, assets, and activities required for a means of living. It is deemed sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities, assets, and activities both now and in the future, while not undermining the natural resource base. The sustainable livelihoods approach is a way of thinking about the objectives, scope, and priorities for development activities and it is based on developing thinking about the way the poor and vulnerable live their lives and the importance of policies and institutions. It helps formulate development activities that are people-centred, responsive and participatory, multilevel, conducted in partnership with the public and private sectors, dynamic and sustainable.

Scoones (1998) developed a conceptual framework to guide research into sustainable livelihoods. A slightly modified version was put forward by Carney (1998) to guide development aid policy. The framework (Figure 3.3) is based on the understanding that livelihoods result from the complex interaction of a dynamic set of factors that influence people's livelihood choices. Particular attention is placed on the physical, socio-political, economic, institutional, and historical context in which livelihoods occur. Key elements of the model are: the vulnerability context, the stores of livelihood 'capital' that are available to people (alternatively referred to as assets), the institutional processes and organisational structures that influence access to these resources, the livelihood strategies that people adopt, and the livelihood outcomes resulting from these strategies. These elements are thought to be related in a variety of ways (as indicated by the arrows in Figure 3.2), all of which are highly dynamic. None of the arrows imply direct causality, although all imply a certain level of influence (Department for International Development, 1999).

Figure 3.2: Sustainable Livelihood Framework



Source: Serrat (2008) *The Sustainable Livelihood Approach*.

The Sustainable Livelihoods Framework (SLF) is a normative model based on a developing theoretical understanding of how livelihoods work. Essentially deconstructive in nature, it seeks to present a graphic representation of the main factors that underpin, and/or influence, the creation of livelihoods as presented in figure 3.2 above. It is also ‘systems-orientated’ in that it attempts to make explicit the nature of the relationships, and inter-relationships, between different factors. The SLF can be used both as a conceptual tool for improving scholastic understanding of livelihoods, or as a more applied tool to aid the identification of appropriate entry points for support of livelihoods.

Five distinct, yet inter-connected, groupings of factors make up the SLF. These are:

- The Vulnerability Context,
- Livelihood Assets,
- Transforming Structures and Processes,
- Livelihood Strategies, and
- Livelihood Outcomes.

3.4.1 The Vulnerability Context

Work by Chambers (1983) and others has shown that vulnerability is often a key component of poverty. With this in mind, the vulnerability context seeks to depict the dynamic ‘macro-environment’ influencing livelihoods. Understanding of the vulnerability context provides an insight into the kinds of factors that have the potential to negatively impact on people’s livelihoods. It draws attention to the fact that for many people, reducing vulnerability may be a key livelihood objective, in turn influencing their choice of livelihood strategy. Diversification of livelihood activities is thought to be one way in which people reduce their vulnerability (Serrat, 2008).

The vulnerability context also identifies arenas in which development agencies can assist in reducing vulnerability by addressing the factors causing vulnerability, or by assisting people in strengthening their resilience to these factors. Vulnerability events (‘disturbances’) may be characterised into trends, shocks and seasonal events. Trends are slow-moving, often benign, changes in the macro-environment, the trajectory of which may be tracked with relative accuracy. These might include broader population trends, natural resource trends and/or national and international economic trends. Shocks, on the other hand, are typically impacts that are sudden, unpredictable, and traumatic (Chambers and Conway, 1992). Examples of shocks include: droughts, fires, epidemics, conflicts and/or sudden changes in the economy. Some disturbances may be seasonal in nature. For example, it is not uncommon for communities practicing subsistence-type agriculture to experience a ‘lean period’ between harvests, when food stocks are depleted and hunger increases. Seasonality may also relate to commodity prices, production capabilities, access to natural resources and employment opportunities.

3.4.2. Livelihood Assets

According to DFID (1999), livelihood assets are the basic building blocks from which livelihoods are generated. The existence of, and degree of access to, livelihood assets is therefore important in influencing the livelihood options that people may, or may not, have. The framework draws attention to the variety of assets that contribute to making a sustainable

livelihood and to ways in which they are interdependent. Although there is some debate concerning the categorisation of livelihood assets, the SLF portrays assets in terms of the following five forms of capitals (Carney, 1998). (i) Human capital refers to ability of people to work in terms of their education, health and skills. When using the household as a unit of analysis, human capital refers also to the size and quality of the ‘household labour pool’. (ii) Natural capital refers essentially to the resources found in the natural environment. These include land, water, soils, grasses, animals, trees, etc. as well as the biophysical processes that are needed to sustain them. (iii) Financial capital refers to the stocks and inflows of money people use to achieve their livelihood objectives. This might include savings and access to credit, and/or income earned directly, e.g. through employment, or indirectly, e.g. through welfare grants or remittances. (iv) Physical capital refers to basic infrastructure, services and equipment that are needed to support livelihoods. (v) Social capital refers to the social resources that people draw on in pursuit of livelihood objectives. These may include family and kinship networks, other forms of inter-household co-operation, membership of formalised groups, and the quality of leadership and the degree of cooperation within communities.

3.4.3. Transforming Structures and Processes

According to Carney (1998) and Chambers and Conway (1992), transforming structures and processes refer to systems of local administration and socio-economic organisation as mediated through institutions, governance, policies, culture and legislation. They are considered important because they determine access to the various types of capital, to livelihood strategies and to decision-making bodies and sources of influence.

3.4.4. Livelihood Strategies and Outcomes

Livelihood strategies refer to the range and combination of activities that people undertake in order to achieve their livelihood objectives. DFID (1999) the types of livelihood options that are available to people are thought to be influenced by the vulnerability context, the extent of livelihood assets and the nature of transforming structures and processes. Livelihood outcomes refer to the outcomes of people’s livelihood strategies. Five potential outcomes are identified in

the SLF. These are increased income, increased well-being, reduced vulnerability, improved food security and more sustainable use of the natural resource base. Ideally, outcomes need to be informed by an understanding of livelihood objectives that in turn require the use of Participatory Rural Appraisal (PRA) techniques (Chambers, 1983).

3.4.5. Justification of the Framework

Turton (2000) mentioned that it is important to emphasise that a detailed understanding of people's livelihoods can only be established through participatory analysis and provided the strengths of the Sustainable Livelihood Approach. These strengths include the following;

- The SL approach also places people at the centre, in an environment where analysis has hitherto focused almost exclusively on resources or institutions;
- The SL approach facilitated a process of stepping back and looking at the wider issues affecting rural development. It extended the menu for support to livelihood development both in the short and long term;
- The SL framework proved to be a useful tool for structuring a review of secondary information sources and offered a way of organising the various factors and making relationships between them;
- It specifically highlighted the links (or lack of them) between the macro and the micro level and highlights that higher level policy development and planning is being formed with little knowledge of peoples' needs and priorities.

Having reviewed the two concepts, it is clear that the SLF is mainly concerned about how livelihoods are constructed, influenced by certain factors and sustained through livelihood strategies. While on the other hand, SEIA deals directly with assessing how these livelihoods change after they were subjected to a driver of change (i.e. development project). The baseline

study conducted also gave advantage to the use of SEIA as the theoretical framework for this study. Thus the SEIA framework was adopted to guide the assessment of the impact of the Agripark project on the livelihoods of the household in these four villages.

3.6. Abridgement

This chapter discussed three important concepts, the Agripark as a concept and two frameworks that could have been used to guide this research, the socio-economic impact assessment and the sustainable livelihood frameworks for analysis. However, the SEIA framework was selected to guide this research as discussed earlier and it was used to assess the impacts of the Agripark project on the livelihoods of Dutywa households. The key economic and social variables, as provided by the framework, were analysed including other possible impacts which were analysed through the comparison of a situation prior and post the implementation of the Agripark project.

CHAPTER 4: RESEARCH METHOD

4.1. Introduction

This chapter gives a comprehensive description of the selected study area. It further gives a review of the research methods employed in collecting, analyzing and interpreting the data from the households of the villages under investigation. The chapter is intended to show how the study was conducted using research tools and also outlining the analytical framework of statistical models for data processing that were utilized in this research project.

4.2. Selection and Description of Study Area

4.2.1. Physical Characteristics

Dutywa (formerly Idutywa) is a town in the Eastern Cape of South Africa, formerly part of the Transkei Bantustan. The name means "place of disorder" in the Xhosa language and its spelling was officially changed from "Idutywa" to "Dutywa" on 16 July 2004. It is 35 kilometres north of Butterworth on the N2 road and about 90 km south of Umtata. The settlement was laid out in 1884 and was made a municipality in 1913 and, according to the new municipal demarcations, Dutywa falls under the Mbashe Local Municipality of the OR Tambo District. The four villages (Rwantsini, Mangwevini, Bhomela and Mangati) under investigation are all villages of Dutywa and are within the Mbashe local municipality and all fall under Ward 8 according to the Mbashe municipality demarcation.

Furthermore, Dutywa is situated at an altitude ranging between 300 m to 400 m above sea level. Climatically, the area can be described as warm and sub-humid with a summer rainfall pattern, which reaches a maximum in autumn and a minimum in winter with a mean annual rainfall of approximately 790 mm per annum. Figure 4.1 provides a schematic representation of where Dutywa is located along the N2 road where the project is implemented and villages under investigation are.

Figure 4.1: A Schematic Representation of Dutywa



Source: Google maps (2010)

4.2.2. Socio-economic Characteristics

Based on the 2008 survey of the study area, the mean household size was seven people and when converted to Adult Equivalent (AE) the mean household size was four people. With respect to local governance, the prevailing administrative structure at these villages is relatively new because the headman has been replaced with the village boards predominantly known as “*ibhodi*” which refer to one person (i.e. a person elected by the community members to be responsible for village affairs). However, the decline of the powers of traditional leadership has not entirely been replaced by civic organisations as observed by Van Averbek and Bennett (2007), because the boards still reports to the Chiefs. Despite the fact that these villages belong under the same Ward (i.e. Ward 8 as demarcated by the Mbashe municipality) there are two chiefs of which three of these villages are under the same chief while one village is under another chief.

Social infrastructure in these villages is still poor because the dirt roads leading to the nearest town are in a poor condition and in some instances other villages are inaccessible. None of these villages have clinics and villagers have to travel 30km to the nearest clinic and 70 km to the nearest hospital. However, there are primary schools in each study village and only one high school at Bhomela village. These villages have no access to potable or RDP water and the main source of water is the Nqabara River and other sources are streams and springs for all domestic purposes.

The baseline study conducted in 2008 showed that the proportion of households below poverty line (poor and ultra poor households) was more than 80% in Rwantsini and Mangwevini. As indicated above, Mangati was the poorest community with more than 90% of households below PL. The Bhomela households were better off with less than 70% of households below poverty line. According to the baseline study, the majority (more than 50%) of households at Rwantsini, Mangati and Mangwevini belonged to the ultra-poor class. The proportion of households in this poverty class in Bhomela was less than 40% and the number of households in the non-poor poverty class was less than 20% in all but one village (Monde, 2008). At Bhomela, almost one third of households belonged to the non-poor category. This also demonstrates the extent of

poverty in Eastern Cape and the status of rural development and poverty eradication. In 1997, Eastern Cape Province had the highest share (29.5%) of the poverty gap, and it was estimated that almost three quarters of the population was defined as poor (Agricultural Policy Unit, 1997) and other studies conducted in the central Eastern Cape, to mention a few, Fraser, et al (2003) and Monde, Botha and Mabusela (2005), also revealed high poverty levels in the Eastern Cape.

4.3. Methods of Data Collection

4.3.1. Sampling Method

According to Leedy and Ormrod (2004), sampling is a process of selecting units from a population of interest, so that by studying the sample, the results obtained from the sample may be generalized to the population from which the sample had been chosen. Since the data obtained from a sample will be generalized to the whole population, the manner in which the sample units are selected is important. A sample should be representative, therefore, the sample size should be large enough to conduct reliable statistical analysis. According to Bless and Smith (2000), in order to get reliable statistics, a sample should have at least 30 units. Therefore, it was important to have a complete and reliable sample frame from which a sample was going to be drawn from. However, since this was a comparison study between the situation that prevailed prior and post implementation of the project, the sample frame and sample were the same for the baseline study and for this study.

When the situation analysis was conducted in 2008, meetings with key stakeholders such as Department of Agriculture and Mbashe Municipality were held. Among other reasons these meetings were held for, they assisted with getting a complete and correct sample frame which was 380 households for the four villages (93 at Rwantsini, 40 at Mangati, 107 at Bhomela and 140 at Mangati). The baseline study aimed for a 30 per cent sample size of the households in each village. Therefore, a systematic sampling technique was used to yield a sample of 114 households as the unit of analysis was a household (i.e. 28 at Rwantsini, 12 at Mangwevini, 32 at Bhomela and 42 at Mangati). One of the objectives of this project was to investigate all key informants that were interviewed in 2008 in order to allow the comparison then and now.

4.3.2. Tools of Data Collection

Data were collected from the same households that were interviewed in 2008 through interviews using structured, interviewer-administered questionnaires. The questionnaires were interviewer-administered so as to alleviate the problem of misinterpretations or misunderstandings of words or questions. These questionnaires also ensured that all questions have been considered and that respondents did not omit difficult questions. By having the questionnaires administered by the interviewer, it helped the interviewer to capture information that could not be obtained from respondents who could neither read nor write as stated by Levy and Lemeshow (1991). Furthermore, the presence of the interviewer assisted in increasing the quality of the responses since the interviewer could probe for more specific answers as indicated by Leedy and Ormrod (2004). All these advantages, however, overshadowed the disadvantages of this method such as being costly in both time and money as the interviewer had to interview the respondents separately and had to travel to reach the respondents. The questionnaires that were used in the collection of the data for the baseline study in 2008 were modified and used to solicit the information for this study. This technique assisted the researcher to collect data that were in line with the data collected for the baseline line study in order to allow comparison and hence the achievement of the objectives.

The questionnaires consisted of both open ended and closed ended questions. Open ended questions were helpful to this study as they allowed respondents to express their views freely, but they were minimized for the ease of data coding and analysis. Most of the questions were closed ended to make the coding of responses easier so as to get as much information as possible from the respondents without taking too much of their time just like Barribeau, Butler, Corney, Doney, Gault, Gordon, Fetzer, Klein, Rogers, Stein, Steiner, Urrschel, Waggoner and Palmquist (2005) have indicated. However, disadvantages of using this type of questions include the fact that they required the researcher to spend a lot of time generating a list of responses and also, the list could not be too long, because Gates and McDaniel (1997) indicated that the respondents may become confused or disinterested. The questionnaire elicited information on demography, livelihoods, income and expenditure, observable environmental impacts, food acquisition strategies and agricultural support services and the unit of analysis was a household.

4.4. Data Analysis and Interpretation

For data analysis, The SAS System was used to run the data collected from the respondents. To interpret the results descriptive statistics was used to provide a background synopsis of the households and the project. Furthermore, association between variables was tested using the chi-square test, together with the multiple regression analysis for the econometric analysis of variables. The main descriptive indicators that were employed were frequency and mean values for all the variables as they were useful in analyzing household characteristics as well as analyzing the relationship between variables.

4.4.1. The SEIA Framework

Having reviewed the important alternative framework for analysis (i.e. SEIA and SLF), the SEIA framework was selected for the purpose of assessing both the social and the economic impacts of the Agripark project at Dutywa. As outlined in section 3.2, the SEIA framework approach provided information on potential economic impacts as well as important social values attached to the activity, which inform likely attitudes and responses to proposed change. This was achieved through the application of the three basic steps of the SEIA framework (i.e. Scoping, Profiling Baseline Conditions and Assessing Impacts). Scoping was done in partnership with all stakeholders, especially the farmers, which the scoping phase was also aimed at identifying the following:

- Time and resources available for the SEIA
- Key impacts of interest
- Process and methods to be used for the SEIA

In carrying out the third phase (assessing impacts), the respondents who were investigated during the baseline profiling study in 2008 were identified and then interviewed for the purpose of this study as mentioned earlier. As for the social and economic indicators used as outlined in section 3.3.4, they are the same as those used in the baseline study in 2008. Even though it was difficult

to ascertain the precise cause of the change in these variables, they were compared with the situation that prevailed prior the implementation of the development project, and they are as follows:

- Demographic changes – changes in the composition of farming population (age and gender),
- Psychological wellbeing – stress levels, security and attitudes towards the Agripark project
- Changes in quality of life – better access to social infrastructure,
- Skills and training gained
- Livelihoods – changes in employments and household incomes
- Yields data of main crops (yield / ha)
- Cropping intensities by season
- Costs of production (inputs, labour and transaction costs); changes to the cost doing farming business
- Impact on markets and marketing system

4.4.2. Testing Association of Variables Using the Chi Square Test (χ^2)

Association between variables in this project was tested using the chi-square test, based on the P-value, a decision was made. The chi-square value is obtained by dividing the expected data in all possible categories by the sum of the squared difference between observed (O) and the expected (e) data (or the deviation, d). The mathematical formula for calculating the Chi-square is as follows:

$$X^2 = \left[\frac{(o-e)^2}{e} \right]$$

Tshuma (2009) citing Fisher and Yates (1974), stated that this test shows the "goodness to fit" between the observed and expected data. For example, a chi-square can be used to determine if the deviations were the result of chance or were they due to other factors. A certain chi-square value is then chosen as the benchmark to determine how much deviation from this benchmark can be allowed to occur before concluding that something other than chance is at work, causing the observed to differ from the expected. A significance level of 5 percent is taken as the relative standard in many studies to serve as the basis for accepting or rejecting the hypothesis. The same significance level of 5% was therefore used in this research such that any deviation from the expected value was due to chance alone 5% of the time or less.

4.4.3. Analysis of Variables using Multiple Regression Analysis

Multiple regression analysis can be used to predict how a dependent variable is influenced by more than one independent variable. For the purpose of this research project multiple regression analysis was chosen. The significance of the beta values in this model was determined through the t-statistic values. A t-statistic is significant at 1% if it is greater than 2.67, significant at 5% when its value ranges from 1.9 to 2.6 and significant at 10% if it is below the value of 1.9 (Gujarati, 1992). A confidence level of 90% (0.10 % significance level) was used in this study such that any value below 0.10 shows a significant relationship whereas a value greater than 0.10 represented an insignificant relationship. This significance level is selected on the grounds with ethical consideration, the field of study deals with live animals and to a certain extent human beings therefore the margin of error is often accepted to be 90% accurate because the recommendation made will influence human beings and animals.

Based on the baseline study carried out for the Agripark project, the dependent variable (Y) is the household expenditure. The multiple regression analysis ran through the SAS System was used to obtain the beta values to determine the strength of each independent variable on the dependent variable. The β (beta coefficients) and the above mentioned independent variables (X) were regressed with this multiple regression, which were necessary in showing how strongly each independent variable influences the dependent variable (Y). A higher beta value represented a great impact of the independent variable on the dependent variable and vice versa. The error term (U) encompassed all the variables that could not be assigned numerical values but had an

impact on the dependent variable. The regression analysis was fitted in this research to try and answer the second objective of this research because expenditure was used as one of the measurements of economic well being. Therefore, the regression analysis wanted to measure the impact of participating in the Agripark project on the household expenditure.

The Regression Function is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + U$$

Where Y = household expenditure/AE

β_0 = intercept

X_1 = Income level/AE

X_2 = Household size

X_3 = Agripark participation

X_4 = Age of household head

U = Error term

Household Expenditure - Household income/AE and household expenditure can both be used as a measure of economic wellbeing of the household. Household expenditure/AE was selected to be the dependent variable as it was directly influenced by level of income and for the fact that income does overlook wealth held by the household and the level of consumption expenditure on other items.

Household Income – as mentioned above, changes in household income/AE levels plays a role in measuring the economic wellbeing impact of development projects. As much as there were other sources of employment, the Agripark project formed a portion of these sources. Therefore, it was important to measure the impact of household income/AE on expenditure patterns of these households.

Household size – Most rural poor households are characterised by large numbers of household members and limited sources of income as indicated by Monde (2003). Household size was selected because of the belief that the larger the household size gets, the more the household expenditure will be.

Agripark Participation - Participation on the Agripark project was taken as a dummy variable, where households that had individuals employed at the Agripark were taken as “participating” on Agripark and those not employed were taken as “not participating”. It was expected that participating on the Agripark project would have a positive relationship to household expenditure. This is because participation in the Agripark project was in form of employment and thus, the participants will earn incomes that will contribute positively to expenditure. The difference between these two categories would provide the basis to evaluate the impact of the project on economic wellbeing of these beneficiaries as stated on the second objective.

Household Age - Household age was selected on the grounds that these households were agricultural household as the baseline study showed that they kept farm animals and cultivated land. Therefore, household age was selected under the assumption that as the household heads become older they will become weak and productivity will be affected and will make them spend more as productivity falls.

Table 4.1: Hypothesized relationships between independent variables and expected outcome

Variable	Hypothesis	Unit	Expected sign
Household income/AE	Increase in incomes will result to an increase on expenditure	Amount per adult equivalent	positive
Household size	The larger the household the higher the expenditure	Number of people in a house	positive
Agripark participation ¹	Through participation individuals will earn incomes contributing positively to expenditure	Participation in form of employment and hawking.	positive
Age of household head	As age increases the ability to provide food declines.	Years	negative

¹ A dummy variable was used to determine whether a household participate or do not participate in Agripark.

4.4.2. Assessing the Impacts on Livelihoods

As mentioned above, the main objectives for this study were achieved through this phase. For the analysis of income and expenditure data, household income was converted into income per adult equivalent (R/AE) as was done in the baseline study. Expressing incomes and expenditures in adult equivalent removes the effects of household size and composition on the cost of meeting basic needs. The number of adult equivalents in a household was determined by means of the following equation, provided by Shinns and Lyne (2002):

No of AE = (No. Adults + 0.5 Children)^{0.9} where,

No. of AE = number of adult equivalents in the household,

No. of adults = number of household members aged 15 years or older,

No. of children = number of households younger than 15 years old.

Incomes were analysed in two ways. The first way was to identify the sources of income and categorise them in two groups, namely, internal and external sources, and then analysed the contributions of these sources to household incomes. The second way of analysing incomes was by means of a poverty analysis, using a poverty datum line (PDL). A PDL is a monetary expression of what a household requires to meet its basic needs, which Frye (2005) defined this PL as the level of personal income and involves the quantification into a monetary value of a set number of items, based on a strict calorific count, a basket of goods etc, the absence of which has been decided by the quantifier, as constituting poverty. Because of the complexity of setting the poverty lines or basic needs, a poverty line for these villages was developed by adjusting the PL that was used in 2008 using relevant current consumer price index (CPI) to get the current PL for 2011. The reason for such an analysis on livelihoods is that income is the main factor affecting livelihoods, so by understanding “real income” for each household would provide a clear understanding the economic impact of the Agripark project to the livelihoods of these households.

4.6. Abridgement

The data that were used to answer the research questions and achieve the objectives of this study were collected using scheduled interviews (questionnaires) from the identified respondents. The unit of analysis was a household and the sample size was 114 households and the same households that were interviewed in 2008 were interviewed for this study. Data were analysed through the use of a Statistical Package for Social Scientists (SPSS, version 20) for descriptive analysis, multiple regression analysis done through the SAS System was used to assess the relationship of each independent variable on the dependent variable and the Chi-square Test was used to test the association between variables. The results were then presented with the aids of tables, charts and graphs. The results were compared to the situation that prevailed in the areas of study during the baseline study through the use of the framework discussed earlier to track any changes that may have accoutred since the implementation of the project (see Chapter Three).

CHAPTER 5: RESULTS AND DISCUSSIONS

5.1. Introduction

This chapter provides the essence of this study, which is to report on the impact that the Agripark project has had on the households of the four villages of Dutywa. It begins by giving a general overview of the demographic characteristics of the households outlining changes from the results that were found in the 2008 situation analysis. It further reports on the analysis on social and economic impacts that the project has had on these households' social and economic status and also making a comparison with the baseline study. The results of the impact on environment are also presented.

5.2. Change in Demographic Characteristics

There were 114 households that were interviewed in 2008 when the baseline study was carried to profile conditions that were prevailing paving for the SEIA study to be carried in future. During the survey in 2011, the same households were interviewed to track any changes that may have occurred since the implementation of the Agripark project. These households that were interviewed are beneficiaries of the project like any other household within these four villages that were not included in the sample. The Agripark project, in fundamental nature, belongs to the four communities which currently benefit through cheap and closer vegetable to their villages, employment and skills development.

5.2.1. Household Composition and Size

Table 5.1 provides a presentation of the change in household composition and size of the same households that were interviewed in 2008. The mean household size was seven people per household ranging from one to fourteen people per household. There is an observable population decreased from 845 people to 789 people in the communities. Another observable change is the

considerable drop of number of children to all villages (0-14 years) with the total number falling by over 35% in the past three years which is explained by fact children have grown up and moved out of this bracket.

When looking at female to male ratio, it is evident that there were more females (53%) relative to male (47%) in these communities. Analysis by village also demonstrates that there were more females than males except for Mangati whose female to male proportion is 49% and 51%. Furthermore, there is a consistent increase in the number of adults (15-64 plus those 64years and more) which is an outcome of more children becoming adults over the past three years which is also why the numbers of children have decreased.

Table 5.1: Change in Population and Household size at Dutywa, October 2011 (n=114)

Variable	All (n=114)		Mangwevini (n=12)		Rwantsini (n=28)		Bhomela (n=32)		Mangati (n=42)	
	2008	2011	2008	2011	2008	2011	2008	2011	2008	2011
Population size	845	789	72	69	214	195	251	243	308	282
Adult Equivalent	401	554	50	47	141	135	174	172	216	201
Active Population*	543	544	14	46	177	131	162	177	190	190
Children	288	188	26	16	87	54	79	53	96	65
Adults	557	601	46	54	127	141	172	189	212	217
Males	395	372	31	29	91	82	123	118	148	143
Females	450	417	43	40	117	113	130	125	160	139

*Note: * population between age 15 and 64 years*

5.2.2. Education Level and Employment Status of Household Members

Table 5.2 presents the education status of the household members that were interviewed for this study. In 2008, a high percentage of household members at Mangwevini and Rhwantsini was recorded approximately 19% and 14% had no formal education, respectively. However, in 2011 only 7.3% at Mangwevini and 6.7% at Rhwantsini had no formal education which could be the result of mortality to the household heads that were interviewed in 2008. There was also high percentage of members with primary education, 42% at Mangwevini and 41% at Rhwantsini communities which may imply increased numbers of household members enrolling at school. As it was observed in 2008, Bhomela (50.6%) and Mangati (56.7) communities still had higher proportion of their member holding secondary education.

Only a small proportion of these village's household members enrol or hold a tertiary education of which some of them were retired nurses and teachers. This is revealed by low percentages such as 4.4% at Mangwevini, 6.7% at Rhwantsini, 6.6% at Bhomela and 5.7% at Mangati. This may be as a result of few factors which, among others, may include high level of drop out at high school level or others obtaining their grade 12 but unable to proceed due to financial obstacles. In 2011, of all the learners that enrolled for their high school education, only 46% percent made it to grade 12. Human Science Research Council (2008) showed that learners are dropping out due to conditions within their homes and communities. These include direct costs (school fees), indirect costs (transport, books, and uniforms), opportunity cost of education, health concerns (pregnancy, HIV) frustration with inexperienced teachers and lack of relevance of education to South African context.

Table 5.2: Education status of household members at Dutywa, October 2011 (n=114)

Education Level	Mangwevini (n=12)		Rhwantsini (n=28)		Bhomela (n=32)		Mangati (n=42)	
	No.	%	No.	%	No.	%	No.	%
No Education	5	7.3	13	6.7	24	9.9	26	9.2
Primary	29	42.0	80	41.0	83	34.2	80	28.4
Secondary	32	46.4	89	45.6	123	50.6	160	56.7
Tertiary	3	4.4	13	6.7	16	6.6	16	5.7
Total	69	100	195	100	243	100	282	100

When the baseline study was conducted in 2008, the results showed that the largest employment variable was the proportion of scholars with Bhomela and Rhwantsini having the highest proportions 47% and 45%, respectively. This study found almost similar results with Rhwantsini (50.8%) still having highest proportion of scholars but followed by Mangati (43.3%). This can also be associated with the significant drop in number of household members with no formal education at Rhwantsini as shown above. The second category that was observed to have high proportions is unemployment (those not working but looking for employment) which had Mangwevini leading by 28% trailed by Mangati by 25%.

Employment at Bhomela has however increased from just 18% (lowest in 2008) to 24% making it the highest in 2011 and Rhwantsini the lowest in 2011 with 20%. Generally, full time employment has increased throughout the communities while part time employment has dropped throughout the communities. Agripark has played its role in this regard and employs sixteen permanent workers and employs twelve more during the harvesting periods. With the exception of Bhomela, the overall proportion of pensioners has increased. At Bhomela, the pensioners have declined from 11% (2008) to seven percent (in this investigation), can also be associated

with the decrease in the population that household members that were pensioners have died over the past four years.

Table 5.3: Change in Employment status of Household Members at Dutywa, October 2011 (n=114)

Employment Status	Rwantsini (=28) (%)		Bhomela (=32) (%)		Mangati (=42) (%)		Mangwevini (=12) (%)	
	2008	2011	2008	2011	2008	2011	2008	2011
Full time	9.3	10.8	13.1	20.2	10.1	10.3	8.1	8.7
Part time	5.6	2.1	4.9	1.7	3.2	1.1	5.6	2.9
Self employed	0.5	1.0	0.3	0.4	1.3	1.8	1.3	4.4
Pensioners	8.9	7.7	11.3	6.6	11.1	12.8	12.5	14.5
Unemployed	22.9	20.0	17.9	24.3	25.3	20.2	27.8	20.3
Housewives	7.1	6.2	5.3	6.2	10.1	5.3	12.5	4.4
Scholars	45.8	50.8	47.2	35.4	39.1	43.3	31.9	39.1
Total	100%	100%	100%	100%	100%	100%	100%	100%

5.2.3.. Gender, Age, Education and Employment Status of Heads of Household

For all four villages that were interviewed, more households are still relatively headed by males as it was observed in 2008 even though there had been a slight change. This was showed by the overall distribution of households headed by males (53%). This closely relates to the indication made by the Department of Agriculture (2000) that a significant amount of households is still headed by males. In 2008 Bhomela and Mangwevini had more households headed by males approximately 53% and 58%, respectively. However, there was a change with Mangati (62%) and Mangwevini (58%) having more households headed by males and Rhwantsini and Bhomela having more female headed households at 57% and 53% respectively. The situation currently prevailing at Rwantsini and Bhomela should be noted because according to UNDP (2001) woman do not chose to be household heads but it is the “absence of an able male to play this role that leads to them perform these duties”. These results for 2011 survey are shown on Figure 5.1.

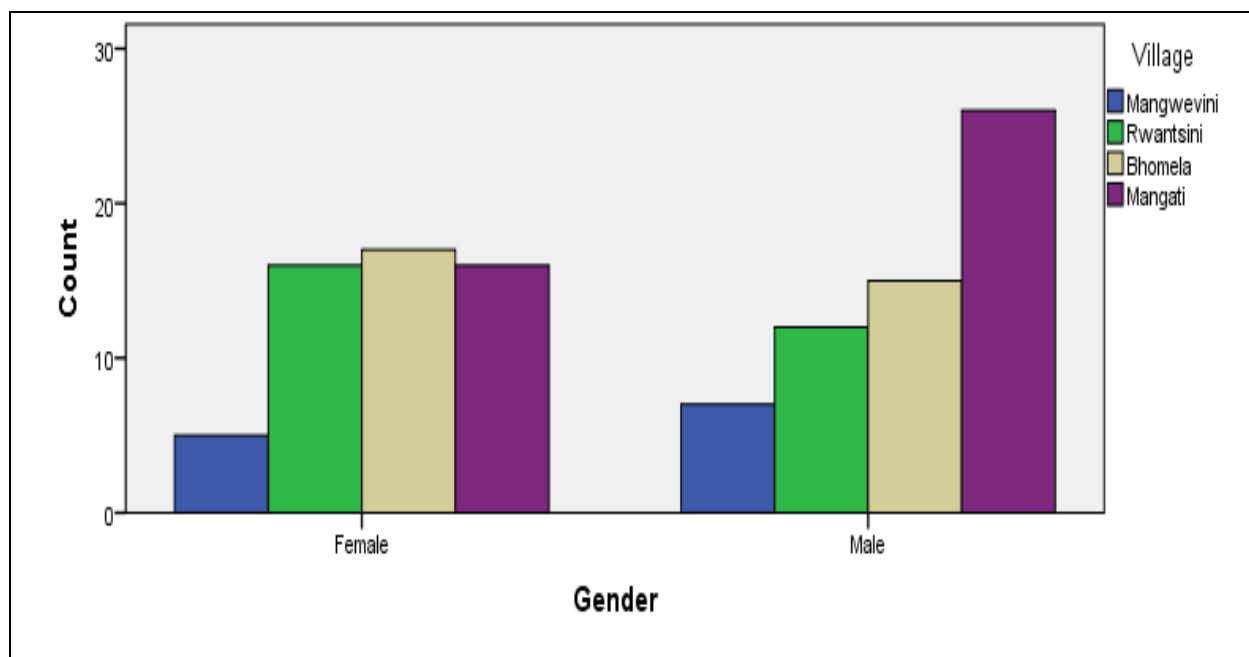


Figure 5.1: Gender distribution of household heads at Dutywa, October 2011 (n=114)

The oldest household head was 94 years old residing at Bhomela and the youngest household head residing at Mangati was 35 years old and on average the age of household head in these villages was 62 years. The household age range is presented on Figure 5.2 with more household headed by heads (32%) within the 60-69 age range followed by 50-59 years (28%) which also show the passage of time. In 2008 most household heads at Mangwevini and Bhomela fell on the 50-59 age range but in 2011 Mangati and Mangwevini fell under the 60-69 years. Bhomela and Rhwantsini had equal number of households falling within 50-59 and 60-69 years range. Mangwevini and Rhwantsini had no households headed by heads aged between 30-39 years while Mangati and Bhomela had one in each households headed by heads over 90 years.

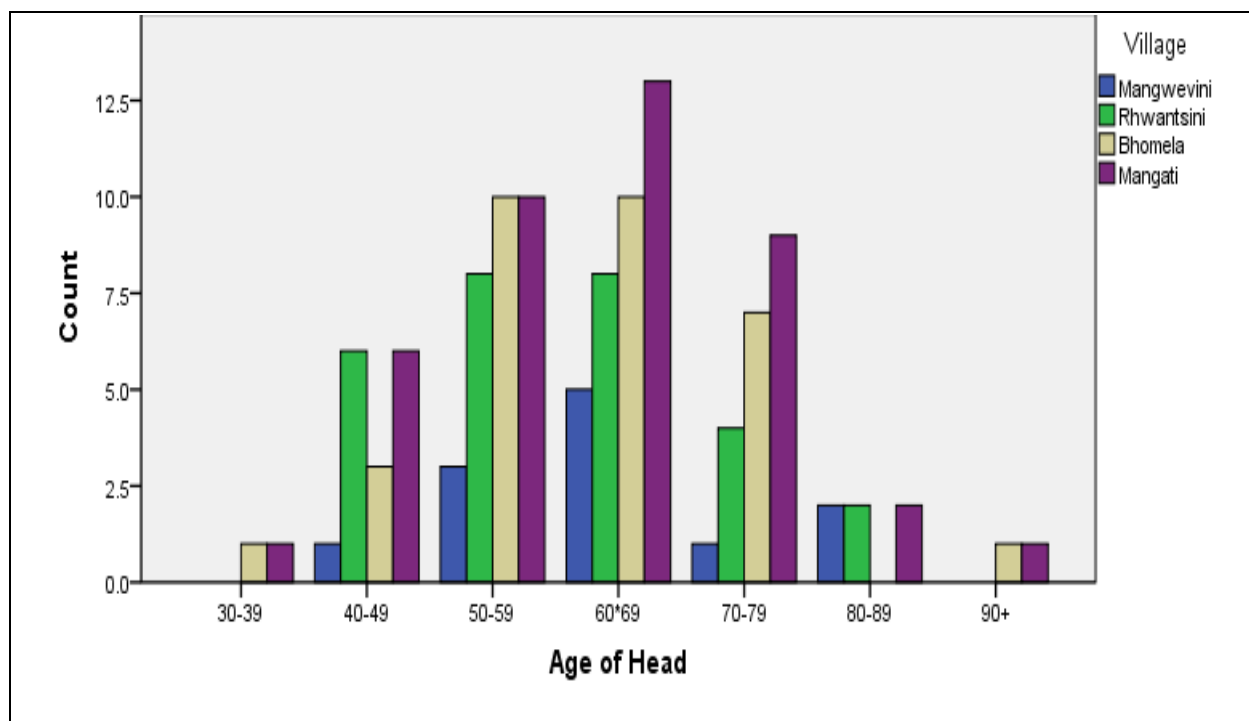


Figure 5.2: Age distribution of household heads at Dutywa, October 2011 (n=114)

With regard to education level of the household heads, some change was anticipated to occur due to the ongoing Government education programme called ABET education. Household heads between 30 and 69 years of age were likely to be the ones partaking on this program which, in this case would imply that the majority of the heads would have attended. However, not much had changed since 2008 as the Bhomela village still holds its position with highest number of heads with no formal education (22%) despite the fact that Bhomela is endowed with learning resources. These include the primary and the high school but this does not mean these heads were expected to attend primary and secondary school but if the program was to be implemented, these structures would be used as classrooms. Mangati still rated number one with more heads having primary (43%) and secondary (43%) grades. The household heads with highest education level (tertiary, 4%) were found at Rhwantsini and other villages had no household heads that had achieved this level. There are more household heads with secondary grades followed by those with primary education. That is 81% of the household heads who were in possession of formal education.

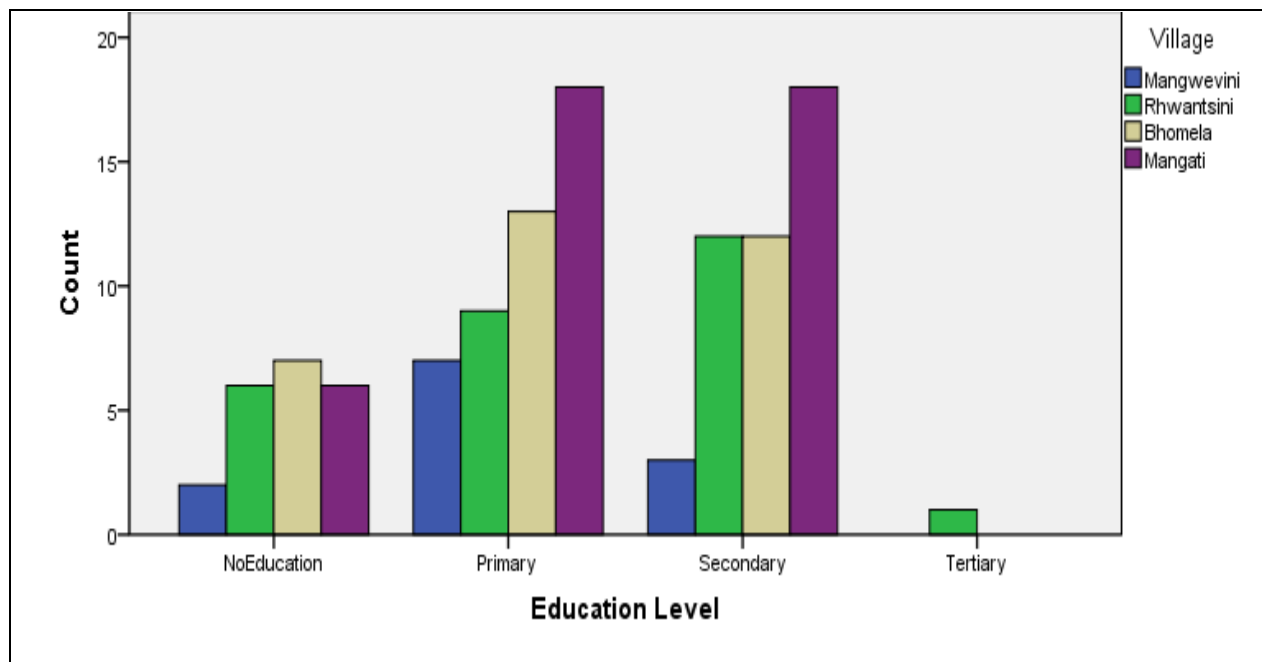


Figure 5.3: Educational status of household heads at Dutywa, October 2011 (n=114)

In analysing change in employment status of household heads, cross tabulation was used contrasting the percentages of the employment variables by each village for 2008 and 2011. There has been a significant increase in number of pensioners in 2011 with an average of 55% compared to 2008 (41.6%) number household heads being pensioners which is also the effect of time. This is significant because the pensioners were income earners of these households which contribute to the change in household incomes over these years. Furthermore, there has been an overall decrease on unemployed household head with an overall increase in Full time, part time and self employment. For example, unemployment was 38.1% at Mangati in 2008 and it fell to 26.2% in 2011 while on the other hand full time and self employment increased from 4.8% to 11.9 % and 0.0% to 4.8%, respectively. However, full time and part time employment of heads cannot be associated to Agripark as there were no heads employed by Agripark. While self employment is directly a result of Agripark because respondents mentioned that Agripark has made hawking of vegetables more profitable thus, they started hawking vegetables. Another significant change that was observed was a sharp decrease in the number of household heads being housewives for all four villages. This can be related to the percentage change of the gender of heads heading the households and also the decrease in the overall population size.

Table 5.4: Change in Employment status of household heads at Dutywa, October 2011 (n=114)

Employment Status	Mangwevini (=12) (%)		Rwantsini (=28) (%)		Bhomela (=32) (%)		Mangati (=42) (%)	
	2008	2011	2008	2011	2008	2011	2008	2011
Full time	16.7	16.7	7.1	7.1	15.6	25.0	4.8	11.9
Part time	0.0	0.0	7.1	3.6	0.0	0.0	9.5	0.0
Self employed	0.0	8.3	0.0	0.0	3.1	0.0	0.0	4.8
Unemployed	25.0	8.3	35.7	42.9	25.0	18.8	38.1	26.2
Pensioners	41.7	66.7	42.9	46.4	43.8	50	38.1	57.1
Housewives	16.7	0.0	7.1	0.0	12.5	6.3	9.5	0.0
Total	100%	100%	100%	100%	100%	100%	100%	100%

5.3. Impact of Agripark Project on Social Status of the Households

5.3.1. Level of Knowledge and Perception of the Agripark project by Beneficiaries

A good relationship between the beneficiaries (Mangwevini, Rhwantsini, Bhomela and Mangati communities) and the implementers (University of Fort Hare) of the Agripark project is imperative. This is because the success of the project entirely rests upon a good understanding and active participation by the project beneficiaries. The Agripark project will be run by the implementers of the project for a certain period of time until its sustainability is guaranteed then it will be handed over to the beneficiaries. Thus the relationship between the implementers and the beneficiaries is fundamental to the success and sustainability of the project. Until the project is handed over, the beneficiaries were expected to support the project through supply of labour and supply of garden produced vegetables to the project.

Nonetheless, only 12% of the beneficiaries seemed to understand exactly how the Agripark project worked and how were they part of it. Because, when they were asked if they were members of the Agripark project, none of them said “yes” even those who work in the project identified themselves as employees. Furthermore, when they were asked if they had gatherings

where the communities met with the implementers of the project to discuss progress of the project, only 2.6% said “yes” with 97.4% saying “no”. This shows that there was no engagement with the community while the project continues to utilize the community resources. Figure 5.5 provides a picture of the situation. When the respondents were asked about the relationship between them and the initiators, 9.7% of them said “Good” while 88.6% said there is no relationship that exist between them and the initiators. Only 1.8% said poor and the 9.7% who said there is a good relationship were mostly the employees who work in the project describing their relationship as employee employer relationship.

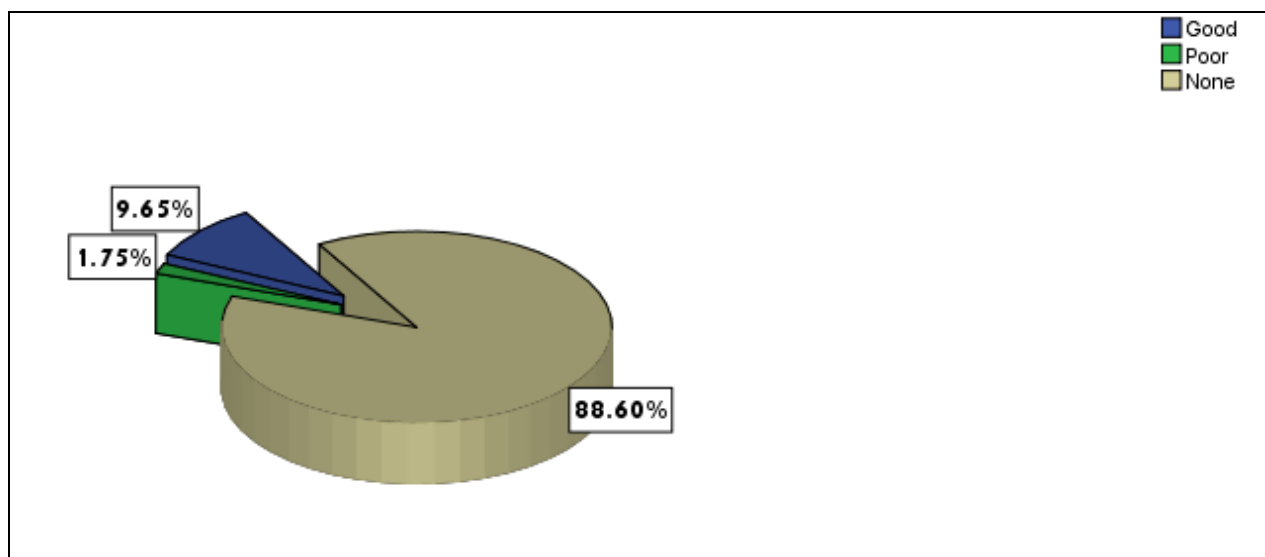


Figure 5.4: Relationship between the beneficiaries and project initiators, October 2011 (n=114)

Although most of the respondents showed lack of understanding of how the Agripark project was meant to benefit them, they showed an understanding of the objectives of the project. They mentioned poverty alleviation through job creation, establishment of their gardens for own production and making a market for their garden produce. Figure 5.6 provides a presentation of the combinations they provided as they were recalling from memory of what the project was meant to achieve when it was launched. Approximately 99.1% of the respondents recalled job creation as the major objective of the project which illustrates just how far the beneficiaries of the project perceive themselves to be from owning the project.

From the categories provided below, 46.5% of the beneficiaries recognised “job creation, production of soup and establishment of their home gardens” as the objectives of the project. This group was followed by those who added provision of market for their garden produce, about 16.7% saying “job creation, production of soup, establishment of gardens and provision of market”. While 12.3% mentioned only “job creation and making of soup” and the remaining percentage is divided among other categories shown below. One would argue that this understanding of objectives by the respondents suggests good communication between the beneficiaries and initiators but the case is reversed in this project.

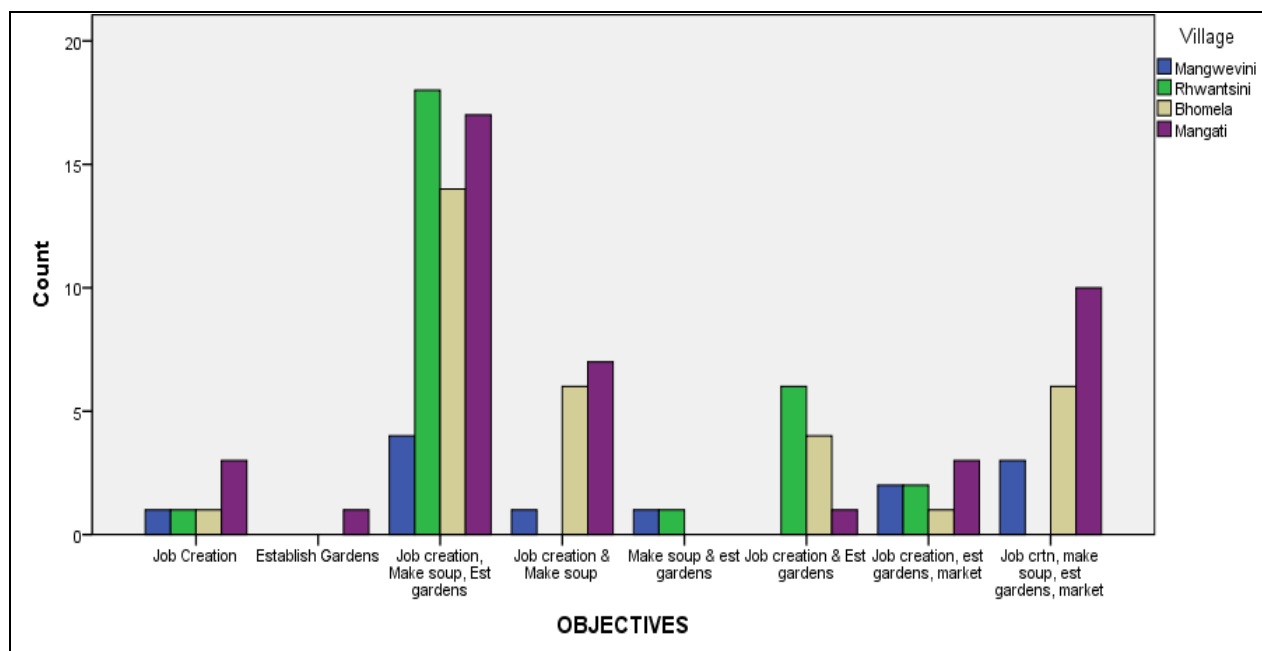


Figure 5.5: Objectives of the Agripark project as perceived by beneficiaries, October 2011 (n=114)

Moreover, when the respondents were asked if the project was in line with achieving its objectives, the general feeling was that the project was “not in line” (57%) and 43% saying it was “inline”. Mangwevini community felt strongly that the project was not in line with achieving its objectives with 75%, Bhomela (59.4%), Rhwantsini (53.6%) and Mangati (52.4%) of the respondents said “not in line”. The main concern leading to respondents saying the project was not in line was that there had not been enough employment, the gardens had not been established after three years and some mentioned that no benefits had accrued to them. This also showed

that the fact that the respondents understood the objectives of the project does not mean there was good communication between the project and beneficiaries as argued before.

On the other hand, a minority showed perceptiveness of the current situation of the project and some optimism. Mangati (47.6%) have the highest number of respondents who said the project was in line with achieving its objectives and Mangwevini with the lowest of only 25%. Approximately 8.5% of these respondents raised some understanding that the project had problems with upgrading its electricity so that the plant would function. Thus, the gardens had not yet been established because there was not enough demand for the vegetables for the project to process and make soup. While 91.5% of them mentioned that as much as there had not been a significant employment of people, there was a portion of their children currently working at the project.

5.3.2. The Impact of Agripark Project at Community Level

It appears that the Agripark project has an impact on these communities that were meant to be beneficiaries. This is because a number of impacts rose when the respondents were asked to comment on both negative and positive social impact the project had as an individual, as a household and on behalf of community. Categories for the responses provided by respondents were established. Approximately 39% of the respondents still hoped to be given priority when the establishment of the gardens commences while 16.7% said there was no positive impact at all. When asked to comment on negative impact the project had, 50.9% said the project had no negative impact on them it operated independent of them thus there was no impact. While about 39.5% complain for not being given priority on employment when the project employed personnel as it promised that people who are part of registered agricultural group will be afforded priority over those who were not part of a registered group.

At household level, 58.8% of respondents mentioned that they bought vegetables closer to the village and cheaper therefore access to vegetables was enhanced by the project. This was followed by a proportion of about 16.7% who said that they had gained confidence and had positive attitudes towards development programs. On the other hand, at household level, the

highest proportion (32.5%) complained about the biasness of employment because they believed that they were supposed to be employed first. This, therefore, caused stress (29.8%) within the household because no one is employed while other members of certain households are employed. At community level, the major benefits raised were enhanced access to vegetable (70.2%) and receiving training (10.5%) within which other respondents referred to those who work in the project that receive training.

Other positive impacts that were mentioned by a very small proportion of respondents is (i) the project encouraged own production; (ii) it has made hawking more profitable. The negative impacts ranged from (i) project causing social tension between villages because employment seems to lean more on other villages than uniform distribution; (ii) it has discouraged production because people are waiting for the project to provide fencing and inputs for production; (iii) there was political instability that rose due to employment process because of a political representative who was assisting the project in employing people was biased to COPE members and not ANC members.

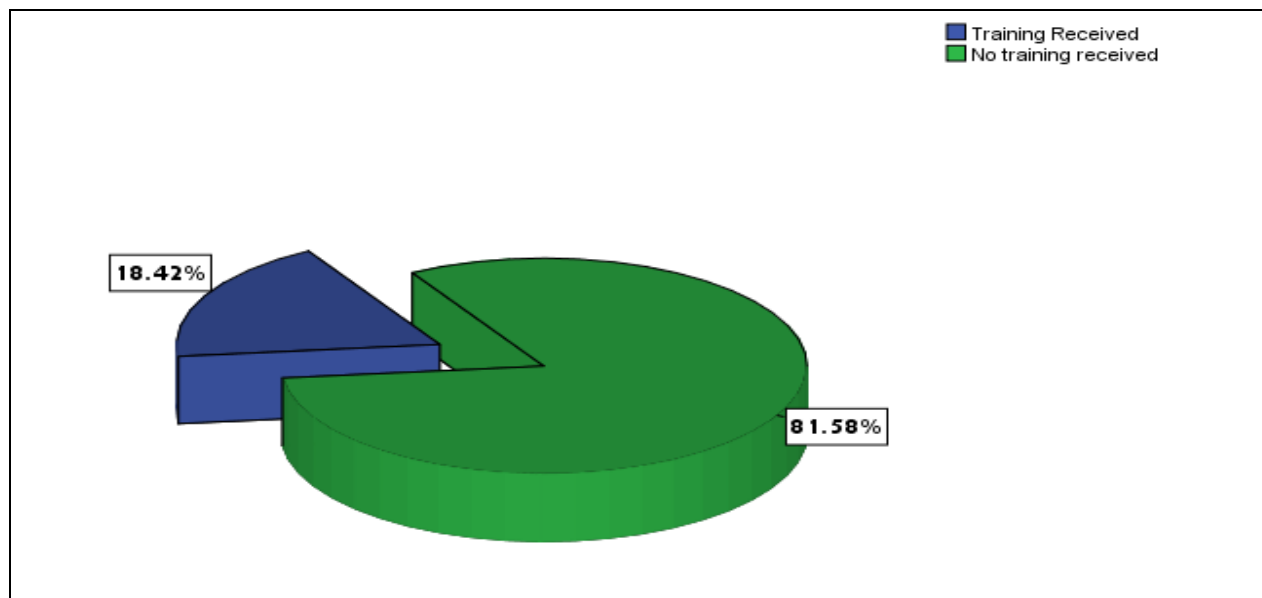


Figure 5.6: Training received since the implementation of Agripark, October 2011 (n=114)

When asked if they have received any training ever since the implementation of the project, only 18.4% said they had received training while 81.6% had not received training. Within this 18.4%

that said they received training, only 14.0% received training from the project while the remaining proportion received it from the Department of Agriculture. All of those who had received their training from Agripark had been trained on primary production and none from processing and agribusiness. This is due to the fact that the processing plant was not working yet but according to the project manager, more people will be taken in from these villages and be trained for processing and agribusiness.

The project did not to benefit only the targeted communities but its positive impact trickled down to even other villages. This was because the respondents also mention other villages that come and purchase vegetables for their consumption and to sell on as they are cheap. These villages include Nulo, Komkhulu, Magiqweni and Mabheleni. Furthermore, 11.4% seemed to believe that the road was finished due to presence of the project as the road was started but never finished for a long time. On the other hand, 88.6% were sure that the road being finished had nothing to do with the project therefore claiming to have no access to social infrastructure that came to being as a result of the project.

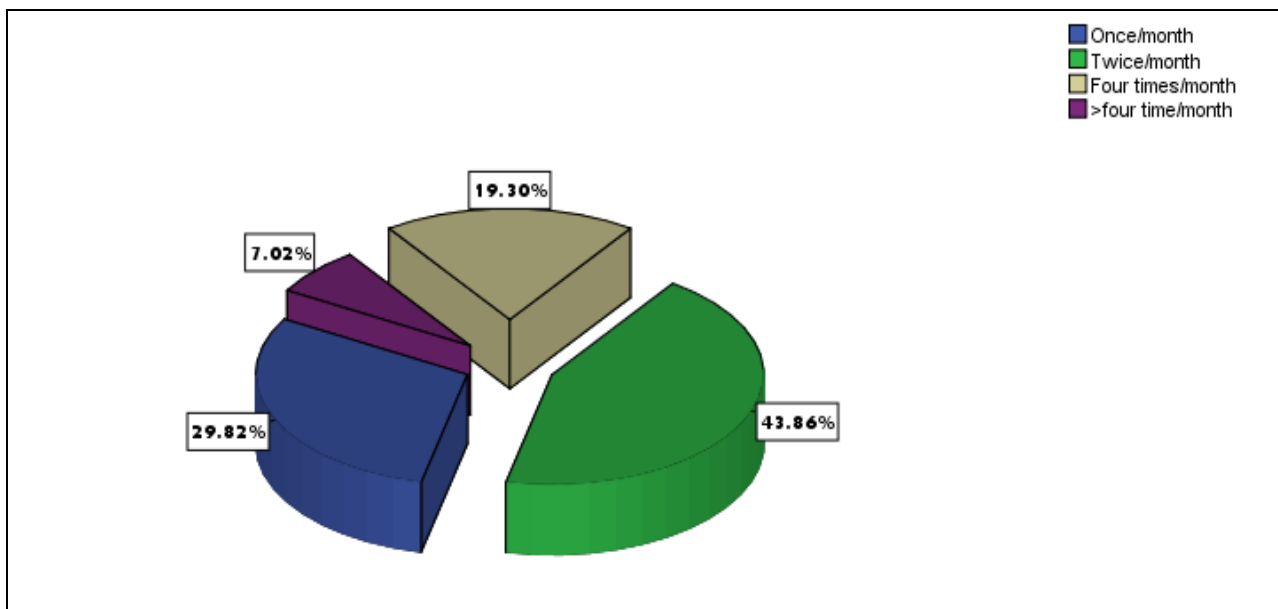


Figure 5.7: Times of farmer visits by an Extension officer at Dutywa, October 2011 (n=114)

In trying to establish whether Agripark had an effect on the availability of extension officers to the communities since it is an agricultural project, respondents were asked about their access to

extension officers. In 2008, 40% (Rhwantini & Mangwevini), 30% (Bhomela) and 50% (Mangati) of the respondents mentioned they had access to an extension officer. In 2011, only 1.8% of the respondents mentioned that they had no access to an extension officer. This implies that access to an extension officer is no longer a problem but it is how often an extension officer visit and meet with farmers. Because when analysis was done to check if the way the officer visit farmers has changed since the implementation of the project, 83.2% said it has not changed and only 16.8% said it has changed. Figure 5.8 shows that the problem is the regularity of visits, only 7% said officer visits at least once a week while 43.8% said at least twice a month followed by those saying once a month (29.8%). This is as like Monde, et al, (2005) have concluded that the new ward system that was introduced by DOA has resulted to some of the farmers being neglected because extension officers service a large area.

5.4. Impact of Agripark Project on Economic Status of Households

5.4.1. The Impact of Agripark project on Household Income

Table 5.5 presents the mean monthly incomes of the households at Dutywa, expressed in adult equivalent for each community. The results show the main sources of income as well as their contributions to household income. The table compares the percentage contribution of each source to total incomes for 2008 and 2011 showing the changes that had occurred since the survey of 2008. In 2008, households at Bhomela were found to be relatively earning higher incomes than other communities while Mangati households were earning relatively low incomes. In 2011, Mangwevini households were found to be earning higher income of R701.16/AE/Month while Bhomela households had fallen to the bottom and earn an average of R491.99/AE/Month. This is due to the fact that the overall pension earners had decreased at Bhomela from 11.6% to 6.6% and unemployment increased from 17.9% to 24.3% which had resulted in the loss of income earned. While on the other hand, Mangwevini pension earners had increased from 12.5% to 14.5% and unemployment had declined from 27.8% to 20.3%. The lowest household monthly income recorded was R112.12 compared to the R55.05 recorded in 2008 and highest monthly income recorded in 2011 was R4287.09 relatively higher than that of 2008 study.

Table 5.5: Sources of income and their contribution to household income at Dutywa, October 2011 (n=114)

	Rwantsini			Mangwevini			Bhomela			Mangati		
Income source	Ave (R/A E/M)	% (2011)	% (2008)	Ave (R/A E/M)	% (2011)	% (2008)	Ave (R/A E/M)	% (2011)	% (2008)	Ave (R/A E/M)	% (2011)	% (2008)
EXTERNAL SOURCES												
Salaries & wages	109.93	22.38	20.7	137.26	19.27	18.6	135.15	27.9	35.7	158.10	27.26	24.4
Old age pension	114.00	23.21	30.3	156.47	21.97	31.1	90.17	18.66	18.1	165.23	28.49	33.1
Child support	9.64	1.96	0.8	15.69	2.20	0.0	12.99	2.69	0.8	14.98	2.58	0.7
Child grant	104.16	21.21	13.1	58.28	8.18	7.8	76.36	15.80	11.2	76.96	13.27	15.7
Remittance	51.64	11.57	9.1	78.43	11.01	13.5	109.32	22.62	15.1	42.92	7.40	3.6
Remittance in Kind	7.74	1.58		4.90	0.69		7.91	1.64		7.73	1.33	
Disability grant	48.86	9.95	7.1	89.40	12.55	15.0	23.90	4.95	2.3	23.48	4.05	2.8
Other	15.71	3.20		0.0	0.0		31.36	00		6.04	1.04	
Total External	461.68	95.01	81.2	540.43	75.88	86.2	425.80	94.31	83.2	495.44	85.41	80.3
INTERNAL SOURCES												
Trade	14.29	2.91	0.7	58.17	8.17	0.9	8.48	1.75	1.5	19.81	3.42	1.2
Sheebeen	0.0	0.0	0.0	0	0	2.3	0.0	0.0	0.0	28.99	5.00	0.9
Agriculture	10.18	2.08	18.1	64.58	9.07	10.6	12.89	2.66	15.3	35.76	6.17	17.1
Other	0.0	0.0		49.01	6.88		6.17	1.28		0.0	0.0	
Total internal	24.47	4.99	18.8	171.76	24.12	13.8	23.54	5.69	16.8	84.56	14.59	19.7
Tot. HH Income	486.15	100	100	712.19	100	100	449.34	100	100	580.00	100	100

The contribution of internal sources had fallen since 2008 giving the external sources even a greater contribution to these households' monthly incomes. At Rwantsini community, external sources made a contribution of 81.2% in 2008 but in 2011 they had made over 95% of their total monthly incomes. Besides Mangwevini whose contribution of external sources had declined

from above 80% to just above 75%, the contribution of external sources had increased. When taking a closer look, Old Age Grant was still the highest contributor to these households' monthly incomes as it was also discovered back in 2008 in the external sources of income, thus the situation displayed in plate 5.1 has not changed much since 2008. This gives testimony to the conclusion that was drawn by Altman, Hart and Jacobs (2009) that the reliance on grants will continue if not increase, in the context of large scale poverty and unemployment currently prevailing. Furthermore, the increase in proportion of "Salary and Wages" contribution was also observed as it was the second highest contributor. This is a result of an increase in the employment variable as observed earlier, where the Agripark project had a positive impact on.



Plate 5.1: The Queue at Dutywa town ATM for social Grants

Despite the wide range of local economic development strategies that are implemented by the Municipality, Government departments, Academic and private entities and NGOs, the contribution of local economic activities continued to decline. In overall, the internal sources contributed approximately 12% in 2011 as compared to their contribution in 2008 (about 20%). Nonetheless, trade had increased throughout the villages, mainly through hawking, as it was mentioned earlier that a portion of the respondents saw hawking vegetables becoming profitable since the implementation of the Agripark. In 2008, agriculture was the main source of internal income and it was still the main contributor to household incomes within the internal sources.

Nevertheless, a decline in the overall contribution of agricultural activities to household incomes was observed in 2011. This was justified by the respondents as a consequence of the Agripark project, others claiming discouragement emanating to competition with the project in terms of price of products. While others said that they were waiting for the project to establish their gardens as they were promised inputs and infrastructural requirements (i.e. fencing) for their gardens, thus they stopped cropping at all until Agripark delivers. This harmonizes with the findings of Kirsten and Moldenhauer (2004) when they conducted The Rural Survey of 1997, that only 3% other 2.4 million households sampled relied on agriculture as their main source of income.

The income derived from Agripark by all those employed in the project contributed to household income as “remittances in kind” because none of those employed in the project were household heads. As part of the study, it was imperative to assess the level of economic wellbeing, thus it was generalised to refer to the households’ state of being healthy, stress free and prosperous as mentioned by Mishra, El-osta, Morehart, Johnson, and Hopkins (2002). In true essence, there was a wide difference between the incomes (high income inequality) of the households at Dutywa. Canto (2000), however, indicated that while it is orthodoxy to consider income inequality as a negative trait, it should also be borne in mind that differential income between households in a village can facilitate the creation of local opportunities for labour (e.g. through inter-household labour arrangements), and/or through commerce (e.g. trading between households)

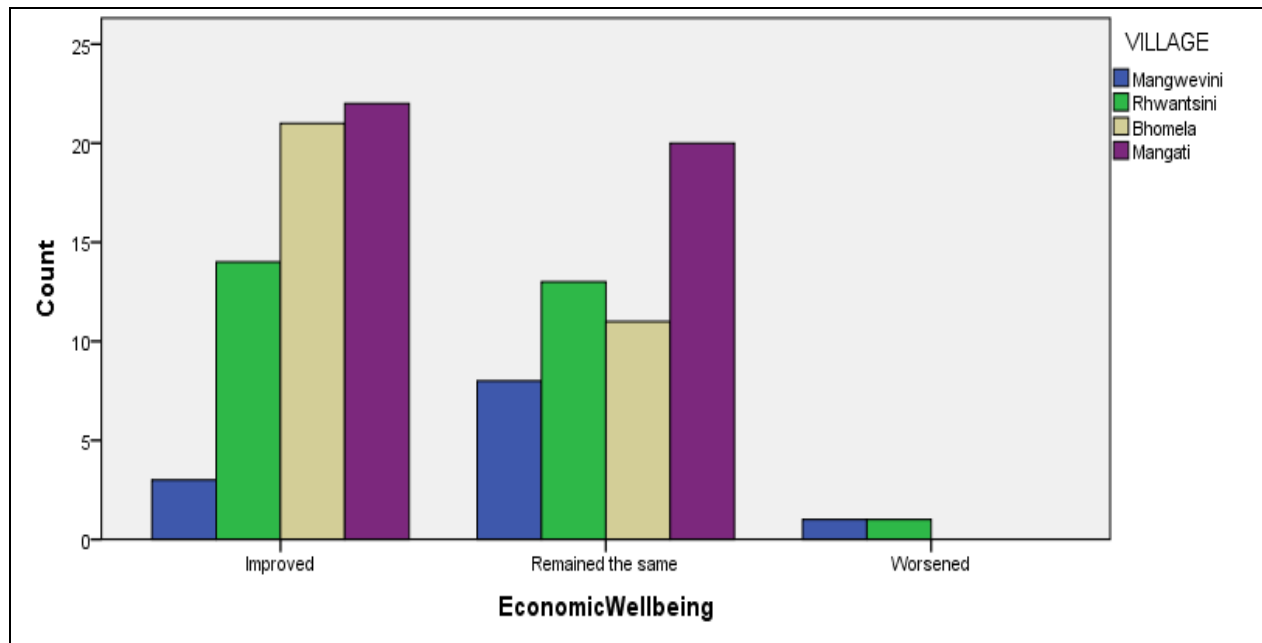


Figure 5.8: Changes in Economic wellbeing of Dutywa households, from 2008 to 2011, (n=114)

When the respondents were asked how they rated their economic wellbeing (i.e. more food security, etc) for their households after the implementation of Agripark, 52.6% indicated that their economic wellbeing had improved. Others (45.6%) did not see any change while 1.8% mentioned that it was worse. The reasons put forward by the 1.8% were that they had not received employment, instead it discouraged their own production while it uses their resources thus they are still plunged in poverty. This reason is somewhat in line with Hasnip, Mandal, Morrison, Pradhan and Smith (2001) that economic well-being is one of the measures of poverty levels. Nonetheless, a significant proportion (52%) saw a positive contribution through enhanced access to food (cheaper and closer), had increased their profit margins in hawking and had a positive input on their household incomes through those currently employed by the project. Therefore, income as a measure of economic wellbeing of the Dutywa households suggests a positive impact of the project to their livelihoods.

5.4.2. The Impact of Agripark on Poverty Status of the Household

It is believed that increased investment on agriculture can be the key to poverty mitigation. Altman, *et al* (2009) mentioned three contributors that can be used to lessen poverty namely; expanding employment, social grants and strengthening small scale agricultural production. Furthermore, some literature also argues the same point because agricultural growth is ubiquitous in rural areas, geographically dispersed, massive in aggregate and labour intensive (Hasnip, *et al.*, 2001; Lipton 1977 and Machete, 2004).

Therefore, as was done in 2008, the size and composition of households were redefined in function of consumption for the analysis of poverty status. All members of household who spent at least one night at home every week were considered part of the consumptive unit. They were all considered to take part in the consumption of the income available to the rural homestead, irrespective of the number of nights they spent at the homestead. Members who were at home less frequently than once per week were considered not part of the consumptive unit. They were considered not to take part in the consumption of the income available to the rural homestead. Consequently, the mean size of households when defined as consumptive unit was smaller than the mean household size.

A measure was required to measure poverty therefore, a poverty line of R752.24 as was used by Monde (2008) for the baseline study of these villages was adopted. Due to inflation, this figure was adjusted using the relevant consumer price indices (CPIs) giving the new PL used for the study area, was R819.23. Compared to the results produced in the 2008 survey, it was clear that there had been an improvement in the poverty status of these households even though a larger proportion was still living under poverty line. This was because in 2008 a large number (85%) of the households were earning incomes less than the poverty line (R752.24) but in 2011 the proportion dropped to 79.8% earning incomes less than R819.23 (see table 5.6). Since the implementation of the project Mangati had emerged relatively out of poverty (78.2%) as it was the poorest with over 90% of its households living below poverty line, as well as Mangwevini from 83.3% to 66.7%. Even though not entirely, but this is attributed to the Agripark project as it

had a positive impact on employment creation thus the contribution on incomes also by the reduction on vegetable prices and the reduction on costs related to accessing vegetable.

Table 5.6: Poverty categories of households in the study area, May 2008 and October 2011 (n=114)

	Rhwasntini (28)				Mangwevini (12)				Bhomela (32)				Mangati (42)			
Poverty Class	2008		2011		2008		2011		2008		2011		2008		2011	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Non-poor	5	17.9	2	7.1	2	16.7	4	33.3	10	31.3	7	22.6	4	9.5	8	19.1
Poor Hh	7	25.0	13	46.4	4	33.3	6	50.0	10	31.3	11	34.4	13	31.0	17	40.5
Ultra-poor	16	57.1	13	46.4	6	50.0	2	16.7	12	37.4	14	43.8	25	59.5	15	37.7
Total	28	100	28	100	12	100	12	100	32	100	32	100	42	100	42	100

Nonetheless, the proportion of the households living under the poverty line had increased at Bhomela (from 68.7% to 78.2%) and Rhwasntini (from 82.2% to 92.8%). The proportion of households earning incomes less than that of poverty line are considered to fall under “poor” households and the proportion of households earning less than half of the PL (i.e. R409.62) are considered to fall under “ultra poor” households. Both in these villages the proportion of “non poor” households has fallen while the number under “poor” households has increase which, in turn, implies that the proportion of households under “ultra poverty” has fallen. These finding though are still in line with those found by Bembridge (1999) in Limpopo and Monde, *et al* (2005) at Zanyokwe that a significant proportion of households still live under the poverty line. As much as Agripark had its contribution towards improving poverty, it has to be understood that not the entire improvement was owed Agripark but to other factors that contributed as well.

5.4.3. Expenditure Patterns of Households in the Study Area

Household income was used to analyse the economic wellbeing of the households at Dutywa. However, Mishra, El-Osta, Morehart, Johnson & Hopkins (2002) mentioned that the use of income as the sole measure of economic well-being does overlook other indicators such as the wealth held by the household and the level of consumption expenditures for health care, food, housing, and other items. Cantó (2000) and Ravallion (1992) agreed with Mishra, *et al.* (2002) that expenditures are typically a better guide to longer term well-being as households will exercise some consumption smoothing and use savings and dissavings to deal with erratic incomes. Therefore, household expenditure patterns were analysed to measure the economic wellbeing as presented in table 5.6.

Table 5.7: Expenditure Patterns of Households at Dutywa, October 2011(n=114)

Expenditure Category	Expenditure (R/Month/AE)		Proportion of Total Percentage (%)	
	2008	2011	2008	2011
Food	236.97	305.05	64.1	47.94
Medical	44.74	67.88	12.1	10.66
Electricity	15.35	40.54	4.2	6.37
Subscriptions	15.81	13.89	4.3	2.18
Clothing	10.76	56.28	2.9	8.84
Agric. Inputs	10.25	6.99	2.8	1.10
Education	8.11	63.00	2.2	9.90
Telephone	7.26	5.38	2.0	0.92
Transport	6.78	12.63	1.8	1.98
Labour	6.14	1.13	1.7	0.18
Church contributions	3.95	5.78	1.1	0.91
Entertainment	3.66	7.24	1.0	1.14
Furniture		44.96		7.02
Interests and Loans		5.38		0.85
TOTAL	369.78	636.35	100	100

Table 5.7 shows that in 2008 approximately 64% of the household income was spent on food followed by 12.1% of income being spent on medical expenses. In 2011, both these spending categories have fallen with expenditure on food falling to lower than 50% and medical to approximately 10.7% of the total household expenditure. This could be associated with a point earlier discussed that respondents saw a positive impact on their livelihoods because of enhanced access to food (cheap and close). This means the households save money on transport to town to purchase vegetable while enjoying lower prices of fresh vegetables. It can also be argued that the decline in medical expenditure can also be as a result of closer and fresher vegetables.

These findings coincide with the findings of the World Resources Institute (2007) that the share of household incomes spent on food declines as incomes increase. They also coincide with those of Devereux (2001) that poor households spend a highest proportion of their incomes on food. Another interesting factor was the decline of in the expenditure on agricultural inputs. As much as it was lower that it was anticipated to be in 2008 (less than 5%), it fell even lower over these years to just 1.1%. Most of the time rural households spend money on hiring labour mostly to carry agricultural related activities which, amongst others, include herding, planting, harvesting, etc. In 2011, that proportion of spending fell to 0.18% which also coincides with the decline on proportion spent on agricultural inputs. This leaves a question of “could this project be counteracting against own food production?” in the communities that agriculture could be a key poverty reduction.

5.4.4. Impact of Agripark Project on Household Food Security

5.4.4.1. General Perception of Respondents on Household Food Security

Before 1981, food security was measured at country level. This focus was shifted by Amartya Sen (1981) away from international and national food supplies and towards a focus on the ability of households to access food (Maxwell & Slater, 2003). Thus a definition by FAO (2000, p43) was adopted for this study that food security is a “situation that exist when all people at all time have physical, social and economic access to sufficient, safe and nutritious that meet their dietary needs and food preferences for active and healthy life”. The understanding of the dimension of

vulnerability and food insecurity is critical when analysing the aspect of household food security. Hart (2009) accentuated that vulnerability has internal and external dimensions and food insecurity has temporal and intensity dimensions.

DOA (2002) suggested that to overcome rural food insecurity, there is a need for increasing the participation of food insecure households in productive agriculture sector activities, which will result in an increase of food production to South Africans. This was also discovered by Alvord (1933) in his study of Zimbabwe Irrigation Schemes that these irrigation schemes had decreased the famine that was prevailing in the Manicaland Municipality. Therefore, when the Agripark was introduced to these communities, it had a generally shared objective of improving access to food thus improving household food security.

It was observed earlier that the respondents saw a positive impact of this project in the households' economic wellbeing through increased access to food. Even when the respondents were asked if they spent more, less or the same on food compared to prior the implementation of the project, 38.2% said they were spending less. This proportion of respondents motivated their answers by saying "we have completely removed vegetables from the food basket of items to be purchased in urban supermarkets because we purchase vegetables cheaper at the *"mission"* (referring to the project). On the other hand, 53.9% said they spent more than before which could be an effect of inflation, 6.1% said they did not see any change and 1.8% did not know if there was any change.

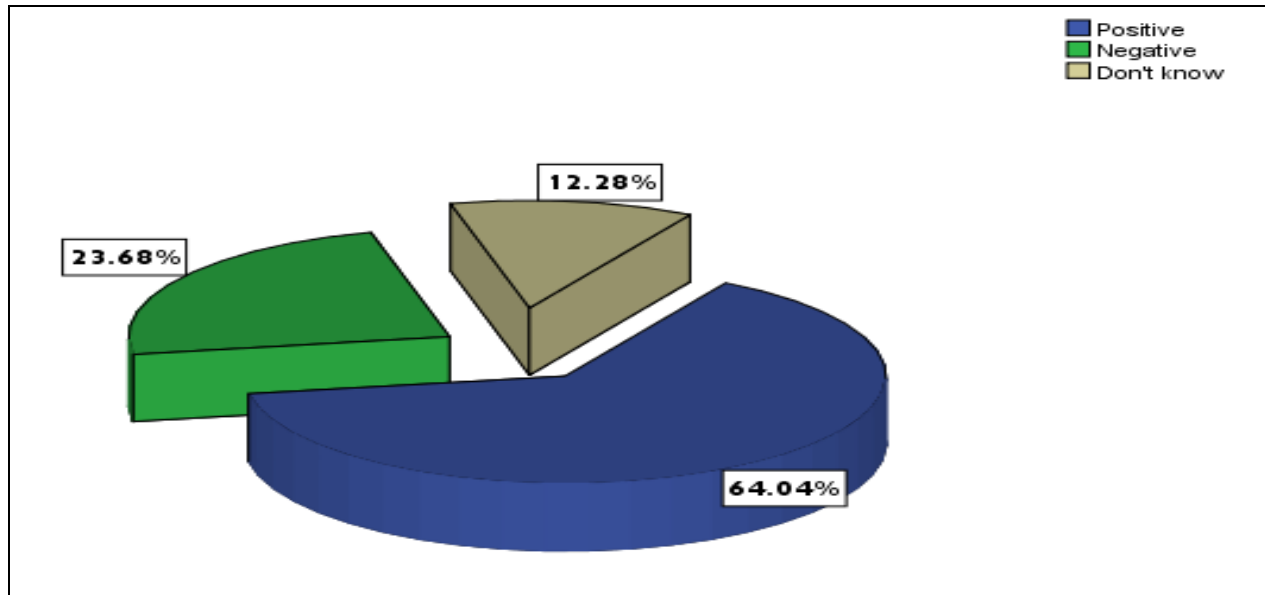


Figure 5.9: Impact of the Agripark Project on household food security at Dutywa, October 2011 (n=114)

With a 16.7% difference between those who said they spend “less” and those said they spend “more” on food, the situation is clear that it should be concluded that the project had positive impact on their households’ food security. Providing evidence to this, Figure 5.10 gives a presentation that the project is in line with achieving its objectives even though there is still one component that is not functioning. Since the implementation of Agripark approximately 64% saw the impact of the project positive to their food security and only close to 24% say it has been negative while 12.28% do not know.

As mentioned earlier that it is critical to understand the dimensions of food insecurity when analysing household food security. The temporal dimension has features as outlined by DFID (2004) and FAO (2005), the chronic, transitory, food insecurity and seasonal or cyclical food insecurity features. Despite respondents acknowledging the contribution of Agripark to their livelihoods, approximately 93% of them still mentioned to have experienced the shortage of food in their households. It was inevitable and expected to come across such a high proportion as Monde’s (2003) findings showed high levels of poverty in the Eastern Cape. Thus, exploring the temporal dimension was important, because a larger proportion (47.4%) said they experienced food shortages just “before month end”, 41.2% experience food shortage “everyday” and 10.5% “seasonally”.

Table 5.8: Association between household head Age and Food security at Dutywa, October 2011 (n=114)

		Age	poverty class
Age	Pearson Correlation	1	-.200 ²
	Sig. (2-tailed)		.035
	N	114	114
poverty class	Pearson Correlation	-.200 ²	1
	Sig. (2-tailed)	.035	
	N	114	114

Table 5.8 provides the strength of the association between household age and food security. A significant proportion (32%) of households was headed by heads between 60-69 years followed by those between 50-59 years (28%) which implies that the majority of these households were headed by relatively older heads. The correlation between the household age and the poverty class showed that there is an association between these variables with a negative relationship. With other variables held constant, a unit increase in age will result in 20 unit decrease in poverty class. This means that the older the household head becomes the more the ability to provide sufficiently for their family is affected. This for example, could be more relevant to rural households who depend on agricultural activities or providing manual labour to earn income. The poverty class in this case is categorised as seen in table 5.6 therefore, a decrease in poverty class implies going from non poor to ultra poor. Thus the older the household heads they become the more their households go deeper to poverty. This could be the result of inability to look for other sources of income and solely depend on old age pension.

5.4.4.2. Main Diet Ingredients and Household Food Acquisition Strategies

Main ingredients as considered for this study were those considered to be consumed at least three times a week by these households. As observed in this study, Samp, Rice and Maize-meal were the main ingredients preferred by these household. Figure 5.11 presents the results observed in these communities with a large proportion preferring more Maize-meal (42.98%) while 36.84%

² Correlation is significant at the 0.05 level (2-tailed).

preferred Samp and 20.18% consuming more of Rice. A study conducted by Tshuma (2009) portrayed results that showed almost even distribution of preferences of these ingredients which suggested that rural households' tastes and preferences are evolving, influenced by existence of modern products and style of living. However, with this study a different trend was observed, perhaps the level of influence by modern products and changing life style at Dutywa is minimal. But it was evident that the reason for this behaviour is the depth of poverty which is exacerbated by level of unemployment.

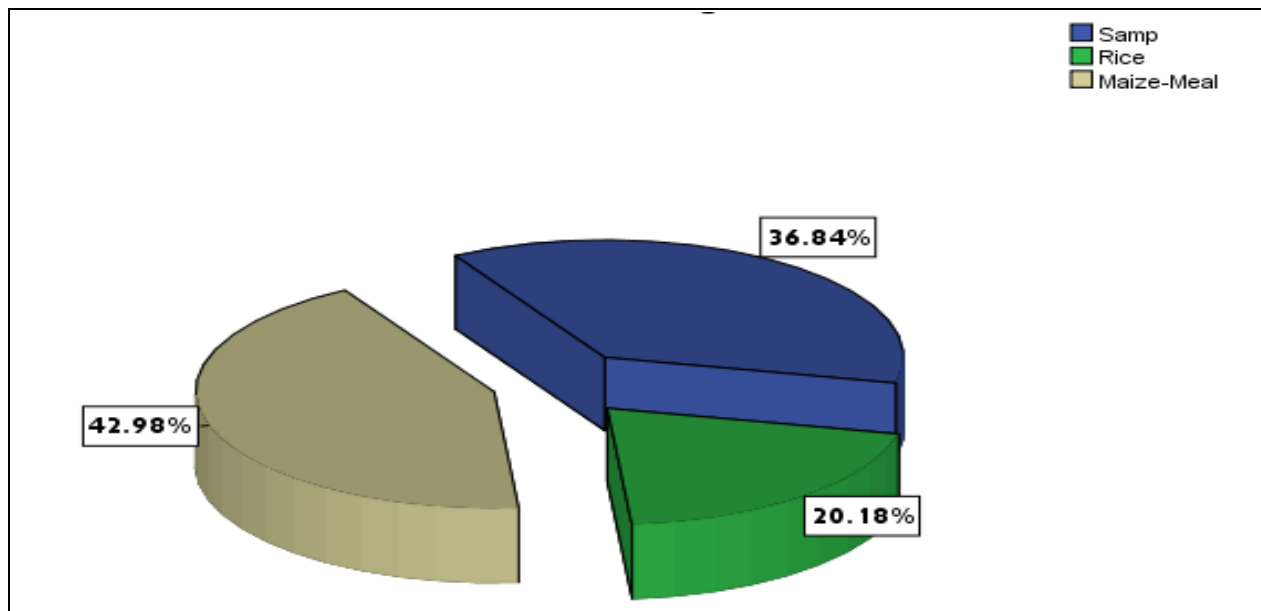


Figure 5.10: Main ingredients consumed as Diet at Dutywa, October 2011, (n=114)

As discussed above that the main ingredients preferred by these households were all from the cereals family (Samp, Maize-meal and Rice) and they were supplemented by other food stuffs. These complementary products (i.e. vegetables, milk, eggs, soup, etc) may be available from their gardens or from local markets or can even be outsourced from urban markets. When the respondents were asked where they acquired these complementary products, four categories were established, namely: urban supermarkets, rural shops (shops within the village), own production and Agripark. The reason for this enquiry was to establish the mostly used sources of food and to ascertain the contribution or importance of each source.

The idea portrayed (figure 5.12) was that approximately 40% of the households used urban supermarkets followed by those village shops found within each village (28.1%). The general sentiment shared among these villages was that the complementary food stuffs acquired from these sources were those that cannot be produced domestically. Furthermore, 22.8% of these households used Agripark as their source and only 8.8% of the households used own production. Compared from the results produced from the baseline study in 2008, it was evident that “own production” as a source of food was gradually losing its overall importance. This coincide with a notion held by Hebinck and Lent (2007) that since the settlers agriculture along with other natural resource utilizing activities lost it overall importance.

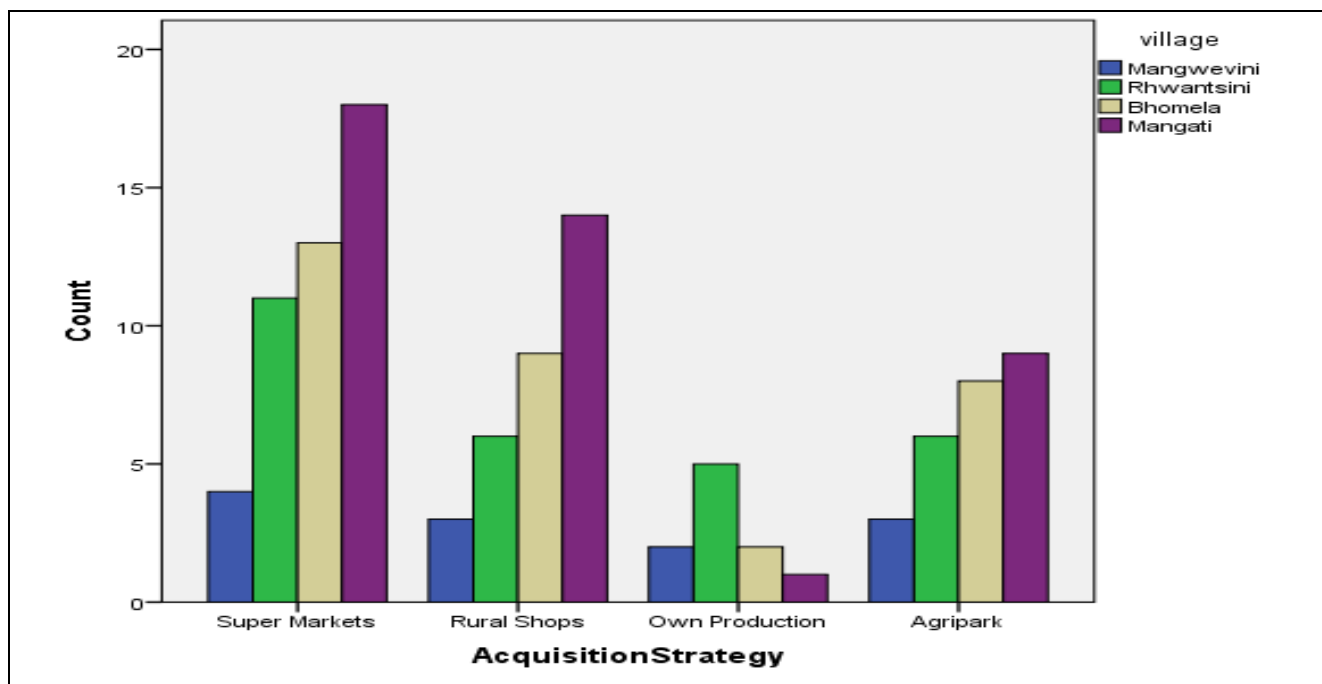


Figure 5.11: Main Food Acquisition Strategies used by Households at Dutywa, October 2011 (n=114)

A further step was taken to ascertain exactly which strategy is the main food acquisition strategy and to assess if there was any change in their strategies since the implementation of the Agripark project. The baseline study showed that these households were outsourcing food even though they produced some, thus, their main food acquisition strategy was buying from local markets (urban and rural markets). The respondents were asked whether their food acquisition strategy had changed or not since the implementation of Agripark and 92.1% said their strategy had not

changed but 7.2% had changed their strategy. When a closer look was given, it was found that the main strategy of food acquisition was “buying” (91.2%), 7.9% was depending on own production and only 0.9% was depending on donations. The 7.2% that had changed their strategy articulated that they now depended on the Agripark project, which clearly implies and provides evidence to early mentioned phenomenon where community members have stopped using agriculture as source of income. This is numerically presented in Table 5.5 and shows that agricultural contribution towards household incomes has fallen over the past three years.

5.5. Impact of Agripark Project on the Environment

5.5.1. Environmental Impact Assessment

In September 2000, leaders of 189 countries met at the United Nations in New York and endorsed Millennium Declaration, a commitment to work together to build a safer, more prosperous and equitable world (UNDPI, 2008). Ensuring environmental safety and sustainability was one among the goals to be achieved by these nations. To achieve this, countries had to integrate their policies and programmes with principles of sustainable development and reverse the loss of environment. Thus it was important for this study to also integrate a section on environmental impact assessment (EIA) to assess the environmental impacts that the Agripark has had since its implementation.

Even though this section had component of positive impact on environment, it mainly concentrated on negative human impacts such as exposure of community members to toxins, exposure to pathogens, exposure to radiation, air pollution, water contamination and poor human health. These were explained into detail to the respondents using examples to create an understanding of what was asked by the interviewer. When the respondents were asked to highlight on any occurrence of the above mentioned impact, 100% of the respondents said the project did not have any of these externalities. Special emphasis to water resources was made because of the discovery that was made in 2008 that “none of these villages had potable or RDP water. These villages entirely depended on the Nqabara River and spring water (see plate 2) for

all their domestic requirements (drinking, washing, cooking, for livestock, etc), thus, the importance to assess water contamination and no contamination was discovered.



Plate 2: Spring water used for domestic purposes and Nqabara River accessed by all of these villages, May 2008

Nothing had changed since 2008 in terms of regulatory system that ensured safety of the water reserves in terms of contamination. The board of each village still ensured the enforcement of the two laws regarding the use of water which were; no washing clothes inside the river and no irrigation heads are immersed in the water. However, the Agripark immerse the heads of the irrigation system (pipes that extend from water pump to source of water) to water but it ensured that there were no oil leaks dripping into the river water. Moreover, there had not been any soil erosion known by any responded or even observable as a result of the Agripark project production activities. According to the respondents there were no positive environmental impacts either that they could mention as a result of the implementation of the project. Plate 3 shows the area where the Agripark project operates and there were no signs of erosion or contamination patches on the soil due to chemical spills.



Plate 3: Agripark site below Mangwevini in May 2008, Agripark site in October 2011 from Bhomela side

5.6. Analysis of Variables through Multiple Regression Analysis

So far, SPSS (version 20) was used to produce the results presented on this chapter which was mainly descriptive analysis and interpretation. To make the results even more comprehensive, it was felt that the use of an econometric model should be employed to assess the influence of other variables (independent) to one variable (dependent) through the SAS system. In a nutshell, the results will illustrate how the change in any of the household income/AE, household size, participating in Agripark and age of household head will influence the expenditure/AE of the household. To obtain the required results, multiple regression analysis was used to obtain the beta values ($\beta_1\beta_2\beta_3\beta_4$) as the measure the strength and give direction on how the dependent variables ($X_1X_2X_3X_4$) influence the dependent variable (Y). To run the data, SAS was used and table 5.9 presents the results of the regression analysis.

Table 5.9: Results of the Multiple Regression Analysis

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	188.79770	110.27491	1.71	0.0897 ³ ***
Household Income/AE	1	0.14534	0.02874	5.06	0.0001*
Household size	1	11.26121	5.40164	2.08	0.0394**
Agripark Participation	1	63.24323	34.84801	1.81	0.0723***
Age of household head	1	0.76895	1.16734	0.66	0.5115
Root MSE	144.20419	R-Square	0.2712		
Dependent Mean	361.20605	Adj R-Sq	0.2444		
Coeff Var	39.92297				

With reference to model fit, the R-square shows that the model was not fit to explain the variations to the dependent variable. The closer to one (1) the adjusted r-square, the better the fit of the estimated regression line (Tshuma, 2009). In this study, the Adjusted R-square of 0.2712 shows that approximately 73% of the variations on the household expenditure/AE are as a result of other variables not considered or covered in this study. This was because the sample size was representative of the population as it was drawn from a complete sample frame and a scientific technique was applied in drawing it. Thus only 27% variations on the expenditure were caused by the variables discussed above and of that, 0.2712 (27%) was caused by the income/AE of the household (R/AE/Month), participation in Agripark and the size of the household. Thus by far most of the variables responsible for the fluctuations on expenditure/AE were beyond what this paper could document.

When the data were run there were three independent variables that were significant to the independent variable and one was insignificant. A positive relationship was expected between the household expenditure/AE and the change in the household income/AE level where an

³ * shows significance at 1 percent, ** shows significance at 5 percent and ***shows significance at 10 percent

increase in income/AE will result to an increase in total expenditure/AE. From the regression results, the household income was the first significant variable, 0.0001 which implies about 99% accuracy and has a positive relationship. This means that a one percent increase in the household income would result to a 0.15 percent increase in the household expenditure/AE, *ceteris paribus*. This makes sense because when household incomes/AE increase, the purchasing power of the household is enhanced, hence the taste and preferences will change and standard of living will also be influenced resulting to increased expenditure/AE.

The second variable that influenced the household expenditure/AE was the household size. It was expected that with an increase in household size will bring about an increase on the household expenditure. The results suggest a similar situation where the relationship that exists between household size and household expenditure/AE is positive. With a significance level of 0.0394, the relationship suggested that a one percent increase in the size of the household will result to an increase of 11.26 percent on the household expenditure/AE, *cet. par.*

For the Agripark participation variable, a dummy variable was used to denote whether a household is participating or not participating. The participation was through employment by the project, however, due to a very minute number of those employed in the project, those who purchase vegetables from the project and sell it on were added as participating as they made income through direct use of the project. In line with the predicted outcome, participation in the project had a positive relationship with the household expenditure/AE, the regression analysis shows a positive relationship. The significance level of 0.0723 shows that the participation to Agripark was significant at 10% significant level which implies that the project had an impact on the expenditure patterns of these households. The significance at 10% was the result of the processing plant not functioning, because the relationship was positive showing that the project had a potential to have even a bigger impact to the livelihoods of these beneficiaries. Furthermore, the household members employed by the Agripark were not household heads, therefore, the employees only contributed with a portion of the income earned from Agripark to household incomes and was given as cash in kind.

According to the significance level suggested by the analysis, it is clear that the age of the household head is insignificant to the expenditure/AE of the household. Even though it was anticipated that with age, household heads would become frail and their ability to provide for their families will decline as they get older. But this study showed that that is not the case, even though the household heads were becoming older they can still provide for their families and their expenditure is not affected by their age.

Table 5.10: Correlation analysis between variables

Pearson Correlation Coefficients, N = 114 Prob > r under H0: Rho=0					
	Household size	Age	Participation	Income/AE	Expenditure/AE
Household size	1.00000 0.9400	0.00713 0.2077	-0.11890 0.2077	-0.23781 0.0108	0.29747 0.0013
Income/AE	-0.23781 0.0108	0.00884 0.9256	-0.11211 0.2350	1.00000	0.45609 <.0001
Expenditure/AE	0.29747 0.0013	0.05941 0.5301	0.12504 0.1850	0.45609 <.0001	1.00000

The correlation analyses between variables show that there was no association between household size and age of household head and participating in Agripark. However, there was a strong correlation between household size and income/AE with a negative relationship which implies that a 1% increase in household size will result in a decrease of 0.23% in income/AE, *cet. par.* Household size was also correlated to household expenditure/AE at a significant level of 0.0013% and has a positive relationship. Therefore, a 1% increase in household size will result to a 0.29% increase in the household expenditure/AE, *cet. par.*

Furthermore, income/AE has no association with age of household age and participating on the project while, on the other hand, it has a positive correlation with household expenditure/AE significant at 0.0001. This implies that a 1% change in the household income/AE will result to a 0.45% change in the expenditure/AE of the household, *cet. par.* The results also showed that expenditure/AE has no correlation with age of household head and participating in the project.

5.7. Abridgement

The analysis and interpretation of results for the data that was collected from the field was provided by this chapter. To provide clear understanding of the results, simple schematic representations and tables were used. The paper had three components to cover, namely: social impact, economic impact and environmental impact and all these components were discussed separately to give a clear picture of the extent of each impact. The chapter started by giving a general overview on change in household demographic characteristics which showed that most households are still headed by males and an improvement on general employment was observed.

Furthermore, the social economic impact suggested that the project had mostly positive impact even though it has not reached its full operational capacity. With most households having positive attitude towards development, accessing food closer and cheaper and the proportion employed have their agricultural skills developed. On the other hand, descriptive analysis showed that the household economic wellbeing had improved with partial increase in incomes, a significant number of households emerged out of different categories of poverty. The econometric analysis also showed that the project had an impact on the economic wellbeing of the project beneficiaries. It was also observed that there was a positive impact on household ability to access food both physically and economical therefore on average, the proportion of the total household income spent on food declined. Lastly, the impact of the project to the environment was assessed as well and there were no negative impacts of the project practices to these communities' natural resources, the community people and their animals.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1. Introduction

Having analysed and interpreted the results, this chapter seeks to provide a brief summary of the impact assessment of the Agripark project on the livelihoods of Dutywa household. It set off by giving an overall conclusion on each aspect and then provides recommendations where it is necessary.

6.2. Conclusion

First and foremost, it has to be stressed that the not all the components of the Agripark were functioning, only a portion of the nursery was used to produce just enough seedlings for the portion of land that was cultivated for the market. The processing unit was not functioning at all due to electricity that needed upgrading thus, less seedlings were produced and less land was cultivated relative to their full capacities. This severely affected the study because the component that was anticipated to be the major generator of employment and establishment of gardens for these households was not functioning. Even the nursery and cultivation of the land only produced 16 permanent employment opportunities and 8 seasonal employment opportunities. Thus, from the econometric results of the regression, it can be concluded that the project had an impact on the economic wellbeing of the project beneficiaries.

6.2.1. Demographic Change

Over the past three years there have been some observable changes in the household structure and composition of households at Dutywa. Firstly, the overall population has slightly fallen even though the number of household size still ranges from one to fourteen members per household and having more females than males. Nonetheless, the demographic features of these households still reflect those of poor communities. The overall level of education has improved due to other household members enrolling at school for the first time (Grade 1). Employment has generally

improved even though the highest rating employment variable is scholars, both full time and part time employment has improved while unemployment has slightly fallen. Agripark project had a positive impact towards this change as it employed 16 permanent employees and continue to offer seasonal employment opportunities to the members of these four villages.

There are still relatively more households headed by males in these communities even though Mangati and Mangwevini still have more households being headed by females. The household head age vastly differs with the oldest head being 94 years and the youngest being 35 years old with an average of 62 years. Even so, the range from which most household heads fell in 2008 (50-59 years) has changed to more heads falling under 60-69 years, same people who just got older. Employment has improved as well even though “pensioners” is still the highest employment variable, full time and self employment (mostly hawking of vegetables) has improved.

6.2.2. Impact of Agripark on Social Wellbeing

When analysis was done to assess whether the project is in line with achieving its objectives, 57% said it is not inline and 43% said it is in line with meeting them. The high percentage of respondents saying it’s far from achieving its goals was due to a number of reasons put forward by those respondents. A considerable proportion rose that “there is not enough employment and it is biased to certain individuals” which was an issue that caused stress among other households. This stress was exacerbated by the frustration that emanated from a sentiment that the project utilises the communities’ natural resources while they are not benefiting from it (i.e. no gardens have been established). Furthermore, since the project promised to establish gardens by providing fencing, water tanks and inputs and market for produce, the overall own production declined and the blame is put on the project for not delivering.

On the other hand, 43% of the respondents articulated that they no longer buy their vegetables in urban markets because they meet their vegetable requirements in the project. “Closer and fresher” vegetables helped these households to cut down on transport cost, improved time of availability to households and cost less. The respondents also added that they have been

encouraged to embark on own production and it has made vegetable hawking profitable. The project has positive impact on skills development as well, approximately 14% members of the households have received training on agricultural production and even more will be trained for the processing unit and agribusiness. So if we were to weigh the negative impact to the positive ones, we can conclude that the positive impact outweighs those negative ones and thus so far the project has positive impact on the social wellbeing of these households.

6.2.3. Impact of Agripark on Economic Wellbeing

6.2.3.1. Impact on Household Income

As it was discovered in 2008 that these households relied largely on external sources of income, the contribution of these sources even increased to 88% in 2011. Three of these villages had a marginal increase in their incomes of which the Agripark has contributed to this improvement because it has employed a proportion of these individuals that contribute towards their household incomes. However, there was a significant decline on the income of one village which was due to increased unemployment and the decline on the number of household heads that earned pension. Furthermore, regardless of the setback caused by the processing unit, about 52.6% of these respondents saw an improvement on their household economic wellbeing as a result of Agripark and has resulted to an increase in the number of people hawking and therefore the contribution of hawking vegetables to their incomes.

6.2.3.2. Impact on Poverty Status

Even though a significant proportion of these households still leave under poverty line, there has been some improvement on their household poverty. There were still 18.42% of households in 2011 falling under non-poor class as was observed in 2008. In 2008 51.75% of the households in these villages fell under the ultra poor class but in 2011 the percentage fell to 38.6% due increased incomes as a result of employment and enhanced access to vegetable that are closer and cheaper. Furthermore, there was an increase in the percentage of households that fell under

poor class from 29.82% in 2008 to 41.23% in 2011 due to an upward movement of households from the ultra poor class. This suggests that there has been a positive change after the implementation of Agripark and it plays an important role as it contributes to household incomes through those who are employed, increased profit margins on hawking and enhancing access to vegetable.

6.2.3.3. Impact on Expenditure Patterns

Although food still consumes the largest proportion of these household incomes, there had been a fall on the proportion of income spent on food. The amount spent on food however increased over the past 3 years from R236.97 to 305.05 per month per adult equivalent which was explained by increased incomes, with incomes increasing more than expenditure of food. However, there has also been a decline on agricultural spending from 3.7% of the household income to only 1.1% in 2011. This is not due to cheaper production inputs but due to families stopping producing food as a result of Agripark.

Furthermore, the regression analysis showed that participation on the Agripark project had a positive relationship with household expenditure and significant to household expenditure. This implies that Agripark's contribution to household incomes was significant to be regarded as one of the factors contributing towards improved economic wellbeing of these beneficiaries. Thus, a conclusion could be reached that the project has an impact on the economic wellbeing of the beneficiaries as household expenditure was used as a measure of economic wellbeing.

6.2.3.4. Impact on Food Security

Approximately 48% of the respondents acknowledged that they are spending less on food reasoning that it is because of the access to vegetables cheaper and closer to their communities. The majority (64%) saw a positive impact of the Agripark project to their household food security status. Furthermore, the availability of cheap vegetables also resulted to diet change with households having a variety of vegetable to complement their staples and meet their changing tastes and preferences.

6.2.3. Impact on Environmental

There has not been any observable damage on the environment or even on people due to spill and other externalities produced by Agripark project. The river was the major source of water for these households and has not been contaminated, there has not been pollution, erosion, etc. 100% of the respondents were certain that there has not been any environmental danger imposed to their natural resources, animals nor themselves.

6.2.4. Methodological Lessons

The Socio-Economic Impact Assessment framework's three stages were helpful to guide this study to achieve its objectives. The scoping and profiling of baseline conditions assisted by making sure necessary resources are available to conduct it and giving the basis from which the assessing of impacts will be compared to. However, the framework was not without its problems. The fact that everything appears to be linked to everything else made it difficult to ascertain causality between factors and the situation was exacerbated by the fact that the project is partially operating. This was because of the complexity of rural livelihoods and it is even more difficult to focus on other relationships that exist in connections with the components being studied.

6.4. Recommendations

The project seems to be operating independent of its beneficiaries (the communities) because the results portrayed an element of poor communication between the implementers and the owners of resources. As much as the components of the project were not fully functioning, thus stalling the process of project delivering to the community, it should be communicated to the communities. This will lower the frustration to the affected households and preserve positive attitude towards the project. Therefore, social gatherings should be held by these communities and the management of the project to report the status quo of the project and allow discussions among the beneficiaries and the stakeholders involved.

The project has a potential to alleviate poverty in the area, with the processing unit functional hundreds more jobs can be created, therefore, government should assist the project with its electricity problem to have the plant running. Furthermore, a more scientific approach in the analysis of the environmental impact may be done, such as, taking water samples to measure water contamination and also soil samples to measure the level of fertilizer content as it will affect the ground water. Training on best management practices need to be given to even those who will not be employed by the project which assist and encourage the beneficiaries to produce enough for their own consumption and for Agripark.

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Appendix 1

UNIVERSITY OF FORT HARE
FUCULTY OF SCIENCE AND AGRICULTURE
DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION



QUESTIONNAIRE IDENTIFICATION

Date of Interview.....
Enumerator's Name.....
Name of Village.....
Name of Municipality.....
Name of Ward.....
Name of Respondent.....
Member / Non-member.....
Questionnaire No.....

***A SOCIO-ECONOMIC IMPACT ASSESSMENT (SEIA) OF THE AGRIPARK
PROJECT AT IDUTYWA IN MBASHE LOCAL MUNICIPALITY OF THE EASTERN
CAPE QUESTIONNAIRE***

A: DEMOGRAPHIC INFORMATION

Please provide information regarding the following demographic variables starting with household head.

A1. Name	A2. Relation to head	A3. Age	A4. Gender	A5. Marital Status	A6. Education	A7. Employment Status	A8. Occupation	A9. Time home

A10. Household size.....

B: SOCIAL IMPACTS

B1. Are you aware of the Dutywa Agripark project in your community? Yes / No

B2. Are you a member of this project? Yes/No

B3. Is there someone besides you in your household participating in the project? Yes/No

B4. What are the objectives of the Dutywa AGRIPARK project?

.....
.....

B5. Is the project in line with achieving its objectives? Yes / No

B6. For either a Yes or No answer, please give an explanation.

.....

.....

.....

B7. Can you describe the relationship that exists between the project members and initiators?

.....

.....

B8. What kind of social impact does the project have on you as a member?

Positive.....

.....

Negative.....

.....

B9.What kind of social impact does the project have on your household?

Positive.....

.....

Negative.....

.....

B10.What kind of social impact does the project have on your community in general?

Positive.....

.....

Negative.....

.....

B11. Have you received any training regarding farming since the implementation of the Agripark project? Yes/ No

B12. If “yes”, what kind of training did you receive? Please select from the list provided.

a) Irrigation; (b) Weed and pest control (c) Fertiliser application (d) growing vegetables (e) Other, specify

B13. Did you receive any training on Agribusiness? Yes / No

B14. If yes, please list the Agribusiness training you received from the project.

(a) Marketing (b) Grading and packing (c) Project management (d) Finance (e) Record keeping (f) Other, specify

B15. What kind of social benefits do the non-project members from the surrounding communities enjoy from the Agripark project?

.....
.....

B16. Are there any communities other than the surrounding ones that benefit from the project?
Yes/No

B17. If yes, please name them

.....

B18. Do you have access to social infrastructure that came into being as a result of this project?
Yes/No

B19. If yes, please name the infrastructure

.....

B20. Since the implementation of this project in your community, have you had some kind of social gathering whereby both project and non-project members participate in this project?
Yes/No

B21. Are the members of this project organised into an association or co-operative? Yes/ No

B22. If “yes”, what is the name of this association or cooperative?

.....

B23. Is the association or cooperative registered? Yes / No

B24. Does this structure have a committee? Yes / No

B25. If yes, how often does the committee meet?

.....

B26. Do you take minutes during these meetings? Yes / No

B27. Did the members of the committee receive any training on how to run the association? Yes / No

B28 If yes, please state the training received.

(a) Leadership (b) holding meetings (c) taking minutes (d) Finance management (e) Communication

B29. Do you have any kind of relationship with the department of Agriculture in Dutywa? Yes / No

B30. If yes, how would you rate the relationship you have the department?

(a) Very good (b) Good (c) Fair (d) Poor (e) Very poor

B31. Please provide an explanation for the answer given above.

.....
.....

B32. Did you have access to extension officers before the implementation of the Agripark project? Yes / No

B33. If yes, how often did they visit your communities?

.....

B34. Has that changed with the implementation of the Agripark project? Yes / No

B35. After the implementation of the Agripark, how often did the extension officers visit you in the project?

.....

B36. What kind of assistance do they give to project members when they visit the project?

.....

.....

C. ECONOMIC IMPACTS

C1. Please indicate from the sources listed below from which your household earn income, stating the amounts your household earn from them.

External Sources

Source	Cycle	Amount/Cycle (R)	No. Of Cycles/yr	Total Income (R)
Remittances in Cash				
Remittances in kind				
Child support from parents outside household				
Child Support Grant				
Disability Grant				
Old age Pension				
Salaries and Wages				
Other (Specify)				

Internal Sources

Source	Cycle	Amount/Cycle (R)	No. Of Cycles/yr	Total Income (R)
Hawking				
Spaza Shop				
Sheebeen				
Agripark Project				
Cash Crops (<i>own</i>)				
Livestock (<i>own</i>)				
Lending Money				
Other (Specify)				

C2. How would you rate the economic wellbeing (increase in hh income, more food secure, etc.) of your household after the implementation of the Agripark project?

a. Improved ☐ b. remained the same ☐ c. Worsened ☐

C3. Please provide an explanation for the answer given above

.....
.....

C4. Do the members of this project receive wages for the work they do in the project? Y/N

C5. Are there any members of the community who are not members in this project employed by the Agripark project? Yes / No

C6. If yes how many of these members?

.....

C7. What is the rate per hour or day for project members?

.....

C8. What is the rate per hour or day for non-members?

.....

C9. How many hours or days do project members work per month?

.....

C10. How many hours or days do non-members work per month or season?

.....

C11. Do you work on the project every day? Yes / No

C12. If “no” how many days a week do you work in the project?

.....

C13. How many hours do you work per day?Hrs/day

C14. What is the total land area of this project?

C15. What proportion of the project land is under cultivation in summer?

.....

C16. What proportion of the project land is under cultivation in winter?

.....

C17. If not all land is cultivated in any season, please provide explanation for that.

.....

.....

.....

C18. Please state which of the following crops / vegetables grown during 2010/2011 cropping season in this project, and supply the following information

Crop / Vegetables	Season S/W	Area (ha)	Yield (kg / bag)	Amount sold	Amount consumed	Price (R/unit)	Income realised
Maize							
Butternut							
Cabbage							
Carrot							
Spinach							
Beetroot							
Broccoli							
G/pepper							
Onion							
Other							

C19. What is the money realised from this project used for?

.....

.....

C20 How much money does your household spend on the following items per month/year?

Item	Cycle	Exp/Cycle (R)	No. Of Cycles/yr	Total Exp/yr
Food				
Electricity				
Education				
Insurances				
Transport				
Agric. Inputs				
Furniture				
Interests & Loans				
Clothing				
Medical Expenses				
Church Contribution				
Hiring of Labour				
Entertainment				
Cash for Agripark				
Other (Specify)				

C21. Do you spend more or less money now on food compared to what you spent before the implementation of the project? Y / N

C22. What is the impact of the Agripark project on your household's food security?

(a) Positive (b) Negative (c) Don't know

C23. Does your household sometimes experience food shortages? Yes? No

C24. If "yes", please state when exactly do you experience food shortages?

(a) Everyday (b) Before month end (c) Seasonally (d) Other, specify

C25. Which of the ff products are the main ingredients (three or more times per week) of your diet in your household?

(a) Green Maize (b) Samp (c) M/Meal (d) Bread flour (e) Rice (f) Cabbage (g) Spinach (h) Butternut (i) Carrot (j) Beans

C26. Please state the main source of products mentioned in C25 in summer and winter

Ingredient	Source	
	Summer	Winter
Green Maize		
Samp		
M/Meal		
Beans		
Cabbage		
Butternut		
Spinach		
Carrot		

C27. What was your household's main food acquisition strategy before the Agripark project?

(a) Own production (b) Buying from local and urban shops (c) Donations

C28. Has that changed since the implementation of the project? Yes / No

C29. If yes, what is your household's current main food acquisition strategy?

(a) Own production of food at home (b) Own production of food in the project (c) Buying food from local and urban shops (d) Donations

C30. How many times does your household consume vegetables per week?

(a) More than three times a week (b) Three times (c) Twice a week (d) Once a week

C31. Which of the vegetables mentioned above does your household normally consume?

.....

D. ENVIRONMENTAL IMPACTS

D1. Which of the following negative environmental impacts is this project likely to have in your community?

(a) Exposure to toxins (b) Exposure to pathogens (c) Exposure to radiation (d) Air pollution (e) Water contamination (f) Poor human health

D2. Since the implementation of the Agripark project in your community, have you noticed signs of impacts mentioned in D1? Yes / No

D3. If yes, please explain what you have noticed.

.....

D4. Has there been water contamination resulting from any of the Agripark activities in the river water? Yes / No

D5. If “yes”, please provide details.

.....

.....

D6. Has there been soil erosion resulting from practices carried in the Agripark projects? Yes/No

D7. If “yes”, please provide details.

.....

.....

D8. Have there been spills and leaks from some of the infrastructure used in the Agripark? Yes/No

D9. Have you observed any ill health amongst members since the introduction of Agripark? Yes / No

D10. What are the positive environmental impacts envisaged as a result of Agripark project?

(a) Improvement in nutrition and general wellbeing (b) Clean environment (c) Other, specify

END, THANK YOU FOR YOUR TIME!