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Department of Agricultural Economics and Extension.
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Effectiveness of the High Value Crop-based extension model in improving rural livelihoods

By

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Supervised by:
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DECLARATION

I, Siyabulela. C, Jakavula hereby declare that this dissertation is my own original work and that it has not been submitted, and will not be presented at any other University for a similar or any other degree award. To the best of my knowledge, the works of other scholars referred to here have been duly acknowledged.

Signature ……

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Date ……../……./……

ABSTRACT

The problem that is researched in this study relates to the effectiveness of the extension model applied in the High Value Crop programme in improving rural livelihoods in the Eastern Cape.

The extent of poverty in rural areas in the Eastern Cape motivated for the intervention of the Is'Baya through the introduction of Integrated Village Renewal Programme (IVRP). The need to improve the quality of life of rural households through the promotion of agriculture and industry gave rise to the collaborative effort between the Is'Baya Development Trust and Agricultural Research Council (ARC) in South Africa.

The HVC programme was established to mitigate the effects of food shortage and poverty through the production of fruit trees, herbs and vegetables at household level. Evaluation of the effectiveness of this collaborative effort was carried out in four local municipalities of the OR Tambo District and these included: King Sabata Dalindyebo municipality (Zangci); Nyadeni municipality (Hluleka); Port St Johns municipality (Noqhekwana) and Ngquza Hill municipality (Hombe). An equal number of villages where Siyazondla was implemented by DRDAR were visited for the survey to relate the extension model applied with HVC. The villages visited included: OR Tambo (Mhlontlo local municipality) Xhokonxa village; Amathole (Amahlathi local municipality) Ndakana village, (Ngqushwa local municipality) Mgababa village and (Mbhashe local municipality) Mbanyana village.

The broad objective of the study therefore, was to evaluate the effectiveness of the extension model applied on the HVC programme as well as to identify the roles and responsibilities of different stakeholders involved in the model. The specific objectives of the study were to describe the HVC based extension model as it is currently organized and implemented in the Eastern Cape Province of South Africa in relation to the erstwhile Siyazondla programme, to establish the effectiveness of the extension model in terms of skills transfer and capacity development, to determine the socio-economic impact of the extension model on the livelihood of involved households, to establish the extent to which the extension model has empowered women and youths and to study the factors that has contributed to the sustainability of the extension model.

In carrying out this research and in line with the practice of Agricultural Research for Development (ARD), qualitative and quantitative methods of information gathering were applied. Group approach such as the Rural Rapid Appraisal (RRA) and the Participatory Rural Appraisal (PRA) methods of data collection were used. These tools include semi-structured interviews, focus-group discussions, transect walks, seasonal calendars, key-informant interviews, resource maps and secondary data.

A sample of 149 respondents was selected from eight villages in the OR Tambo and Amathole districts. The HVC model was analysed using qualitative approach, descriptive statistics and inferential statistics. The Is'Baya/ARC extension model is thus said to be effective in meeting the objectives of the HVC programme due to the efficient transfer of skills and technology and its positive impact on the livelihood of the people. There was also an improvement of the income and food security status of the rural dwellers in O.R Tambo district.

The regression analysis model was applied and the results of the model were significant to the highest income earned. Out of 22 explanatory variables fitted in the regression model, 12 were significant. The R^2 and adjusted R^2 are 73% and 68% respectively which shows the significance of the fitted variables in the model. The very high F value of 15.427 shows strong significance of the fitted variables to the model. The study therefore concluded that the HVC based extension model implemented by Is'Baya and ARC was very effective in improving rural livelihoods. The study further recommended investment in infrastructure, market linkages, value adding, public-private partnerships, creation of tenure security, investigation of different funding sources, investment on agricultural research, extension of skills provided and implementation of similar model by the public sector.

Key words are: Is'Baya/ ARC extension model, Department of Rural Development and Agrarian Reform, High Value Crops, Siyazondla, rural areas, skills transfer, women empowerment, socio-economic impact, sustainability

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LIST OF ACRONYMS

ADMP - Agricultural Drought Management Plan

ARC - Agricultural Research Council

ARC -ITSC - Agricultural Research Council -Institute for Tropical and Sub-tropical Crops.

ARD - Agricultural Research for Development

ASGISA - Accelerated Shared Growth Initiative for South Africa.

ASGISA-EC- Accelerated Shared Growth Initiative for South Africa (Eastern Cape)

BATAT - Broadening Access to Agriculture Thrust.

BRIC countries – Brazil, Russia, India and China.

CAADP- Comprehensive African Agricultural Development Programme.

CASP - Comprehensive Agricultural Support Programme.

COMESA- Common Market for Eastern and Southern Africa.

COSATU - Congress of South African Trade Unions.

CPEG - Center for Poverty, Employment and Growth

CPI - Consumer Price Index.

CPUT - Cape Peninsula University of Technology

CTA- Technical Centre for Agricultural and Rural Cooperation.

DAFF- Department of Agriculture, Forestry and Fisheries

DRDAR - Department of Rural Development and Agrarian Reform

ECSECC- Eastern Cape Socio-Economic Consultative Council.

ECRFC- Eastern Cape Rural Finance Corporation.

ERP- Extension Recovery Plan.

FAO - Food and Agriculture Organization.

FNP- Food Nutrition Policies.

GDP- Gross Domestic Product.

HDI - Human Development Index.

HSRC - Human Sciences Research Council.

ICT- Information Communication Technology.

IDP – Integrated Development Plan.

IES- Income and Expenditure Survey.

IFAD - International Fund for Agricultural Development.

IFIs - International Financial Institutions

IFSNP- Integrated Food and Nutrition Programme.

IFRC- International Federation of Red Cross and Red Crescent

IMF - International Monetary Fund.

GDP - Gross Domestic Product

GEAR - Growth Employment and Redistribution.

HVC - High Value Crops

IVRP - Integrated Village Renewal Programme

LRAD – Land Redistribution for Agricultural Development.

LARP - Land and Agrarian Reform Project.

MAFISA - Micro-Agricultural Financial Institutions of South Africa

MDG - Millennium Development Goal

MFP – Massive Food Production.

MTEF- Medium Term Expenditure Framework.

NAMC - National Agricultural Marketing Council.

NEPAD - New partnership for Africa's Development

NGO - Non Governmental Organisation

OECD - Organisation for Economic Co-operation and Development.

OLS- Ordinary Least of Squares.

PDAs- Previously Disadvantaged Individuals.

PGDP - Provincial Growth and Development Plan.

PGDS- Provincial Growth and Development Strategy.

PRA - Participatory Rural Appraisal

PSC - Public Service Commission.

PSD- Private Sector Development.

PSJ - Port St Johns

RDP- Reconstruction and Development Programme.

RRA - Rapid Rural Appraisal

RSA - Republic of South Africa.

SACP - South African Communist Party

SLAG- Settlement Land Acquisition Grant

SPFS- Special Programme on Food Security.

SPI – Spatial Development Initiative.

SPSS- Statistical Packages for the Social Sciences.

Stats SA - Statistics South Africa.

TOR - Terms Of References

UNDP- United Nations Development Programme.

WFP- World Food Programme.

WSU - Walter Sisulu University

ZAR- South African Rand

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CHAPTER ONE

INTRODUCTION

1.1 Background

In the 1980s, global food and nutrition policies (FNP) made food available to a growing population, particularly to those older and physically developed individuals who required more of it. These policies initially enjoyed great success, but in the last 15 years this trend has reversed and they have failed. The cause of this was implementation agricultural policies which focused on external markets and ignored the needs of the local markets. Global food prices soared in mid-2008 as a result of the impact of global food policies on those countries that were unprepared to deal with the food insecurity of their populations at a local level (Food and Agriculture Organisation (FAO) 2012).

South Africa ranks among the countries with the highest rate of income inequality in the world. Compared to other middle income countries, it has extremely high levels of absolute poverty. The South African government has committed to halving poverty between 2004 and 2014. Achieving household food security is a critical component in meeting that objective. Access to food and water is perhaps very crucial unlike other areas of delivery, since they are essential to well-being and human development (Department of Forestry and Fisheries (DAFF) 2002).

In South Africa, poverty alleviation received much attention after 1994 when South Africa became a democratic country. There were programmes that were designed by the government to improve food security and these were packaged to cater for different categories of farmers. The initiatives by the government to improve rural livelihoods was through social programmes of all spheres of government such as school feeding schemes, child support grants, free health services for children between 0-6 years, working for water, community public works programmes, Provincial community food garden initiatives, land reform and farmer settlement, production loans scheme for small farmers, infrastructure grant for smallholder farmers and the Presidential tractor mechanization scheme (DAFF 2002).

In the 2010/2011 financial year food security was reprioritised as one of the top priorities for South African government (State of Nation Address 2010). This is in line with South Africa's millennium development goal which aims to halve the proportion of people who go hungry over the period 1990 and 2015 and to halve poverty and unemployment by 2014 (DAFF 2011).

The NGOs came with different approaches in an effort to reduce poverty in rural areas and in OR Tambo Is'Baya Development Trust was established. The Is'Baya is a non-profit organisation which designs developmental solutions using participatory methodologies resulting in dignified self-reliant communities. "Isibaya" means kraal in Zulu. In the context of the Is'Baya, it relates to the homestead, it means that they are concentrating on the household which is deemed as the vehicle for change.

Thirteen years ago, it focused on integrated service for the betterment of the youth in Africa which changed along the way. "Is'Baya places people at the center of development by initiating and facilitating community development planning, identifies partners and resources, and co-ordinates all activities including capacity building in communities for the attainment of greater self-reliance and competence" (Jones & du Preez 2008).

Is'Baya initiated the Integrated Village Renewal Program (IVRP) which seeks to address the wide range of rural development issues. The High Value Crop Programme (HVC) which forms part of the IVRP was started in the rural areas of the OR Tambo District Municipality to address food security and poverty through the production of fruit trees, herbs and vegetables at household level. Other problems the programme sought to address were lack of empowerment and lack of income generation opportunities amongst rural people. The programme has been ongoing for the past 8 years and it is spread over 52 different geographical villages in the Port St John's, Nyandeni, King Sabata Dalindyebo, Ngquza Hill, Mhlontlo, Mbhashe and the Mnquma municipalities.

In implementing the High Value Crop (HVC), Is'Baya collaborated with Agricultural Research Council (ARC), through the ARC-ITSC, the Institute for Tropical and Sub-tropical crops. The ARC objectives are to conduct research, development and technology transfer in order to promote agriculture and industry and thereby

contribute to the improvement of the quality of life of the people of South Africa (Jones & du Preez 2008).

The aim of integrating HVC with extension/skill transfer practices is to assist rural households with: sufficient food production, economic development, transition of farmers from subsistence to commercial farmers, access to modern and quality technical services, generation of livelihoods through the conversion of agricultural inputs into food commodities, and the promotion of sustainable use of natural resources. This partnership seeks to achieve these goals through the conduction of research and transfer of skills and technology to these farmers (Jones & Du Preez 2008)

There is a general acknowledgement that, extension could play a key role in fostering agricultural sustainability in rural areas through its educational programs but there has been a growing realization that traditional extension models have not been sufficiently effective in promoting adoption of sustainable agricultural practices (Allahyari 2009; Anderson & Feder 2004; DAFF 2011; Kazbekov & Qureshi 2011; Phuhlisani 2008; Hariadi 2012).

1.2 Poverty levels in South Africa

In societies around the world, there are concerns over the plight of the poor. According to the World Bank (2004), 24% of the population of developing countries live on less than US$1 a day and total nearly 2 billion people. In absolute terms, most of these live in South Asia (where there are 522 million people classified as poor). Proportionately, the problem is greater in sub-Saharan Africa where 290 million poor people constitute 46% of the population – over 34% of these are not expected to live beyond the age of 40). “Poverty means hunger, thirst, and living without decent shelter. It means not being able to read.

In South Africa, years of active discriminatory policymaking and neglect have resulted in high levels of inequality, which is characterised by extreme wealth on the one hand and desperate poverty on the other. The advent of the democratic transformation in South Africa during 1994 brought with it the high hope that income

poverty and inequity would soon be significantly reduced from the very high levels that existed during Apartheid. The eradication of poverty, therefore, is one of the top priorities for the government, as well as various other sectors of South African society. However, for policy to effectively target and improve the lives of poor individuals and households, an appropriate poverty measure or poverty line is required.

There are various studies that have attempted to estimate the extent of poverty in South Africa and have yielded results which are at variance with each other. The estimate by the Human Development Index (HDI) report of 2011 was at 42%, Statistics South Africa (Stassa) 2007 estimated poverty at 47% and the study by Eastern Cape Socio-Economic Consultative Council has shown that 43% of the Eastern Cape population is living below the poverty gap.

1.2.1 Types of Poverty

Poverty is defined in May (1998) as "the inability to attain a minimal standard of living, measured in terms of basic consumption needs or the income required to satisfy them". The United Nations Development Programme (UNDP) 1997 has defined poverty as the deprivation in the most essential capabilities of life, including leading a long and healthy life, being knowledgeable, having adequate economic provisioning and participating fully in the life of the community. It means chronic sickness. Poverty means not finding any opportunities for you or your children. It is about being pushed around by those who are more powerful. It is about having little control over your own life. And it can mean living with the constant threat of personal violence." (Public Service Commission (PSC) 2007)

"Poverty, underdevelopment, lack of opportunities and competition for scarce resources contribute to some of the conflicts in the developing world including Africa. Therefore the promotion of sustainable development and the fight against poverty cannot be divorced from the quest for peace" (Zuma 2012).

Poverty has been defined according to what is prioritised as a need. It is usually conceptualized as an economic or social condition, and has major implications for

policy development. Poverty outcomes are also greatly affected by social norms, values, and customary practices that, within the family, the community, or the market, lead to exclusion of women, ethnic and racial groups, or the socially disadvantaged (World Development 1999).

According to Frye (2005), Poverty has the following characteristics:

- Isolated from the community being unable to mix easily with other people.
- The children are malnourished and the food that is served is of poor quality.
- The homes are crowded and are not maintained.
- The most basic forms of energy are used and the family is frequently energy insecure.
- No-body in the family is employed.
- Families are split, with fathers not present, and children living elsewhere

Poverty can be viewed in absolute and relative terms. Absolute poverty refers to subsistence below minimum, socially acceptable living conditions, usually established based on nutritional requirements and other essential goods. Relative poverty compares the lowest segments of a population with upper segments, usually measured in income quintiles or deciles.

Absolute and relative poverty trends may move in opposite directions. For example, relative poverty may decline while absolute poverty increases if the gap between upper and lower strata of a population is reduced by a decline in well-being of the former at the same time that additional households fall beneath the absolute poverty line.

Even within so-called absolute poverty, countries often distinguish between indigence, or primary poverty and secondary poverty (sometimes referred to as extreme and overall poverty). Indigence usually refers to those who do not have access to the basic necessities for human survival, while other forms of poverty refer to degrees of deprivation above that threshold (Frye 2005; Mbuli 2008; May 2010; Laderchi 2000). Finally, the subjective approach to poverty measurement relies on individuals' opinions as to what constitutes the minimum income or expenditure required by a household.

Poverty has a spatial dimension: just less than half of the South African population lives in rural areas, as does 72 per cent of South Africa's poor. Poverty is also gendered: the poverty rate among female-headed households (60 per cent) is double that of male-headed households.12 As Mbeki noted, poverty has a stark racial dimension: 61per cent of Africans were poor in 1996 compared with just 1 per cent of whites (Evaratt 2003).

"The era's beginning are these ruined shacks, these poor schools, these people still in rags and tatters, this cloddish insecurity of my poor families, is all this the day? We have it within our power to build our own golden door into our Second Decade of Liberation. We have demonstrated that we have the will to answer the question in the affirmative, and say - yes, this is the day." (Mbeki 2004)

1.2.1.1 Poverty and race

Although the condition of the previously disadvantaged groups has improved and the improvement seems to indicate that this phenomenon is changing from being race focused but to being class focused. However the race dimension of poverty is still profound with income patterns highly skewed against Africans. In 2005/06 – more than a decade after democratisation – the incidence of poverty among black and coloured individuals remained dramatically higher than that among whites with blacks accounting for 54.8%, coloureds for 34.2% and whites for 0.4% (Armstrong et al, 2008). Black African population which in 2006 constituted 79.4 per cent of the population and 76.8% of households earned 41.2% of the 747.6 billion ZAR of income. In contrast to this, 45.3% of that income was earned by white persons who constituted only 9.2 per cent of the population (Armstrong et al 2008).

1.2.1.2 Poverty and basic services

Living conditions and access to services are areas in which considerable disparities exist between the poor and the non-poor. Indeed, the lack of access to services experienced by the poor often contributes to the difficulty entailed in moving out of a

state of poverty. Access to piped water was less common, however, being restricted to slightly more than 40% of the poorest quintile and less than half of all poor households. At the “lower-bound” poverty line only 46.8% of households had access to piped water. This implies that the poor spend a considerable amount of time travelling to fetch water. Another activity that imposes a heavy time burden on many poor households is collecting firewood (de Swart 2004).

Urbanisation is well advanced in South Africa, and Income and Expenditure Survey (IES) 2005 found that 65.1% of all households (58.8% of the population) resided in urban areas. The incidence of poverty, however, was much higher in the rural areas of South Africa. The poverty rates of households and individuals in the rural areas were 54.2% and 67.7%, respectively – more than double the corresponding rates for urban areas (21.9% and 32.7%). Hence, 57.1% of all poor households and 59.3% of poor individuals were rural dwellers despite the fact that the rural areas housed well below one-half of the South African population (de Swart 2004).

1.2.1.3 Poverty and gender

Unemployment remains stubbornly high, and a comparison by gender shows that there are still higher levels of employment to population ratio. The result of this phenomenon is a potential increase of poverty especially amongst females. The women headed households in South Africa are likely more poor than the male headed households. For example in May 1998 report showed that poverty rate among female headed households was 60% and among male headed households was 31%. The downward trend was observed when looking at the food poverty line by sex because for both males and females the proportion of people living below the food poverty line declined between 2000 and 2006 from 26.7% for males to 22.9% and for females it declined from 30.2% to 26.4% (Republic of South Africa (RSA) 2010). The employment rate by gender in South Africa from 1996 to 2010 is depicted in Table 1.1.

Table 1.1 Employment by gender excluding agriculture from 1996 to 2010.

Year	Male	Female	Female share
1996	4 191 155	3 226 789	43%
1999	5 300 237	3 987 245	43%
2005	5 359 657	4 138 220	44%
2010	5 621 478	4 672 513	45%

Source: RSA, 2010

Table 1.1 suggests that in both 1996 and 1999, the female share of wage employment was 43% if agriculture was excluded. The share showed a mild stepwise increased to 44% in 2005 and then 45% by 2010.

1.2.1.4 Poverty and malnutrition

Different studies do not give the same number, but it is estimated that between 58% and 75% of South African children live below the poverty line. This means that more than half of children in South Africa live in poverty. 10% of black children in South Africa show signs of malnutrition. The most common illness among South African children that can be connected to poverty is stunting. Stunting is when a child's height and weight is less than what it is supposed to be for his or her age. It is usually caused by malnutrition. In South Africa, 25% of black children (or 1 out of 4) show signs of stunting (RSA 2010). The prevalence of poverty in South Africa is shown in Table 1.2.

Table 1.2: Prevalence of poverty by Province in South Africa in 2010.

Prevalence of malnutrition (%)									
Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu-Natal	North West	Gauteng	Mpuma-langa	Limpopo	RSA
3.8	8.1	9.8	5.1	13.3	9.4	6.0	5.4	4.4	7.8

Source: RSA , 2010

Table 1.6 shows severe malnutrition incidence for under-five children averaged over the period 2001 to 2010, according to data provided by District Health Information System in the Department of Health. It shows that, on average, the highest incidences of severe malnutrition were in KwaZulu-Natal (13.3%), Northern Cape (9.8%) and North West (9.4%), and these incidents are lowest in Limpopo (4.4%), Free State (5.1%), Mpumalanga (5.4%) and Gauteng (6%). Over the reference period, the national incidence of severe malnutrition averaged 7.8%.

1.2.1.5 Poverty and education

If one looks at various tests, middle-class learners normally perform better than learners attending schools in poorer communities. This does not mean that learners from working-class families cannot, or do not, perform well in school. But the education system has been failing them and they have to overcome many more obstacles in order to succeed. Learners go to school without food and they get their meals at school.

Sometimes they come inadequately dressed, without a jersey or shoes and during cold days they will not concentrate on studies because of hunger and cold that he's feeling (Youth group 2011). Terreblanche (2002) identified a correlation with the educational achievements and poverty. According to the findings of Terreblanche (2002), seven years of schooling and above has a positive impact on people's lives and less than this correlates to higher levels of poverty.

1.2.1.6 Poverty and unemployment

Poverty and unemployment are related in South Africa. Although the recent performance of South Africa's economy has been generally positive, both investment and output growth are still below the levels necessary to reduce unemployment and to achieve a more equitable income distribution (Organisation for Economic Co-operation and Development (OECD) 2006). The latest official statistics say that 24.9% of South Africans who should be working are unemployed (Statssa, 2012). This percentage does not include people who are employed but do not earn enough to fully support their families. South Africa has a youth population (14-35 years of age) which is about 41%3 of its entire population of just over 50; 5 million (National Youth Development Agency (NYDA) 2012).

Globally it is estimated that young people constitute about 25% of the working age population, but they constitute 47% of the unemployed (NYDA 2012). At the moment, 2.4 million young people in South Africa between the ages of 18 and 25 are unemployed. 47% of South Africans were living below the poverty line in 2007 (NYDA 2012).

1.3 Problem statement

In South Africa, the anti-apartheid struggle focused on two key areas: extending rights to black South Africans and alleviating the poverty forced on them by segregation and apartheid. The eradication of poverty, therefore, is one of the top priorities for the government, as well as various other sectors of South African society. Prior 1994, black farmers lacked access to production resources, credit and markets, Government is now trying to level the playing field for all the farmers by introducing new policies which seeks to improve the standard of living of the previously disadvantaged farmers. The agricultural sector is perceived as the most potent means to improve rural livelihoods in South Africa.

Given the seeming depth of household food insecurity, it is urgent that a food security target be identified within the overall objective of reducing poverty, with clear policy directions in support. Small-scale and subsistence agriculture might be one option to contribute to incomes and/or savings, as well as to encourage food diversification. Many countries have successfully supported small scale production in Europe and in Japan and Indonesia, often as partial contributors to household food baskets and livelihoods (Altman, Hart & Jacobs 2009).

The entire Eastern Cape is characterised by high level of poverty and classified as one of the poorest provinces in the country. Most rural communities in the Eastern Cape rely mainly on subsistence farming, remittances and social grants to sustain their living (ECSSEC, 2012; SA LED network 2010; Tregurtha, 2008). Factors that influence household food insecurity can be identified as lack of information, level of education, access to credit, employment status, demographic structures (age and gender), geographical structures (residing place), asset ownership, inputs and resource availability (ECSSEC, 2012; SA LED network, 2010). There is evidence that food insecurity is rife in the province and the poverty rate has deteriorated further since the current year.

Although the South African government has done efforts to address the problem of poverty and inequality, through several programmes like Reconstruction and Development Programme (RDP), land reform, Black Economic Empowerment (BEE), Growth Employment and Redistribution (GEAR), Provincial Growth and Development Plan (PGDP) and Accelerated and Shared Growth Initiative for South Africa (ASGISA), there is still high levels of poverty in rural areas.

The Department of Rural Development and Agrarian Reform (DRDAR) in the Eastern Cape intervened through government grants with food security programmes according to the typology of farmers and these programmes included Siyazondla, Siyakhula and Massive food production; there are still concerns about the quality and impacts of such interventions. The DRDAR-EC also allocated the extension personnel to all the wards of the Eastern Cape Province to assist in the realisation of the improved food security status and human development.

> *"The 2010-2015 DRDAR-EC Strategic Plan cite Strategic Objective 9 (nine) as focusing on the promotion of farm and non-farm rural economy, entrepreneurship*

to create jobs and development of skills through Outcomes 5 and 7 programmes" (Capa 2012).

In the realization of the high levels of poverty in rural communities, NGO's have become increasingly important as partners with government and local communities in initiatives to improve rural livelihoods. One such initiative is the one which Is'Baya, in collaboration with ARC, has initiated; the Integrated Village Renewal Program (IVRP), using the HVC programme which seeks to address the wide range of rural development issues. The HVC programme have been said to be successful in improving the livelihoods of households; but there are several uncertainties surrounding the model in terms of its objectives.

The South African extension services offered by government is normally associated with top down approach, weak relationships between researchers, farmers and extension officers, thus resulting in low level of technology adoption by farmers. In an effort at curbing this challenge, the DAFF introduced the extension recovery plan to capacitate the extension personnel with new technologies.

However, there are other extension services offered by institutions like Is'Baya/ARC and other NGOs which seem to be effective. The effectiveness of the Is'Baya/ARC extension model and the practices applied through the technology transferred, skills development, efficient flow of information, technology adoption and challenges need to be compared to the conventional extension services in South Africa. The roles played by various stakeholders in the programme need to be clearly identified. This is largely due to the fact that evaluation of the programme was conducted, but not scientifically proven through multi-stakeholder involvement. It is also unknown if the model can be replicated and sustained in other districts within and outside the Eastern Cape Province

The problem that is researched in this study relates to the effectiveness of the extension model applied in the High Value Crop programme in improving rural livelihoods in the Eastern Cape. Farmers under study comprises about 50 per cent of the clientele who receive extension services offered by the Is'Baya NGO in relation to the 50% of farmers who receive agricultural extension information/services through farm visits from public sector extension services. There is a need for the

evaluation of the model as a basis for recommending the modification of the farmer support scheme offered by the government to the small scale farmers.

1.4 Justification of the study

The study will elaborate on the importance of partnerships between NGO's and the government with the aim of providing the missing links in agricultural development. This will be conducted using the example of the partnership between Is'Baya and the government in Eastern Cape. There is no clear state intervention in the HVC programme, the study will also provide the necessary exposure to the farmers involved in the HVC programme, where the state and other NGO's will have more information with regard to the potential and challenges of the farmers.

The impacts of the HVC programme on the livelihood of the farmers will be assessed, by assessing the benefits of the HVC programme on the livelihoods of the households after the intervention by Is'Baya/ ARC. This study will seek to recommend the necessary interventions required to address the constraints and further improve livelihoods of the farmers involved in the HVC programme.

The study will also identify the necessary factors considered when adopting the model in the OR Tambo district, and this will serve as a guideline to other NGO's and public stakeholders who want to adopt the programme or implement their own programmes in other districts.

1.5 Objectives of the study

The broad objective of this study is to evaluate the effectiveness of the HVC programme in relation to the food security programmes implemented by the Department of Rural Development and Agrarian Reform of the Eastern Cape looking into the skills transfer, roles and responsibilities of different stakeholders, and its socio-economic impact on the livelihood of involved households.

More specifically, the objectives of the study are:

- To describe the HVC based extension model as it is currently organized and implemented in the Eastern Cape Province of South Africa in relation to the erstwhile Siyazondla programme.
- To establish the overall effectiveness of the HVC based extension model in terms of skills transfer and capacity development.
- To determine the socio-economic impacts of the HVC based extension on the livelihoods of the involved households.
- To establish the extent to which this extension model has empowered women and youth.
- To identify factors that contributed to the sustainability of the HVC based extension model.

1.6 Research questions

This section of the study will address the research questions used in conducting this research. The Primary and Secondary questions of the study which stems from the study objectives will be addressed.

1.6.1 Primary question

What is the effectiveness of the HVC programme, looking at the skills transfer, roles and responsibilities of different stakeholders and its socio-economic impact on the livelihood of the involved households?

1.6.2 Secondary questions

- How was the HVC based extension model organised and implemented in the Eastern Cape in relation to Siyazondla extension model?

- How effective has the HVC based extension model been in terms of skills transfer and capacity development?
- What are the socio-economic impacts of the HVC based extension model on the livelihood of the involved households?
- To what extent has the HVC based extension model empowered women and youth?
- Which factors have contributed to the sustainability of the HVC based extension model?

1.7 Research Hypothesis

This study tested three hypotheses, which have been linked to the three research sub-objectives mentioned above. As may be recalled these objectives revolve around the needs to investigate the effectiveness of the HVC based extension model in improving rural livelihoods, how livelihood activities have evolved, and what livelihood outcomes have resulted. In line with these, the following hypotheses are to be tested.

1. H_1: The HVC based extension model is well organised and implemented in the Eastern Cape in relation to the Siyazondla programme.
   H_0: The HVC based extension model is not well organised and implemented in the Eastern Cape in relation to the Siyazondla programme.

2. H_1: The Is'Baya/ ARC development approach is effective in poverty alleviation, skills and technology transfer.
   H_0: The Is'Baya/ ARC development approach is not effective in poverty alleviation, skills and technology transfer.

3. H_1: The HVC based extension model has played a significant role in empowering women and youth.
   H_0: The HVC based extension model has not empowered women and youth.

4. H_1: Visits by extension officers and the type of training provided to the communities has sustained the HVC programme.
   H_0: Visits by extension officers and training provided to the communities has not improved the level of farmers in communities and thus non-sustainability of the HVC programme.

1.8 Outline of the study

The remaining chapters focus on answering the research questions as well as raising new ones. In order to do so it is first important to review the main theories that relate to the importance of agricultural extension services in improving rural livelihoods. The study is composed of five chapters; chapter 1 is the introduction to the study, chapter 2 is the literature review, chapter 3 is the research methodology, chapter 4 is the presentation of the results and discussion and chapter 5 is conclusion and recommendations.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Chapter 2 is the literature review section. The objective of this chapter is to review the work done earlier by other researchers and their findings on poverty alleviation issues. The literature that will be reviewed in this chapter include: conceptual issues on rural agricultural development, questions on policy issues, food security programmes, livelihood strategies, extension services in South Africa, approaches to farmer development by both public sector and private sector institutions and the HVC programme. The effectiveness of the programmes in South Africa and other countries aimed at improving rural livelihoods will be reviewed.

2.2 Livelihoods strategies

Rural livelihoods, Rural poverty and Rural development are concepts frequently used in the development discourse. According to Hariadi, livelihood thinking dates back to the work of Robert Chambers in the mid-1980s (further developed by Chambers, Conway and others in the early 1990s). Livelihood is defined as means of making a living and encompasses people's capabilities, assets, income and activities that are required to secure the necessities of live (International Federation of Red Cross and Red Crescent (IFRC) 2012). Hariadi defined livelihood as comprising the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks.

This therefore suggests that livelihoods activities are not only referring to activities that generate money and food, but to all the different activities that the household undertakes to survive. Livelihoods strategies are the combination of activities that people choose to undertake in order to achieve their livelihood goal. The goals include productive activities, investment strategies and reproductive choices (Ellis 2000; Scoones 1998; Ashely & Carney 1999).

In the Eastern Cape, the majority of poor people are living in rural areas and they are practicing agriculture as means of living. Rural areas are often defined as where the manufacturing base lacks due to poor development or unavailability of the required infrastructure. According to ECSECC (2002), rural areas constitute the space where human settlement and infrastructure occupy only small patches of the landscape, most of which is dominated by fields and pastures, woods and forest, water, mountain and desert.

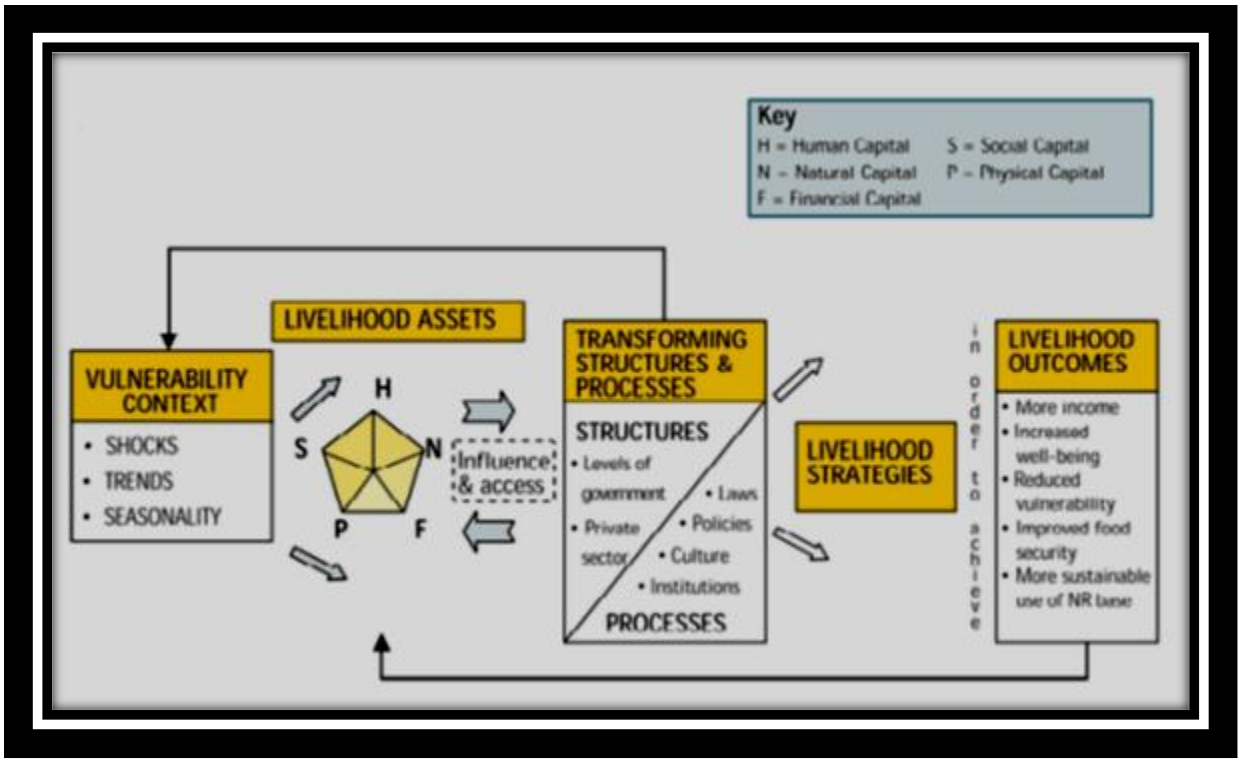

Figure 2.1 Sustainable livelihood frameworks.
Source: Ashley & Carney 1999.

A major influence on people's choice of livelihood strategies is their access to assets and the policies, institutions and processes that affect their ability to use these assets to achieve positive livelihood outcomes (Ardington & Lund 1996). People are often forced to compete for limited resources: fundamental to livelihoods approaches is the principle that development support aimed at improving the livelihood strategies of some should not disadvantage those of others now or in the future.

Social protection programmes can support the extreme poor to achieve their own positive livelihoods outcomes in cases where they are unable to compete with those with greater access to assets. Equally important from a food security perspective is

the need to enhance people's capacity to generate income and to strengthen the existing livelihood strategies of the poor.

By embracing the livelihoods approach, FAO has enhanced its understanding of local contexts and, in turn, has sharpened the focus of its food security initiatives, adding value to its traditional development approaches.

According to Ellis 2000, livelihoods framework is a way of looking at the complexity of people's livelihoods, especially the poor and whether they are urban or rural. The key components of this framework for the analysis of livelihoods of individuals and the community are their vulnerability context, their assets and the transforming structures (layers of organisations both in the private and government sectors) and processes (laws, policies, incentives) which shape and influence the livelihood strategies which they adopt (Fouracre 2001).

A fundamental precept of the approach is that it seeks to identify what people have rather than what they do not have and to strengthen people's own inventive solutions, rather than substitute for, block or undermine them. Urban and rural households adopt diverse livelihood strategies to maintain food security, including food production, local employment, migrant labour, and reliance on social security benefits and local support systems.

2.2.1 Sustainable livelihoods capital assets.

All livelihood strategies depend upon access to assets of some kind and whether such access involves private ownership or other forms of access. In the livelihoods framework, assets are conventionally classified as natural capital, physical capital, human capital, financial capital and social capital (Ellis 2000). However, in conventional economics such assets are usually known as factors of production and are typically subdivided into land (natural capital) and labour (human capital).

Human capital. This includes skills, knowledge, the ability to labour, the education and health status of the household members and the community, and the ability to find and use information to cope, adapt, organise and innovate (Allison 2003).

Social capital is defined as 'social resources which people draw upon in pursuit of their livelihood objectives. It includes social networks, organisations, the relations of trust and reciprocity within and between families, within social networks and in communities, and the support provided by religious, cultural and informal organisations.

Social capital is enhanced by a culture of human rights and democracy and by vibrant local institutions. Institutions can be defined as functioning social systems. There are many types of institutional system. For example, the rights and duties of people who use common grazing or forest resources may be governed by locally agreed and enforceable norms and rules (Ashely & Carney 1999).

Natural capital refers to land and the natural resource base, including: marine resources, woodland and forest products including edible plants and fruit building and weaving materials, thatch, fuel and wood for carving, wildlife, edible insects, honey, medicinal herbs and grazing, climate, soils and land capabilities, minerals, quarries, sand deposits, clay, wetlands, water catchments, groundwater sources and biodiversity. The economic value of land and natural resources to household livelihoods is often underestimated. The institutions that govern access to natural resources and land rights management affect how much households can use natural resources for their livelihoods (Ellis 2000).

Physical capital includes farm equipment, shelter and infrastructure. Infrastructure includes clinics and schools, roads, dams, water and sanitation services, electricity supply, communication and information sources such as telephones, radio, television and the Internet. Physical assets are essential for people to be able carry out livelihood activities (Krantz 2001).

Financial capital includes assets and entitlements that have a cash value. They include income, remittances from family members working away from home, sources of credit, pensions, savings, cattle, stores of seed, crops and food. Some economic resources like livestock have many asset values. For example, livestock has important cultural significance, it can be exchanged or sold for cash, and it provides milk and meat. By-products like manure contribute to agriculture and household cultivation and can be used for fuel (Ellis 2000).

2.2.2 Sustainable livelihoods principles.

Again, while there may be debate about the implementation of these particular approaches, they also can provide a set of core principles about development which can inform Agricultural Extension theory and practice, and which can be incorporated into curricula as learnable skills relevant to Agricultural Extension. According to Ashely and Carney (1999), the core principles in agricultural extension are:

People-centered: Livelihoods reflect the choices people make given their unique circumstances. Therefore, understanding how people sustain their lives and the choices they make is the point of departure for the sustainable livelihoods approach.

Participatory: Working with people, using a battery of participatory methods, to analyse their livelihoods rather than extracting information at a distance is central to the sustainable livelihoods approach.

Holistic: People do not live discretely defined lives. They are not only farmers or only family members. Each person lives within a complex system involving multiple strategies for living and are usually integrated parts of larger socio-economic systems outside their individual or family lives. Taking cognisance of this systems reality is vital to the sustainable livelihoods approach.

Differentiation: Households are unique and differ one from another; likewise the members of a single household. Understanding the variations that exist enable tailoring of interventions to make them —sensible‖;

Dynamic: Livelihoods are dynamic in nature and are subject to influences which are also dynamic. Understanding the ever-changing landscape fosters the development of interventions that allow flexibility and adaptability. An —ongoing learning‖ approach is paramount;

Building on strengths: Start with people‘s strengths not needs. This implies a recognition of everyone‘s potential, and calls for efforts to remove constraints to the realisation of this potential. This is a very different starting point that is traditionally used in Agricultural Extension;

Macro-micro links: Development activity needs to balance and bridge macro and micro foci. Higher-level policy needs to be informed by local level insights; and

Sustainability: Sustainability for both the development in general and of livelihoods in particular rests on several dimensions, including environmental, economic, social and institutional.

2.3 Food security.

Food security is a broad term, which is defined in different ways by a number of organisations around the world.Food security refers to a household's physical, social and economic access to sufficient, safe, and nutritious food that fulfils the dietary needs and food preferences of that household for living an active and healthy life (FAO 2012). Internationally food security is defined as the ability by all people to access adequate food at all times for an active healthy lifestyle (DAFF 2011).

Food security status of a household and its members is very sensitive to livelihood shocks (short duration) and stressors (long duration), and thus changes over time (FAO 2009). The concept of food insecurity is closely linked with the poverty in South Africa (DAFF 2012). According to FAO, this definition implies that:

Firstly, the daily consumption of food where distribution systems ensure a continuous supply of food to all population groups, regardless of markets, locations, seasons and acquisition patterns.

Secondly, the concept of access to sufficient, safe and nutritious food includes the continuous physical availability of food, as a result of food production, processing by the food industry and net trade for the entire population.

Thirdly, daily nutrient requirements refer to energy and energy-yielding macronutrients, including carbohydrates, fats and proteins, which provide a balanced contribution to total dietary energy.

Fourthly, food and nutrition security for a healthy population means that energy and energy-yielding macronutrients and micronutrients (vitamins and minerals), will be

required for physical activity in relation to the particular economic activities of the population.

Fifthly, daily nutrient requirements will increase in developing countries as living standards improve.

Food Security within the Department of Agriculture, Forestry and Fisheries (DAFF), Food and Agriculture Organisation of the United Nations (FAO), as well as the Centre for Poverty, Employment and Growth (CPEG) of the Human Sciences Research Council (HSRC) acknowledged that food security has three dimensions namely food availability, food accessibility and food usage.

Food availability in the definition implies that a country must have sufficient quantities of food available on a consistent basis at both national and household level. Food access implies the ability of a nation and its households to acquire sufficient food on a sustainable basis. Food use refers to the appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation (DAFF 2011).

Bolivian study highlighted provincial differences in the availability of both macronutrients and micronutrients, such as vitamin A and B2 as well as calcium and iron of animal origin (FAO 2012).

Tanzanian study not only showed that the food deprivation trend remained the same in the period 2000/01 and 2007, but that food quality had improved in terms of protein quality, vitamin A, vitamin B12, calcium and iron of animal origin (FAO 2012).

The current food security challenge in South Africa consists of two dimensions: the first tries to maintain and increase South Africa's ability to meet its national food requirements, and the second seeks to eliminate inequalities and poverty amongst households that is made apparent by inadequate and unstable food production, lack of purchasing power, poor nutritional status and weak institutional support networks and disaster management systems. In 2000, World leaders devoted themselves to the Millennium Development Goals (MDGs) and one of the MDG goals was to eradicate poverty and hunger in developing countries.

The World leaders aimed at reducing poverty and hunger between 1990 and 2015, by half the proportion of people who suffer from hunger. Thus, by the year 2003 the

proportion of the world's population that was undernourished had only decreased from 20% to 17% which was 823 to 820 million people around the world (FAO 2006).

However, it is predicted that many developing countries will not meet their MDG targets particularity in the sub-Saharan Africa. This is because of population growth of hungry people and third of the population is food insecure. In most developing countries hunger is a major constraint to a country's immediate and long term economic, social and political development. Nevertheless, food security is also seen as a prerequisite for economic development. Losses in labour productivity due to hunger can cause 6-10% reductions in per capita gross domestic product of a country (United Nations Task Force on Hunger 2005).

Food and Agriculture Organization (FAO) has developed and promoted a broad food security framework that identifies four key dimensions and applied analytical tools to increase understanding of complex interactions that determine food security status at different levels in a particular country being availability, accessibility, utilization and stability. These tools can been used to address food security problems and identify opportunities, support policy and programme formulation and targeted action, while also measuring food security outcomes (FAO 2006).

World prices of wheat, coarse grains, rice and oilseed crops all nearly doubled between the 2005 and 2007 marketing years and continued rising in early 2008. In 2007 the food price index calculated by the Food and Agriculture Organization of the United Nations (FAO) rose by nearly 40 percent, compared with 9 percent the year before, and in the first months of 2008 prices again increased drastically. These increases in agricultural commodity prices have been a significant factor driving up the cost of food and have led to a fuller awareness and a justifiably heightened concern about problems of food security and hunger, especially for developing countries (OECD 2008).

The increase in the Consumer Price between Index between July 2008 and July 2009 for food and nonalcoholic beverages, as reported by Stats SA, was 8.3 %, which is 1.9 percentage points lower than the Figure released in June 2009 (10.7 %) (National Agricultural Marketing Council (NAMC) 2009). The January 2011 Consumer Price Index (CPI) released by Statistics South Africa (Stats SA) showed

that food and non-alcoholic beverages inflation was 3.1 % between January 2010 and January 2011 (NAMC 2011).

Food and nonalcoholic beverages inflation nevertheless remains one of the significant drivers of overall inflation in South Africa. Across the world food inflation slowed over the last number of months. South Africa's food inflation compares favourably with that of other African countries, but is still higher than in most developed countries (NAMC 2009).

From July 2008 to July 2009 the cost of a basic food basket increased by R45 (14%) to R374 in nominal terms. The cost of a basic food basket remained relatively constant from January 2009 to July 2009. The cost of the food basket expressed as a share of the average monthly income of the poorest 30% of the population increased from 29% in July 2008 to 33% in July 2009 while the cost of the food basket expressed as a share of the average monthly income of the wealthiest 30% of the population only increased slightly from 2.3% to 2.6% over the same period (NAMC 2009).

The cost of the food basket, expressed as a share of the average monthly income of the poorest 30 % of the population, increased from 33.4 % in January 2010 to 33.9 % in January 2011. When comparing the costs associated with the typical portion sizes of very poor consumers for the five most widely consumed food items in South Africa, based on January 2011 versus January 2010 prices, there was significant inflation of about 10.4 % (from R3.11 to R3.44) (NAMC 2011).

People living in rural areas had to pay R8.03 more than people in urban areas to buy a selected basket of food items in July 2008. The price difference increased to R16.50 in April 2009. In July 2009 the price difference increased to R16.72 (NAMC 2009). In January 2011, rural consumers paid R17.55 more than urban consumers for the same food basket, a 9 % increase from the R16.12 price difference reported for October 2010 in the November 2010 Food Price Monitor.

While countries such as the United States and Canada recorded negative inflation between July 2008 and July 2009, South Africa's overall inflation remained higher than 6 %. Tanzania is the only country in Table 2.1 to experience double digit

inflation between July 2008 and July 2009. Tanzania and Botswana experienced double digit inflation Figures for food and nonalcoholic beverages (NAMC 2009).

Table 2.1 Overall inflation and food inflation in 2009

Country	Month	Overall inflation (%)	Inflation of food and non alcoholic beverages (%)
Botswana	Jun-09	7.0	15.3
Tanzania	Jul-09	10.9	16.9
South Africa	Jul-09	6.7	8.3
Turkey	Jul-09	5.4	8.5
Canada	Jul-09	-0.9	5.0*
Brazil	Jul-09	4.1	2.2*
United States	Jul-09	-2.1	1.1**
United Kingdom	Jul-09	1.7	4.1

Source: National Agricultural Marketing Council, 2009

Table 2.1 shows the overall inflation and food inflation rates for South Africa and selected countries for the second half of 2010. India, Russia and Zambia experienced the highest overall inflation. Brazil, Russia, India and China (the so called BRIC countries) experienced the highest inflation in food and non-alcoholic beverages of all the countries listed in Table 1. South African food price inflation during December 2010 was 1.5% higher than food inflation recorded during December 2009. Food price inflation was two percentage points lower than the overall inflation experienced in the South African economy. Among the counties selected in Table 1, consumers in South Africa and the United States experienced the lowest price increases on food and non-alcoholic beverages.

Table 2.2 Overall inflation and food inflation in 2011

Country	Month	Overall inflation (%)	Inflation of food and non alcoholic beverages (%)
South Africa	December 2010	3.5	1.5
Namibia	October 2010	3.2	1.7
Zambia	September 2010	7.7	2.7
Turkey	December 2010	6.4	7.02
Australia	December 2010	2.7	2.5
Brazil	December 2010	6.4	12.2
United States	December 2010	1.5	1.5
United Kingdom	December 2010	3.7	6.1
China	November 2010	5.1	11.7
India	December 2010	8.4	13.54
Russia	December 2010	8.8	12.9

Source: National Agricultural Marketing Council, 2011.

2.3.1 Causes of food price increases

The causes of this price spike are complex and due to a combination of mutually reinforcing factors, including droughts in key grain-producing regions, low stocks for cereals and oilseeds, increased feedstock use in the production of biofuels, rapidly rising oil prices and a continuing devaluation of the US dollar, the currency in which indicator prices for these commodities are typically quoted. This turmoil in commodity markets has occurred against the backdrop of an unsettled global economy, which in turn appears to have contributed to a substantial increase in speculative interest in agricultural future markets (OECD 2008).

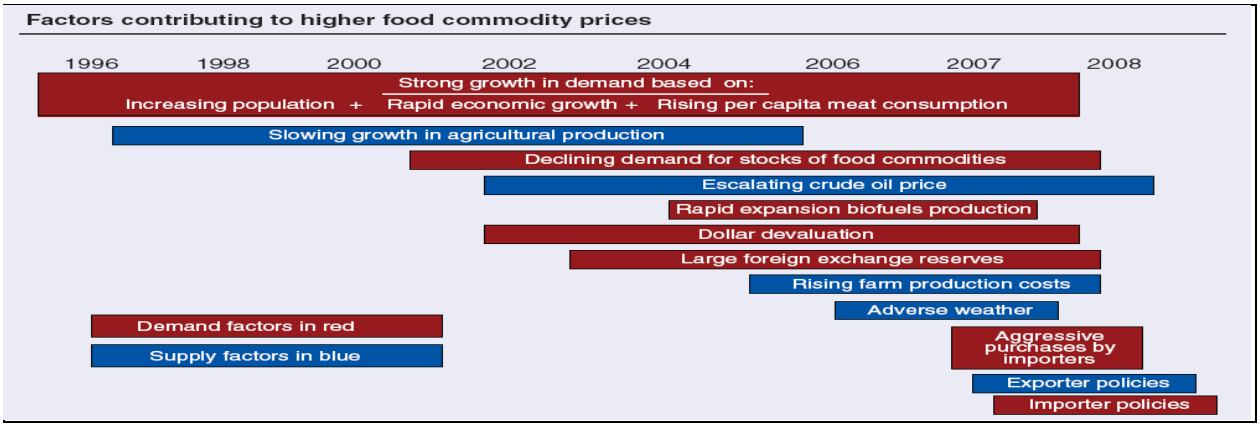

Figure 2.2: Factors contributing to higher food prices.
Source: Ronald Trostle (2008)

Most studies trace the start of the crisis to long term trend in increased demand for food basically resulting from population growth, urbanisation and rapid economic growth and rising per capita meat consumption (United Nations Conference on Trade and Development (UNCTAD) 2008). Thirlwall (2006) and Brook (2008) mentioned that while there are mouths to feed as the world population grows increased demand for meat and dairy products from rapidly growing economies, particularly China and India, further increases overall pressure on the price of grain used to feed livestock instead of being consumed by humans directly.

2.3.2 Impact of high food prices.

The impact of high food prices was viewed on literature in terms of social, macro-economic and environmental impacts.

I. Social Impacts

According to the ADB (2007) high food prices are undermining the gains of poverty reduction efforts in Asia in the past decade and will make the achievement of the Millennium Development Goals difficult. Households around the developing world, where food represents 60-80 percent of consumer spending, are suffering from domestic food inflation. The prices of maize in most African countries were almost double to the previous year's prices.

Higher food prices have drastically different effects across countries and population groups. From very general point of view commercial producers of these commodities will benefit directly from higher prices (as it is known that producers gain from higher prices) and OECD (2008) also added that as will in many cases the people they employ, assuming, of course, that governments do not prevent higher prices on world markets from being transmitted to domestic markets.

According to Allen (2008) at the country level, countries that are net food exporters will benefit from improved terms of trade, although some of them are missing out on this opportunity by banning exports to protect consumers. While on the other hand, increasing food prices have negative short-run effects on developing countries that depend on imports for their food security and where the vast majority of households, including in rural areas, are net food buyers. Hence it is not surprising that increasing food prices have triggered riots, and even contributed to political instability.

As substantiation, the FAO, IFAD and WFP report (2008) agree that the unrest linked to high food price has already occurred in a number of countries, including Burkina Faso, Cameroon, Egypt, Guinea, Haiti, Mauritania, Mexico, Morocco, Nepal, Senegal, Uzbekistan and Yemen. Lastly, the nutrition of the poor is also at risk when they are not shielded from the price rises. Because according (Von Braun, 2007) higher food prices lead poor people to limit their food consumption and shift to even less-balanced diets, with harmful effects on health in the short and long run.

II. Macroeconomic Impacts.

As governments move to cushion the impact of higher food prices, direct and indirect subsidies are likely to increase recurrent public expenditures, thus worsening fiscal deficits. Other social safety net measures will require effective targeting of assistance; otherwise, these may add to further fiscal pressure and the problem would be more severe in countries with large fiscal deficits like Sri Lanka, Pakistan, India, and Bangladesh (Rudaheranwa, 2007).

Von Braun (2007) citing ERD pointed out that the results of Oxford Economics Global Model are not to be taken as projections but simply as experiments using a rigorous economic model. The first scenario of a food price shock of over 50% leads to a decline in real GDP growth in 2008 of 1.05% in the region. The second scenario, a combined food and oil price shock of over 60%, results in a GDP growth decline of 1.41% in 2008.

III. Environmental Impacts.

Environmentally, the run-up in agricultural prices could have a significant negative impact. The quickest response to high crop prices in an industrial agriculture system is to increase applications of nitrogen, pesticides, and to increase mechanization, all of which are intensive in fossil fuels and bad for climate change. In addition, increased monocultural production will reduce soil fertility and biodiversity and worsen water quality. These effects of modern agriculture are well documented (Santarius & Sachs, 2007).

2.4 Conceptual issues in rural agricultural development

Poverty remains a predominantly rural problem and agriculture in South Africa has a central role to play in building a strong economy and, in the process, reducing inequalities by increasing incomes and employment opportunities for the poor, while nurturing the inheritance of natural resources. South African agriculture sector is dualistic, where a developed commercial farming sector co-exists with a large number of subsistence (communal) farms (DOA 2002).

Achieving the Millennium Development Goal (MDG) of halving the proportion of people living in absolute poverty by 2015 will depend largely on increasing agricultural productivity, which remains perhaps the single most important determinant of economic growth and poverty reduction (DFID 2004). World leaders agreed on MDG in a Millennium conference in 2000 to address among other issues

the poverty eradication, achievement of universal primary education, promotion of gender equality and women empowerment (DOA 2002).

South Africa as a country faces a number of challenges that affect its agricultural development in rural areas. The achievement of sustainable agriculture in South Africa is hindered by numerous factors like poor rural infrastructure, globalization, natural resource constraints, shortage of skills and climate change (DOA 2002). The challenges facing this country are grouped into the three pillars of sustainable development namely, social, economic and environmental aspects. The absence of a coherent national policy framework to address these issues is, however, a cause for concern (DOA 2002).

Serious doubts are emerging as to whether agricultural productivity can be increased where it is needed the most, and which part can small-scale farming will play in the future. Development experts need greater understanding of the links between agricultural productivity and poverty. They also need to assess just how far these have changed and the extent to which small-scale agriculture can remain a ladder out of poverty for millions of poor people living in rural areas (DFID 2004).

The New partnership for Africa's Development (NEPAD) has done a lot of debates, planning, programmes and roundtables as the continent was trying to rid itself of the stigma of little or no development (DOA 2002). The main questions of the debate include; ability of agriculture in reducing poverty, the areas which need much effort for development, type of farmers to focus on, the use of technology and types of crops to be promoted. The contrasting answers that are produced in these debates lead to policy positions.

2.5 Agricultural policy issues in South Africa

Until the early 1980s, the agricultural sector in South Africa was characterised by strong government intervention (support) which entailed *inter alia* government subsidies, grants and other aid for fencing, dams, houses, veterinary and horticultural advice, subsidised rail rates, special credit facilities and tax relief (Ministry for Agriculture and Land Affairs 1998).

The main aim of agricultural policy was to achieve self-sufficiency in the supply of food, fibre and beverages and to supply raw materials to local industries at reasonable prices. Agricultural policy was geared towards addressing the needs of white commercial farmers and little attention was given to meeting the needs of small holder farmers.

South Africa has undergone enormous economic, social and political change since its democratization process began in 1994 (OECD 2006). South Africa defines its agricultural policy objectives in the context of broad economic reforms (OECD 2006). The government's vision for the sector entails sustainable and profitable participation in the South African agricultural economy by all stakeholders. It has recognised the importance of maintaining and developing commercial production and strengthening international competitiveness, and at the same time it stresses the need to address the historical legacies and biases of apartheid.

Policies are powerful tools. They are basic to governance and administration. They exist at several levels: national government, local governments, and within firms and institutions. They are so basic that they are often overlooked in the search for better ways of pursuing objectives. Government policies should encourage development of practices which are either consistent with or lead to the sustainability of agriculture.

Since 1994, the strategic direction of the agricultural sector has been shaped by three main policy documents: the *Agricultural White Paper*; the *Agricultural Policy in South Africa* discussion document; and the *Strategic Plan for South African Agriculture*. The National Department of Agriculture published a discussion document entitled *Agricultural Policy in South Africa*. There were three major goals for policy reform highlighted in that document: building an efficient and internationally competitive agricultural sector, supporting the emergence of a more diverse structure of production with a large increase in the numbers of successful smallholder farming enterprises and conserving agricultural natural resources (Tregurtha 2008).

New policies were done to create the opportunity for reforms which can enable agriculture to make a much larger contribution to poverty alleviation and enhanced national and household food security in future and the distortions in price and other signals to the sector. It can ultimately only be addressed as part of a broader attack

on poverty, which will include direct employment, income and welfare measures (DOA 2002).

Changes in South African agriculture in the past decade have been shaped by substantial macroeconomic and social reforms implemented from the mid-1900s, but reforms of agricultural policies were also initiated. Agriculture in South Africa has not been only affected by agricultural policy measures but also by consecutive changes to general economic policy, and macro-economic performance (Fenyes and Meyer 1998). These included deregulation of the marketing of agricultural products; abolishing certain tax concessions favoring the sector; reductions in budgetary expenditure on the sector; land reform; and trade policy reform. Agriculture in South Africa has emerged from a history of protection and subsidization which affected the structure, efficiency and competitiveness of the sector (DOA 2002).

Price controls were liberalized in large parts of the farm sector, again mainly in terms of the Marketing Act. This included the change in price setting in the grain industries from a cost-plus basis to a market based systems leading to substantial declines in real farm output prices. Further examples include the eventual abolition of price control of dairy products, and later of flour, meal and bread and the termination of consumer price subsidies on maize meal and bread.

Changing tax treatment for agriculture has, for example, seen the writing off of capital purchases extended from one to three years, thereby reducing the implicit subsidy. There has been a shift away from settlement schemes, as the major instrument of agricultural development in the developing areas, in favor of an approach based on the provision of farmer support services such as infrastructure, extension services and research, and access to credit and markets.

While there is adequate food at national level, some of the population has insufficient food, or is exposed to an imbalanced diet, as a result of low incomes. Emphasis is therefore placed on food security at household level. Poor rural households combine their resources in a variety of ways to enable them to maintain a minimum living standard. These livelihood strategies include agricultural production, off-farm wage labor, small and micro-enterprise activities, claims against the state (e.g. pensions) and reliance on social networks. The central challenge for agriculture in poverty

alleviation and food security for the rural population is therefore to contribute to improved livelihoods and employment (Tregurtha 2008).

While recognizing the role of agricultural development in addressing poverty and inequalities, it is clear that the potential of agriculture and agricultural (land) reform itself to reduce poverty is limited. Land Reform Programme, land restitution is well advanced (61% of claims settled) (OECD 2006). In contrast, land redistribution has performed below its expectations due to a variety of financial, institutional, educational and technical constraints (OECD 2006). The long term solution to poverty reduction requires involving a greater part of the rural poor in economic activities generating sufficient income.

South Africa has relatively scarce natural resources (arable land, and water) which means that only a limited number of people may secure fair living standards from agriculture alone (OECD 2006). A more comprehensive response will require the provision of social security, education and training as well as health care, and adequate infrastructures in rural areas.

The significance of education, both formal academic education and workplace skills, for improving livelihood prospects is established by a number of studies, and poverty is closely associated with low levels of education and lack of skills (Ellis 1999). There is a need for innovative approaches to educational delivery at village level a priority in the future.

Since the 1990s, reforms in South Africa have resulted in low levels of government support to producers. Support to producers make up about 55% of the total support to South African agriculture between 1994 and 2003 (OECD 2006). The remaining support includes budgetary spending on general services supports mainly research, development and training, as well as investment in infrastructure.

Infrastructural facilities have a potentially important impact on poverty reduction by contributing to the integration of national economies, improving the working of markets, speeding the flow of information, and increasing the mobility of people, resources and outputs. Decentralisation may, arguably help to bring the prioritisation and the financing of rural infrastructure closer to rural communities themselves (Ellis

1999). Most support for general services is increasingly focused on emerging small farmers who are the land reform beneficiaries (OECD 2006).

New programmes were introduced in 2005 to support the development of market-oriented family farms emerging from the land reform process, mainly through investment grants and provision of micro credit and retail financial services in rural areas (Tregurtha 2008). There is also a need to facilitate the spread of rural financial institutions that are self-sustaining on the basis of savings and loans organised according to conventional banking criteria. This requires more effort from central governments to put in place the appropriate regulatory and guarantee provisions that would encourage the formation of such institutions and ensure confidence in them in the long term (Ellis 1999).

However, to determine policy priorities to address poverty and food insecurity, and to assess the role that agriculture can play in the national effort, it is necessary to understand how people in rural areas create livelihoods.

2.6 Agricultural extension services

According to Hariadi 2012, agricultural extension was born in Britain in mid nineteenth century and the success of agricultural extension activity in Britain encouraged development of similar activity in various countries. The term extension was first used to describe adult education programs organized by Oxford and Cambridge universities in England starting in 1867; these educational programs helped extend the work of universities beyond the campus and into the neighboring communities (Swanson 2010).

Many countries established their agricultural extension systems in order to realize their national food security goals (Hu, Cai, Chen and Huang 2010). Through the combined efforts of international organizations and national governments, by the 1980s most Asian developing countries and some on other continents had successfully improved their food security (Hu et al 2010). The original concept of agricultural extension was that of bridging the gap between the farmers and the sources of information or knowledge. Such sources included organisations or

institutions generating knowledge and technologies such as research centers, universities and administration.

Agricultural extension is a complex process that involves changing human behavior through communication by enhancing the capacity of farmers to enable them to deal with their problems and meet new opportunities (UNDP 2000). Anderson and Feder 2004, defined extension as transferring of information from the global knowledge base and local research to enable farmers to clarify their goals and possibilities, educating them on how to make decisions and stimulating desirable agricultural development. Extension service provides human capital which can enhance inputs and information flows that can improve rural livelihoods.

Extension can be broadly defined as focusing on bringing information inputs to farmers varying from information on future prices of farm products, new research products, improved crop cultivars and knowledge on how to use the production inputs such as fertilisers, insecticides, pesticides and weedicides. Farmers view extension as a form of assistance to help their know-how, efficiency, productivity, profitability and contribution for the good of their families, communities and the society. Politicians, planners and policy makers view extension as a policy instrument to increase agricultural production, to achieve national food security and help alleviate rural poverty (Mebalo and Morojele 2010).

Extension services are defined by philosophy of extension and have guiding values which helps extension officers to properly define roles and responsibilities of their jobs. In general philosophy is defined as the study of nature and meaning of the universe and human life (Oxford dictionary 2010) but however in agricultural extension philosophy limits, decides ways in which something can be done in a particular field. It also tells the extension workers the purpose and responsibilities of their jobs and how it is done. By so doing it makes extension workers aware of their values, and hence enables them to understand the nature of knowledge and how it is acquired and transmitted to others.

Guiding values of extension workers as included in the philosophy of extension includes empowering the client, valuing rural life and having faith in the future. Agricultural extension is one of the policy instruments which government usually uses to stimulate agricultural development. According to Hariadi 2012, the

philosophy of agricultural extension in Britain means that (1) extension should be based on assumption that farmer has intelligence, wits, enough mind to accept innovation, (2) extension should be based on assumption that farmer have capability and capable of doing something and (3) extension is based on assumption that farmers have desire to get information/innovation and use it to improve their business. In Indonesia, extension is treated as an educational programme and that means extension workers when in front of farmer should give example, in middle they should give initiative and spirit to work, and in behind should observe/accompany to improve on mistakes (Hariadi 2012).

Extension service effectiveness is when it involves timely and adequate access to relevant information by farmers with appropriate incentive to adopt new technology if it suits their socio economic and agrological circumstances (Anderson and Feder 2004). The most important aspects to be considered for adoption of new technologies includes availability of new technologies, access to new inputs and profitability at an acceptable level of risk (Anderson and Feder 2004). Sustainability and productivity of agricultural sector worldwide depends on the quality and effectiveness of extension services among other factors.

Market reform and globalization have prompted small-scale farmers to change their traditional production structure, which often requires a more diversified extension service. High-value agricultural production and off-farm jobs have become major opportunities for farmers to escape rural poverty. This change has made the traditional institutional arrangement of public extension less effective in delivering services to farmers.

Because the institutional goal of a public agricultural extension system is to realize the nation's food security, services to farmers engaged in high-value agricultural production are not a priority in many developing countries. Consequently, the traditional agricultural extension system is not always set up in such a way as to support farmers' demands for diversified services (Hu et al 2010).

2.6.1 Extension guiding principles

Also the study that was done by Phuhlisani in 2008, revealed the lack of adequate extension services to support the new farmers. In trying to find a solution to the ineffectiveness of the agricultural extension services in the public sector the Department of Agriculture in 2004 developed the guiding principles for extension services.

The following principles were developed:

- ***Demand-driven:*** Extension must respond to targeted potential entrepreneurs/farmer's needs while maintaining professional standards.
- ***Relevant:*** Advice and technologies must be applicable within the opportunity realm of resources and market environment of the clients.
- ***Pluralistic, flexible and coordinated extension:*** As many service providers as possible should be encouraged to become involved and contribute towards agricultural development. With many service providers, there is a need for proper coordination to prevent negative impact on the welfare of clients and duplication or working at cross-purposes. The extension and advisory services must be sufficiently flexible to respond to the miscellaneous and ever-changing needs occasioned by changing socio-economic environment.
- ***Equity:*** Agricultural extension and advisory services must go to those who really need them, especially the subsistence small-scale farmers, women and the disabled to promote equity, though not necessarily excluding commercial farmers.
- ***Sound governance:*** All agricultural extension and advisory services projects/ programmes and structures must have competent personnel with clear planning, implementation, monitoring, evaluation and financial accountability procedures.
- ***Effective monitoring and evaluation***: The projects/activities must be results-oriented and problem solving with monitoring and evaluation built in, and must consider social, economic and environmental impacts.

- ***Human and social capital development:*** The extension and Advisory services must build the capacity of farmers and stakeholders. Emphasis must be on developing targeted and comprehensive capacity towards problem solving, ownership and sustainability of the clients.
- ***Participatory:*** Clients/beneficiaries must be involved in the planning, implementation and evaluation of their projects in a manner that promotes ownership and empowerment.
- ***Sustainability:*** All extension and advisory services must provide advice and information that meets the criteria of sustainability, viz. productivity, risks reduction, protection of the environment, economic viability, social acceptability, technical feasibility, and commercial feasibility.
- ***Cooperative governance:*** Extension and advisory services are concurrent functions to be regulated and controlled under the framework of cooperative governance. Operational authority and responsibility are allocated to national, provincial as well as local levels of governance consistent with organizational competences and efficient use of resources.
- ***Priority focused:*** The extension service should be guided by government strategic priorities.
- ***Accountability:*** There should be a system of communication with, and evaluation by clients on agreed deliverables by extension and advisory service and other service providers. The provision of extension and advisory services must be customer focused.
- ***High quality advisory service:*** The extension and advisory service must provide high quality service by incorporating innovations and entrepreneurship into its programmes.
- ***Batho-Pele:*** There must be compliance to the eight Batho-Pele principles in dealing with clients and execution of development efforts.

2.6.2 Extension approaches/ systems/ models

There are different extension approaches and there is no single approach that is perfect for particular situations, they have to complement each other. Hence there is

some confusion arising when talking about different approaches to agricultural extension, because the description and the name of each approach emphasize different aspects. Different authors use different words to explain the concept; approach/system/model.

For example Rivera (1989) calls it a “system”, Worth (2002) refers to it as an “approach” whereas on the DOA norms and standards (2004) is referred to as an approach or a model”. However for the purpose of this study it will be referred to as a model. There is no single extension model or approach suited to all situations in South Africa. Approaches and methods must be adapted to local situations and conform to the extension guiding principles.

The following approaches will be discussed in Table 2.3: top down, participatory, contract farming and rural development extension model.

Table 2.3 Extension approaches/systems/ models

Model approaches	Type of model	Relationship to farmers
Top down delivery services	Conventional Training and visit University based Technical innovation Ministry based	Take it or leave it. No farmer participation
Participatory acquisition systems	Farm information dissemination Farming systems research and development (FSR&D) Farmer fields schools (FFS)	Farmers are actively engaged, and have a choice of either accepting or rejecting the technology
Contract farming systems	Commodity based	Take it or leave it, no farmers participation
Rural development extension approaches	Community based Rural animation Integrated rural development	Take it or leave it.

Source: Rivera (1989)

2.6.3 Public sector versus private sector agricultural extension in South Africa

South Africa currently uses ministry based extension approach hence it finds itself at crossroads situations, which has been brought about by various factors. According to Duvel (2002), the extension services have been blamed for failing to deliver effectively and their credibility, competence and commitment is being questioned.

Where successes have been achieved there has usually been an absence of tangible evidence due to lack of accountability and systematic and regular evaluation (Duvel 2002). This has been worsened by changes within the country as well as changes in the international extension environment which has led to additional constraints and challenges demanding a reconsideration and adaptation of the extension approach (Zwane 2009). The political transformation in 1994 has also led to democratization and restructuring of the extension services and also gave birth to Eastern Cape Province which is mainly rural, consisting of 8 districts engaged in both commercial and subsistence farming (Zwane 2009).

However, the South African extension services are viewed by most stakeholders as top down, as farmers are not treated as equal partners. The top-down public agricultural extension system in China and its early commercialization reforms during the 1990s left millions of farmers without access to extension services (Hu et al 2010). Experiments are performed at research stations and farmers are not considered as researchers. Extension workers in most cases do not respect farmers' customs, beliefs and livelihoods and therefore they are unable to cope with the dynamic demands of modern agriculture and develop rural communities (personal communication 2012).

Whereas in private sectors; farmers are involved in all the steps of planning, implementation and evaluation of technologies. They are also well equipped with technical skills and there is an element of accountability and monitoring which normally is minimal in governmental programmes. Input companies are also performing extension duties which are mostly biased towards commercial farmers who are their target market (Umhlobo wenene 2012).

2.6.4 Extension Recovery Plan.

The extension services were viewed by farmers as the weak link in the development of farmers in South Africa. The study was conducted in October 2006, to obtain a demographic profile of extension officers in terms of: name, location, gender, race, age, job level, designation, qualifications, scope of work and to identify training

needs. The report outlined the existing capacity of extension and an existing gap in order to comply with the norms and standards.

Based on the findings of the study, the requirements of the norms and standards, the Department of Agriculture, Forestry and Fisheries (DAFF) recognised a need to revitalise the state of extension and advisory services in the country. The Extension Recovery Plan (ERP) which was conceptualised in 2007 as a strategy to revamp extension and advisory services was adopted in 2008 during the Minister's indaba (DAFF 2011). According to DAFF, the framework for the implementation of ERP was composed of five pillars which are as follows:

- ensuring visibility and accountability of extension,
- promoting professionalism and improving image,
- recruitment of extension personnel,
- reskilling and reorientation of extension
- and provision of information communication technology (ICT) and other resources.

2.7 Approaches to farmer development in South Africa

Approaches to farmer development in South Africa can be viewed in terms of the governmental and non-governmental approaches. These approaches will be discussed and further elaborated below.

2.7.1 Government approaches to the development of farmers

No political democracy can survive and flourish if the mass of our people remain in poverty, without land, without tangible prospects for a better life. Attacking poverty and deprivation must therefore be the first priority of a democratic government (African National Congress (ANC) 1994).

To eliminate the challenge of poverty in South Africa, the first democratically elected government prepared a strategy which was aimed at ensuring the better life for all and that strategy was the Reconstruction and Development Program.

2.7.1.1 Reconstruction and Development Programme (RDP)

The reduction of poverty has been a consistent theme of successive South African Governments since 1994. The democratic government started with the Reconstruction and Development Programme (RDP) which focused mainly on four goals, namely meeting basic needs, developing human resources, building the economy, and democratising society (Khosa 2003) .

The RDP allowed beneficiary communities to be involved at all levels of decision-making and in project-implementation. RDP linked growth with reconstruction and development, such a link was based on the premise that the state would invest in the development of infrastructure and provide access to basic services such as health, water, education, transport and electricity (Lehloesa 2000). The RDP decisively relates growth to development, arguing against commonly held notions that growth and development are mutually exclusive – that growth is a priority that precedes development, and that development is a marginal effort of redistribution to poverty nodes (Reitzes 2009).

One of the components of the RDP was the Broadening Access to Agriculture Thrust (BATAT) which argued for called for the strengthening of both the curriculum and standard of the available training in agriculture and the opening up of agricultural training and opportunities for all (Phuhlisani 2008). The aims of the BATAT strategy were to develop human resource capacity through relevant skills programmes in order to improve living standards and enable effective and equitable service delivery. In terms of the three aspects of Reconstruction and Development Program, namely job creation, skills and job training, and the creation of infrastructure, the Community Based Public Works Program succeeded in generating both temporary and permanent jobs.

Temporary jobs have been created during the construction of public assets such as roads, and express attention has been given to labour intensive construction methods. These jobs have reduced to some extent the overall poverty in the areas concerned, and have led to some upliftment of communities (Khosa 2003). Thus, through the implementation of the RDP and in accordance with the terms of the

Charter, the ANC secured the intervention of the state to bring about reconstruction and development.

"If growth is defined as an increase in output, then it is of course a basic goal. However, where that growth occurs, how sustainable it is, how it is distributed, the degree to which it contributes to building long-term productive capacity and human resource development, and what impact it has on the environment, are the crucial questions when considering reconstruction and development. The RDP integrates growth, development, reconstruction and redistribution into a unified Programme. The key to this link is an infrastructural programme that will provide access to modern and effective services like electricity, water, telecommunications, transport, health, education and training for all our people. This programme will both meet basic needs and open up previously suppressed economic and human potential in urban and rural areas" (ANC, 1994) .

Funding was to come from reprioritizing government expenditure towards redistributive social spending, supplemented by foreign aid and joint- financing deals between the government and the private sector. Specific programmes such as the Presidential Lead Projects were announced and a special fund to finance the RDP was introduced. Since 1994, the measures taken by the ANC have culminated in a vast improvement in the living conditions of the poor (Lehloesa 2000).

In the short to medium term, the government budgeted for social grants and spent heavily on public programmes. In the long term, it expected that the objectives of redistribution and poverty eradication would be achieved by prudent fiscal policy and a reduction in the debt accumulated pre-1994. The RDP was progressive in nature, envisioning a Keynesian economic framework of fiscal expansion led growth, but was relatively silent on how sustainable economic growth would be achieved (Bucknell, Lee, Skuster and Thornton 2002).

However, Nattrass (1994) criticised ANC economic policy for being vague and insufficient in details. She argued that government needed to stipulate predictable policies which would stabilise the macro-economic environment and thereby

encourage investor confidence. In effect, Nattrass advocated the for well-known structural adjustment policies of the International Financial Institutions (IFIs).

2.7.1.2 Growth, Employment and Redistribution strategy.

The International Monetary Fund (IMF), the World Bank and neo-liberal economists argued that the domestic economic policies of African countries were responsible for the debt crisis. Hence, the two international financial institutions simply rescheduled loans to African governments. It was however only when the indebted countries defaulted on debt payments that structural adjustment packages were introduced (Lehloesa 2000).

In 1996, the strategy was changed from the RDP to the Growth, Employment and Redistribution strategy (GEAR). In justifying this strategy, the South African government pointed to the need for economic adjustment, improved revenue collection and the maintenance of investor confidence. The strategy was criticized by the Congress of South African Trade Unions (COSATU) and South African Communist Party (SACP), perceived a shift in emphasis from development to growth, from radical transformation to a conservative as a neo-liberal agenda (Reitzes 2009).

The critics of GEAR within the tripartite alliance felt that it was bound to circumscribe the role of the state in the economy and therefore, render it irrelevant in addressing the issues of skewed income distribution and a better life for the majority of South Africans (Lehloesa 2000). In other words, some believed that the government would suspend the equitable redistribution of existing resources, and focus to increasing economic growth, with uncertain or negative consequences for redistribution.

The introduction of GEAR signified the realisation by the government that a faster economic growth was required to provide resources to meet social investment needs. According to Evaratt, GEAR strategy focused mainly on economic growth over other considerations, including poverty alleviation. GEAR advocated a market oriented economy in contrast to both the Freedom Charter and the RDP. It argued

that the South African economy was growing at an unsustainable rate of 3 percent per annum and that this therefore doomed hopes for job creation. As an alternative, GEAR proposed a growth rate of 6 percent which it projected would create 400 000 new jobs per annum (Weeks 1999). It was then proposed that these objectives would be achieved through the promotion of non-gold exports, the expansion of private investment, liberalisation and the introduction of a flexible labour market (Khosa, 2003).

Mozambique adopted the Structural Adjustment Program (SAP) in the mid-1980s which has caused the transition from a socialist to a capitalist regime, with marked macroeconomic effects on employment, economic growth, inflation and exchange rates. Even though the SAP was implemented to improve economic growth, Mozambique has been consistently ranked among the poorest countries in the world for at least the last two decades. Its population is predominantly rural and 80 percent is engaged in agriculture, contributing about 20 percent of the Gross Domestic Products (GDP). The structural adjustment program has arrived but poverty has worsened and its reduction remains chimerical.(Cunguara 2011).

Ghana is one of the richest countries in terms of natural resource base within Africa and is significantly dependent on three major commodities: gold mining, timber and cocoa. The 1970s was a period of massive economic slowdown due to sectoral deficiencies in output generation, falling GDP, high Inflation, and budget deficits. This was responded to by the Economic Recovery Program (ERP) in 1983, which liberalized the economy, giving tremendous boost to private sector growth and stable economy initiatives which worked to boost trade in timber, cocoa and gold.

The economy of Ghana in the 1980s performed well, however the economy was fragile and that resulted in the Ghana vision 2020 and the Growth and Poverty Reduction Strategy frameworks which focused on the economy and society pillars. After the implementation of these frameworks, macro-economic stability was achieved for sustainable growth and poverty alleviation, which was most visible in growth that was achieved by the agriculture sector, specifically cocoa, but also to a lesser extent in mining and forestry. The negative implication of this growth was greater environmental costs (Rai 2008).

The GEAR strategy also limited the role of the state to the creation of a stable environment for the market only. According Lehloesa 2002, the state's role in this expansionary thrust included the setting up preferential trade agreements with large international trading blocks, assistance in opening new markets for exports, and to encourage greater regional economic integration in Southern Africa. The state also had to ensure a stable exchange rate and will contain inflation to provide the necessary stability for 'a concerted expansion of export industries (Lehloesa 2002)

The three areas highlighted in GEAR are education; health and welfare; and housing, land reform and infrastructure. Land reform, the construction and maintenance of rural infrastructure and assistance to 'emerging' farmers are the strategies which appear to be directed towards improving the livelihoods of the rural poor. The role of small farmers was re-emphasised in the most recent budget; the budget vote for agriculture includes a special grant for small farmers to assist them in improving their 'production efficiency' through infrastructure and training (Weeks 1999).

It was noted earlier that GEAR's assistance to small scale black farmers will be temporary and that they will not be protected from market forces through the subsidies and protection that white commercial farmers enjoyed for so long. Once emerging farmers have received an initial grant, assistance will take the form of 'streamlined extension' and in the development of marketing strategies.

This macro-economic policy framework emphasised the need to build the state's capacity to deliver through spending on social programmes such as social assistance, health, public works, and other services to the poor. In the event, GEAR failed to trigger significant growth: the 1.3 million new jobs failed to materialise, while over a million formal sector jobs were lost (Evaratt, 2003). As from 2004 to 2006, the government embarked on relatively expansionary phase, unveiling the Accelerated and Shared Growth Initiative – South Africa (AsgiSA) (May, 2010).

2.7.1.3 Accelerated Shared Growth Initiative of South Africa (ASGISA).

ASGISA was approved by cabinet in July 2005 and unveiled by the Deputy-President, Phumzile Mlambo-Ngcuka, on 6 February 2006. In the 2006 budget speech the Minister of Finance announced an allocation of funds to ASGISA programmes. President Mbeki, at the end of the cabinet *Lekgotla* in July 2002, argued that the challenge facing government was not to change government policies but to ensure that they were implemented (Mlambo-Ngcuka 2006).

According to the Deputy-President, many jobs are expected to be sustainable and even attract new job opportunities through the government's expenditure for infrastructure which totals to R370 billion over the current Medium Term Expenditure Framework (MTEF). However, all this will depend on the availability of skilled people to plan, organise, spend, monitor and evaluate such infrastructure projects (Mlambo-Ngcuka 2006).

According to the South African Catholic Bishops Conference 2006, ASGISA aims at reducing poverty by 2010 and halving unemployment rate by 2014 through the improvement of policy implementation and economic growth by dealing with the following challenges:

- Lack of skilled and committed staff in the public service.
- Lack of human resource to implement policies.
- Inadequate financial resources.
- Corruption and mismanagement of funds.
- Lack of people-driven development.
- Lack of proper co-ordination between institutions.
- Barriers to entry, limits to competition and limited new investment opportunities.

According to the report that was done by Accelerated Shared Growth Initiative of South Africa in 2006, progress has been made in reducing rand volatility even though the currency is freely traded and regarded a proxy for emerging market currencies. The budget deficit was reduced to 0,3% in 2005/06, with a small surplus likely for 2006/07, while a budget surplus of 0,6% is planned for 2007/08. This helps

to contain consumption expenditure and the balance of payments deficit, as well as eliminating government dissaving, all of which enhance monetary policy stability.

Exchange controls have been eased to allow South Africans to diversify investment portfolios, contributing to greater currency stability. The gap between budget allocations and actual expenditure is narrowing, and the number of capital projects behind schedule has also decreased steadily in recent years. Between the April-June quarter of 2005 and the June-September quarter of 2006, the percentage of projects on the National Infrastructure Project Register behind schedule fell from 14,5% to 4% (ASGISA 2006)

AsgiSA EC has planted close to 30,000 hectares since it first began the programme in 2008. AsgiSA EC made plans for the establishment of storage facilities at Butterworth, Tsolo Junction and Matatiele. Without storage facilities, ASGISA was forced to transport its crops to the market immediately in the last harvest. This meant it could not reap the rewards of the improved prices (ECSECC 2012).

AsgiSA EC has also partnered with farming business Farm Secure, in order to finance some of its Ongeluksnek projects in the far north of the province. This partnership has opened opportunities for markets access, new farming technologies and funding for our projects. The medium term interventions will include exploring developing the development of milling plants for value-adding opportunities by rural communities and creating more job opportunities in the former Transkei (ECSECC 2012).

2.1.7.4 Provincial Growth and Development Plan (PGDP).

The Provincial Government developed the first Provincial Growth and Development Strategy (PGDS) in 1996 as an overall framework for socio-economic development in the Eastern Cape. In 2004 the government of the Eastern Cape published the Provincial Growth and Development Plan (PGDP). PGDP was intended to serve as an overarching framework for socio-economic and development planning during the decade leading up to 2014 (ECSECC 2009).

While emphasising the role of the state in socio-economic transformation, the PGDP also created space for business, labour, civil society, higher education institutions and international donors to support its vision. The PGDP aims to provide a stimulus for transformation and sets out six core objectives: agricultural transformation, poverty eradication, manufacturing diversification, infrastructure development, transforming the public sector and developing human resources (ECSSEC 2009).

In an attempt to eradicate poverty the PGDP viewed agricultural sector as one of the main key sectors and therefore proposed rapid transformation. The challenge of poverty requires a focus on the growth of the agrarian economy in the former homelands through:

- Programmes to promote household food security by expanded smallholder production.
- Development of commercial agriculture through optimum use of the highest potential agricultural land in the former homelands.
- A focus on land redistribution and land tenure reform to release land for poor households and for new commercial farming enterprises.
- The promotion of industrial crops, such as cotton, hemp and sugarbeet, for the stimulation of agro-industry.

Figure 2.3: Eastern Cape Provincial Growth and Development Plan.
Source: ECSSEC 2009.

Figure 2.3 shows the priority programmes of the Eastern Cape Provincial Growth and Development Plan, included in these priorities are food security programmes such as Massive food production and Siyazondla homestead food production.

Table 2.4: Measures poverty in the Eastern Cape

Measure	2000	2004	2007
Human Development Index[4]	0.49	0.53	0.53
Gini Coefficient[5]	0.65	0.67	0.67
Number of People in Poverty (million)	3.99	4.31	3.95
Percentage of People in Poverty (%)	63.1	67.2	61.9
Poverty Gap (R million)[6]	5.516	7.504	7.854

Source: ECSSEC 2009

Table 2.4 shows the results of the study done by ECSSEC in 2009. These Figures show that the number of people in poverty decreased in the PGDP period between 2004 and 2007. However the reduction has been relatively minor, and more than six out of every 10 residents of the province remain in poverty.

Land reform is essential for the success of the PGDP and long-term economic development. There is, however, a major backlog in land redistribution. Only 4.3 percent of land in the Eastern Cape has been transferred since 1994. In addition, since the PGDP was drafted, several new provincial and national policy elements have emerged.

At national level, these include the land and agrarian reform project, which takes a practical approach to speeding up land reform with the intention of maintaining productivity by insisting on cooperative governance, beefing up extension services and skills levels, and supporting commodities with ready markets. In the Eastern Cape, they include the "green revolution" strategy, which promotes rural development and agrarian transformation; and the six-peg policy framework promoting essential infrastructure installation such as fencing, tractors and implements, dipping tanks, stock water dams, irrigation schemes and associated capacity building.

According to the assessment by ECSSEC Massive Food Production (MFP), there were the high failure rate and the very serious challenges associated with MFP including lack of infrastructure and farming tools, the high cost of inputs, lack of skills to farm successfully, lack of capacity to mitigate weather variation (e.g. irrigation in times of drought, etc.) – a reassessment is appropriate to determine whether government should redirect funds to a more productive initiative. The study recommended the change of approach in the implementation of MFP if it will be continued.

2.7.1.5 Land reform programme.

The Native Land Act No. 27 of 1913 consigned the majority black population to just about 8% of the nation's 122 million hectares of land and limited to cultivate farmland

within areas designated as “native reserves”. Later, in 1936, the Native Trust and Land Act No. 18 of 1936, added 5% which was equivalent to 6 million hectares of land to the stock in the “native reserves” to bring the proportion of total South African land available to the black population to a little over 13% (Department of Land Affairs/Agriculture 2005; Rugege 2004).

The Group Areas Act of 1950, was used by the apartheid state to carry out forced removals of black people from land declared to be white areas and to complete the policy of racial segregation by removing coloured and Indian people from so-called white areas (Hall 2004). The Prevention of Illegal Squatting Act of 1951 augmented the Group Areas Act and other racially based land laws by making provision for the eviction of people who had no formal rights on land (Rugege 2004).

These policies were used to impoverish the black community and that has created dependency on employment for survival, thus creating a pool of cheap labor for the white farms and the mines. The migrant system that resulted from the need of black males to migrate to the cities and white farms in order to earn a living and provide for their families, in many cases resulted in the break-up of families and dislocation of social life.

The Freedom Charter of 1955 set the goal of sharing the land: "Restriction on land ownership shall be ended, and all the land divided among those who work it, to banish famine and hunger. All shall have the right to occupy land wherever they choose (Hall 2004).

According to Rugege (2004), liberation and democracy were ultimately not won through armed struggle but through a negotiated settlement, which necessitated compromises on the issue of land. There is also evidence that the 1993 interim constitution was not clear on land reform matters but these were addressed by the 1996 Constitution drafted by the democratically elected government.

Section 25 of the Constitution guarantees the right of property against arbitrary deprivation but also provides for the power of the state to expropriate private property for public purposes or in the public interest subject to just and equitable compensation. Public interest is specifically defined to include "the nation's

commitment to land reform, and to reforms to bring about equitable access to all South Africa's natural resources..."(Rugege 2004)

When the new government led by the African National Congress (ANC) came to power in 1994, it made land reform the centre-piece of its reconstruction and development programme (Obi 2006). In the 1994 policy document, the Reconstruction and Development Programme (RDP), the ANC undertook to carry out land reform under three major strategies: restitution to restore land rights to those who were dispossessed of them under discriminatory laws, redistribution to make land more accessible to those who had previously been denied access, and tenure reform to give security of tenure to labor tenants, farm workers and other rural dwellers who lived on land without secure rights (Obi 2006; Rugege 2004).

According to the White Paper on South African Land Policy “the case for the government’s land reform policy is four-fold: to redress the injustices of apartheid, to foster national reconciliation and stability, to underpin economic growth; and to improve household welfare and alleviate poverty

Like South Africa, Zimbabwe and Namibia faced the need to redistribute land ownership after liberation and initially adopted market-based policies. Unlike South Africa, though, their governments bought land from willing sellers and identified suitable beneficiaries for resettlement. Both programmes proceeded slowly, hampered by limited funds to buy land but also by limited political will (Lahiff 2004).

The resolution of the 52nd National Conference of the ANC (December 2007) on agrarian change, land reform and rural development confirmed the ANC’s acute awareness and sensitivity to the centrality of land (the land question) as a fundament element in the resolution of the race, gender and class contradictions in South Africa (DRDLR 2010).

According to Lahiff (2004), the programme has been criticised for failing to reach its targets or deliver on its multiple objectives of historical redress, redistribution of wealth and opportunities, and economic growth. Particular weaknesses highlighted by its political supporters and opponents alike include the slow pace of land redistribution, the failure to impact significantly on the land tenure systems prevailing on commercial farms and in the communal areas, and the widespread perception

that what redistribution of land has taken place has not been translated into improvements in agricultural productivity or livelihood benefits for the majority of participants. The process of acquiring and distributing a particular piece of land is often lengthy, and this escalates the cost of redistribution because the former owner stops investing in the land. Many of the farms are therefore in a poor state of repair at the point of acquisition.

According to the Zimbabwe Human Rights NGO Forum (2010), the land redistribution process in Zimbabwe has passed through three distinct phases. The first phase was from 1980 to 1990. During this phase, land redistribution was guided by the Lancaster House Constitution, which provided for a sustainable mechanism of dealing with this issue via the "willing buyer willing seller" formula. This approach provided for the protection of property rights of landowners thus effectively putting a seal on compulsory land acquisition for 10 years.

At the summit on land reform in 2005, South Africa's then deputy president Mlambo-Ngcuka (2005) held that the 'willing buyer/willing seller' framework was slowing down land reform. She stated that the principle must be reconsidered, as the state was the only buyer of land for redistribution, allowing farmers to obtain excessive prices for their land (Van Rooyen 2008).

The forceful eviction of commercial white farmers during the fast track land reform process was arguably one of the primary drivers of Zimbabwe's sudden economic downfall. Prior to the land seizures and only a decade ago agriculture was the cornerstone of the economy. According to Eric Bloch, (an independent economist in Zimbabwe), agriculture used to provide employment for over 300,000 farmworkers and a livelihood for nearly two million people but since the 2000 land reform programme, agriculture has plummeted, foreign exchange inflows have petered out and there has been a breakdown of the rule of law (Zimbabwe Human Rights NGO Forum 2010). Spurred on by events in Zimbabwe, Agri-SA's leaders vowed that land grabs would not happen in South Africa, and that they would work with government to support land reform (Lahiff 2004). Although most rural claimants want their land restored, in some cases they have opted for cash compensation.

The scope of restitution and its potential for transforming the distribution of land ownership in South Africa is limited because of its 1913 cut-off date which excludes

many potential claimants who were dispossessed of land before 1913. The cut-off date was a compromise agreed to by those who negotiated the new dispensation on the basis that leaving the right to restitution open-ended would have entailed many problems. In the interest of certainty for existing landowners, a deadline of 31 December 1998 was also imposed by the Act for the lodgment of claims.

This also has excluded some potential claimants who did not get to know that they had a right to restitution in good time or being under the patronage of the land owners as labor tenants or farm workers, were afraid to lodge their claims. The Commission for Restitution of Land Rights (CRLR) has acknowledged the problem but has rejected calls for the reopening of the lodging of claims.

According to Rugege, the target of settling the land restitution claims set by the government was 10 years which started in 1995. The latest statistics issued by the Land Claims Commission, as of February 2004, 48 663 or 61% of all claims have been settled, benefitting 117 326 households (Rugege 2004). Given the importance of the agricultural sector in economic growth, employment and poverty alleviation in rural areas, it is crucial that land reform contributes to increased levels of agricultural production.

The land redistribution sub-programme aimed to address the divide between the 87% of the land, dominated by white commercial farming, and the 13% in the former 'homelands' by way of diversifying the ownership structure of commercial farmland. At first, the scheme defined the rather ambitious goal of transferring 30% of the nation's land (about 24 million hectares of agricultural land) to black ownership by 1999.

The expectation was that about 3 million people would benefit from this programme. The Department of Land Affairs managed to transfer 1% of land through this scheme in 5 years and in the review of this programme the period was extended to 15 years with the target unchanged. In addition, steps were taken to facilitate the process which was designed to be almost fully market-driven (Obi 2006). One of such steps was the increase in the level of the cash grants provided to prospective land buyers to enable them acquire land and put them into productive use. Initially, an amount of R15, 000 was approved per beneficiary household under the Settlement and Land Acquisition Grant (SLAG) established at inception in 1994. This amount was

adjusted to R16, 000 per beneficiary household in 1998. The grant amount was set at the same level as the housing grant provided by the government (Obi 2006).

The idea was that South Africans who were historically disadvantaged by the Apartheid laws and were as a consequence landless and poor would receive a cash grant in that amount and use that to purchase agricultural land, develop and operate same. However, the reality was different.

In time, the unsustainability of SLAG programme was demonstrated quite starkly by the frequent conflicts within the farming groups which were cooperatives, close corporations, or similar bodies. One of the problems revolved around the difficulty in forging a common purpose among individuals who had never engaged in farming and lacked the experience for any kind of profitable enterprise (Obi 2006). In 1999, SLAG was suspended and the review of the program was launched.

The result from the SLAG reviews was the establishment of Land Redistribution for Agricultural Development (LRAD) which was established in 2000 and began activities in August 2001. Any applicant, not just the very poor as defined under SLAG, qualified for a minimum amount of R20,000 upon meeting the requirement to make an own contribution of R5,000 (Swanepoel, Strobel, DE Lange, Nesamvuni and Nyamande 2004). A maximum grant of R100, 000 can be obtained but requires an own contribution of R400, 000 (Swanepoel *et al.* 2004).

The idea of the own contribution is to secure the commitment of the applicant. Currently most of the farms redistributed are struggling financially, faced with huge debts, poor infrastructure, and lack of adequate support, conflicts within the large group projects, poor skills development and numerous other problems. This prompted the Department to actively utilise the proactive land acquisition strategy (or more state-led approach) coupled with a recapitalisation strategy from 2010 (Department of Rural Development and Land Reform 2012).

The third key component of the land reform programme is the reform of land tenure systems in the communal areas to enhance the accessibility of land within the former independent homelands where traditional systems of land tenure were in force previously and largely prevail today. It is necessary once again to delineate the specific areas of the country where the “independent homeland administrations”

were established during the Apartheid era. Parts of four of the present nine provinces were affected. These include the Eastern Cape, Limpopo, KwaZulu-Natal, and North-West provinces. According to the old administrative structure, these areas were known as the Ciskei, Transkei, and KwaZulu. Today, agricultural production still occurs in areas designated “communal areas” (Obi 2006).

Tenure reform remains the poor relation within land reform policy. Particularly neglected in recent years have been dwellers on commercial farms, including farm workers and their dependants, and labour tenants in the provinces of KwaZulu-Natal and Mpumalanga. The high incidence of farm evictions was clearly established by the landmark Nkuzi/ Social Surveys study of 2005, and the abuse of farm labour and farm dwellers continues to be highlighted by the South African Human Rights Commission (SAHRC 2003).

Little detail has been reported on progress with the settlement of approximately 20 000 labour tenants’ claims under the Land Reform (Labour Tenants) Act 3 of 1996. It appears that many labour tenants may have been resettled on land acquired as part of the redistribution programme, but others have been evicted from farms while their claims await official attention. More important, it seems, is the trend towards treating farm tenure as a redistributive matter, and addressing the needs of farm dwellers for tenure security through including them in the redistribution programme, particularly under the new Land and Agrarian Reform Project (LARP).

Little progress was made in the area of communal tenure reform during the period under review, due in part to a Constitutional Court challenge to the Communal Land Rights Act 11 of 2004 by various affected communities. The DLA’s annual report for 2006/07 makes almost no mention of communal tenure reform, other than to note that the implementation of the Act could not be pursued due to the court order lodged on 6 April 2006: ‘The continuing dispute has had a negative impact on the valued contribution that this Act would make in accelerating land reform in the rural areas. Nevertheless, there is a concerted effort from the Department to resolve this matter.

The report on land reform that was published by the DRDLR in June 2012 shows that between 1994 and 2011, South Africa transferred over 6.8-million hectares of land to people dispossessed under apartheid, according to a government mid-term

review report released in Pretoria last week. This represents 27% of the government's target of transferring 24.5-million hectares by 2014.

It indicates that from 2009 to December 2011, about 823 300 hectares of land were acquired and allocated to 20 290 beneficiaries, an improvement over previous years. In addition, 76 368 land claims relating to 2.9-million hectares of land under the Land Restitution Programme were settled. A total of 712 of these claims, for 292 995 hectares, were settled between 2009 and December 2011, against a target of 1 845 claims for the period. By December 2011, 595 farms were in the process of being rehabilitated. However, the report notes, the focus of rehabilitation has been on rebuilding infrastructure, and there is a risk that, without adequate farmer support and development, the farms could again decline in future.

2.7.1.6 Black Economic Empowerment in Agriculture (Agri-BEE)

To reverse past injustices that plagued the development of small scale farmers during the apartheid era, the South African government, in 2007, adopted the AgriBEE policy. The main objective of the policy was to set important guidelines to promote the participation of the previously disadvantaged black producers in the mainstream agricultural economy through the redistribution of economic opportunities which were largely skewed in favor of the commercial farmers (Department of Agriculture 2007).

The low entrepreneurship base resulted from past apartheid policies that prohibited Black farmers in participating in the formal agricultural markets (Makumbi, 2008). Hence the AgriBEE policy seeks to remove this constraint of a low entrepreneurship base by increasing the opportunity for more previously disadvantaged groups to start or manage businesses and hence economically empower them.

Following a broadly consultative process in agriculture a Transformation Charter for the sector (AgriBEE) was endorsed at the end of 2005 during an Indaba of all interested stakeholders (DOA 2006). The objectives of AgriBEE as stated by DOA (2006) are to facilitate broad-based black economic empowerment in the agricultural

sector by implementing initiatives to include Black South Africans at all levels of agricultural activity and enterprises along the entire agricultural value chain by:

- Promoting equitable access and participation of Black people in the entire agricultural value chain;
- De-racialising land and enterprise ownership, control, skilled occupations and management of existing and new agricultural enterprise;
- Unlocking the full entrepreneurial skills and potential of Black people in the sector;
- Facilitating structural changes in agricultural support systems and development initiatives to assist Black South Africans in owning, establishing, participating in and running agricultural enterprises;
- Socially uplifting and restoring the dignity of Black South Africans within the sector;
- Increasing the extent to which communities, workers, co-operatives and other collective enterprises own and manage existing and new agricultural enterprises, increasing their access to economic activities, infrastructure and skills training;
- Increasing the extent to which Black women, people living with disabilities and youth own and manage existing and new agricultural enterprises, increasing their access to economic activities, infrastructure and skills training
- Empowering rural and local communities to have access to agricultural economic activities, land, agricultural infrastructure, ownership and skills.

In working towards the 2014 goal of 35% effective participation of black South Africans in the economy as a whole the Government strives towards 35% and 45% at primary and secondary levels respectively (DOA 2004). AgriBEE applies to the entire value chain in the South African agricultural sector (from farm to consumer plate), which includes all economic activities relating to provision of agricultural inputs, farming, processing, distribution, logistic and allied activities that add value to farm products. Parliament approved for the Medium Term Expenditure Framework

(MTEF) a sector-specific allocation for AgriBEE. This amounts to R100 million for the 2006/07 financial year (DOA 2006).

The extent to which AgriBEE is transforming the sector is not known, as it is too early to tell, but a recent survey conducted by ABC and the IDC showed that among the ABC respondents, in 2007 46% of enterprises were busy constructing a BEE strategy, and 46% claimed to be implementing a BEE strategy.

A survey of the dairy industry in the Western and Eastern Cape in 2008 showed that only 6% of firms had a BEE strategy in place. It also seems from survey data that companies are focusing on the skills development and socio-economic aspects of BEE rather than on ownership. It would appear that although there have been some significant BEE purchases of viable farms, and some employee empowerment projects, including some quite high profile ones in the Cape Winelands, the extent of ownership change had been limited (AgriSeta 2010).

2.7.1.7 Comprehensive Agricultural Support Programme (CASP).

According to DOA 2004, Comprehensive Agricultural Support Programme (CASP) which is a conditional grant raised by Central Government to supplement the Provincial funding to ensure accelerated delivery of support services to farming communities. The primary aim of the Comprehensive Agriculture Support Programme (CASP) is to make provision for agricultural support to targeted beneficiaries of the land reform and agrarian reform programme within six priority areas. The need for CASP flows from the recommendations of the Strauss Commission report, which recommended the financial “sunrise” subsidies, and the adoption of a “sunrise” package of enabling conditions for the beneficiaries of the land reform programme who require loan finance. Six areas of support have been identified, these are:

- Information and Knowledge Management.
- Technical and Advisory Assistance, and Regulatory Services.
- Training and Capacity building.
- Marketing and Business Development

- On-Farm and off-Farm Infrastructure and Production inputs.
- Financial assistance.

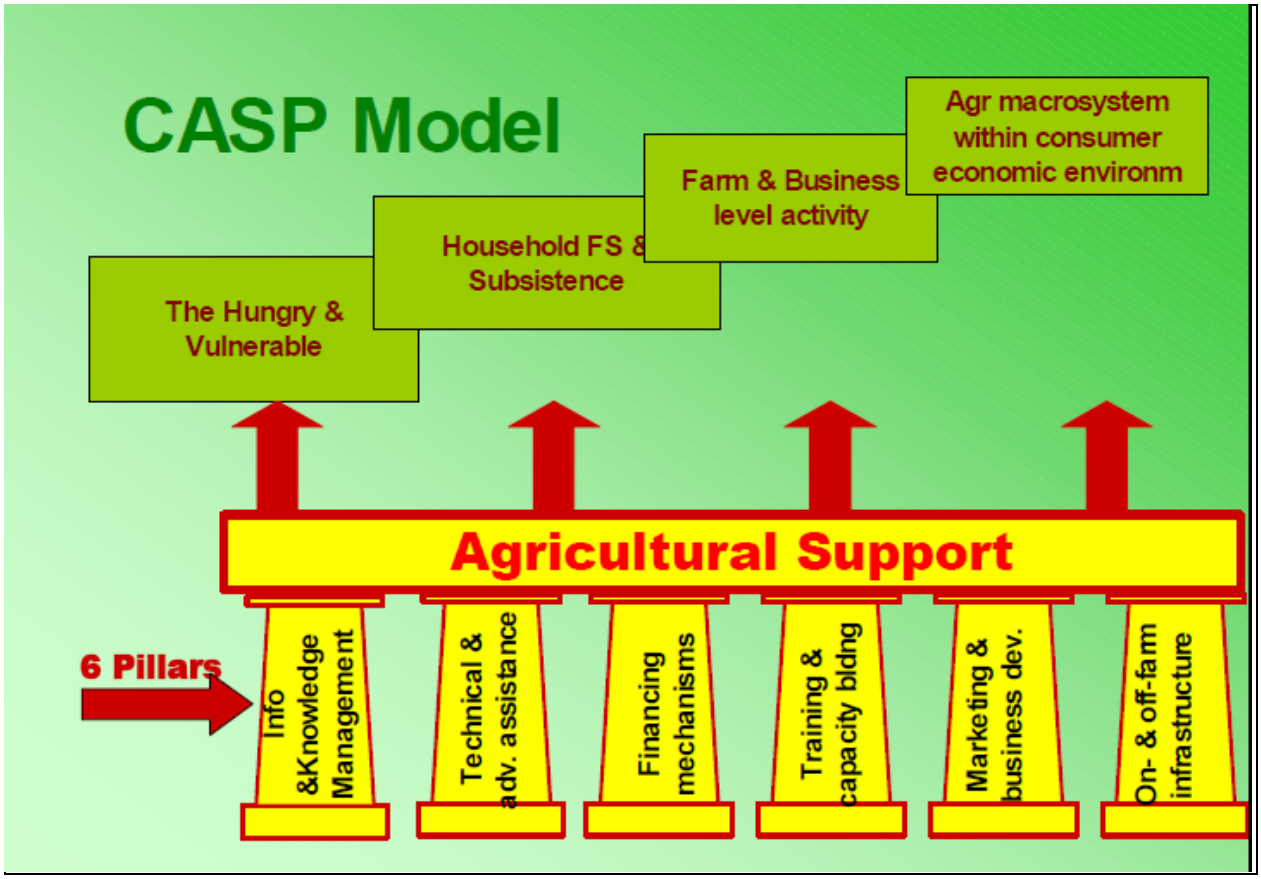

Figure 2.4: CASP model.
Source: Department of Agriculture, 2004.

The CASP is targeted to support the four different levels of clients within the farming continuum and these are:

- The hungry & vulnerable – Though this group is primarily the responsibility of the Department of Social Development, they are supported by the DoA and PDAs through advise and during food emergencies and crises through the agricultural food packs and for those families who are ready, the introduction of the agriculture starter pack. (Block 1).
- Subsistence and household food producers – supported through food production and include the beneficiaries of the special programme on food security (SPFS) and the Integrated Food and Nutrition Programme (IFSNP) where the provision of the agriculture starter pack is made. (Block 2).

- Farmers - supported through farm level support and include the beneficiaries of the LRAD and other strategic programmes e.g. SLAG, Restitution, Redistribution, Tenure Reform (Block 3).
- Agricultural macro-system within the consumer environment – this category includes the commercial farmers to ensure that business and the regulatory environment is conducive to support agricultural development and food safety. (Block 4)

Micro-Agricultural Financial Institutions of South Africa (MAFISA) as one of the CASP pillars is the finance scheme for financially active poor people especially those do not qualify for loan in commercial banks. The MAFISA which contributes to Governments overall commitments towards the social upliftment of people in their communities by benefiting both farm and non-farm beneficiaries such as farm workers, household producers, small-scale land owners, food garden producers, rural and micro-entrepreneurs. Due to the type of beneficiaries that are targeted by the MAFISA programme, the interest was at 8% and the repayments to be done within 12 months.

The programme was launched in 2005 as a pilot in three provinces and these include; the Eastern Cape, KwaZulu-Natal and Limpopo. The review done by DAFF in 2008 has shown that only the Eastern Cape, through the Eastern Cape Rural Finance Corporation (ECRFC) and Limpopo through Land Bank managed to implement the pilot phase. In the Eastern Cape, the ECRFC allocated R30 million for the pilot scheme and started disbursements in December 2005 (DAFF 2012).

The programme was then expanded to the nine provinces with the national rollout which commenced in 2008, with eight more financial intermediaries getting accredited. These intermediaries were mandated by DAFF to receive applications, assessed them and made their own approval decisions (DAFF 2012). The review also introduced the five term for the repayments of loans as means to cater for the previously disadvantaged livestock producers.

At the regional and international levels, there are economic development frameworks such as Comprehensive African Agricultural Development Programme (CAADP), New Partnership for African Development (NEPAD), Common Market for Eastern and Southern Africa (COMESA) and the Millennium Development Goals (MDGs). At

all these levels, the key thrusts are poverty alleviation, improved food/nutrition security, maintenance of high quality environment services and natural resource management for improved livelihoods (ASARECA 2009).

The Integrated Food Security and Nutrition Programme was launched in 2005 which aimed at providing relief to households affected by food security, in the form of agricultural help (SA Government Online 2012). The Eastern Cape three programmes were introduced according to the level of farmers in the province and these included Massive food production (6 to 50 ha), Siyakhula (3- 5 ha) and Siyazondla (0 to 2 ha). The Eastern Cape Department in its efforts to fight hunger and food insecurity designed the homestead food production programme known as Siyazondla.

The Siyazondla programme is a homestead food production programme targeting the poor, vulnerable and food insecure households who have access to a small piece of land (garden) complimenting the food parcels. In 1977, Nigeria implemented Operation Feed the Nation and Green Revolution which were established to boost agricultural production and efficiency in the general performance of the agricultural sector (Ugoh 2009).

According to the concept document of the Siyazondla programme (2012), extension officers are expected to play a very crucial role in social mobilization within the communities at ward level and be part of the Siyazondla farmers forum which will be responsible for the identification, screening and recommendation of projects, which will consist of Extension Officers, Councilor, Chief's, Social Development, other NGO's and CBO's, CDW's, ward committee and farmers.

As stated in the concept document of Siyazondla (2012), the objectives of establishing Siyazondla are the following:

- To address food insecurity in the Province
- To guarantee food security for rural and urban people
- To ensure supply and access to nutritional food all year round
- To supply production inputs : seeds, fertilizers, seedlings, insecticides, poultry and livestock medicines etc

- To supply tools like wheelbarrows, forks, spades, watering cans, irrigation pipes, garden fencing, and water harvesting equipment etc
- Garden size: 12X12 metre back/front yard = 144m^2
- Micro projects 1-2 ha, poultry, piggery, livestock and **f**ruit production (5-10 fruit trees).

In the concept document, the Siyazondla beneficiaries are divided into two categories which are**:**

Primary target group

- Beneficiaries who benefited from food parcels by Social Development
- Unemployed breadwinners
- HIV infected and affected families
- Household earning less than the accepted minimum social grant level
- Child headed families with an interest in gardening/farming (15 years upwards)
- Physically challenged individuals interested in gardening/farming.

Secondary target group

- Micro projects and micro livestock projects
- That is between 1 and 2 ha in size like community, clinic and hospital gardens, micro poultry and piggery projects.
- Youth development at schools through 4H clubs as well as out of school youth groups (18-35 years).

The criteria used by Siyazondla farmers forum in selecting the beneficiaries is guided by the following:

- Commitment: Farmers must have a constitution, bank account, farming records in terms of farming activities.

- Interest: Availability of farming activities e.g. fenced vegetable garden, micro poultry, piggery, livestock projects, etc.
- Readiness: Evaluate the potential of land for a specific agricultural enterprise and the eagerness of the farmer/group.

2.7.2 Non-governmental approaches.

Private sector development strategies (PSD) in most international organizations, especially international development banks, have focused at the private sector modernization (upgrading, adoption of international standards for quality, export orientation, technology transfer and knowledge spillovers) as a decisive tool for economic growth in developing countries (Dornberger 2005). There is widespread consensus in development thinking and cooperation that poverty reduction is the main objective of development and that can be achieved through economic growth which is linked to private sector development (Rietdorf 2005).

Many donor organizations have stated that private sector development entails not only economic growth, but the availability of sufficient incentives for the private sector to invest in its own productive capabilities and thus increase the rate of growth (Fromm 2005).

Their argument concentrates on the fact that in the last 50 years only the developing countries that exposed their private sector to widespread modernization and international competition have been able to achieve higher growth rates and economic growth seems to be lasting solution to poverty alleviation. Critics of this strategy acknowledge the connection between economic growth and poverty reduction but argue that only very long-term economic growth has a positive effect on poverty reduction (Dornberger 2005).

All donor organizations agree that growth can only be reached through further development of the private sector, leading to higher employment rates and better income (Dornberger 2005). Micro-credit programs should have a stronger focus on the financing of micro and small-enterprises of productive economic sectors. This would necessitate an adjustment of micro-credit offers to the requirements of this kind of firms as regards lower interest rates, longer terms and higher credit volumes.

Microcredit programmes help household to secure themselves by building up assets. It is for self-employment projects that help them to generate incomes that would support them and their family members. Old Mutual through Masisizane loan programme has an interest of funding development projects especially in rural areas at interest which up to 5% below prime. However, it is important to point out that the poor at their own levels, especially through their cooperatives, saving and thrift societies organise credit for themselves. Informal credit through family members, moneylenders, and personal savings are other means the poor raise credit.

One of the more critical elements in sustaining food production and reducing poverty is to improve the living conditions of rural communities by assisting especially smallholder farmers in enhancing agricultural productivity and their incomes and to provide access to land. The implementation of capacity building initiatives by institutions both local and international is critical in ensuring that these challenges are overcome. Several institutions in collaboration with the South African Government or acting singularly have contributed in ensuring that farmers are empowered as one of the ways of ensuring continuous food availability.

Some of the institutions involved in this process include Research institutions, NGOs and private sector which help in strengthening capacities within rural livelihoods through research and development. Tefera (2004) defined NGOs as voluntary institutions that play a significant role in community development and poverty alleviation. International and local NGOs provide services by raising funds, engaging in different relief and development activities, whilst a number of them carry out advocacy programs within the society. One of such ways is the establishment of the Integrated Village Renewal Programme (IVRP) set up by the Institute of tropical and subtropical crops unit of the ARC (ARC-ITSC).

The IVRP model is a long-term (5 to 7 years) holistic model which integrates various programme elements that will be implemented interactively with organized village communities. The aims of the programme are: that households are able to produce at least sufficient food for themselves, that farmers make the transition from subsistence farming to commercial production, that farmers have access to timely and quality technical services, and that farmers are able to convert these inputs into improved food security and livelihoods. The programme elements consist of

agricultural production planning, a trade and business development strategy, a heritage study, a community health management strategy and appropriate information communication and technology resources and utilization (Jones & du Preez, 2008).

In implementing the IVRP programme, the ARC has been able to partner with a non-governmental organization the Is'Baya Development Trust. This partnership has led to the implementation of one of the goals of the ARC-ITSC IVRP programme, which is to alleviate poverty through the introduction of the High Value Crops programme (HVC). Through this programme, farming households in rural communities have been empowered, trained and provided with an alternative source of income.

In order to improve the risk-management of this certainly risky type of credit, micro-credit institutions could tie the disbursement of credit to the existence of corresponding business linkages between their clients, micro and small-enterprises and clients from modern industrial sectors.

South Africa has made significant institutional progress in becoming a food secure nation, however, the following challenges still need to be overcome: mobilizing civil society to implement agricultural projects and processes, integration between government departments in terms of project and programme implementation, and lack of institutional capacity to implement existing programmes.

2.8 The HVC programme.

The increasing demand for HVCs and the steady declining demand for the staple foods advocated the introduction of HVCs to the small scale farmers by donor organisations including non-governmental organisations (GFAR, 2005; AVRD, 2007;IFAD, 2008 and ASARECA, 2009).

According to ASARECA (2009), there is no standard definition of HVCs since the classification of crops into this category varies across regions and countries. Although some of the commodities may be staples in some countries, their regional status places them within the realm of HVCs. In the workshop that was held in Colombia (2005), high value agricultural products are often differentiated from lower

value goods due to their perishability, scarcity, historical and cultural significance and/or difficulty in either production or delivery at quality to market (GFAR, 2005).

However, one unique feature of HVCs is their emerging ability to improve household incomes, nutrition and food security. Thus, these are considered high value crops of great economic significance, whose full potential many developing countries are yet to tap into (IFAD, 2008).

Fruits and vegetables are important for nutrition, providing vitamins, minerals, fiber, energy, and antioxidants. Because of their high market value in dry areas, sale of surplus produce is a vital source of income for poor households – even small quantities can be sold or exchanged at village markets.

IFAD (2008), suggested the innovation of HVCs in the Near East and North Africa in alleviating poverty and diversifying livelihoods due to their greater water use efficiency, the better economic returns and the capacity for value addition and employment creation associated with these crops and products. In 2007, the overall strategic plan of ASARECA identified horticultural crops (vegetables and fruits), pulses, tea, coffee and oilseeds as commodities whose improved production would have a significant impact on livelihoods and food security (ASARECA, 2009).

The HVC programme was introduced by the Is'Baya/ARC collaboration through an awareness campaign that advocated the socio economic benefits associated with planting of fruit trees and cultivation of vegetables at household level to address food insecurity.

The initial feasibility study carried out in the year 2000 resulted in the identification of the following suitable crops in specific climatic zones (Jones & du Preez, 2008). In the coastal zone almost all sub-tropical, frost-sensitive crops can be grown such as banana, guava, papaya, coffee, mango, macadamia, litchi, citrus, granadilla, avocado and pineapple. On the relatively high-lying land around Ngqeleni, Mqanduli and Elliot-dale, citrus, guava, pecan nut and gooseberry should generally be able to be grown, particularly on crests and slopes in the landscapes, where cold air can drain away (Jones & du Preez 2008).

During the initial stage, 13 research and demonstration sites were established in the Port St Johns, Nyandeni and King Sabata Dalindyebo municipalities. The demand and interest increased on the programme dramatically over the years and from the initial 13 sites, more than 2000 farmers have now planted 50 545 tree crops spread through 52 villages. Due to the integrated cropping system, some herbs and vegetables were planted in between the rows of trees. In addition over 24 trial sites have been established with a range of herbs including lavender, oreganum, thyme, marjoram, rosemary, rose geranium, melissa and lemon grass (Jones & du Preez 2008).

The work focused on creating an awareness of the value and the potential for the production of tropical and subtropical crops in the Eastern Cape and developing integrated, sustainable farming systems based on high value production clusters which can then play a leading role in the development of rural villages.

Continuous training was undertaken on all aspects necessary to ensure that farmers were capacitated to produce high value crops as an economic enterprise. Value adding was also an integral part of the programme and would make market access easier especially in areas where infrastructure is poorly developed and fresh fruit marketing would be difficult. Initial training on processing which includes jam and juice production, and drying into dried fruit were done.

2.9 Chapter summary

Chapter 2 reviewed the literature that was done by the various scholars on rural livelihoods, food security, Agricultural extension services, government and non-government to agricultural development. This chapter reviewed literature relating to the role played by agriculture in improving rural livelihoods.

The sustainable livelihood framework was used as a guide on reviewing various strategies employed by the government and non-government institutions in improving rural livelihoods. The access to capital assets is viewed as one of the determinants of sustainable rural livelihoods. World leaders devoted themselves to the Millennium Development Goals (MDGs) and one of the MDG goals was to eradicate poverty and hunger in developing countries.

The chapter highlighted a number of critical issues pertaining to food security in SA and other developing countries. It reviewed the different definitions of the term food security as proposed by different individuals or organizations. A critical discussion of the food security and poverty levels in SA was made, including the symptoms of the latter. According to the literature reviewed, the status of food security in South Africa has improved at a very minimal rate. However, the most sensible conclusion that one can draw based on the discussion made above is that food insecurity is a phenomenon that is going to be around for years to come, especially, with the ever-increasing global population coupled with land degradation, deforestation and global warming.

This review also indicates that the majority of observers and extension practitioners believe that the public agricultural extension is a weak link in agricultural development, especially, in developing countries including South Africa, has not been good. Among the areas where public extension falls short of expectations and which is the major objective of this study is the frequency of visits by public extension agents to farmers. The Extension Recovery Plan that was adopted in South Africa aims at improving service delivery.

To reverse past injustices that plagued the development of small scale farmers during the apartheid era, the South African government, adopted various strategies and programmes such as RDP, GEAR, Agri-BEE, ASGISA, CASP and Land Reform. The PGDP was formulated in the Eastern Cape as a link to National strategies. The impact of these strategies to the previously disadvantaged has been very partial.

Efforts and strategies employed by non-government institutions in improving rural livelihoods and this included the international funding organisations. An overview of the IVRP, a long term objective of the Is'Baya in the rural Eastern Cape was reviewed.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction.

In an effort to establish the effectiveness of the HVC based extension model applied by the Is'Baya in collaboration with ARC in improving rural livelihoods in the Eastern Cape, an intensive research was done. This chapter outlines the methods that were followed in an attempt to establish the effectiveness of the model. This chapter therefore discusses the study areas, approach used in the study, population of the study, sampling procedures used and the model used to achieve the objectives of the study. The research instrument and the analytical framework are described in this section.

3.2 Study area.

The HVC programme was implemented in Amathole and OR Tambo districts of the Eastern Cape and therefore the study concentrated in these two districts. This study was undertaken in 8 villages drawn from the Amathole and OR Tambo district municipalities. There were 3 villages that were selected in Amathole, these include Ndakana (Amahlathi), Mgababa (Ngqushwa) and Mbanyana (Mbashe) and in OR Tambo five villages were selected and these include: Hluleka (Nyandeni), Zanci (King Sabatha Dalindyebo), Noqhekwana (Port St Johns), Hombe (Ngquza Hill) and Xhokonxa (Mhlontlo). In this section the brief description of the physical and socio economic context of these municipalities, local municipalities and villages will be provided.

3.2.1 OR Tambo.

The district is situated on the eastern side of the province and covers an area of about 12 857 km^2. It is composed of five local municipalities, namely: Nyandeni, King

Sabata Dalindyebo, Port St Johns, Ngquza Hill and Mhlontlo. The population of the District is estimated at 1 397 724 inhabitants living in 328 716 households (ECSECC 2012).

The OR Tambo district is predominantly rural, with most of the population concentrated in the west, around Mthatha which is situated in King Sabata Dalindyebo Municipality. The district covers most of the Wild Coast and Pondoland[1] and has a sub-tropical coastal belt, especially from Port St. Johns northwards. The hills beyond the coast rise to high levels of up to 1,500 meters beyond Mthatha.

The district comprises of many rivers and is well-watered, with an average of 700mm of rainfall per year. Pondoland, being nearly the most fertile areas in South Africa, has warm temperatures and good soils with frost-free conditions. Some of the other major towns in the District are Mqanduli, Port St. Johns, Qumbu, Lusikisiki and Flagstaff (SA LED network 2010).

The tourism in the district is centred on the breath taking Wild Coast, which is host to many resorts and nature reserves. Port St. Johns is developing as a tourism destination. The Pondoland coast is one of the most spectacular eco-tourism destinations in South Africa and is going to be host to an expanded nature and marine reserve. The Nelson Mandela Museum, in Mthatha and Qunu, houses the history of the struggle against Apartheid and the life of Dr Nelson Rholihlahla Mandela (SA LED network 2010). The map of OR Tambo district with all the local municipalities portrayed in figure 3.1.

[1] Pondoland is a name used to refer to Port St Johns and Ngquza Hill municipalities

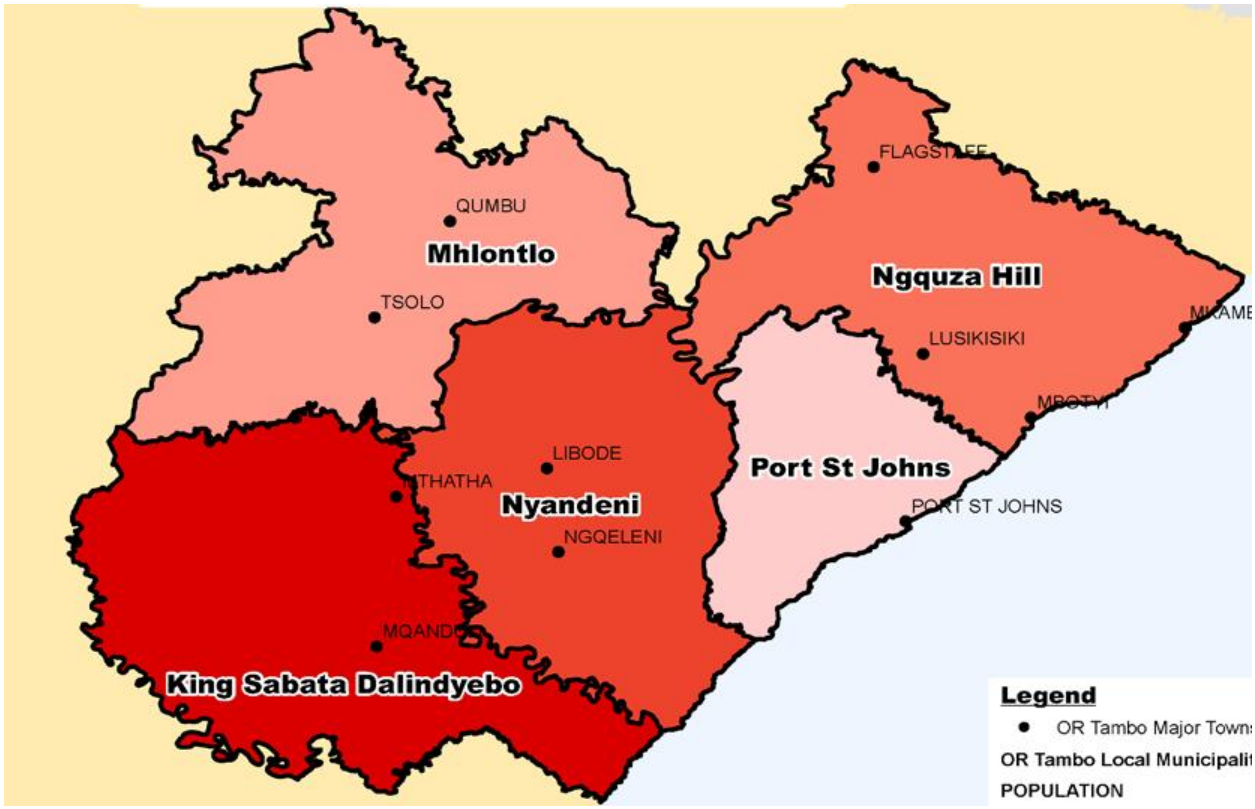

Figure 3.1 Map of OR Tambo District

Source: ECSECC, 2012

3.2.1.1 Socio-economic characteristics of the area.

In the OR Tambo district, agriculture plays a major role in the well-being of the local community. The economic structure depends greatly on the prosperity of agriculture. Although small, agriculture does still contribute to the total Gross Domestic Product (GDP) of the district. Most people in the district practice agricultural activities, whether at subsistence level or at commercial level, but only a few are formally employed in the agricultural sector.

The Eastern Cape Province had a GDP growth rate of 1% with a GDP per capita estimated at R7793. Economy in the district is mainly driven by Government, both in terms of employment and economic growth. Community services contribute 47% of the district GDP, followed by finance and trade at 20% and 18% respectively. The agricultural sector in the OR Tambo district contributes 4% to employment generation in the district and 5% to the GDP (ECSSEC 2012).

However, agriculture carries a very big importance in terms of the improvement of food security, as there are a large number of subsistence farmers in the district (SA LED network, 2010). The rural area consists of basic settlements, which are either dispersed, unplanned or in consolidated villages. Administrative areas are consolidated into the five Local Municipalities. Local Tribal Authorities are still acting as the grassroots administrative authority, which sometimes doesn't go along with local government arrangements.

The land owners comprise 84% subsistence farmers and 16% emerging farmers. The subsistence farmers may become emerging farmers with the necessary progress. Emerging farmers are individuals who have the potential to become commercial farmers (ECSECC 2012).

The OR Tambo district has a very high level of illiteracy and unemployment. Unfortunately there is a very low level of industrial and entrepreneurial motivation, which contributes to the high level of unemployment. The migration to the cities indicates the lack of job opportunities in rural areas (SA LED network 2010).

Low education levels correspond with a low skills level, which might to a large extent contribute to the high unemployment rate. According to Eastern Cape Socio Economic Consultative Council (ECSECC) 2012, the District's average unemployment rate is estimated at 41%. The district also experiences a literacy rate which is indirectly proportional to the unemployment rate, whereby each municipality has a literacy rate of 48.3% in Nyandeni, 61.9% in King Sabata Dalindyebo, 37.9% in Port St Johns, 43.6% in Ngquza Hill and 51.0% in Mhlontlo (ECSECC 2012). In the OR Tambo district, 88% of the households live below minimum poverty level, 71.5% of the economically active population is unemployed, 47.5% of the population is under 15 years of age, 93.3% of inhabitants live in rural conditions and 75% of the population do not have formal Reconstruction and Development Programme (RDP) standard water supply (ECSSEC 2012).

3.2.1.2 Soil and topography.

The OR Tambo district is largely mountainous and characterised by rolling hills as well as rivers. Households are mainly located in the valleys and along the ridges, where the land surface is flat. Rivers rising at the edge of the escarpment are comparatively short and have formed deeply eroded canyons with steeper slopes (SA LED network 2010).

Approximately one third of the district consists of high rainfall plateau areas with slightly broken to rolling topography. These are covered with relatively deep apedal, favorably structured, porous soils with favorable water characteristics. The organic matter content may be relatively high, positively affecting nutrient supply and stability. Adverse factors in places are slight to moderate soil acidity and relatively low natural soil nutrient supply. The other two-thirds of the district consists of strongly undulating or broken topography, covered by various shallow to moderately deep soil types, mostly with moderate to high erodibility (SA LED network 2010).

3.2.1.3 Climate.

OR Tambo district experiences a temperate to sub-tropical climate with plenty of rainfall during the summer months and hot humid weather. Average daytime temperatures during the summer range from 21-26°C. The coldest time of the year is the night during winter months when the temperatures drop below 10°C. Average rainfall is relatively high along the coast at about 1000-1300mm per annum, decreasing towards the interior at about 700mm per annum and finally increasing in the upper catchment areas of the escarpment (ECSSEC 2012).

Frost occurs in the higher lying lands with a frost season length ranging from 1 to 11 days as altitude increases. The frost starts in the mountainous regions during the month of May, but only in the beginning of June in the mid- altitudes regions. The frost season comes to an end during the month of July in the mid- altitudes regions, but only ends in the beginning of September in the high altitudes regions (ECSSEC 2012).

3.2.2 Amathole District Municipality.

The Amathole District Municipality, on the Eastern Cape of South Africa, was established after the first transformed local government elections in 1994. The district is renowned for its historical heritage as this was the area where nine colonial/frontier wars took place over a century between 1779 and 1878. The area is also renowned for its struggle heroes during the repressive Apartheid regime. It is a land that has forged many leaders in politics (such as Former Presidents Nelson Mandela and Thabo Mbeki and Black Consciousness Leader Steve Biko), academia, sport, and captains of industry.

The district stretches from the Indian Ocean coastline in the south to the Amathole Mountains in the north, and from Mbolompo Point (just south of the Hole-in-the-Wall along the Transkei Wild Coast) in the east to the Great Fish River in the west. It is a land of rivers and fertile floodplains, undulating grasslands, valley bush, pristine estuaries, beaches, forests and waterfalls.

The bio-diversity of the district is often remarked upon, together with possible implications for future socio-economic developments and competitive advantages. The district lies at the heart of the Eastern Cape Province and is presently home to about 1.7 million people. The Amathole District is rural in nature and has struggled to attract viable businesses to the area and create a meaningful number of employment opportunities for local inhabitants.

The district has seven local municipalities, each containing at least one urban service centre. These are:

- Amahlathi Municipality (Cathcart, Stutterheim and Kei Road).
- Great Kei (Komga, Kei Mouth, Hagga-Hagga, Morgan's Bay and Chintsa).
- Mbhashe (Dutywa, Willowvale, Elliotdale).
- Mnquma (Butterworth, Nqamakwe, Centane).
- Ngqushwa (Peddie, Hamburg).

- Nkonkobe (Seymour, Fort Beaufort, Alice, Middledrift).
- Nxuba (Bedford, Adelaide)

Ngqushwa Local Municipality is located in the Eastern Cape, its boundaries on the East by the Fish River and on the South by the Indian Ocean. The municipality is an amalgamation of two towns namely, Hamburg and Peddie. It is one of the eight municipalities that fall under the Amathole District Municipality. This local municipality occupies about 10% of the surface area of Amatole District Municipality, which is approximately 23 573 square kilometers and has 118 villages under its jurisdiction.

Hamburg and Peddie are the two major towns, with the municipal offices being located in Peddie. With its natural beauty and character (especially in the coastal areas), Ngqushwa is a wonderful tourist attraction that prides itself in its rich history and heritage. According to Ngqushwa IDP (2006),, the estimated population of Ngqushwa Municipality currently stands at 84 230, comprising 21 888 households and in 2001 there were 20 757 households.

Mbhashe municipality is situated in the south eastern part of the Eastern Cape Province, and is bound by the coast line flowing from Qhora River in the south to Mncwasa River in the north along the Indian Ocean. The municipality borders the following municipalities:

- King Sabata Dalindyebo (in the eastern part).
- Ngcobo (to the Western part).
- Mnquma (to the south).
- Ntsika Yethu (in the south-western part)

Mbhashe Municipality is named after the Mbhashe River which flows from the banks of Ngcobo through Dutywa, Gatyana (Willowmore) and Xhora (Elliotdale), the three towns of Mbhashe, into the sea at Mbhashe Point, close to The Haven. Mbhashe Municipality is also home to the head offices of the AmaXhosa kingdom at Nqadu Great Place. Mbhashe is 3030.47 km in the area, consisting of 26 wards and having

51 councillors. The map of Amathole district with all the local municipalities is portrayed in figure 3.2.

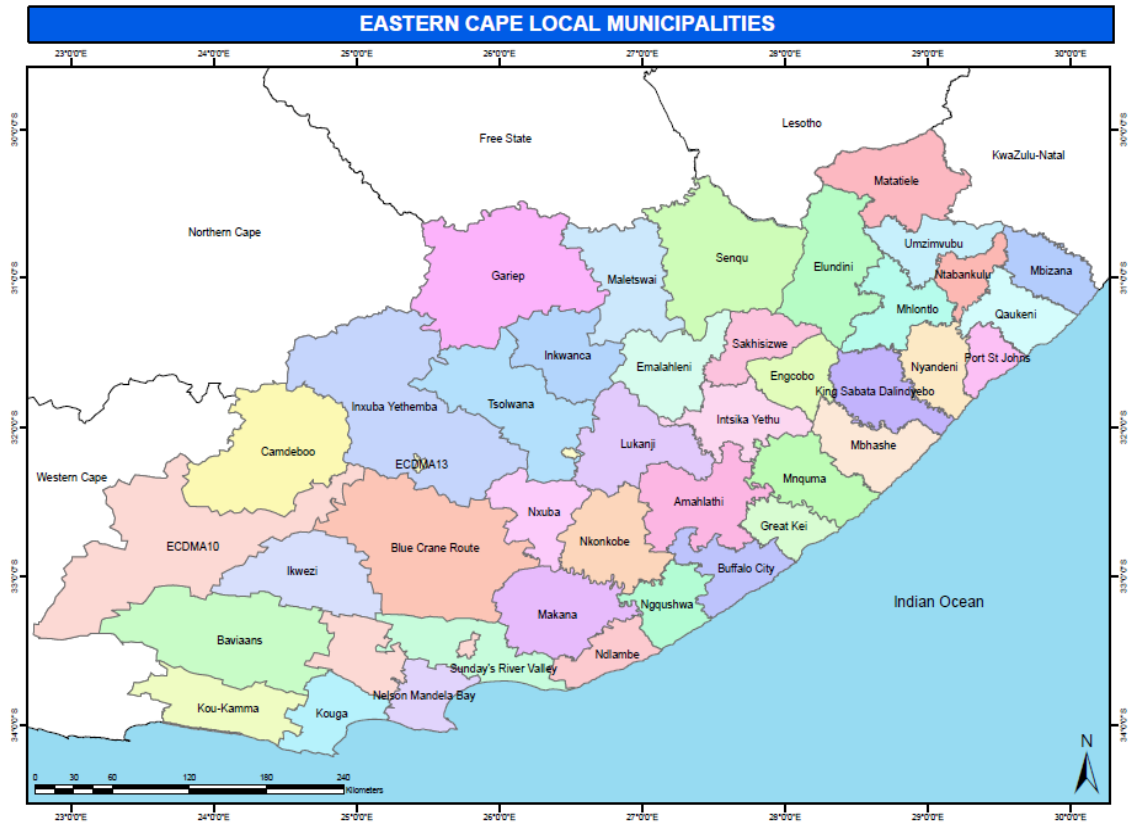

Figure 3.2: shows the Eastern Cape Local Municipalities.
Source: Eastern Cape DRDAR.

3.2.1.2 Soil and topography.

According to the Amathole Integrated Development Plan IDP (2004), its topographical characteristics are the coastal area unconsolidated beach sand and high coastal dune as well as fixed dune and semi-consolidated sand overlying the older sedimentary rocks. The inland area is mostly underlined by mudstone, sandstone and shale of Karoo sequence and the properties associated with this formation are high erodable soils and medium to high suitability for foundation. In terms of soil fertility, previous agricultural practices have indicated that areas with soils suitable for agricultural purposes are confined to the following areas:

- The alluvial soils associated with the Keiskamma River terraces. These soils are considered suitable for subtropical fruit production, vegetable and / or pasture crop production.
- The irrigable soils located in the lower Tyefu area.
- The moderately high / moderate potential soils suitable for dry land crop production and situated in the coastal plain and plateau.
- Soils of various types, suitable for pineapple production, are found in the coastal plain and immediate plateau areas.

3.2.1.3 Climate and Vegetation.

At 168 966 square kilometres, the Eastern Cape is roughly the size of Uruguay. It's the country's second-largest province after the Northern Cape, taking up 13.9% of South Africa's land area and with a mid-2010 population of 6.7-million people and is also one of the poorest provinces. In the Eastern Cape, various floral habitats meet.

The long curve of coastline, large area and the considerable east-west and north-south distances it covers give the province extremely varied vegetation. The vegetation in Amathole differs, some areas are more suitable for sheep, others are suitable for goats and cattle. There transformation of vegetation by grazing practices and climate change, the condition of the veld correlates strongly with management techniques and agents.

Even though certain parts of the vegetation have been degraded and show evidence of severe veld mismanagement, especially with the presence of “alien plants”, a greater portion of the region is in an environmentally superior state and the region is favorable for livestock production.

The Municipality is characterized by the climate which varies with the elevation from cool humid sub-topical at the coast to hot and sub-arid inland. The climate is characterized by variable moderate to low rainfall ranging between an annual average of 700m at the coast and 400m at Tyefu with about 60% of rainfall occurring in summer and peaks being in October and February.

The dominant wind directions are south - westerly (winter) and north - westerly (summer) with coastal area being subject to considerable winds. It receives the lowest rainfall (13mm) in July and the highest (61mm) in March. The monthly distribution of average daily maximum temperatures (centre chart below) shows that the average midday temperatures for Peddie are ranging from 20°C in July to 26.8°C in February. The region is the coldest during July when the mercury drops to 7.6°C on average during the night.

3.1.2.4 Socio economic environment.

The metropolitan economies of Port Elizabeth and East London are based primarily on manufacturing, the most important being automotive manufacturing. The province is the hub of South Africa's motor industry.

Volkswagen South Africa and the Ford Motor Company of Southern Africa have manufacturing plants in the Eastern Cape, while General Motors South Africa and Daimler, through its subsidiary Mercedes Benz South Africa, have assembly plants in the province. With two harbours and three airports offering direct flights to the main centres, and an excellent road and rail infrastructure, the province has been earmarked as a key area for growth and economic development.

Environmentally friendly projects include the Fish River Spatial Development Initiative, the Wild Coast SDI, and two industrial development zones: the West Bank in East London and, near Port Elizabeth, Coega – the largest infrastructure development in post-apartheid South Africa, including the newly built deep-water Port of Ngqura. Other important sectors include finance, real estate, business services, wholesale and retail trade, and hotels and restaurants.

There is much fertile land in the Eastern Cape, and agriculture is important. The fertile Langkloof Valley in the southwest has enormous deciduous fruit orchards, while sheep farming predominates in the Karoo. The Alexandria-Grahamstown area produces pineapples, chicory and dairy products, while coffee and tea are cultivated at Magwa. People in the former Transkei region are dependent on cattle, maize and

sorghum-farming. An olive nursery has been developed in collaboration with the University of Fort Hare to form a nucleus of olive production in the Eastern Cape.

3.1.2.5 Agricultural Potential in Amathole Municipality.

Agriculture is the main primary activity, with 11% of the employed labour force involved in this sector. Of the remaining 89% of the employed labour force, 2% are involved in mining, 18% in the secondary sector and 69% in the tertiary sector. The major problem in the municipality is that this employed labour force only comprises 22% of the total potentially employable labour force. There are two potential growth areas and they are agriculture and tourism. Although there is a lot of degraded land, there are potential growth areas in sugar beet, orange, pig, poultry, mariculture, apiculture and vegetable farming.

Amathole is characterized by a variety of farmers ranging from commercially oriented producers such as pineapple industry to small scale and subsistence vegetable, field crop and livestock farmers. Vegetable gardening is an important occupation amongst the smallholder farmers in the area as it helps in supplementing their incomes. Most of these vegetables are grown in backyard gardens and these are fertilized with kraal manure. Irrigation is not commonly practiced as most farmers depend on rain-fed crop production systems and this may be due to insufficient water sources and lack of capital to purchase irrigation infrastructure.

Most households keep livestock on a small scale farming basis. Their livestock is kept for traditional ceremonies, lobola and funerals. They also sell their stock at very late stage in their growth, mostly to address an urgent need of money. All these farmers are currently facing challenges in production due to the lack of fencing in their fields, suitable machinery, implements and climate change issues.

Production subtropical and deciduous fruit, and maize, can be increased. Potential exists for the dry-land cultivation of maize and beans, the production of broilers and eggs, and growing tomatoes using hydroponics. The production of bio-fuels could also lead to job creation and poverty alleviation.

3.3 The Agricultural Research and Development (ARD) procedure.

Opportunities in rural development and complex problems have been the focus and entry point of Agricultural Research for Development (ARD). Solving these developmental challenges requires the participation of people and organizations, which is based on the realization that an individual or organization alone, cannot tackle the issue effectively. Thus, there has to be a working alliance or partnership among different stakeholders and the amalgamation of different perspectives, interests and knowledge which they contribute (ICRA Resource Book 2008).

This requires competences in a range of analytical, professional and process skills that enables and encourages interaction with people of different gender, race, social class or perspectives concerning development. In achieving this, ARD developed a learning process which involves formation of teams, achieving a common understanding within these teams and screening and evaluating the different options identified for improvement of rural livelihoods. Different stages of learning were used to accomplish this task and they include the knowledge acquisition phase and the fieldwork phase.

The exposure to the ARD procedure was done through the knowledge acquisition phase which was hosted by the Limpopo province. This involves exposing participants (individual team members) to new ideas and skills; soft and hard skills that may be relevant to the developmental challenge that has been identified. The fieldwork phase is where teams actively address the identified developmental challenges with stakeholders and beneficiaries. Outcomes and recommendations from this phase can be implemented by partner institutions as well as the government and policy makers.

Undertaking the field phase of the ARD programme requires selection of different information gathering methods. These methods can vary in the degree of interaction that they allow with stakeholders and beneficiaries, how much they facilitate participation in the decision making process and the time required to use them. On the basis of these facts, the use of both qualitative and quantitative methods of research has been the means of information gathering in ARD. While the quantitative method is basically formal and scientific in its approach, the qualitative method

involves an informal approach consisting of both the scientific and less formal method of information gathering.

Qualitative methods such as Rural Rapid Appraisal (RRA) and the Participatory Rural Appraisal (PRA) approach is used and been encouraged by the ARD because of its ways in allowing more participation in the research process by rural people, interdisciplinary team approach, and observation of identified problems from different angles.

In carrying out this research and in line with the practice of ARD, qualitative method of information gathering especially the RRA and PRA methods such as key informant interviews, focus group interviews, maps, transects and direct observations were used.

3.4 Preparation for the field study.

Thorough preparation was required before the commencement of the field study. The team members went through ARD knowledge acquisition phase for three weeks. This process involved the key concepts, skills, ARD procedures, inter-disciplinary team concepts, introduction to the tools for information gathering and analysis on how to conduct a participatory research through a series of workshops. During the capacitation phase the team reviewed the original Terms of reference in order to reach common understanding on what the real problem was and what was required of them by ARD.

The research and work plan were also developed in this phase to illustrate the purpose and expected output of the study. The team contract was formulated and signed, in which working roles were clearly defined and various roles were identified and allocated to each team member. Thus, the main stakeholders were identified and based on TOR; initial analysis of their roles and linkages was done through brainstorming and visualisation. The stakeholder identification, access/control matrix and Venn diagram were tools used during the phase for an initial analysis of linkages and roles.

Since it started in OR Tambo, the decision was to select four villages from different local municipalities of the district. The main idea was to study the implementation of the HVC and the perceptions of the households involved in the programme in the different local municipalities. During the knowledge acquisition phase the research plan was prepared with the intention of addressing issues relating to the effectiveness of the extension model applied, the socio-economic impact of the HVC programme, the empowerment of women and youth by the programme and the important factors towards the sustainability of the programme.

In consultation with the ARC, Is'Baya and the Department of Rural Development and Agrarian Reform (DRDAR) which are main stakeholders in the agricultural development in that area, the permission of conducting a study was conducted. In August 2012, an arrangement was done for the team to be in OR Tambo for 14 days. After the arrival in the OR Tambo district, four local agricultural extension offices and the Is'Baya office were briefed about the intension of the study.

The officials from these offices assisted the team in setting up of appointments with the farmers who are participating in the HVC programme in different villages. The team could not meet the farmers in the first week due to the social grants days that were scheduled for that week but were available in the second week.

The officer in the Mhlontlo municipality arranged an appointment for the team with the farmers in Xhokonxa who are participating in the Siyazondla programme implemented by the DRDAR assisted by the ARC. The first week was used in interviewing officials involved in the implementation of the HVC programme in the OR Tambo and that included the DRDAR in King Sabatha Dalindyebo, Port St Johns and Mhlontlo local municipalities, also the Is'Baya officials in the Port St Johns office which is the only Is'Baya office in the district. The team also wanted to meet other farmers who residing in villages where HVC programme is implemented but are participating in the programme.

The second phase of this research focused on the Siyazondla programme implemented by the DRDAR which is implemented in all the district municipalities in the Eastern Cape.

The food security component at provincial level was contacted and the presentation was done. The report principally acknowledged that the results of the fieldwork would benefit regional development and, therefore, the extension personnel were requested to provide the necessary assistance. According to the food security component, this programme was piloted in Amathole during the 2002/ 03 financial year. Through the Siyazondla coordinator in Amathole, appointments were done in three local municipalities and these included: Amahlathi, Ngqushwa and Mbhashe. The DRDAR extension officers identified Ndakana (Amahlathi), Mgababa (Ngqushwa) and Mbanyana (Mbhashe)

3.5 Variable selection.

Variable selection plays an important role in classification. Before beginning designing a classification method, when many variables are involved, only those variables that are really required should be selected; that is, the first step is to eliminate the less significant variables from the analysis (ed. Terre Blanche, Durrheim & Painter 2006).

This study aimed to investigate the effectiveness of High Value Crop based extension model in improving rural livelihoods in the OR Tambo district. Prediction accuracy may be improved through exclusion of redundant and irrelevant variables, the predictor to be built is usually simpler and potentially faster when fewer input variables are used and knowing which variables are relevant can give insight into the nature of the prediction problem and allows a better understanding of the final classification model (ed. Terre Blanche, Durrheim & Painter 2006). Selection of indicators provides the guideline for designing questionnaires and relevant survey instruments.

This section is dedicated to a description of the nature of the variables used in this study and how they have been selected. Selection of indicators was done according to the specific objectives outlined in chapter 1 of this thesis.

Ultimately, the aim of this study was to assess programme impact at the household level. This is to done first by identifying the skills adopted by farmers after

introduction of the HVC programme. The study will then explore any changes in vegetable, fruit and herb production as a livelihood strategy, changes in asset base, income from crop sales and availability of food at affordable prices to the communities where the HVC programme was introduced. A comparison is then made between HVC participants and Siyazondla participants.

The DFID Sustainable Livelihood Framework was used as the guide towards the analysis of the HVC programme. Variables selected in this study were based on the four hypotheses that this study aims to test. These variables were presented as organisation and implementation of HVC, variables to measure impact of HVC in rural livelihoods, the sustainability measures in order to test the replicability of the programme.

Table 3.1: The summary of variables selected for the effectiveness of the HVC extension model.

Category	Variable description	Sustainable livelihood framework component
Demographic characteristics		
Village	Villages sampled.	Natural capital
Age	Actual age of household head.	Human capital
Farmer	Category of each farmer in the sample.	
Socio-economic variables		
Income	Off-farm income and Farm income including the highest income earned by households. Contribution made households.	Financial capital.
Food access	Number of fruit trees, Number of fruit trees died, Soil preparation methods, Tractor use by households and Source of water for irrigation. Distance to nursery.	Natural and physical capital.
Capacity development	Extension visits, Skills transferred and adopted, Recording keeping by households.	Human Capital
Social aspect	Cheap food prices for villagers, Gifts to villagers by households, Jobs offered to villagers by households. Women empowerment.	Social capital.
Marketing	Marketing individually. Marketing to retailers. Processing by households.	Social capital.

Source: Author, 2012

3.5.1 Demographic characteristics.

Demographic characteristics included indicators such as village, age and farmer category. The demographic characteristics play a pivotal role in determining the behavior of the household farmers. Most households cannot be sustained by the profits made from HVC production and that means they do not rely on farming for income.

3.5.1.1 Village

In this study, village selected was taken to represent the topography and the climate. The selection criterion for villages to participate in the HVC programme was specifically that the villages were supposed to have good farming potential in terms of soil types and climate. Though the villages are in the same municipality they may have different natural resource bases, leading to varying environmental constraints such as availability of water, biodiversity and ecosystems. Therefore, it was important that this variable was taken to have an impact on participation.

3.5.1.2 Age

In some rural societies access to land is not available until marriage. Lack of access to land due to refusal by the older people to land or use rights to young people may constitute an important factor in limited participation of youth in agricultural development programmes. Age has an impairing effect on physical abilities, which is a very important factor in small- scale farming. According to Obi and Pote (2011), younger farmers are expected to be more technically constrained than older farmers who are perceived to have acquired experience of farming and resources. According to Bembridge (1984) quoted by Dirwayi (2010), age influences behavioral patterns. According to Dlova, Fraser and Belete (2004) quoted by Dirwayi (2010), older (more

than 65 years old) farmers are less capable of carrying out physical activities while younger ones are more capable. Additionally, younger farmers are more ready to adopt modern technology, unlike the older farmers who are more conservative and reluctant to take risk.

3.5.1.3 Type of farmer

Households differ in their access to livelihood resources. They have different preferences, objectives, and expectations, hence they engage in different activities to sustain their livelihoods. In the South African context, farmers are categorised into three categories which include subsistence, smallholder and commercial farmers, all are playing a vital role in various dimensions. Although the total volume of production that the smallholder sector produces and sells may be relatively small, this sector plays a pivotal role in the communities where smallholder farmers operate.

This role includes elements as divergent as food production, income generation, and employment creation, provision of a social safety net, capital formation and for various cultural reasons. Commercial farming contributes to most of these elements with national food security being high on the agenda. Furthermore, it is often the only economic activity in certain rural areas.

The Agricultural Economics Working Group [2]has defined the three categories of farmers in the South African context as follows:

- A subsistence farmer is a member of society who is faced with resource and technology constraints; practices agriculture to supplement food needs of his/her family from resources that are available within the immediate vicinity of the household residence.

[2] Agricultural Economics Working Group provides a formal platform for communication, coordination, cooperation and information sharing for the National Department (DoA), Provincial Departments (PDAs), the Landbank, the National Agricultural Marketing Council (NAMC) and the Agricultural Research Council (ARC). The committee attends to non-trade economics matters that lack regular constructive engagement.

- Smallholder farmers produce more product than their own requirements and sell excess, either directly to consumers or supply products to collection centers or co-operatives, which generally process and market the products. The yields achieved in smallholder agricultural production are low and erratic.
- A commercial farm is defined as a farm which is large enough to provide a main activity for the farmer and a level of income sufficient to support his or her family. In practical terms, in order to be classified as commercial, farm income must exceed a minimum economic threshold.

During the field study, it was important to include in the sample the different categories of farmers to reduce biasness of the results. In the HVC programme, farmers were divided into lead farmers and emerging farmers. The category of a farmer is having an effect in the effectiveness of the HVC based extension model.

3.5.2 Socio-economic variables.

Many studies have proven that availability of resources strongly affects livelihood activities (Ellis 2000; Carney 1998; Schoones 2008). Resources are classified as natural, physical, human, financial, and social (DFID 1999). In this study, access to farming equipment, primary or secondary occupation (alternative sources of income), distance to institutional credit, distance to Department of Rural Development and Agrarian Reform offices, distance to production input facility, distance to nursery, ownership and control of arable land, participation in associations, availability of extension services, training, labour and organisational participation in decision making, were selected as factors that influence participation in the HVC Programme.

3.5.2.1 Income.

Income in this study is defined as the total amount received by a household from their various livelihood strategies. Their total income derived from a combination of income from salaries, remittances, crop and livestock sale, pensions and grants available to a household. This is an indicator of the availability of finances on a household. One of the objectives of the HVC programme implemented by the Is'Baya and ARC was income generation by the rural households. The number of trees planted by households depended on contributions made since the requirement was 50% of fruit tree cost, therefore there were households that were constrained by income in acquiring more fruit trees. In this study, the highest farm income earned by households was used to determine the effectiveness of the HVC based extension model. A positive correlation was expected on total income and participation.

3.5.2.2 Food access.

The HVC programme was introduced to rural households with its main objective being the food security; therefore households were engaged in food production. The focus in food production was fruit, intercropped with vegetables and herbs. To achieve a reduction of 50% in the number of food insecure households in South Africa, the targeted reduction of poverty was by 540 000 households per annum. In 1999, food security was prioritised by the South African government (DOA 2002).

The Department of Agriculture developed an integrated food security framework aimed at enabling those affected by food insecurity to access minimum daily safe and nutritious food. The evaluation of access to food was considered in terms of number of fruit trees, number of fruit trees died, soil preparation methods, tractor use by households, source of water for irrigation and distance to nursery. The access to food was considered as having an effect in the effectiveness of the HVC based extension model.

3.5.2.3 Capacity development.

Extension is an integral component in ensuring efficient service delivery of the government programmes aimed at alleviating poverty, improving livelihoods and a sustained environment. The role of extension and advisory services in the agricultural sector has silently always been the main determinant of improved livelihoods for the farming community. Sustainability and productivity of agricultural sector worldwide depends on the quality and effectiveness of extension services among other factors (ed. Kimaro, Mukandiwa and Mario 2010). Access to information enables farmers to do informed decisions.

At household human capital is a factor of the amount and quality of labour available. The evaluation of the level of capacity development was done by considering, extension visits, skills transferred and adopted, recording keeping by households. The capacity development was considered as having an effect on the effectiveness of HVC based extension model.

3.5.2.4 Social aspects.

The development projects are supported by the Government and the Private sector mainly to reduce the poverty levels especially in rural areas which look to be more vulnerable than the urban areas. Also rural areas are now experiencing high levels of crime due to high unemployment levels. The report on poverty by May (1998) identified women as one of the vulnerable groups to poverty and therefore programme relating to poverty alleviation are expected to play a role in women empowerment.

The contribution of the involved household to the betterment of the surrounding communities was measured in terms of cheap food prices for villagers, gifts to villagers by households, jobs offered to villagers by households and women empowerment. The social aspects are therefore considered to have an effect on the effectiveness of the HVC based extension model.

3.5.2.5 Marketing.

As the National Department of Agriculture has observed, access to markets is imperative as a mechanism for integrating new and emerging farmers into the country's agricultural economy (DOA 2002). Therefore the unlocking of markets is considered very crucial for the smallholder farmers (Obi, van Schalkwyk and van Tuliburg 2011). Although the primary intention of the HVC was production of nutritious food for the rural households, there is a need for households to market excess food to supplement their livelihoods.

According to the Agricultural Economics Working Group, the smallholder farmers are associated with the supply of small quantities which often lacks quality. The study wanted to evaluate marketing opportunities available for households involved in the HVC programme. The marketing opportunities were evaluated in terms of marketing individually, marketing to retailers and processing by households. Marketing was considered as having an effect on the effectiveness of the HVC based extension model.

3.5.3 Organisation and implementation of HVC.

According to the ICRA (2008), poverty issues are dynamic and to solve these problems requires the participation of different stakeholders. Stakeholder refers to any person, organisation or group that affects, or is affected by the particular situation, development issue or innovation system being considered.

The stakeholders can be at any level in a society, from international, national, regional, household and intra-household. Stakeholder analysis is attempting to solve stakeholders multiple and often conflicting views, interests and objectives (ICRA 2008). Analysis of the stakeholders involved in the HVC programme and their roles will be done through matrices. These stakeholders will also be ranked in terms of the closeness to the HVC implementation.

The Venn diagram will be used to portray the closeness of each stakeholder to the HVC programme. The study will also establish the manner in which extension model is organised to transfer technology to the rural communities.

3.5.4 Impact of HVC in rural livelihoods.

The second objective of the study was to investigate the extent to which the HVC Programme has changed the livelihood activities specifically in fruit, vegetable and herbs production of communities in Hluleka, Zanci, Noqhekwana, Hombe, Xhokonxa, Ndakana, Mgababa and Mbanyana. This objective was achieved through the investigation of variations between the livelihood activities of participants and Siyazondla participants.

It was expected that the introduction of the High Value Crop Programme had an impact on the livelihood activities in the study area. The effectiveness of skills and technology transfer are among the most important determinants of the livelihood activities. The survey wished to establish technology transferred and adopted by the rural communities and type of critical skills enquired included the planting skills, maintenance skills, processing, record keeping and cooperative governance.

Extension approach in terms of skills transfer was also measured in terms of practices applied and extension visits to rural communities. Also the socio-economic impact of the HVC programme is also one of the objectives that the study wishes to establish. The socio-economic impact was measured in terms of access to markets, income generation, food availability, job opportunities and social cohesion.

3.5.5 Sustainability of the HVC programme.

Sustainable development has three principal dimensions: economic growth, social equity and protection of the environment. Underlying the economic dimension is the principle that society's wellbeing would have to be maximized and poverty eradicated

through the optimal and efficient use of natural resources. The social aspect refers to the relationship between nature and human beings, uplifting the welfare of people, improving access to basic health and education services, fulfillment of food security needs and respect for human rights. The environmental dimension, on the other hand, is concerned with the conservation and enhancement of the physical and biological resource base and ecosystems.

The sustainability of the HVC programme will be measured in this study in terms of planning, factors that were considered in adopting the programme, farmer identification, extension visits and challenges affecting the programme. The Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis will be used as one of the tools for the analysis of sustainability.

3.6 The field study.

The field study was conducted by collecting data and analysing it by using the different approaches. This section will also include the typology of farmers and feedback session. The Participatory Rural Appraisal (PRA) methods were used to collect data from the rural communities. The PRA served the purpose of opening up communities in discussing issues of particular interest.

3.6.1 Data collection.

Then 150 household survey questionnaires were printed. The team introduced themselves first and stated the purpose of their visit. Additionally, it was important to re-iterate the confidentiality of the information that was gathered to ensure that information given was true. The participation in the survey was free and no incentives were provided. Two categories were included in the study, the first being the women and men participating in the HVC programme implemented by the ARC and Is'Baya and the second being the women and men participating in the Siyazondla programme implemented by the DRDAR.

Data collection tools used in the study included key-informant interview, focus-group discussions, transect walks, seasonal calendars, semi-structured interviews, resource maps and secondary data. Their use and application can be seen in the Table 3.1.

Table 3.1 Tools used to gather information for the field study in the OR Tambo District villages.

Tool	Purpose	When and where
Key informant interviews	To attain relevant and specific information and stakeholder perspectives	After setting up specific appointments with the stakeholders in offices such as Is'Baya and DRDAR.
Focus group discussions	To extract information form a group of farmers or project beneficiaries	At village meetings
Farm observations	To identify cropping activities of each farmer	After focus group discussions, in each village
Transect walks	To identify village resources and their placement	During village visits
Seasonal calendars	To determine production periods or times over the year.	During focus group discussions and farmer interviews.
Semi-structured interviews	To gain information about specific or individual farmer activities in their households	During individual farm visits
Resource maps	To determine resource distribution over the village	During village visits
Secondary Information gathering	Sales records, Cooperative business plans, Organisational structures or organograms, village monitor weekly time sheets, reports -To determine income records for individual farmers and determine organisation or cooperative progresses	During individual farm visits Key informant interviews
Feedback session	To verify information gathered during the field visits from stakeholders at a central point	Is'Baya offices in Port St. Johns

Source: Field study, 2012.

3.6.1.1 Key informant interviews.

Due to the fact that the household survey and focus group discussions are only as good as the quality of the information which is collected and depend totally on the presumed responses, key informants were used whereby, informal interviews and discussions with extension officers (DRDAR-EC), Is'Baya officials, ARC officials and other villagers not involved in the project.

3.6.1.2 Focus groups.

The focus group discussion was another method used to collect primary data. On arrival in each village, a focus group discussion was organized with the members of the community. The focus group discussion was a sort of participatory rural appraisal in order to grasp information on their community about history, community profile, livelihoods activities, resources accessibility, constraints and problems, local institutions, relation with other villagers and existing conflicts.

The focus group discussion was organized in a form of a deliberative forum where the research team asked the questions to the villagers and several answered were given which was then deliberated upon to have the most reliable answers. Most focus group discussion took place between 10:00 am to 13:00 pm so that large number of the villagers could attend after returning from their daily activity and it lasted for about four hours in each village. The deliberation was in Xhosa since everybody in the study area understood and speaks Xhosa.

3.6.1.3 Questionnaires.

In depth interviews were conducted with farm owners using a combination of structured (closed) and unstructured (open) questions. According to Babbie, Mouton, Vorster and Prozesky (2012), to conduct qualitative interviews and truly understand what the people say requires skills beyond those of ordinary conversation. In qualitative studies, success can be achieved by encouraging people to describe their

worlds in their own words or terms (Babbie et al 2012). Questionnaires were used to collect data from households. The objective of the questionnaire survey was to reveal trends or common patterns within case study villages. The questionnaire addressed to the household was structured into four sections with each of them designed for measuring the following points.

- Organisation and implementation of the HVC and Siyazondla programmes.
- The effectives of the HVC based extension model in skills and technology transfer.
- Socio-economic impact of the HVC and Siyazondla on rural livelihoods.
- The sustainability of the programmes that were implemented by both Is'Baya and DRDAR.

3.6.1.4 Resource maps.

During the focus group discussions, the respondents were requested to draw the village maps on a flip chart that was provided to them. These maps created a valuable visual reference for further discussions with the respondents. The village maps were also very useful in identifying transect routes, resources, different groups and different livelihood activities within the community.

3.6.1.5 Transect walks.

This method was additionally used and concerned information gathered during the stay in the study areas. Once the general picture of the village from the village maps drawn by respondents, the picture was verified by transect walks. Observations such as availability and quality of infrastructure such as roads, schools, sources of water, health care and community project, traditional use of resources.

3.6.1.6 Seasonal calendars.

The respondents were requested to create the seasonal calendars which show all the activities of the involved households and these included climatic conditions such rainfall, frost, tornado and other garden planting processes, maintenance and harvesting periods. Seasonal calendars were useful in providing the clear, visual representation of seasonal variations. The seasons in which their fruit ripen and the months when there is nothing to be harvested is portrayed in those seasonal calendars.

3.6.1.7 Farm observations.

During transect walks; involved households were visited to verify information gathered during focus group discussions which relate to the varieties of crops that are planted in each household. Photographs were taken to capture visuals of the crops planted in each household. This exercise also assisted in understanding the different categories of farmers that were in each village. There were other activities which relate to rural livelihoods that were observed during farm visits and these included activities such as livestock farming, collection and use of fire-wood as a source of energy, mode of transportation used by some rural dwellers and the distance of a household from the source of water.

3.6.2 Typology of farmers.

According to Farm Accounting Data Network, typology identifies the principal types of farming, which are then further broken down in terms of the relative importance of the various farming practices observed in the farm (FADN 2010). However in the course of undertaking the study, farmers were classified according to:

- Number and types of fruit trees planted.
- Types of vegetables planted.

- Types of farmers; Lead farmer or non-lead farmer.

3.7 Sampling procedure.

In conducting the study of the HVC based extension model, two populations were identified and these included farmers participating in HVC and those participating in Siyazondla. In an effort to study the two population groups, samples were selected. According to Babbie et al (2012), the ultimate purpose of the sample is to select a set of elements in such a way that the description of those elements accurately portrays the parameters of the total population from which the elements were selected.

There are two methods of sampling and these include the non-probability sampling and probability sampling (Wegner 1993). For this research project the probability sampling was used, where the observations were randomly selected from the population. A probability sampling method is any method of sampling that utilizes some form of random selection. In order to have a random selection method, you must set up some process or procedure that assures that the different units in your population have equal probabilities of being chosen.

Researchers rarely survey the entire population because the cost of a census is too high. According to the terms of reference of the HVC programme, the lS'BAYA and ARC have covered 52 villages. From the population of 52 villages, 1 village per local municipality was selected from the 4 municipalities in the OR Tambo district. These villages included the Hluleka (Nyandeni Municipality), Zanci (King Sabatha Dalindyebo), Noqhekwana (Port St Johns) and Hombe (Ngquza Hill Municipality). The same number of villages was selected on the Siyazondla programme which is covering all the 8 districts. The villages that were visited include the Xhokonxa (Mhlontlo Municipality), Ndakana (Amahlathi Municipality), Mgababa (Ngqushwa Municipality) and Mbanyana (Mbhashe Municipality).

A total number of 149 elements were selected as sample for study and this is composed of 69 HVC members and 80 Siyazondla members. The HVC members in the sample from villages are represented as follows: 23 members from Hluleka, 9

members from Zanci, 14 members from Noqhekwana and 23 members from Hombe. The sample that was taken in the Siyazondla programme is composed of 11 members from Xhokonxa, 20 members from Ndakana, 27 members from Mgababa and 21 members from Mbanyana villages. The sample is composed of all the members in each programme managed to attend the gathering that was organised for the purpose of this study.

3.8 Data entry and analysis.

As indicated earlier in the dissertation, the study used qualitative research methodology, which was supplemented by quantitative research methods. Qualitative research is characterized by an emphasis on understanding, and explaining complex phenomena. It concentrates on studying, for example, the relationships, patterns and configurations among factors, or the context in which activities occur, and uses description and content analysis as the core of analysis.

The focus is on understanding the full multi-dimensional, dynamic picture of the subject of study. Thus, data analysis in qualitative research provides ways of discerning, examining, comparing and contrasting, and interpreting meaningful themes in research results (Babbie et al, 2012). In quantitative analysis, on the other hand, numbers and what they stand for are the material of analysis. The approach of qualitative research, therefore, contrasts with quantitativemethods that aim to divide phenomena into manageable, clearly defined pieces or variables. Quantification is good for separating phenomena into distinct and workable elements of well-defined conceptual framework.

In this study, the collected data was analyzed using a multidisciplinary approach consisting of a combination of these two research methods. At the end of the data collection phase of our research, the team reviewed the transcripts of the interviews and field notes and drew out some preliminary findings. This involved sorting out notes and transcripts into the broad topics or sub-topics used in the research, or adding any new themes that emerged from the interviews.

The data was cleaned, coded and entered into the excel spread-sheet for analysis. Two methods of data analysis were employed for the coded data and these are descriptive and inferential analysis. The inferential analysis employed both cross-tabulations and econometric analysis. This ensured a deeper understanding of development of rural livelihoods. The basic objective of quantitative analysis was to map the livelihoods in Amathole and OR Tambo.

The ARD procedure was used in the analysis derived from the key informant, focus groups, resources maps, transect walks/ observation and stakeholder matrix. The ARD attempts to collectively analyse rural areas and innovations from three perspectives which include the ecological, economic and social perspectives.

The descriptive statistics was employed with a view to understanding the distribution of the sample. Measures of central tendencies, box-plots, cross-tabulations and t-tests were conducted to explore the factors that contribute to the effectiveness of the HVC based extension model in improving rural livelihoods. These analyses were carried out by means of the SPSS software. Other descriptive statistics including means, frequencies and standard deviations were calculated.

3.9 Model description

The purpose of the study is to evaluate the effectiveness of the HVC based extension model in improving rural livelihoods. To achieve the purpose of the study a linear regression model was used to assess the factors influencing the performance of the farm enterprise, the highest income generated was adapted as the measure of farm performance. Most respondents did not keep records, only one respondent had records during the field study but they were able to remember the highest income they received from their plots. The highest income received was taken as the measure of improved livelihoods and modelled as the response variable.

The study viewed the household welfare as a function of a number of variables, including a set of demographic variables, socio-economic characteristics of the household head, the employment status of the household head, as well as what the household head earns from main and supplementary occupations. In order to

determine the contribution of HVC to the household income and food security, a simple model was fitted by means of the Ordinary Least Squares (OLS) technique.

Economic theory predicts direct relationships between a vast array of socio-economic and community variables and the highest income generated. It is therefore possible to fit a simple linear model of the form:

$Y = f(x_1, x_2........x_n)$……………………………………………………………………(1)

Where:

Y is the dependent variable representing highest income generated while the *x*'s are the explanatory variables fitted which include ownership of production resources, women empowerment, other sources of income (pension, child support grant, off farm income), type of farmer, plot size, number of fruit trees, trees died, method of soil preparation, production inputs, marketing, individual marketing, group marketing, retail marketing, processing, irrigation of crops, sources of water, distance to loan institutions, distance to extension office, extension visits, initiator of extension visits, cheap prices, gifts, jobs created, record keeping, period of household involvement, form of organisation, household contribution, programme introduction, village, gender, size and household age. The variables fitted in the regression analysis for the study are summarised in Table 3.2.

Table 3.2: Description of variables fitted in the regression analysis.

Variable	Variable description	Type of variable	Relationship
Dependent variable			
High	Highest income earned per household	Continuous	-/+
Independent variables			
Village	Villages sampled.	Categorical	+
Age	Actual age of household head.	Continuous	+
Off-farm income	Off-farm income.	Categorical	-
Farm income	Farm income.	Categorical	+
Type of farmer	Type of farmer.	Categorical	+
Contribution	Contribution made households.	Continuous	-
Extension visits	Extension visits.	Continuous	-
Trees	Number of fruit trees.	Categorical	+
Trees died	Number of fruit trees died.	Categorical	+
Cheap food prices	Cheap food prices for villagers.	Continuous	-
Gifts	Gifts to villagers by households.	Continuous	-
Jobs	Jobs offered to villagers by households.	Continuous	-
Soil preparation	Soil preparation methods.	Categorical	-
Tractor use	Tractor use by households.	Categorical	-
Source of water	Source of water for irrigation.	Categorical	-
Individual marketing	Marketing individually.	Categorical	+
Retailers	Marketing to retailers.	Categorical	+
Processing	Processing by households.	Categorical	+
Record keeping.	Recording keeping by households.	Categorical	-
Women empowerment.	Women empowerment.	Categorical	-
Distance to nursery.	Distance to loan institutions.	Categorical	-
Skills	Skills transferred and adopted		+

Source: Field survey, 2012.

Following convention, the model is specified as:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$………………………. $\beta_n X_n + \mu_i$…………………………….(2)

Where:

$\beta_0 =$ The intercept or constant term

$\beta_1, \beta_2, ... \beta_n =$ Slope or regression coefficient

$X_1, X_2, ... X_n =$ Explanatory or independent variables

$\mu_i =$ Error or disturbance term.

The model was estimated to determine the effectiveness of the HVC based extension model in improving rural livelihoods. Given the rather large number of variables enumerated, the likelihood of correlation among independent or predictor variables is high. For this reason, the test of multicollinearity was applied. Assuming two variables, X_1 and X_2, collinearity is suggested if:

$X_1 = \lambda X_2$ ....(3)

However, equation (2) demands that a more robust function be developed to cater for the several predictor variables in the model. This can be presented as:

$\lambda_1 X_{1i} + \lambda_2 X_{2i} +$ ……………………….. $\lambda_k X_{ki} = 0$……………………………………………………….(4)

Where λ_i are constants and X_i are the exploratory variables that might be linearly correlated.

The speed with which variances and covariance increase can be seen with the variance-inflating factors (VIF), which shows how the variance of an estimator is inflated by the presence of multicollinearity. A formal detection tolerance or the variance inflation factor (VIF) for multicollinearity as illustrated by Gujarati (2003) can be used as follows:

$$VIF = \frac{1}{\text{tolerance}} \quad \text{.....(5)}$$

where tolerance = $1\text{-}R^2$

Tolerance of less than 0.21 or 0.10 and / or VIF of 5 or 10 and above indicates multicollinearity of variables. Where multi-collinearity was detected on the basis of the value of the VIF, the highly collinear variable, that is those with very high VIF, were deleted from the model.

Finally, a test was conducted to detect any possible serial correlation indicated by the size of the Durbin-Watson (DW) statistic by establishing that:

$$\mu_t = \rho\mu_{t-1} + \varepsilon_t \quad \text{.....} \quad (6)$$

Or that the error terms are not correlated.

In addition to the regression analysis, it was decided to conduct a correlation analysis to determine the extent of linear relationship between the independent variables included in the model above.

3.10 Chapter summary

This chapter outlines the methods that were followed in an attempt to establish the effectiveness of the model. The study area and its attributes were discussed in this chapter. OR Tambo and Amathole districts were sampled as the study area in this study. Eight villages were visited and these included Hluleka, Zanci, Noqhekwana, Hombe, Xhokonxa, Ndakana, Mgababa and Mbanyana.

The main objective of the survey was to establish the effectiveness of the HVC based model in improving rural livelihoods. In carrying out the survey the ARD

approach was employed in the process of data collection. This approach is a qualitative method which encourages various forms of data collection. The tools that were used to collect data in the study included the focus groups, key informant interviews, transect walk, observations, resource maps, seasonal calendars and individual interviews.

Also quantitative methods of data collection were employed to be able to quantify the effectiveness of the HVC based extension model. The survey included demographic characteristics, organisation of the HVC in relation to the Siyazondla programme, effectiveness in terms of skills and technology transfer, socio-economic impact of the HVC programme, women and youth empowerment initiatives of the programme and sustainability of the extension model.

A random sample of 149 respondents composed of households involved in HVC and Siyazondla was surveyed. The data collected was entered in excel, cleaned and analysed using SPSS. The descriptive and inferential statistics methods of data were employed in data analysis. The descriptive statistics was applied to understand the distribution of the sample.

The simple regression analysis model, a statistical tool for the investigation of relationships between variables was fitted into the analysis of the survey. The highest income attained by the respondents was the dependent variable with 23 explanatory variables.

CHAPTER 4

PRESENTATION OF RESULTS

4.1 Introduction.

According to the specific objectives of the study, information related to organisation and implementation of the HVC programme in terms of community involvement, partnership with other stakeholders and development actors were presented. Other objectives include skills and technology transfer, socio-economic impact, women and youth empowerment and important factors in the sustainability of the programme. The results were presented from the empirical data obtained from focus groups and in-depth interviews with a variety of stakeholders representing beneficiaries from selected communities, government and non-governmental organizations.

A total of 149 respondents in the HVC and Siyazondla programme were interviewed in the survey. The qualitative analysis, quantitative analysis and regression analysis model were used to present the results of the study. The first step will be the presentation of the demographic characteristics of the sample.

4.2 Demographics of the HVC and Siyazondla programme.

The survey included the demographic characteristics of the farming community. The demographic characteristics play a pivotal role in determining the behavior of the household farmers. Most households cannot be sustained by the profits made from farming and that means they do not rely on farming for income. The household demographic characteristics are the first to be presented for the clear understanding of the HVC and Siyazondla farming community. The demographic characteristics measured include distribution of farmers per village, age and off-farm income.

4.2.1. Distribution per village

The Eastern Cape is the second poorest province which is rural in nature. Most district municipalities in this province rely mainly on Agriculture as means of production and food security. OR Tambo and Amathole districts are indicating a largely rural character and low urbanisation rate, which justifies the assumption that the livelihood of the people of the region depends on agriculture.

The institutions that are optimistic about the role of smallholders emphasise the need for increased direct investment in agriculture and rural development, with support focusing on creating institutions that will encourage and support smallholder-led agricultural development. They believe it is important to improve the productivity of staple food crops that are not traded internationally, but consumed by the poor and traded locally (DFID 2004).

Eight different villages were visited in an attempt to evaluate the effectiveness of the HVC model in improving the rural livelihoods and these were sampled as being representative of all the 52 villages participating in the HVC programme. The four villages representing the four local municipalities in the OR Tambo district were sampled for the survey and an equal number of villages for the Siyazondla programme were selected.

Also the villages participating in the Siyazondla programme to compare these two programmes that were selected and the total number of villages surveyed was eight. The objective of sampling different villages form different municipalities was to explore the performance of these two programmes under different circumstances such as infrastructure, natural factors and participation of different stakeholders. The number of respondents varied from village to village and the distribution of respondents per village is represented in Table 4.1.

Table 4.1: Distribution of households per village

Villages	No of households	Percent
Hluleka	23	15.4
Zanci	9	6
Noqhekwana	14	9.4
Hombe	23	15.4
Xhokonxa	12	8.1
Ndakana	20	13.4
Mgababa	27	18.1
Mbanyana	21	14.1
Total	149	100

Source: Field survey 2012

Table 4.1 and shows the proportion of respondents per village, in total the respondents under the HVC and Siyazondla programmes were 69 and 80 respectively. The respondents from Hluleka and Hombe in sample were both 15.4% percent, 6% were Zanci respondents and 9.4% were Noqhekwana respondents. The Siyazondla respondents in sample were composed of 8.1% of the respondents from Xhokonxa, 13.4% were Ndakana respondents, 18.1% were Mgababa respondents and 14.1% were the Mbanyana respondents.

4.2.2 Distribution by age.

Agricultural production in the Eastern Cape has been in terms of age been characterized by old people and a very minimal youth participation. This may be caused by the migration of youth from rural areas in search of employment opportunities in urban areas. The age of the respondents that were randomly selected 149 farmers from the eight villages.

For better presentation of the results these farmers have been categorised and age brackets were formulated. There were three age brackets that were formulated and the first one being youth represented by 25 to 33 years, middle age represented by 38 to 58 years and pensioners represented by 62 to 75 years of age. The distribution of respondents by age is depicted in the Table 4.2.

Table 4.2: Distribution of households by age.

Age categories	No of households	Percentage
25- 33	4	2.68
38- 58	59	39.59
62- 75	86	57.73
Total	149	100.0

Source: Field survey 2012.

The results of age distribution of the households from an interview with 149 respondents have shown that the mean age was 59.57, the standard deviation was 10.24, the minimum age was 25.00 and the maximum age was 75.00. The median age of the respondents in the sample was 63.00.

Most respondents were older than 60 years and these respondents are not affected by the high unemployment rates as they are already on pension. When question of youth involvement was raised in all the focus groups, all the respondents were in agreement on the fact that youth does not want to be associated with agriculture.

4.2.3 Sources of income.

Rural livelihoods are sustained by different sources of income. The sources of income that were measured during the survey included the households receiving farm income, child support grant, pension grant and off farm income.

4.2.3.1 Households earning farm income

During the survey period, it was expected that all the respondents were selling the excess food and therefore are receiving farm income. Some of the respondents were only introduced to the programme in 2012 and have therefore not sold any of their produce. When these villages were visited, only 6% of the respondents had not received farm income and 94% had earned the farm income. Farm income is playing a crucial role in supplementing income of the households involved in both programmes. Most households have mentioned that they are no longer buying vegetables and fruits; therefore able to purchase alternative goods and to save. This is shown in Table 4.3.

Table 4.3: Number of households who receives farm income.

Farm income as a source of income.	Number of households	Percent
No farm income	9	6.0
Farm income	140	94.0
Total	149	100.0

Source: Field survey 2012.

4.2.3.2 Households earning off farm income.

In diversifying rural livelihood strategies, rural dwellers tend to participate in various activities in an attempt of improving their living standards. During the field survey, it was learned that the rural households were participating in the secondary occupations. The survey investigated other activities done by the participants of the HVC and Siyazondla to generate extra income.

Table 4.4: Number of households earning the off farm income.

Frequency	Percent	Valid Percent
No off farm income	141	94.6
Off farm income	8	5.4
	149	100.0

Source: Field survey 2012.

Only 5.4 % participants were earning income from other activities which were not farm related and 94.6% were not earning the off farm income. The rate at which the respondents are earning the off farm income is depicted in Table 4.4.

4.3 Organisation and implementation of the HVC programme in relation to Siyazondla.

The stakeholder involvement in terms of the roles, and relationships in the implementation of the HVC programme was one of the issues that the survey investigated from the focus groups as well as from key informants. Rural issues are very diverse and these cannot be eradicated by a single organisation effectively, this situation requires working alliance among different stakeholders. The stakeholder's identification matrix, Venn diagram and the information flow chart were constructed from the views by the respondents of the sample.

4.3.1 The stakeholder matrix.

As was mentioned in the research methodology the complex challenges facing rural development requires a multi-stakeholder participation towards achieving a common purpose. Each stakeholder usually has a different interest in a situation and there is a need for all the stakeholders to be given enough consideration. These interests of different stakeholders go beyond information and technology to include business, finance, politics, organisation, management, development and more importantly the links among these (ICRA 2008).

The difference in interests of different stakeholders also means the costs and benefits of working together will not be evenly distributed among stakeholders. The multi-stakeholder participation does not mean that all stakeholders should be involved in all stages, but rather on specific roles to complement other in tackling these complex issues.

The stakeholders in both HVC and Siyazondla were surveyed and were ranked in the order of importance towards the implementation of each programme. The multi-stakeholder forum involves the need to explore the different interests, reconciliation of the interest and formation of shared objectives. The uncoordinated multi-stakeholder participation may distort the rural development. According to ICRA (2008), stakeholder analysis is becoming more common in project setting as it attempts to deal with conflicting ideas, interests and objectives. The information on stakeholders involved is shown Table 4.5 and 4.6.

Table 4.5 HVC programme: stakeholder Identification, role and ranking matrix

Village	Stakeholder	Stakeholder roles	Year	Ranking
Hluleka	Is'Baya	Provision of fruit trees, extension support and inputs	2002	1
	ARC	Provision of technical support and training.		2
	DRDAR	Provision of extension services, tools and vegetable seeds.		3
	Ulima	Provision of tanks for irrigation		4
Zangci	Is'Baya	Provision of trees, extension support and inputs	2004	2
	ARC	Provision of technical support and training.		3
	DRDAR	Provision of vegetable seeds and extension services.		1
	Ulima	Provision of vegetable seeds		4
Noqhekwana	Is'Baya	Provision of trees, extension services, inputs and training on processing.	2006	1
	ARC	Training on tree planting, pruning trees and packaging		1
	DRDAR	Provision of Jojo tanks, irrigation pipes and implements		2
Hombe	Is'Baya	Provision of trees, technical support and inputs.	2006	1
	ARC	Provision of technical support and training.		1
	DRDAR	Provision of farming inputs		3
	Tribal authority	Provision of land for farming		2

Source: Field survey 2012

Table 4.6 Siyazondla programme: stakeholder Identification, role and ranking matrix

Village	Stakeholder	Stakeholder roles	Year	Ranking
Xhokonxa	ARC	Provision of technical support and training.		2
	DRDAR	Provision of extension services, tools and fruit trees.		1
Ndakana	DRDAR	Provision of vegetable seeds and extension services.	2004	1
	Ulima	Provision of training on planting skills.		2
	Ward committee	Selection of beneficiaries, monitoring and evaluation.		3
Mgababa	DRDAR	Provision of Jojo tanks, implements, inputs and technical support	2006	1
Mbanyana	DRDAR	Provision of implements, fencing material, inputs, training and technical support.	2006	1
	Traditional leader.	Provision of land for farming.		2

Source: Field survey 2012

The stakeholder matrices were done for both the HVC and Siyazondla programmes. In the HVC programme, there were three common stakeholders in all the four villages that were visited during the field survey and these include the Is'Baya, Agricultural Research Council and the Department of Rural Development and Agrarian Reform. Ulima also featured as a stakeholder in two villages and the traditional leader in one village. Ulima and DRDAR were playing the same role in the HVC program.

The Siyazondla stakeholder matrix has shown less stakeholder participation in the programme than the HVC. The Department of Rural Development and Agrarian Reform is the leading stakeholder in the Siyazondla programme. The Agricultural Research Council is one of the stakeholders taking part and other stakeholders included Ulima, Ward committee and the traditional leader

4.3.2 Venn diagram of the programmes.

There were other institutions that were stakeholders in the HVC programme and these include Walter Sisulu University (WSU), Thina Sinako, Department of Rural Development and Agrarian Reform and Sustainable Rural Development in the Eastern Cape (SURUDEC). The Thina Sinako and SURUDEC are the joint partnership programmes of the European Union and South Africa. The ranking of stakeholders by the respondents allowed for the presentation of stakeholder interest using Venn diagrams. Figure 4.5 and 4.6 are the Venn diagrams showing the stakeholders, their relationship and level of contribution in the HVC and Siyazondla programme.

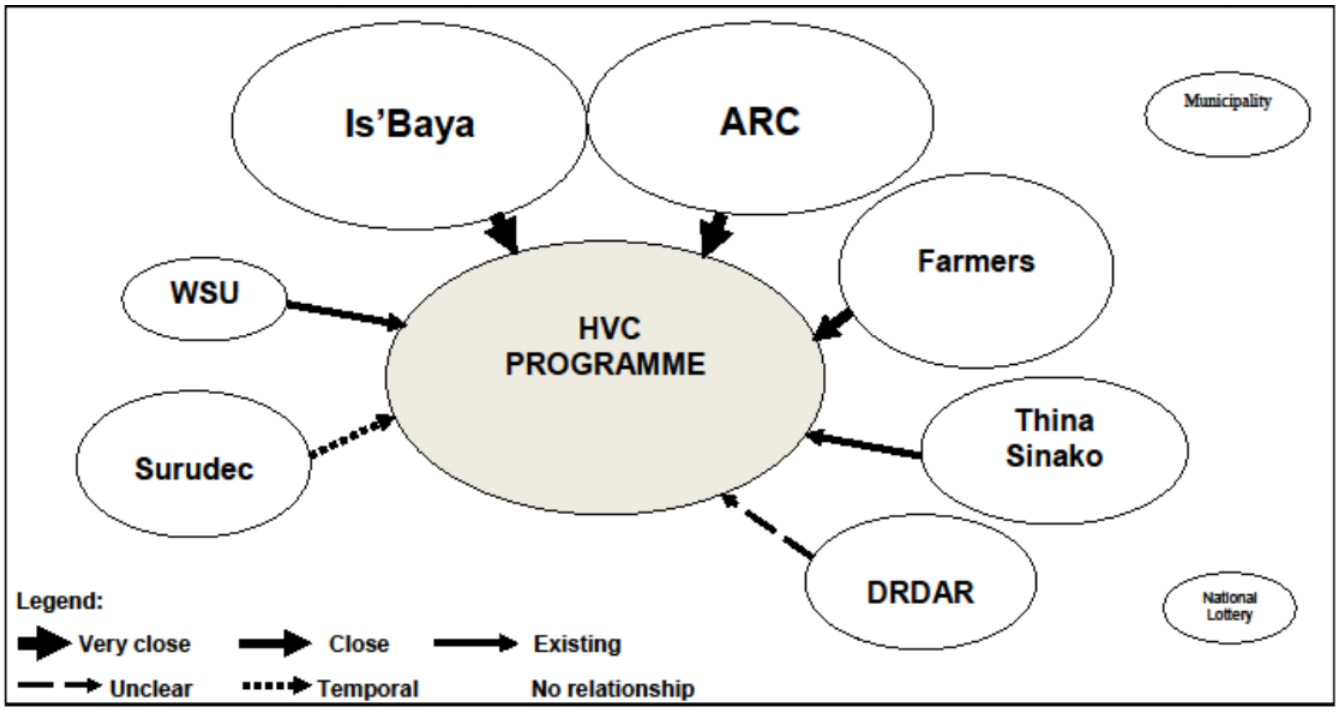

Figure 4.1: Venn diagram of stakeholder relationships.
Source: Field survey 2012.

Figure 4.1 shows the relationship between different stakeholders involved in HVC programme and their closeness in terms of their contribution to the programme. Is'Baya and ARC are the coordinators of the HVC programme and they cannot operate without each other in the OR Tambo district. There are other different stakeholders that assist them with funds, inputs and technical support.

Farmers are the main focus of the HVC programme and the closest stakeholder because they are directly involved in the production process. Thina Sinako has an existing relationship and provides funds for capacity building and inputs. Surudec is temporally a stakeholder as their contract is going to end August 2012 and their main role was to provide funds for capacity building.

DRDAR has an unclear relationship with Is'Baya/ARC programme because their roles cannot be identified and evaluated within the programme. Their main role is to provide inputs such as fertilizers and working equipment's, vegetable seedlings and Jojo tanks in some villages. DRDAR serves every farmer in the villages and not specifically those involved in the HVC programme.

The national lottery is also funding Is'Baya but not on the HVC programme, rather on another project which focuses mainly on heritage and is coordinated by Walter Sisulu University (WSU) School of history. WSU's school of journalism is also responsible for media side (newsletters) for Is'Baya/ ARC HVC programme. Municipality is not involved in the HVC programme but they are showing interest and they are providing farmers with vegetable seedlings for intercropping in some villages such as Zangci through Ulima.

During the field survey the information deduced from the key informants and focus groups suggested that the DRDAR was not implementing the Siyazondla programme alone in all the areas. The other institutions that were stakeholders in the Siyazondla programme included Agricultural Research Council, Ulima, traditional leaders and ward committees. Ulima is the Development Agency of the Amathole District Municipality. The stakeholder matrix where these stakeholders were ranked allowed for the development of the Venn diagram which shows the closeness of the stakeholders the Siyazondla programme. The closeness of stakeholders to the Siyazondla programme is depicted in Figure 4.2.

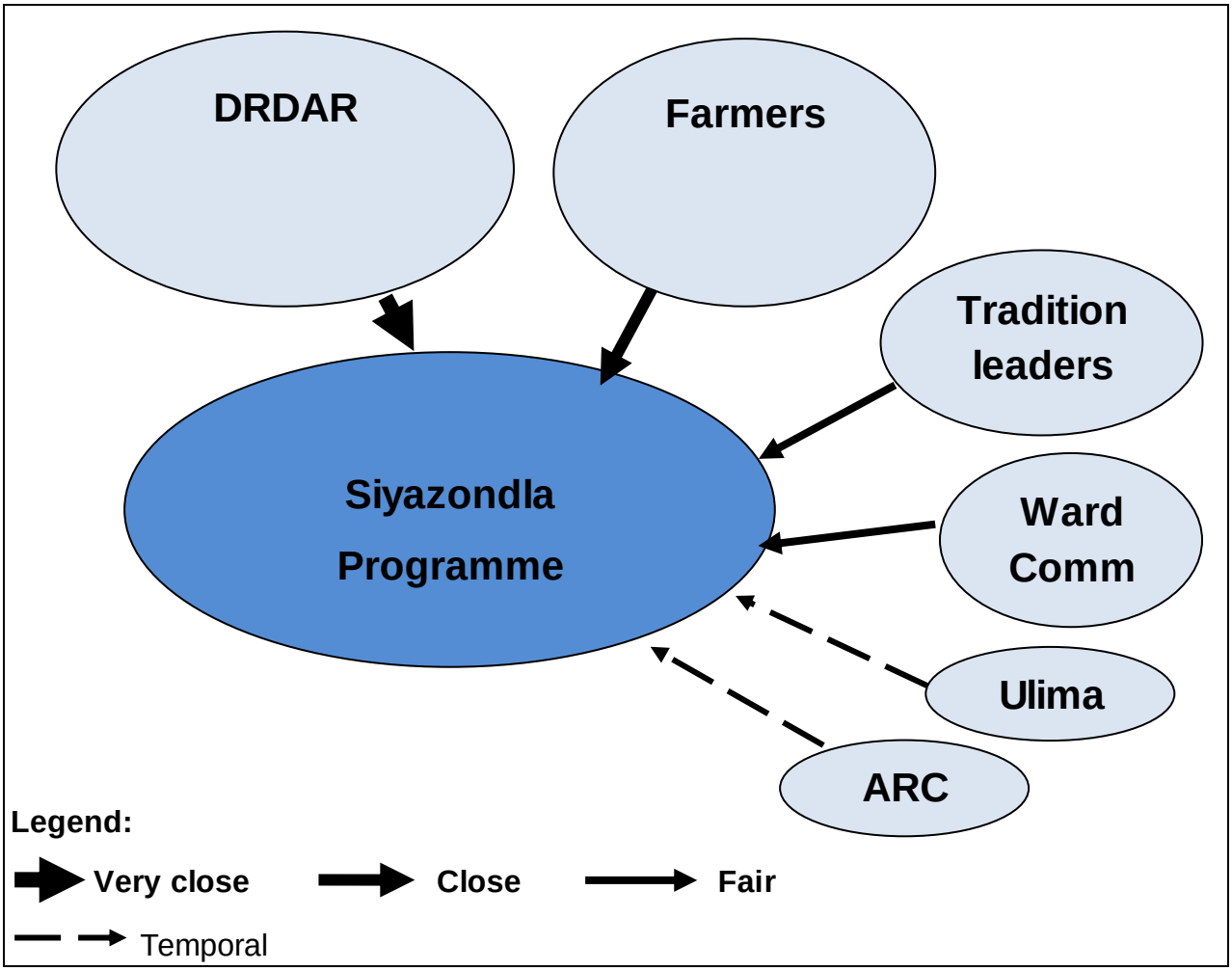

Figure 4.2: Venn diagram of the Siyazondla programme.
Source: Field survey 2012.

Figure 4.2 shows the relationship between different stakeholders involved in the Siyazondla programme and their closeness. DRDAR is the main drivers of the Siyazondla programme in the Eastern Cape and there are different stakeholders that assist them with training, coordination and monitoring. Farmers are the main focus of the HVC programme and the closest stakeholder because they are the only stakeholders involved in production.

Traditional leaders and ward committee assist in linking the farmers with DRDAR and further more ward committee are also involved in the selection of the beneficiaries, monitoring and evaluation of the implemented projects. In Figure 4.2, the relationship of traditional leaders and ward committee is portrayed as being fair.The other stakeholders with the temporal relationship in Figure 4.2 were the ARC and Ulima.

These stakeholders were classified as being temporal because their involvement was on training with scheduled time of training. In Xhokonxa, ARC provided training to farmers who were supplied with fruit trees by the DRDAR. In Ndakana, the Ulima was involved with training of the Siyazondla beneficiaries who were involved in both vegetable and fruit production.

4.3.3 Identification of participants in the HVC programme.

The HVC programme was adopted in 2002 as a means of introducing the Integrated Village Renewal Programme (IVRP) to the villages which was the main goal of Is'Baya. There was also the need to develop capacity building among rural farmers as well as transform these farmers from small scale garden/subsistence farmers to commercial farmers. This can be seen as a way to introduce these farmers to the mainstream of agricultural activity in South Africa, as well as reducing household food insecurity among rural dwellers.

In its more than ten years of operation, the extension model has grown from its initial three villages where the HVC programme was first introduced, to 52 villages. In considering the expansion of the programme, various factors of spread were considered. Such factors include; climatic condition of the area, availability of market, needs of the people in that area and types of crop that can be grown in that area. Finally, farmers from the community where the programme is to be sited must show strong interest and commitment on their part in order to make the programme succeed. The formation of cooperatives was also another strategy used in the HVC programme to improve market access by households.

4.3.4 Farmer contribution.

Farmers were asked by the Is'Baya and ARC to contribute 50% of the production costs. The costs were mainly incurred for the purchase of fruit trees by the respondents. The farmer contribution was one of the strategies employed by the Is'Baya in ensuring the sustainability of the programme within the rural households.

The Siyazondla programme budgeted for the full implementation of the programmes and respondents were expected to contribute with labour. The different types of contributions by farmers to the programmes are shown in Table 4.7.

Table 4.7: Contribution of farmers to the programme.

Contribution of farmers to the programme	Number of households	Percent
50% and labour	69	46.3
Llabour	80	53.7
Total	149	100.0

Source: Field survey 2012.

Table 4.7 shows that 46.3% of the respondents that were sampled for the survey contributed with both 50% production costs and labour; and 53.7% contributed only with labour to the programme.

4.3.4 Types of commodities planted by the participating households.

After the farmers showed interest in the HVC programme, soil samples were analysed in order to determine the suitability of fruit trees to the specific areas. One of the requirements of the HVC programme was the purchasing of at least 10 fruit trees. The farmers under the HVC programme are mainly focusing on fruit production even though there is vegetable and herbs intercropped in between the fruit trees. The type of fruit and vegetables planted by farmers in both programmes are listed in Table 4.8.

Table 4.8: Commodities planted in the HVC and Siyazondla programme.

Type of fruit	Type of vegetables
Banana	Cabbage
Orange	Carrots
Mango	Beetroot
Guava	Spinach
Litchi	Onion
Macadamia-nut	Tomato
Lemon	Green pepper
Pineapple	Potato
Naartjie	Brocolli
Avocado	Peas
	Brinjal
	Turnip

Source: Field survey 2012.

Due to the focus on fruit production by the HVC programme, the measurement used in assessing the project organisation and implementation included the number of fruit trees planted. The information on the number of fruit trees planted is categorized and is presented in Table 4.9.

Table 4.9: Number of fruit trees planted per household.

Number of trees planted	Number of households	Percent
0	38	25.5
1-9	57	38.3
11-50	36	24.2
51-217	11	7.4
302-620	7	4.6
Total	149	100.0

Source: Field survey 2012.

The number of trees planted per household varies from 0 to 620 as shown in the Table above. Most respondents in the sample that had less than 10 trees were the Siyazondla beneficiaries since the focus on Siyazondla is vegetable production. During the survey, it was noted that in Hombe there new farmers who were still waiting for the delivery of fruit trees.

4.4 Effectiveness of the extension model in terms of skills and technology transfer.

Extension service is the most crucial element in the development of smallholder agriculture in the Eastern Cape. According Allahyari (2009), farmers that practice sustainable agriculture to be successful in managing their farmlands, there must be a continuous network of information, new technologies, and innovations that are available to them. In the view of DAFF extension is an amorphous umbrella term for all activities that provide information and advisory services that are needed and demanded by farmers and other actors in the agrifood systems and rural development.

4.4.1 Skills transferred and adopted by the participating household.

Smallholder farmers in developing countries, especially the resource poor do not receive adequate extension and advisory services. The diminished role of extension and advisory services as public goods is a major bottleneck to agricultural and rural development. The above mentioned constraints have led to the international conference of extension and advisory services which was in held in Nairobi in 2011 with the aim of redesigning and revitalising the role of extension and advisory services in reshaping the global food system (CTA 2011).

Worth (2008) explained the understanding of extension concept as based on three premises namely being educational, having a philosophy and scope with responsibilities. The educational element of extension is two folds: being informal and non-formal. The articles on Farmer's weekly which portrayed the extension model applied by the Is'Baya and ARC in the OR Tambo as being effective in improving the rural livelihoods created an interest of a scientific study. During the survey the respondents that were sampled for the survey have shown high levels of capacitation. In quantifying the skills transferred and adopted by the respondents in the sample, categories. Skills that were transferred to the sampled respondents are illustrated in Table 4.10.

Table 4.10: Skills transferred and adopted by participating households.

Skills transferred and adopted	Number of households	Percentage
Planting and maintenance skills.	89	59.7
Planting, maintenance and cooperative governance skills.	46	30.9
Planting, maintenance, cooperative governance and processing skills	13	8.7
Planting, maintenance, cooperative governance, processing and record keeping.	1	0.7
Total	149	100.0

Source: Field survey 2012.

Table 4.10 shows that all the respondents that were sample for the survey were trained in the planting and maintenance skills. For fruit producers, these skills included soil preparation, planting, fertilization, control of pest, intercropping, pruning and irrigation requirements.

To the Siyazondla farmers, these skills included soil preparation, planting, fertilization, intercropping, crop rotation and irrigation skills. Table 4.10 shows that 89% of sample was trained on planting and maintenance, 46% on planting, maintenance and cooperative governance, 8.7% on planting, maintenance, cooperative governance and processing and there was only one respondent who had adopted the skill of record keeping in the entire sample. On cooperative governance farmers were capacitated on the selection of committee members, roles to be played by the selected committee members, role of cooperative members and cooperative registration.

However, with regard to transferring record keeping and financial management skills, the farmers are yet to adopt or implement the skills. Only one farmer in the entire sample was able to keep records and the records were brought by the farmer to the attention of the interviewers during the focus group meeting. The picture below is a sample of the records kept by the household in the Noqhekwana village.

Figure 4. 3 Record keeping practiced by the household in Noqhekwana village.
Source: Field survey 2012.

Figure 4.3 shows records kept by the respondent in Noqhekwana. As shown in figure 4.3, the respondent uses a calendar to keep farm records. All the activities recorded can be traced back to the time of the year.

4.4.2 Flow of information in the HVC based extension model.

Different institutions are using different strategies and practices to reach out to the farmers in rural areas. Is'Baya and ARC have applied various strategies in the extension model to reach out to the farmers. The DRDAR calls the approach used by Is'Baya and ARC a "group approach", where farmers were called in groups and informed about the HVC programme. Figure 4.4 shows the organogram of Is'Baya,

the links between ARC and farmers around OR Tambo, and how information flows among them.

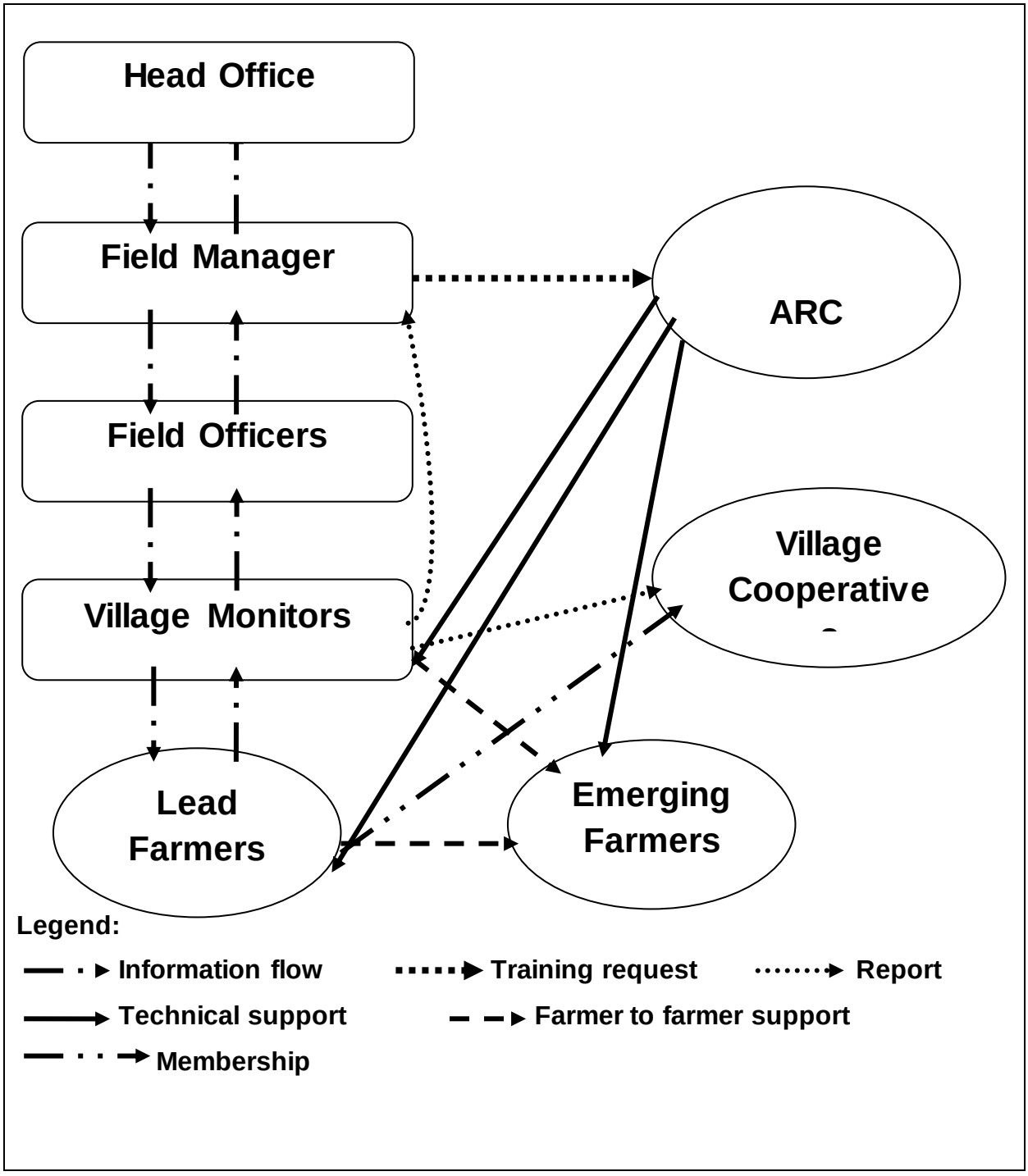

Figure 4.4 Information flow of the Is'Baya/ARC HVC programme.
Source: Field survey 2012.

Is'Baya and ARC developed and maintained a close relationship with the farmers by visiting the farmers frequently and evaluating the programme. Each village consists of lead farmers and monitors, who identify farmers' needs, supervise the progress

and transfer skills to the emerging farmers. Lead farmers are identified on the basis of the following factors: full time farmers, who treat their gardens as a business, practice what they are taught, willing to teach others and attend all the meetings and trainings. Monitors are identified on the basis of the following factors: able to read, write and speak English and able to keep records.

Figure 4.4 shows the connectedness of the participants of the HVC based extension model. An active participation by lead farmers in transferring skills to the new farmers which are termed emerging farmers is shown in Figure 4.4 and this means the programme encourages the farmer to farmers skills transfer. Village monitors who are also working with the primary objective of identifying challenges faced by farmers in achieving poverty alleviation are also portrayed in Figure 4.4. Figure 4.4 shows the constant flow of information between all the stakeholders responsible for the skills transfer.

The Siyazondla information flow is non-uniform, depending on the innovativeness of the extension services in the area. The common practice is the training of farmers prior the planting of vegetables and also the demonstration of practices by extension officers. In this public sector model, research services do not play a role in transferring information to farmers instead farmers are referred to agricultural cooperatives for further information.

4.5 The socio-economic impact of the HVC based extension model on the livelihoods of the participating households.

The HVC and Siyazondla programme were developed due to the poverty levels that were experienced by rural households in the Eastern Cape. Due to the nature of poverty experienced the use of cheaper inputs and methods is encouraged in both programmes.

4.5.1 Tools used in soil preparation by the participating households.

Various tools are used rural households in preparing soil, this mainly depend on the livelihood status of each household. These may include tractors, animal traction and garden tools. The tools used by the respondents in preparing soil are shown in Table 4.11.

Table 4.11: Tools used in soil preparation by the participating households.

Tools used in soil preparation	Number of households	Percent
Garden tools	132	88.6
Tractor	17	11.4
Total	149	100.0

Source: Field survey 2012.

Most of the respondents were not using tractors when preparing soils and the reason that was given during the survey is non-affordability of tractor costs. During the survey, only 11.4% of the respondents were using tractors and 88.6% of the respondents were using garden tools to prepare their soils. The tractor costs were ranging from R300 to R400, depending on the area concerned.

4.5.2 Sources of water used by households to irrigate crops.

The types of crops planted by the respondents in the sample need to be irrigated with most fruit trees requiring 20 liters of water per week. Due to lack of infrastructure for irrigation purpose, sources of water are very far to some the respondents that were sampled for the survey. According to the Is'Baya official, the HVC participants were advised to use grey water [3]to irrigate the fruit trees. The sources of water used for irrigation by the respondents are shown in Table 4.12.

[3] Grey water refers to the water which was used either in washing dishes, body and clothes.

Table 4.12: Sources of water used for irrigation by respondents

Water sources used for irrigation of crops	Number of households	Percent
Not far	67	45.0
Far	45	30.2
Very far	37	24.8
Total	149	100.0

Source: Field survey 2012

Most respondents were experiencing a challenge of accessing water within reach, they had to travel long distances to fetch water for irrigation. In identifying this challenge some respondents were supplied by DRDAR with water tanks to harvest rain water. During the survey, 45% of the respondents had water source which were not far from their plots and 55% had a challenge of far water sources. The respondents with far water source were not able to irrigate daily.

4.5.3 Marketing of produce

Marketing of produce is one of the challenges facing smallholder farmers in the Eastern Cape. The survey was interested in finding marketing plans facilitated by the extension personnel in terms types of market exploited by the farmers, approaches used to access markets and the issue of agro-processing.

4.5.3.1 Marketing of produce by the participating households.

A market, broadly defined, is any setting in which sellers exchange goods and services with buyers (Jacobs, 2008). Markets continue to be seen as the means for ensuring that smallholder producers of agricultural products are effectively integrated into the mainstream of national economies, especially in developing countries. For

one thing, markets provide the opportunity for farm production to contribute to poverty reduction through the cash income realised from sales of farm produce. Where poverty reduction is a central goal of economic policy, market access for producers should be treated as an important point of departure (Obi et al 2011).

There was an interest on market access by the households in a sample due to challenges experienced by most smallholder farmers in selling their produce. According to the key informants marketing of the produce was still a challenge and one of the reasons for cooperative formation is to improve market access for the involved households. The households marketing their produce are shown in Table 4.13.

Table 4.13: Households marketing their produce.

Marketing of produce by the households.	Number of households	Percent
Not marketed.	7	4.7
Marketing	142	95.3
Total	149	100.0

Source: Field survey, 2012.

According to Table above 95.3% are marketing their produce and 4.7% have not yet marketed their produce. The latter farmers are still new farmers who have not harvested yet and this is the reason for them not to market their produce.

4.5.3.2 Types of markets accessed by the participating households.

The types of markets accessed by the households in sample were also an interest point to the survey. Most smallholder farmers are planting crops without market survey and they end up not selling the bulk of their produce. The types of markets accessed by household in a sample are depicted in Table 4.14.

Table 4.14: Types of markets accessed by the participating households.

Types of markets accessed by households	Number of households	Percent
No marketing to retailers	87	58.4
Marketing to retailers	62	41.6
Total	149	100.0

Source: Field survey, 2012.

The marketing of agricultural products by the households in a sample follows the same pattern that has been observed in many other smallholder environments where small-scale producers deliver output to diverse formal and informal outlets, often in the absence of a systematic coordinating mechanism. Direct sales to consumers at the farm gate seem quite frequent and are also common to see the retailers going into the villages to purchase the produce from producers for sale in the towns.

All the respondents who have started harvesting are selling some of their produce to villagers within their communities at farm gate and during pension days. About 41.6 of the respondents were marketing to retailers during the survey. The DRDAR extension officer was playing a crucial role in organising suitable markets and transporting produce to markets. The large percentage (58%) of the sample was not marketing to retailers and this group is experiencing challenges in selling bulk of their produce.

Box 4.1: An interview with the Is'Baya manager (Mr Peter Jones).

Mr Peter Jones is the Is'Baya manager working with two Is'Baya field officers. The Is'Baya is an NGO is the leading stakeholder in the organisation and implementation of the HVC programme in both OR Tambo and Amathole Districts. Other stakeholders participating in the HVC programme include Thina Sinako, SURUDEC, DRDAR and Walter Sisulu University During the launch of HVC in 1999 the Is'Baya had a target of 45 villages by 2012 and they managed to cover 52 villages. According to Mr Jones, the number of villages participating in HVC is an achievement and this was recognised by the Farmer's weekly in 22 June 2012. The secret behind the Is'Baya success can be attributed to the commitment shown by farmers participating in the programme, the use of affordable production inputs, field monitors and technical assistance by the ARC. Mr Jones also indicated that they cannot survive in the OR Tambo without the ARC and ARC cannot survive without the Is'Baya. The farmers participating in the HVC are challenged with market access. The Is'Baya official indicated that they want to restructure the programme to solve the market challenges. The households have to focus on no more than two commodities to improve quantities produced. Also the jam produced by the Noqhekwana households cannot be sold to retailers due to lack certification.

4.5.3.3 Approaches of households to market access.

Smallholders require sufficient countervailing power to be able to obtain a fair share of the value added in the supply chain. A member-dominated cooperative can enable smallholders to reap both economies of scale while increasing their countervailing power. The quantities of produce from the smallholder farmers are usually small and transporting them to markets is not a viable option. The approach used by the households in a sample is depicted in Table 4.15.

Table 4.15: Approaches used by households to access markets.

Approach to market access	Number of households	Percent
Individual marketing	87	58.4
Group marketing	62	41.6
	149	100.0

Source: Field survey, 2012.

All the households in a sample are organized as either project members or as cooperatives but 58% of these households are marketing their produce as individuals. It is only 41.6% of the respondents who are using the group approach to access markets. The group approach is used by these respondents when supplying retailers who are demanding large quantities. All the respondents are marketing individually when supplying the neighbouring villagers.

4.5.3.4 Processing of produce by households.

According to Jari & Fraser (2011), prices of primary agricultural produce have fallen steeply, but retail prices for the same packaged, cut and processed products in industrial countries, have increased. This means that value adding activities can earn farmers additional income. Value adding can be in the form of grading, sorting, cutting, packaging in standard weights and processing of produce (Jari & Fraser, 2011). Lack of value adding and agro-processing is part of missing markets amongst smallholder in marketing. Inability to add value to agricultural produce by smallholder farmers excludes them from interesting markets. The households processing their produce are shown in Table 4.16.

Table 4.16: Processing of produce by households.

Processing of produce	Number of households	Percent
Processing	14	9.4
Not processing	135	90.6
Total	149	100.0

Source: Field survey, 2012.

Table 4.16 shows the lack of agro-processing by 90.6% of the respondents. These respondents are only focusing on the production of primary products. Only one village was processing produce into fruit and tomato jam. There was still a challenge in selling the processed jam to retailers due to absence of the bar-code showing SABS approval, expiry date and ingredients. Figure 4.5 is a sample of the jam that the team was shown in Noqhekwana village during the field study.

Figure 4.5 Tomato, Orange and Tropical jam produced in Noqhekwana village.
Source: Field survey, 2012.

The households in Noqhekwana village were producing jam using fruit from the cooperative members. They were using fruit and tomato to produce jam with the intention of selling to the community members.

4.5.3.5 Highest income generated by households from their plots.

The design of the programmes is not geared towards profit maximization; the primary objective is the availability of nutritious food for the involved households. However, sale of the goods is done by the households to sustain the production of their crops. Also for purchases of other goods which cannot be produced in their household gardens promotes the sales of produced goods.

The survey wanted to investigate the profits made by the respondents from their plots but due to unavailability of records, it was not possible investigate profits. Some of the respondents were not even sure if they are making profits from their plots. In presenting the results of the highest income generated from the plots of households sampled for the survey is categorized to summarise results. The highest income from the plots is depicted in Table 4.17.

Table 4.17: Highest income generated by household from their plots.

High income generated	Number of households	Percentage
0	7	4.7
50-80	26	17.4
100-180	35	23.5
200-500	69	46.3
550-2000	12	8.1
Total	149	100.0

Source: Field survey, 2012.

Table 4.17 shows that the respondents that were sampled for the survey are generating income from the plots in which HVC and Siyazondla programmes are assisting. According to the Table 4.17, 8.1% of the respondents generated the highest income, 46.3% generated between R 200- R 500, 23.5% generated between R100- R180, 17.4% generated between R50-R80 and 4.7% and there were no sales by 7% and therefore no income was generated. The average income generated by the respondents sampled for the survey was R241. 95.

Box 4.2: The focus group in Noqhekwana village.

The focus group meeting in Noqhekwana village (Port St Johns) was held at the herd-man's house. This village is in the coastal area and is suitable for vegetable and fruit production with good soils and rainfall. These households were producing bananas, guavas and mangos even before the arrival of the Is'Baya. The Is'Baya came to this village with the improved varieties of fruit trees. Even though the area is suitable for crop production farmers are categorised into lead and emerging farmers. There is also a field monitor responsible for visiting farmers to monitor progress and identification of challenges. As a cooperative, the farmers participated in the farmer competition in the OR Tambo and they won a gas stove and pots which was used for processing fruit into jam. They decided to form a cooperative to improve their marketing opportunities in the retail environment. They are marketing their produce to both formal and informal markets. In a focus group in Noqhekwana, the respondents were asked about the profitability of the production carried out by households. Most of these farmers are not keeping financial records. In this village, there was only one farmer who kept financial records. In answering the question, they indicated that the school in their village is a primary school and their children attend secondary school in Mthatha. The parents are able to pay school fees, rent and groceries.

4.5.4 Benefits of the implemented programme to the involved households.

The primary objective of the HVC programme was the improvement of rural livelihoods through crop production. As mentioned earlier, the households were encouraged to plant fruit, vegetable and herbs. The field survey wanted to investigate the view of the involved household on benefits achieved by participating in the HVC programme. The respondents in the sample identified three key benefits for participating in the HVC programme.

These benefits can be summarised as follows: availability of nutritious food, income generation and skills acquired in this programme. The Siyazondla participants were also viewed benefits in the same manner as the HVC participants. These participants indicated that they are no longer purchasing other goods and are able to save. To establish the periods of food availability, maintenance practices and climatic conditions seasonal calendars were drawn with the assistance of the respondents.

4.5.4.1 Seasonal calendar of Hluleka village.

The team that went to the field study wanted to establish the climatic conditions, different harvesting periods and other activities performed by the respondents in maintaining their plots. The seasonal calendar was drawn showing all the details performed by the participating households and their annual rhythm and this is portrayed in Figure 4.6.

Commodity/Resource	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Rainfall												
Guava												
Orange												
Lemon												
Banana												
Mango												
Pineapple												
Chillies												

Figure 4.6: Seasonal calendar of Hluleka village.
Source: Field survey, 2012.

The seasonal calendar of Hluleka shows that the area can get rainfall for almost seven months per annum. Their dry season is usually between April and August in a year. banana and chillies and vegetables can be harvested throughout the year. Other fruit commodities can only be harvested on specific seasons.

4.5.4.2 Seasonal calendar of Zanci village.

The team that went to the field study wanted to establish the climatic conditions, different harvesting periods and other activities performed by the respondents in maintaining their plots. The seasonal calendar was drawn showing all the details performed by the involved households and the annual rhythm and this is portrayed in Figure 4.7.

ACTIVITIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Rainfall												
Banana												
Guava												
Orange												
Fertilizer												
Nkankca Pest												

Figure: 4.7: Seasonal calendar of Zanci village.
Source: Field survey, 2012.

According to the seasonal calendar above, the area can get rainfall for five months per annum. The dry season in this area is usually between February and August. In the activities portrayed above, banana can be harvested throughout the year and guava and oranges are only available for harvest from June to July. Other activities that contribute to the welfare of their fruit trees include fertilizer application and pest control. Fertilizer application can be done from September to March and pest control is usually done from June to July.

4.5.4.3 Seasonal calendar of Noqhekwana village.

The team that went to the field study wanted to establish the climatic conditions, different harvesting periods and other activities performed by the respondents in maintaining their plots. The seasonal calendar was drawn showing all the details performed by the involved households and this is portrayed in Figure 4.8.

ACTIVITIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Rainfall												
Mango												
Banana												
Guava												
Orange												
Naartjie												
Macademia-nuts												
Avocado												

Figure 4.8: Seasonal calendar of Noqhekwana village.
Source: Field survey, 2012.

In Noqhekwana village, farmers indicated that their area usually gets rainfall in nine months per annum. The areas dry season is usually between April and June in a year. Banana and vegetables are harvested throughout the year and other fruit commodities are harvested on different seasons of the year. These farmers are not using fertilisers and spraying of pests depends on the availability of pests, there is no specific time of the year.

4.5.4.4 Seasonal calendar of Hombe village.

The team that went to the field study wanted to establish the climatic conditions, different harvesting periods and other activities performed by the respondents in maintaining their plots. The seasonal calendar was drawn showing all the details performed by the involved households and this is portrayed in Figure 4.9.

ACTIVITIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
Rainfall												
Pruning												
Peas												
Banana												
Guava												
Orange												
Tomato												
Chilli												
Brinjal												
Avocado												

Figure 4.9: Seasonal calendar of Hombe village.
Source: Field survey, 2012.

According to the seasonal map plotted by the farmers in Hombe, in this area comes from August to January. Their dry season is usually between February and July in a year. In fruit production, they can also harvest banana throughout the year and other commodities on different seasons of the year. They have also included pruning as one of the activities that they perform on their fruit trees and this is usually done in August. Most vegetables are harvested throughout the year except for peas, tomato, Brinjal and Chilli.

4.5.4.5 Seasonal calendar of Xhokonxa village.

Xhokonxa as one of the villages that were implemented by the DRDAR was visited and the respondents in a sample were asked about the activities, climatic conditions

and harvesting periods. The seasonal calendar was drawn and portrayed in Figure 4.10.

Activities	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Rainfall												
Pruning												
Fertiliser												
Peaches												

Figure 4.10: Seasonal calendar of Xhokonxa village.
Source: Field survey, 2012.

According to the Xhokonxa respondents, the fruit trees planted by the households include peaches, oranges and litchi that were supplied by the DRDAR. Rainfall is usually available from August to January every year. Other activities that are practiced by the respondents included pruning and fertiliser application. During the field study, peaches were the only fruit harvested. The households indicated that they are also involved in vegetable production and is harvested throughout the year.

4.5.4.6 Seasonal calendar of Ndakana village.

Ndakana as one of the villages that were implemented by the DRDAR was visited and the respondents in a sample were asked about the activities, climatic conditions and harvesting periods. The seasonal calendar was drawn and portrayed in Figure 4.11.

Activities	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Rainfall												
Vegetables												

Figure 4.11: Seasonal calendar of Ndakana.
Source: Field survey, 2012.

According to the Ndakana respondents, the fruit trees planted by the households are only oranges that were supplied by the King Sandile trust and they bought additional oranges trees in 2012. Rainfall is usually available throughout the year, except in months between April to July. The respondents have not yet harvested oranges from their trees. The households indicated that they are also involved in vegetable production and is harvested throughout the year. The respondents are using organic fertiliser and pest control measures and there are no specific months for these activities.

4.5.4.7 Seasonal calendar of Mgababa village.

Mgababa as one of the Siyazondla villages that were implemented by the DRDAR was visited and the respondents in a sample were asked about the activities, climatic conditions and harvesting periods. The seasonal calendar was drawn and portrayed in Figure 4.12.

Activities	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Rainfall												
VegeTables												

Figure 4.12: Seasonal calendar of Mgababa village.
Source: Field survey, 2012.

The Siyazondla programme in Mgababa village is focusing in vegetable production. Rainfall is usually available from September to December of every year, it usually continues to January of the following year. The vegetables that they plant are available throughout the year. The other activities involved such as fertiliser application and pest control usually depend on the situation at hand.

4.5.4.8 Seasonal calendar of Mbanyana village.

Mbanyana as one of the Siyazondla villages that were implemented by the DRDAR was visited and the respondents in a sample were asked about the activities, climatic conditions and harvesting periods. The seasonal calendar was drawn and portrayed in Figure 4.13.

Activities	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Rainfall												
Tornado												
Oranges												
Peaches												
Vegetables												

Figure 4.13: Seasonal calendar of Mbanyana village.
Source: Field survey, 2012.

The respondents in Mbanyana village are participants of the Siyazondla programme implemented by DRDAR. Rainfall is usually available throughout the year, except in months between April and July. The respondents also mentioned the tornado which usually happens around October. The oranges are harvested from June to July and peaches from March to May every year. Vegetables are harvested throughout the year.

4.5.5 Benefits of the villagers from the implemented programmes.

The impact of the implemented programmes was measured during survey also on the benefits received by the villagers other than the involved households from the implemented programmes. The impact was measured on jobs created, availability of afford food and gifts from the involved households. The intention was to investigate the strengthening of relations in the communities were these programmes are implemented. The benefits received by villagers from the implemented programmes are depicted in Table 4.18.

Table 4.18: Benefits received by villagers from the implemented programmes.

Benefits received by villagers	Number of households	Percent
No jobs created	122	81.9
Jobs created	27	18.1
Total	149	100.0
No cheap food prices	5	3.4
Cheap food prices	144	96.6
Total	149	100.0
No gifts to villagers	55	36.9
Gifts to villagers	94	63.1
Total	149	100.0

Source: Field survey, 2012.

Table 4.18 shows the summarised benefits that are received by the villagers from the implemented programmes. In terms of jobs created, 18.1% of the respondents have created jobs for the villagers and 81.9% have not created jobs for the villagers. The other benefit that was investigated relates to the availability of affordable food prices, 96.6% have supplied villagers with food at affordable prices. The issue of gifts was raised by the respondents during the field survey, 63.1% offered gifts to their neighbours and 36.9% have not offered gifts to the neighbours.

4.6 To establish the extent to which this extension model has empowered women and youth.

The literature reviewed in the earlier chapters has confirmed that women headed households in South Africa are likely more poor than the male headed households. In the past, plots of land that under the ownership of black people were controlled by men and this sometimes constrained women in taking decisions regarding the use of land. The government and funding institutions are more biased towards women empowerment programmes. The HVC programme is playing a vital role in empowering rural communities especially women who are more vulnerable to poverty.

As was portrayed in the demographics of the programme, there are more women who are playing an active role than men. The backyard gardens are viewed as women's chores in rural areas. Resource maps were drawn by respondents, which show resources in their villages that are more important to them. The activities done on the programme, control of resources and ownership of resources were investigated in the survey.

4.6.1 Resources maps of two villages

The respondents were asked during the field study to draw resource maps showing the resources that are more important to them for their livelihoods. All the respondents in different villages were able to draw resource maps. For the purpose of results presentation two resource maps will be shown in Figure 4.14 and 4.15.

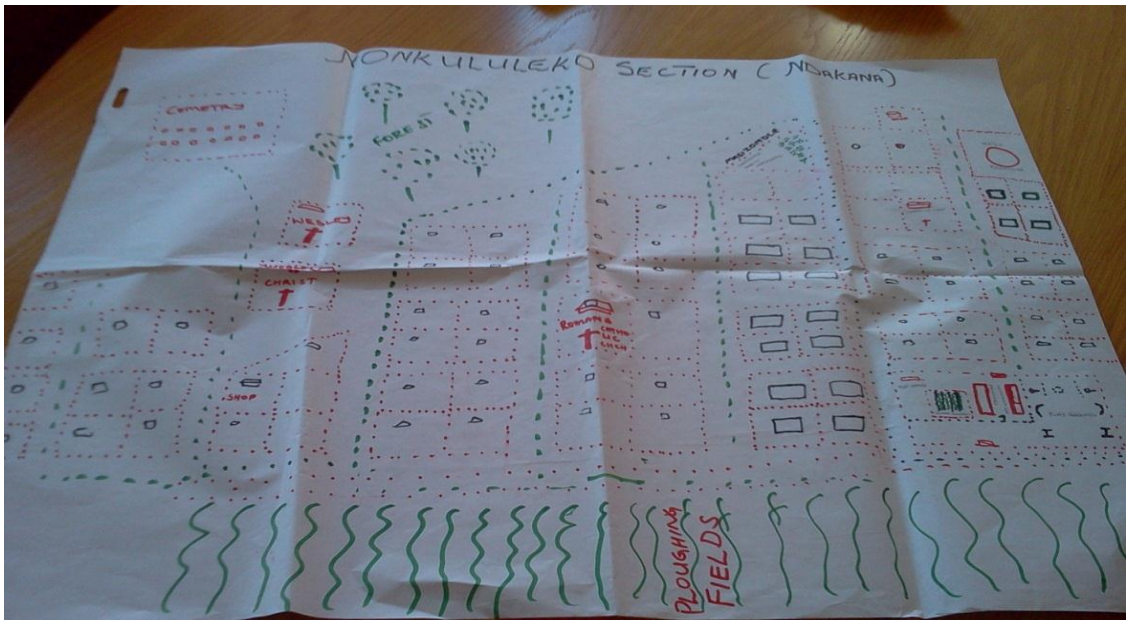

Figure 4.14: Resource map of Ndakana village
Source: Field survey, 2012

Figure 4.15: Resource map of Mbanyana village.
Source: Field survey, 2012.

The resources maps in Figure 4.14 and 4.15 are showing availability of ploughing fields, forest, the houses where plots for the HVC are located, schools for the children, access roads, churches, shops. The difference is that in Mbanyana village,

they have shown through the resource that they are also involved in livestock farming; there is also a tavern which is the center of entertainment for youth in their village and their source of water as the dam. In Ndakana, the respondents have shown a forest but no livestock, cemetery and a water reseviuor as their source of water.

4.6.2 Level of women participation in the programme.

Women are forming part of the designated groups who were previously disadvantaged and the literature has viewed them as the most vulnerable group. The impact of the HVC programme was also evaluated by the level of women participation in the programme. The desirable situation is more women participation in development programmes towards achieving the MDG 1. The respondents in the sample were asked about the ability for women to perform all the activities involved in HVC. The level of women participation is portrayed in Table 4.19.

Table 4.19: The level of women participation in the programme.

Do activities allow women participation?	Number of households	Percent
Yes	126	84.6
Most practices	23	15.4
	149	100.0

Source: Field survey, 2012.

Although the programme is not specifically designed for women empowerment, all the women in a sample indicated that they are equal to men in decision making. The Table 4.19 shows that 84.6% of the respondents felt that practices done in the programme allow women participation and 15.4% felt that there were activities which were harder for women.

Most of those who felt some activities were harder created job opportunities for villagers especially for digging holes for fruit trees. One of the initiatives done by the

DRDAR is the female farmer of the year competition which help in encouraging women participation in agricultural activities. The participants in Noqhekwana indicated during the field survey that they won a prize of gas stove and pots which are used to process fruit into jam in the female farmer of the year competition.

In the whole sample, 5 participants were classified as youth and the reason given for the absence of youth in many villages is the non-attractiveness of agriculture to youth. There are also no activities designed for youth participation, who are likely looking for sophisticated activities.

4.7 Factors that contributed to the sustainability of the HVC based extension model.

Literature views extension as an important link for the agricultural development in South Africa. Under this objective, the model was investigated with a view of determining the factors that has led to the sustenance of this model. Further questions such as extension visits, adoption, expansion and sustainability factors were looked into in other to meet this objective. In identifying factors that contributed to the sustainability of the HVC based extension model, the Is'Baya and DRDAR officials were also interviewed. These factors are further discussed in subsequent sections below.

4.7.1 The frequency of extension visits to the participating households.

As stated earlier, close contact with farmers is an important in winning the trust of farmers which will enable technology adoption for sustainable agriculture development. The field survey investigated the frequency of extension visits to the farmers involved in both programmes. Table 4.20 shows the frequency of extension visits to the participating households.

Table 4.20: Frequency of extension visits to the participating households.

Extension visits	Number of households	Percent
Weekly	69	46.3
Fortnightly	80	53.7
Total	149	100.0

Source: Field survey, 2012.

Table 4.20 shows that 46.3% of the respondents that were sampled for the survey are visited weekly by the extension services. This is easier for the HVC based extension model due to the availability of village monitors with the only focus on the established HVC gardens. The other 53.7% of the respondents indicated that visits by extension officers are done fortnightly. The second situation refers to the public sector extension services which are allocated per ward and having other responsibilities other than Siyazondla gardens. In most cases these visits were the initiative of the extension officers but they indicated that there are sometimes urgent requests for the extension officers to visit farmers.

The extension model has been operational for over a period of more than eight years thus; sustainability of the model over this long period of time has been one of the factors why it has been termed as successful.

Findings from an interview with key informants (IS'BAYA officials) during the field survey shows that the programme has been sustained through regular visits to farmers by both Is'Baya personnel (field workers) and researchers from ARC.

4.7.2 Other factors that sustained the extension model.

Continuous training of farmers is also conducted and done in such a way as to make the farmers have a sense of ownership of the programme.

Another way of adopting this sense of ownership by the farmers was by ensuring that fruit trees were not given to the farmers free. Households were made to pay

50% of the cost of fruit trees that were distributed to them. According to the key informant, the 50% contribution instilled the high levels of commitment due to the capital invested by households.

Another factor that has sustained the model over this period is the strong working relationship between stakeholders involved in the HVC programme. This can be seen in the working relationship between Is'Baya and ARC, with the ARC ensuring that Is'Baya receives every technical support needed in ensuring that success is translated to the farms. The participation of ARC in the HVC programme ensures the transfer of timely and accurate information with regards to production and maintenance of crops.

On the other hand, the public sector extension service is composed of officers who are trained in Agriculture but in the implementation of the Siyazondla, they lack the support from the researcher. The findings from the key informant interview, was that the DRDAR officials are receiving the timely information from the suppliers of production inputs. Using the information collected during the field study, the SWOT analysis of the HVC based extension model was done and is presented in 4.21.

Table 4.21: SWOT Analysis of the Is'Baya/ARC HVC programme.

Strengths	**Weaknesses**
• Is'Baya and ARC use participatory extension approach, which farmers embrace and easily adopt. • Farmers are provided with a 50% discount rate on fruit trees, increasing the affordability of the trees. • Is'Baya and ARC have strong relationship with the farmers. • Even though Is'Baya is understaffed, their village coverage is growing at an alarming rate, thereby improving more rural livelihoods. • Monitoring of the programme is done frequently thus contributing to the success of the programme. • Is'Baya and ARC provide farmers with specialists in fruit trees production, ensuring that farmers receive quality training to enable them to produce efficiently.	• Is'Baya is understaffed since they have only 3 employees in the OR Tambo who work with 52 villages • Is'Baya and ARC have unclear relationship with the main public stakeholder, the Department of Rural Development and Agrarian Reform. • Is'Baya has offices only in PSJ and they are very far from the other villages they work with. This fuels criticism that they are biased towards the nearer farmers and spend less time with distant farmers. As for ARC, they do not have offices in Eastern Cape. • Is'Baya is over-reliant on ARC for technical support, which implies that they cannot operate on their own if ARC pulls out of the programme. • Is'Baya has limited vehicles to perform field monitoring in all 52 villages.
Opportunities	**Threats**
• Is'Baya and ARC help farmers to form cooperatives, and this will help farmers to access markets and sell their produce in bulk. • Media coverage offered by WSU and CPUT increase their popularity by publishing the good work they are doing. • Since Is'Baya and ARC encourage organic farming in some villages they are more likely to attract interest and funds from other institutions and stakeholders	• Is'Baya and ARC aim is to transform farmers from subsistence to commercial farmers but they are constrained by limited land access, limited market access, lack of processing machinery and poor infrastructure in the OR Tambo District. • Is'Baya relies on funding from other institutions, and this implies that their service will end if their funders were to stop funding them. • Lack of water and electricity also threatens the success of this programme, since farmers have to travel long distance to fetch water for irrigation.

Source: Field survey, 2012.

4.8 Regression analysis of the survey data.

A regression analysis was performed to estimate the factors that influence the sustainability of the HVC based extension model. The primary goal of the study was to assess the effectiveness of the HVC based extension model to improve rural livelihoods applied by the Is'Baya NGO when viewed against the approach being promoted by the Provincial Department of Rural Development and Agrarian Reform under its flagship of Siyazondla programme. To perform this, the highest income ever achieved by households in the programme was chosen as the dependent variable.

Income earned by households was identified as one of the objectives of the HVC programme as the households were not earning farming income prior the introduction of the HVC programme. Explanatory variables selected in this study were based on findings from literature on Sustainable livelihoods. The variables selected were explained above under the classifications of demographic characteristics, organisation and implementation of the HVC, skills transferred and adopted, socio-economic factors and women and youth empowerment strategies.

Several OLS runs were carried out to curtail the variable size that can be used to explain sustainability of the HVC based extension model in improving rural livelihoods. Through backward elimination of redundant variables after each run of the OLS, the variables were reduced to 23 that were fitted in the final model. The results of the regression model were presented in three tables which include the regression model summary, analysis of variance and detailed linear regression Table. The linear regression model summary is presented in Table 4.22.

Table 4.22: Linear Regression Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.854[a]	.729	.682	145.226

Source: Field survey, 2012

The linear regression model summary in Table 4.22 provides an overview of the results. According to the summary the R^2 and adjusted R^2 values are 73% and 68% respectively, are showing the significance of the predictors variables fitted in the model. We learn from these that the weighted combination of the predictor variables explained approximately 72% of the variance of effectiveness of the HVC based extension model in improving rural livelihoods. The other positive aspect portrayed in the summary is that the value of adjusted R^2 is less than R^2 and the difference between these two values is consistent with expectations based on sample size and the number of variables fitted. The Analysis of Variance results are presented in Table 4.23.

Table 4.23: Analysis of variance (ANOVA)

Model		**Sum of Sqaures**	**Df**	**Mean Squares**	**F**	**Sig.**
1	**Regression**	7158129.236	22	325369.511	15.427	.000[b]
	Residual	2657403.650	126	21090.505		
	Total	9815532.886	148			

Source: Field survey, 2012.

Table 4.23 shows the test of significance of the model using an ANOVA. ANOVA specifically refers to the analysis of variation in the Y scores. There are 148 (*N* - 1) total degrees of freedom. With 23 predictors, the regression effect has 22 degrees of freedom. The regression effect is statistically significant indicating that prediction of the dependent variable is accomplished better than can be done by chance. The very high F value of 15.427 similarly shows a strong significance of the regression model applied to the study.

Table 4.24: The results of the regression analysis model.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
(Constant)	-1061.586	952.301		-1.115	.267			
VILLAGE	-13.756	25.908	-.127	-.531	.596	-.408	-.047	-.025
GENDER	-21.452	37.974	-.035	-.565	.573	-.056	-.050	-.026
TYPE OF FAMER	-122.374	44.598	-.422	-2.744	.007***	-.559	-.237	-.127
CONTRIBUTION	135.220	160.279	.263	.844	.400	.477	.075	.039
FARM INCOME	705.978	150.119	.655	4.703	.000***	.224	.386	.218
OFF-FARM INCOME	125.061	17.020	.549	7.348	.000***	.198	.548	.341
NUMBER TREES	.923	.252	.355	3.668	.000***	.537	.311	.170
TREES DIED	-27.163	8.324	-.233	-3.263	.001***	.050	-.279	-.151
SOIL PREPARATION METHODS	2033.174	596.114	2.518	3.411	.001***	.104	.291	.158
TRACTOR USE	-5.553	1.660	-2.454	-3.345	.001***	.095	-.286	-.155
SOURCE OF WATER	-37.115	38.776	-.117	-.957	.340	.447	-.085	-.044
MARKETING TO RETAILERS	47.332	24.842	.183	1.905	.059**	.209	.167	.088
MARKETING APPROACH.	15.673	74.858	.026	.209	.835	.216	.019	.010
PROCESSING	209.011	128.312	.238	1.629	.106	-.377	.144	.076
RECORD KEEPING	-505.592	183.944	-.161	-2.749	.007***	-.304	-.238	-.127
SKILLS	-24.926	52.129	-.206	-.478	.633	.509	-.043	-.022
JOBS CREATED	-169.108	73.824	-.254	-2.291	.024**	-.071	-.200	-.106
CHEAP FOOD PRICES	-383.089	78.800	-.538	-4.862	.000***	.181	-.397	-.225
GIFTS	61.109	17.960	.345	3.402	.001***	.005	.290	.158
DNUS	-1.934	1.268	-.243	-1.525	.130	-.411	-.135	-.071
WOMEN EMPOWERMENT	43.992	40.091	.124	1.097	.275	-.174	.097	.051
AGE	-.514	1.428	-.020	-.360	.719	-.225	-.032	-.017
a. Dependent Variable: HIGH								

Source: Field survey, 2012.

Turning to the specific task of identifying the factors influencing the effectiveness of the HVC based extension model in improving rural livelihoods, the regression analysis was conducted. To guide the judgement in that respect the results of the regression analysis are presented in Table 4.24. According to the result, a total of 22 explanatory variables were included in the model to help explain variations in the levels of the highest income attained by participating households. The results show that 12 out of the 22 explanatory variables were highly significant and contributed to the highest R^2 obtained in this model. The interpretations of the individual significant results are provided in the next several sub sections.

4.8.1 Type of farmer.

The type of farmer with the value of 0.007 has shown to be significant to the highest farm income attained. The level of significance of this variable is at 1% and if we could re-run the model there 99% chances for the variable to be significant. In addition the zero-order correlation of -0. 559 shows a strong negative correlation between these variables and this provides evidence that the highest income generated was achieved by the type of farmer (lead farmers). The improvement of participating farmer's level may lead to the attainment of the highest income.

4.8.2 Farm income.

The farm income with the significance value of 0.000 has shown to be highly significant to the highest income attained. The farm income was found to be having an effect on the highest income attained with 1% level of significance. Although the zero-order correlation of 0.224 shows a weak positive correlation between these variables, the Beta coefficient of 705.978 shows a positive contribution of farm income to highest income generated. Most households except the newly introduced households were generating farm income from sales of fruit and vegetables. There is evidence that farmers who have attained the highest income were generating farm income. The HVC programme was proved effective in improving rural livelihoods through farm income.

4.8.3 Off-farm income.

The off-farm income with the significance value of 0.000 has shown to be highly significant to the highest income generated. This as the other source of income for rural households is displayed as significant to the highest income attained by the households with 1% level of significance. The zero-order correlation of 0.198 shows a weak correlation with the highest income generated by these households. The off-farm income excluded pension, child support grant and remittances but the other

activities performed by households to generate income. Thus few respondents were participating in off-farm income generating activities. Diversifying the HVC programme with other activities in the rural space could improve the level of income attained by farmers.

4.8.4 Number of trees.

The number of trees variable with the significance value of 0.000 has shown high significance to the highest income attained. This refers to the number of fruit trees planted by the households under the HVC model. The number of trees was found to be having an effect on the highest income generated by households with a 1% level of significance. The correlation of 0.557 shows a strong positive correlation. The survey has evidence that the respondents with high number of fruit trees have achieved the highest income generated. This may be due to the market value of fruit relative vegetables.

4.8.5 Number of trees died.

The number of trees died with the value of 0.001 has shown to be highly significant to the highest income attained. The regression results are showing a significant an effect in the highest income due to the numbers of trees which died with a 1% level of significance. The zero-order correlation between the two variables is a positive but weak correlation with a value of 0.050. An additional number of trees died by 1 point will result in a decrease in the highest income by 0.233. Since the number of trees had a correlation with highest income generated, number of trees died has reduced the income that could be generated.

4.8.6 Soil preparation methods.

The soil preparation method variable with the value of 0.001 has shown to be highly significant to the highest income attained by participating farmers. This variable was

found to be having an effect in the highest income generated with the 1% significance level. The zero-order correlation between the two variables is positive but weak with a value of 0.104. Even though the HVC based extension model encourages affordable soil preparation methods, there farmers who are still using machinery and inorganic fertilisers.

4.8.7 Tractor use.

The tractor use variable with the value of 0.001 has shown to be highly significant to the highest income attained by participating farmers. The results are showing this variable as having an effect on the highest income generated with the 1% level of significance. The zero-order correlation is positive but weak with a value of 0.095. The fruit tree planting requires digging of holes and this can be performed with the use of garden tools, most respondents were using garden tools to prepare their plots.

4.8.8 Marketing to retailers.

The marketing to retailers variable with the value of 0.059 has shown to be significant to the highest income attained by participating farmers. The results have shown an effect of this variable to the highest income generated with the 5% level of significance. The zero-order correlation is positive but weak with a value of 0.209. Smallholder farmers generally lack access to formal market due to a number of reasons; the most important of these relate quantity and quality. A small percentage of the farmers are able to meet the standards set by the retailers for the fresh produce suppliers.

4.8.9 Record keeping:

The record keeping variable with the value of 0.007 has shown to be highly significant to the highest income attained by participating farmers. This variable was

found to be having an effect on the highest income generated with the 1% level of significance. The zero-order correlation is negative and there is a weak correlation between variables with the value of -0.304. This may be due to the number of farmers who were keeping records in the sampled HVC participants. During the field survey only one farmer in the sample was able to keep records and the other households were not keeping records.

4.8.10 Jobs created.

The jobs created variable has with the value of 0.024 has shown to be significant to the highest income attained by the participating farmers. The regressions analysis results have found that jobs created by households have a significant relationship with the highest income generated and the level of significance as at 5%. The zero-order correlations show a weak negative correlation with the value of 0.071. Due to the indigent nature of households in the rural communities, job creation by the involved households was limited. This suggests that the inability to perform some of the activities by the participating farmers in the HVC programme may create Job opportunities for the non-participating households..

4.8.11 Cheap food prices:

The cheap food prices variable with the value of 0.000 has shown to be highly significant to the highest income attained by the participating households. This variable was found to be having an effect on the income generated by household as shown in the Table above with the 1% level of significance. The zero-order correlation with a value 0.181 is a weak positive correlation.

The government and other funding institutions are implementing food security programmes in rural areas to curb food security on the community a large and through cheap food prices, community can also benefit from these programmes. NAMC (2009 & 2011) has shown that the basket of food is higher for rural households than their urban counterparts. All the respondents who were marketing

their produce were able to sell nutritious food to the surrounding communities at cheaper prices. This suggests that the implementation of the HVC programme in has afforded an opportunity for rural households to purchase nutritious food at cheaper prices.

4.8.12 Gifts:

This variable was found to be having an effect on the income generated by household as shown in the Table above with the 1% level of significance. The zero-order correlation with a value 0.005 is a weak positive correlation. The pandemic of HIV and AIDS has left some families exposed to poverty and hunger and some of these families are neighbouring the households participating in HVC and Siyazondla. The availability of food is vital for families like these but affordability is lacking. The respondents who offered gifts to other communities were not only the highest income earning households. This suggests that an increase in the number of participating households could benefit more number of rural households.

4.8.13 Regression analysis equation.

The results of the regression analysis model were highly significant to the highest income attained by the participating households. The regression analysis equation generated from the results is as follows:

Y= -1061.586 -13.756 -21.452 -122.374 +135.220 +705.978 +125.061 +0.923 -27.163 +2033.174 -5.553 -37.115 +47.332 +15.673 +209.011-505.592 -24.926-169.108 -383.089 +61.109 -1.934 +43.992 -0.514.

4.9 Chapter Summary.

To assess the effectiveness of the HVC based extension model in improving the rural livelihoods, the survey was carried out in eight villages. The objectives of the

study were addressed using the qualitative methods and descriptive methods. The qualitative methods utilised included the stakeholder's matrix, Venn diagrams, resource maps and seasonal calendars. The presentation of results started with the demographic characteristics of the respondents in a random sample. The focus was on three variables which are village, age and type of farmer. Both programmes have not managed to attract youth to practice agriculture.

The organisation and implementation of the HVC model differs from the Siyazondla programme of the public sector due to the factors surveyed before its implementation. The issues considered important in HVC include the commitment of farmers, types of soils, climatic conditions and suitability of crops in the area.

In terms skills and technology transfer the whole sample was trained in planting and maintenance skills. However, the HVC programme respondents were also trained in processing and cooperative governance. The record keeping skill was not adopted by most respondents in the sample, only one respondent who managed to adopt this skill.

Both programmes have managed to improve the availability of nutritious food, income generation, job opportunities and social cohesion in the participating villages. The results have shown that the field monitors, extension visits and technology transfer by ARC have sustained the HVC based extension model. The results from both qualitative methods and descriptive statistics have shown that the HVC based extension model was effective in improving rural livelihoods.

The regression analysis model was fitted to the survey to establish the impact of HVC on rural livelihoods. The regression model results have shown a very significant relationship between the dependent variable and the explanatory variables. The results of the regression analysis model were presented as model summary, analysis of variance and the detailed regression model results. Out of 22 explanatory variables analysed, 12 variables were significant.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This research project covered the issues surrounding the extension model used in the HVC programme with the specific focus on its impact and sustainability. An attempt was done to review literature on food security, rural livelihoods, extension services and the HVC programme and this was applied to the smallholder context in the OR Tambo. The ARD approach was used in collecting data which encourages participation of different stakeholders in solving complex issues.

In establishing the effectiveness of the HVC based extension model, the Siyazondla programme implemented by the Department of Rural Development and Agrarian Reform was included in the survey. This chapter entails summary, conclusions and recommendations based on the findings.

5.2 Summary

The body of this research project is composed of five chapters which covers the background of the study, a literature review, the methodology, the presentation of results and summary, conclusion and recommendations. In Chapter 1, the background of the research, the problem statement and research objectives, research questions and hypotheses were discussed, while Chapter 2 reviewed various studies relating to rural livelihoods, food security, policy questions, agricultural extension services, public sector and non-governmental approaches to agricultural development and literature on HVC. Chapter 3 presented a detailed analysis of the study area, variables and methods applied. Chapter 4 deals with the qualitative and quantitative results of the HVC based extension model. Chapter 5 deals with the Summary, Conclusion and Recommendations.

5.2.1 Summary of the background.

Chapter 1 reviewed the levels of poverty experienced in the rural areas of the Eastern Cape and the reliance on agriculture for improved rural livelihoods. The link of agricultural development to extension services was partially introduced. The background of the High Value Crop (HVC) programme in the OR Tambo was also discussed when introducing this study. The problem statement, the objectives, research questions and hypotheses of the study focused on the need for the analysis of the HVC implemented by the Is'Baya and ARC in the OR Tambo. The HVC objectives were used as the base for the analysis of the effectiveness of the HVC based extension model in improving rural livelihoods. The justification and outline of the study were also presented in Chapter 1.

5.2.2 Summary of literature review.

Chapter 2 reviewed the literature that was done by the various scholars on rural livelihoods, food security, Agricultural extension services, government and non-government to agricultural development. The improvement of rural livelihoods is very complex, and according to the sustainable livelihood framework the vulnerability of rural households is caused by lack of access to livelihood assets which include; natural capital, physical capital, financial capital, human capital and social capital. Issues relating to food security including prices of food which according to literature were higher in rural areas than urban areas were discussed in Chapter 2.

The improvement of rural livelihoods is viewed by many researchers as being linked to agricultural extension. The view of rural households relying on agricultural activities has created an immense pressure to agricultural extension services to be responsive to ever growing food production challenges. Most countries especially in Africa have seen a need to review the approach to be used by agricultural extension and in South Africa, the capacitation of agricultural extension officers is on process to meet the ever changing challenges facing agricultural development.

The policy and programmes implemented by the South African for the development of smallholder farmers were discussed. The programmes introduced by government in South Africa included RDP, GEAR, land reform, Agri-BEE, ASGISA, CASP, EC-PGDP and food security programmes such as Siyazondla, Siyakhula and Massive food production, all these were efforts to improve rural livelihoods. The approach by non-government institutions included the contributions by the international funding organisations.

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5.2.3 Summary of the research methodology.

The study area was introduced in Chapter 3 and the study was conducted in OR Tambo and Amathole. Eight villages were visited and these included Hluleka, Zanci, Noqhekwana, Hombe, Xhokonxa, Ndakana, Mgababa and Mbanyana. The main objective of the survey was to establish the effectiveness of the HVC based model in improving rural livelihoods. The survey included demographic characteristics, organisation of the HVC in relation to the Siyazondla programme, effectiveness in terms of skills and technology transfer, socio-economic impact of the HVC programme, women and youth empowerment initiatives of the programme and sustainability of the extension model. In carrying out the survey the ARD approach was used to collect data. Qualitative and quantitative methods of data collection were employed using various tools. A random sample of 149 respondents composed of households involved in HVC and Siyazondla was surveyed. The data collected was entered in excel, cleaned and analysed using SPSS. The descriptive and inferential statistics methods of data analysis were used in this study.

5.2.4 Summary of the results presentation.

The presentation of results started with the demographic characteristics of the respondents in a random sample. The objectives of the study were addressed using the qualitative methods, descriptive and inferential statistics. The qualitative methods utilised included the stakeholder's matrix, Venn diagrams, resource maps and seasonal calendars. The results from both qualitative methods and descriptive

statistics have that the HVC based extension model was effective in improving rural livelihoods. The regression analysis model was fitted to the survey to establish the impact of HVC on rural livelihoods. The high income earned was the variable used as a measure to evaluate the HVC impact on rural livelihoods. The regression model results have shown a very significant relationship between the dependent variable and the explanatory variables. The results of the regression analysis model were presented as model summary, analysis of variance and the detailed regression model results. Out of 22 explanatory variables analysed, 12 variables were significant.

5.3 Conclusion

Since 1994, the main challenge for rural development has been the need to combat the poverty in South Africa especially in rural areas. There was even a commitment made by South African government of halving poverty levels by 2015. This requires changes in access to resources such as land, water, skills, technology, production finance, rural infrastructure and other government services. Although the progress has been made, rural households are still characterized by greater poverty, inequality to the urban household with many households trapped in a vicious cycle of poverty.

In recognising the role that could be played agricultural development this study has reviewed and synthesized the HVC programme holistically in terms of its impact in rural development. The Siyazondla was evaluated in the same manner as the HVC extension model to establish the differences and similarities between these two programmes. More specifically, it has explored the current state and prospects of small-scale farming as a livelihoods strategy in rural areas, where agriculture effectively remains the backbone of local economies.

The partnership of the Is'Baya and ARC implementing the HVC programme has played a very significant role in transferring timely and accurate information. This report has found that the HVC programme has contributed to improved levels of socio economic development in rural areas. The sampled Siyazondla sites were

doing very well but there was no collaboration of extension services with research instead households are referred to production input for additional information.

Despite the fact that some of the stakeholders do not perceive the programme as an extension model, the strategies that are used are the same as those used in extension services. The extension model employed by Is'Baya/ARC in the HVC programme is structured in a way that allows constant connectivity between farmers and Is'Baya/ARC. The use of affordable inputs such as manure, compost and indigenous knowledge for pest control in the production of food encourages further interest from farmers. In this programme, farmers have been made to own the programme because of the approach used by the stakeholders when introducing it.

Skills such as record keeping were transferred to the farmers, but few farmers keep records of their farming activities. With regard to the technical skills transferred, the farmers' fruit trees were well planted with consistent inter-row and intra-row spacing evident by observation. Vegetables rows and alignment were also well-performed. This implies that the farmers are now able to use the skills transferred to produce well and good quality produce. Other skills transferred and adopted include processing fruit into jam, applying pesticides and insecticides and irrigation.

However, the programme has no strategies put in place which are specific for women and youth empowerment. Women usually find it difficult to perform certain activities and agricultural projects are generally criticized for their failure to come up with women empowerment strategies; and this programme is no different. Youth are generally not interested in agricultural activities, and this programme has also not been able to attract youth to participate in the programme.

The study therefore concludes that the Is'Baya/ARC extension model has been effective in meeting the objectives of the HVC programme. This is because the extension model applied in this programme has enabled the Is'Baya and ARC to form a strong relationship with the farmers/beneficiaries. This relationship has contributed to the efficient transfer of skills and technology, contributed positively to the livelihood of the people and increased the income and food security status of the rural dwellers in O.R Tambo district. The model can therefore be replicated in other districts and provinces if the same strategies used by Is'Baya/ ARC are applied.

5.4 Recommendations.

Rural development is a complex and multifaceted process. Interventions targeting rural development influence broader national development, such as migration patterns to urban areas, rural and urban food insecurity, climate change trends, and so forth. The emerging international evidence suggests that on-farm programmes (land reform and agrarian development) and off-farm rural activities (public works, for instance) are more effective instruments to fight rural underdevelopment. In this regard there, the following recommendations were made:

- The government needs to substantially increase investment in water resource and irrigation infrastructure. In most villages visited there were long distances travelled by households to access water for irrigation. This impacted negatively on the irrigation needs of households in these villages as water was not easily accessible to the households.
- Investment in market linkages for small scale farmers in communal areas. Linkages to wholesalers, retailers, food processors and fruit produce markets need to be established to absorb whatever has been produced by these farmers. To improve market linkages there will be a need to improve infrastructure such as roads, rail and communications that gets the produce from farm gate through the various stages of the value chain.
- Value adding initiatives should be linked to certification institutions to better access retail markets for the processed food. Most farmers in the sample were not processing their produce; only one village was processing its produce using traditional methods but lacked certification. The DRDAR should support the households in rural areas with processing facilities to improve the marketability of the rural household's produce.
- Create tenure security for communal farmers. While the system of intercropping of fruit and vegetable was practised by majority of the farmers, they were limited by space constraint as this farming practice was majorly carried out on small portions of land. This resulted in farmers growing limited number of crops according to their land size. Though household food needs

were met by these farmers, market demands could not be met as there was inadequate amount of produce to sell due to low quantity of harvest. Thus, the local municipality and traditional authority should provide farmers with more land so as to increase their level of output and meet the ever growing market demands.

- Investigate different forms of funding for rural development based programmes for the support of rural households. The Is'Baya/ARC HVC programme requires funds for expansion and effectiveness. Is'Baya the non-governmental organisation behind the programme is faced with challenges of shortage of staff and operational vehicles for field work which are vegetable tools for effectiveness. It is recommended that more funds should be invested in the programme either from new stakeholders or existing ones. This will in no small measure enhance the effectiveness and scaling up of the programme as the existing contracts with some of the funding partners are almost over.
- There should be a greater support for innovative public- private partnerships. The study has identified the need to improve on the working relationship between Is'Baya and DRDAR. While they could both be seen as complementing each other in their roles and activities, their working relationship except for few villages, has not really been cordial. It is therefore recommended that Is'Baya, DRDAR, local municipality and the traditional authority collaborate and ensure that that the working relationship between Is'Baya and DRDAR in all the villages of operation covered by the HVC programme is improved upon. This will increase further complementation of roles and gather more support and even funding from the government on the needs of these rural household farmers. The study also found out that Is'Baya have no succession plan, and this may have negative impacts on the HVC programme should unforeseen circumstances arise. The study therefore recommends that Is'Baya should have a clear succession plan.
- Increase and refocus investment in agricultural research. The survey has established that the relations between Is'Baya and ARC have empowered the households technically but other avenues involved in agricultural development

were not explored. The higher institutions of learning can also be brought on board to provide solutions in rural development initiatives.

- Improve and extend skills and training in agriculture including entrepreneurship. Most farmers during the survey were not keeping financial records and could not calculate their returns per annum. The innovative methods of information transfer could be used to promote better agricultural understanding and identification of opportunities.
- Finally, the extension model employed by Is'Baya/ARC in implementing the HVC programme in the OR Tambo has been effective in improving rural livelihoods. It is therefore recommended that the public sector should learn from the experience of Is'Baya and ARC for the implementation of rural development initiatives aimed at reducing poverty.

REFERENCES

Accelerated Shared Initiative Growth for South Africa (ASGISA), 2006, Annual report, The Presidency, Republic of South Africa.

Accelerated Shared Initiative Growth for South Africa (ASGISA), 2008, Annual report, The Presidency, Republic of South Africa.

ADB, 2007, Soaring Food Prices: Response to the Crisis, Asian Development Bank, Philipines

African National Congress, 1994, "The Reconstruction and Development Programme", the African National Congress (ANC), Pretoria.

AgriSeta, 2010, Agriculture: Sector Analysis, p 23.

Allahyari, M.S., August 2009, Agricultural sustainability: Implications for extension systems, African Journal of Agricultural Research Vol. 4 (9), College of Agriculture, Islamic Azad University, Rasht Branch, Rasht, Iran.

Allen, M. 2008. Rising Food Prices: What Should be Done. IFPRI policy brief, viewed on 23 September 2012 from http://www.ifpri.org/blog/rising-food-prices-what-should-be-done.

Allison, E.H., 2003, Potential applications of a 'sustainable livelihoods approach' to management and policy development for European inshore fisheries, School of Development Studies, University of East Anglia, Norwich.

Altman, M., Hart, T. and Jacobs, P., March 2009, Food security in South Africa, Centre for Poverty Employment and Growth, Human Sciences Research Council.

Amathole Intergrated Development Plan, 2004, District framework for 2005/ 06 IDP review, The Executive Mayor, East London.

Anderson, J.R. and Feder, G., 2004, Agricultural extension: good intentions and hard realities, World Bank Research Obsever Vol. 19, No. 1.

Anseeuw, W. & Mathebula, N., 2008, Evaluating land reform's contribution to South Africa's pro-poor growth pattern, TIPS Annual Forum.

Ardington, E. and Lund, F. 1996, 'Questioning Rural Livelihoods' in Lipton, M., Ellis, F. and Lipton, M. (eds.) Land, Labour and Livelihoods in Rural South Africa, Durban: Indicator Press.

Armstrong, P., Lekezwa, B. and Siebrits, K. 2008 Poverty in South Africa: A profile based on recent household surveys, Stellenbosch Economic Working Papers 04/08, Bureau for Economic Research, University of Stellenbosch.ASARECA Association for Strengthening Agricultural Research in Eastern and Central Africa, 2009, Sub-regional strategy for the High Value Non-Staple Crops Programme: Towards increased economic growth and improved social welfare in eastern and central Africa while enhancing the quality of the environment; 2009-2014

Ashley, C. and Carney, D., 1999, Sustainable livelihoods: Lessons from early experience, Department for International Development, Printed by Russell Press Ltd., Nottingham, London.

Ashley, C. and Hussein, K., 2000 Developing Methodologies for Livelihood Impact Assessment: Experience of the African Wildlife Foundation in East Africa, Working paper 129, Overseas Development Institute, Portland House, Stag Place, London.

Babbie, E., Mouton J., Vorster, P. and Prozesky, B., 2012, The practices of Social research, fourteenth impression, South African Edition, Oxford University Press, Southern Africa.

Brook, I.L., 2008. Complex Factors Drive Food Price Increase. Farm Foundation. Press Release. Purdue University.

Bucknell, T., Lee, H., Skuster, P. and Thornton, M., 15 April 2002, Changing gears: South Africa and the Growth, Employment, and Redistribution Policy of 1996, Pubpol 556.

Bureau for Food and Agricultural Policy, 2011, The South African Agricultural Baseline.

Capa, Z., 22 Mar 2012, Province of the Eastern Cape Rural Development and Agrarian Reform Policy Speech 2012/13, South African Government Information, www.gov.za.

Cunguara, B,. June 2011, Assessing strategies to reduce poverty in rural Mozambique, Doctoral thesis, Institute of Agricultural and Forestry Economics, Department of Economics and Social Sciences and Centre for Development Research, Vienna (Austria).

Department for International Development (DFID), 1999, *Sustainable Livelihoods Guidance Sheets,* Sections 1 and 2, DFID Support Office

Department for International Development, 2004, Agriculture, growth and poverty reduction

Department for International Development , December 2005, Growth and poverty reduction: the role of agriculture.

Department of Agriculture, 2002, Policy on agriculture in sustainable development: a discussion document, 8th draft, Republic of South Africa.

Department of Agriculture, July 2002, The integrated food security strategy for South Africa, Republic of South Africa.

Department of Agriculture, June 2005, Norms and standards for extension and advisory services in agriculture, Directorate: Scientific Research and Development, Republic of South Africa.

Department of Agriculture, Forestry and Fisheries, July 2002, The integrated food security strategy for South Africa, Directorate Economic Services, Production Economics unit, Republic of South Africa .

Department of Agriculture, Forestry and Fisheries, June 2009, Agriculture strategic plan of 2009/10, Republic of South Africa.

Department of Agriculture, Forestry and Fisheries , 2009, Annual report on the state of compliance to norms and standards for extension, Republic of South Africa.

Department of Agriculture, Forestry and Fisheries, March 2011, Food Security, Directorate Economic Services, Production Economics unit, Republic of South Africa.

Department of Agriculture, Forestry and Fisheries, 2011, National framework for Extension Recovery Plan, Republic of South Africa.

Department of Agriculture, Forestry and Fisheries, May 2012, MAFISA update, Presentation to the Portfolio Committee on Agriculture, Forestry and Fisheries

Department of Rural Development & Land Reform, 2010, Land reform policy discussion document.

Department of Rural Development & Land Reform, 2010, Strategic Plan 2010 – 2013.

Department of Rural Development & Land Reform, June 2012, Land Reform Policy Discussion Document, Republic of South Africa.

De Swart C., 2004, Chronic poverty and development policy: Cape Town's African poor, Number 3, Published by the Programme for Land and Agrarian Studies, School of Government, University of the Western Cape, Cape Town, South Africa

Dirwayi, T. P., May 2010, Application of the sustainable livelihoods framework to the analysis of the provincial growth and development plan of the eastern cape – A case study of the Massive Food Production Programme in Nkonkobe Municipality and

Buffalo City Municipality, Dissertation submitted in fulfilment of the requirements of the degree of Master of science in Agricultural Economics, Department of Agricultural Economics and Extension, Faculty of Science and Agriculture, University of Fort Hare.

Carney,D., (1998) Sustainable rural livelihoods: What contribution can we make? Papers presented at DFID's Natural Resource Advisers' Conference.

Dollery, B., 2003, History of Inequality in South Africa, 1652-2002: Working Paper Series in Economics, Review Note No. 16, School of Economics, University of New England.

Dornberger, U, 2005, Pro-Growth and Pro-Poor Growth Approaches in Private Sector Development Strategies, SEPT working paper no. 20, Universität Leipzig, Germany.

Duvel, G.H., 2002, Towards developing an appropriate extension system for South African national research project. National Department of Agriculture.

Eastern Cape Socio Economic Consultative Council, 2002, OR Tambo District Profile, DC 15, vol. 18

Eastern Cape Socio Economic Consultative Council, March 2009, Assessment of the Eastern Cape Provincial Growth and Development Plan: Final Report

Eastern Cape Socio Economic Consultative Council, February 2012, Income, Assets and Poverty in the Eastern Cape, Working paper 16.

Eastern Cape Socio Economic Consultative Council, 2012, Economic Snapshot: OR Tambo District, viewed on 02 August 2012 from www.ecsecc.org.

Ellis, F., 1999, Rural livelihood diversity in developing countries: evidence and policy implications, No. 40, Overseas Development Institute.

Ellis, F., 2000, "Livelihoods strategies", Overseas Development Institute, viewed 04 August 2012 from http://www.eldis.org/go/topics/dossiers/livelihoods-connect/what-are-livelihoods-approaches/livelihood-strategies;

Everatt, D., 2003, The politics of poverty.

Farm Accounting Data Network, (2010), An A to Z of methodology, viewed on 20 August 2012 from http://ec.europa.eu/agriculture/rica.

Farmer's weekly, 22 June 2012, Science meet rural development.

Fenyes, T.I. and Meyer, N.G., 1998, Agricultural policy and macroeconomic issues in South Africa in perspective.

Food and Agricultural Organization, 2006, The state of food insecurity in the world, Rome.

FAO, IFAD & WFP. 2008. High Food Prices: Impacts and Recommendations. Chief Executive Board for Coordination meeting. APRIL 2008. Berne, Switzerland, viewed on 29 October 2012 from http://www.fao.org/es/esc/en/15/16/highlight_538.html.

Food and Agricultural Organization (FAO), 2009, The State of Agricultural Commodity Markets. Rome, Italy.

Food and Agricultural Organization (FAO), August 2012, Food Price Index.

Food and Agricultural Organization (FAO), 2012, Integrating Food Security Information in National Statistical Systems: Experiences, Achievements, Challenges, Rome.

Fouracre, P., 2001, Transport and sustainable rural livelihoods, TRL Limited.

Francis, E., April 2002, Rural livelihoods, institutions and vulnerability in South Africa.

Friedman, I. and Bhengu, L., 2008, Fifteen Year Review Of Income Poverty Alleviation Programmes In The Social and Related Sectors. Full Final Report, Published by Health Systems Trust, Durban, South Africa

Fromm, I., 2005, Interventions on the Meso-Level to Develop the Private Sector.

Frye, I., August 2005, Constructing and adopting an official poverty line for South Africa: some issues for consideration: A discussion document, National Labour and Economic Development Institute.

Gradín, C., October 2011, Race, poverty, and deprivation in South Africa, Working Paper Series, Society for the study of economic inequality, Universidade de Vigo.

Grewal, B. and Ahmed, A., May 2011, Agriculture and Poverty Reduction: Literature Review and Outstanding Issues.

Gujarati, D. N., 2003. *Basic Econometrics* (4e). New York: McGraw-Hill Companies.

Haidar, M., December 2009, Sustainable livelihood approaches: the framework, lessons learnt from practice and policy recommendations, Livelihoods Advisor, UNDP Dry-lands Development Centre, Economic and Social Commission for Western Asia, Beirut.

Hall, R., 2004, Land and agrarian reform in South Africa: A status report 2004, Research report no. 20, Published by the Programme for Land and Agrarian Studies, School of Government, University of the Western Cape, Cape Town, South Africa.

Hariadi, S.S., March 2012, History and experiences of agricultural extension in Indonesia.

Herselman, M.E. 2003. 'ICT in Rural Areas in South Africa: Various Case Studies'. Informing Science, 945-955

Hu, R., Cai, Y., Chen, Y.C. and Huang, J., December 2010, Effects of Inclusive Public Agricultural Extension Service: Results from a Policy Reform Experiment in Western China , International Food Research Institute, Paper 01037.

Human Sciences Research Council, March 2008, ASGISA and economic growth: Implications for skills development, Development Policy Research Unit, Sociology of Work Unit.

Hunter, N., May, J. and Padayachee, V., March 2003, Lessons for Poverty Reduction Strategy Paper from Poverty Reduction Strategies in South Africa, Working Paper No 39.

International Centre for development oriented Research in Agriculture (ICRA), 2008, Collective innovation, Resource book, National Agricultural Research for Development Network.

IFPRI. 2006. Rising Food Prices: Policy Options and World Bank Responses. Development Bank Committee.

IFPRI. 2008. Food-Security Risk Must Be Comprehensively Addressed. IFPRI Annual Report Essay 2008-2009.

International Federation of Red Cross, 2012, Federation wise Livelihood program Evaluation (Impact assessment), viewed on 12 August 2012 from http://www.ifrc.org/en/what-we-do/disaster-management/from-crisis-to-recovery/what-is-a-livelihood/ .

Jacobs, P., 2003, Evaluating land and agrarian reform in South Africa: Support for agricultural development, An occasional paper series, Centre for Poverty Employment and Growth, Human Science Research Council.

Jacobs, P., October 2008, Market Development and Smallholder Farmers- A Selective Literature Survey (Background Paper for the "Second Economy Project").

Jari, B. and Fraser, G., 2011, Influence of institutional and technical factors on market choices of smallholder farmers in the Kat River Valley, Unlocking markets to smallholders: Lessons from South Africa. Mansholt publication series- Volume 10.

Jones, P. & du Preez, R, 2008, Integrated Village Renewal Programme. Executive Summary, viewed on 10 July 2012 from www.isbaya.org.

Kazbekov, J.; Qureshi, A. S. 2011. *Agricultural extension in Central Asia: Existing strategies andfuture needs*, (IWMI Working Paper 145), International Water Management Institute, Colombo, Sri Lanka.

Khosa, M.M., February 2003, Towards effective delivery: Synthesis report on the project entitled 'Closing the gap between policy and implementation in South Africa, Research report no 98**,** Social policy series, Parktown, Johannesburg.

Kimaro, W.H., Mukandiwa, L. and Mario, E.Z.J. (Eds), 2010**.** Towards Improving Agricultural Extension Service Delivery in the SADC Region. Proceedings of the Workshop on Information Sharing among Extension Players in the SADC Region, 26-28 July 2010, Dar es Salaam, Tanzania.

Kobokana, S., May 2007, Reconciling poverty reduction and biodiversity conservation: the case of Expanded Public Works Programme (EPWP) in Hluleka and Mkambati nature reserves, A thesis submitted in partial fulfillment of the requirements for the degree of Master of Philosophy in Land and Agrarian Studies, Faculty of Economic and Management Sciences University of the Western Cape (UWC) South Africa.

Kollmair, M. and St. Gamper, July 2002, The sustainable rural livelihood framework, Input Paper for the Integrated Training Course of NCCR North-South Aeschiried, Switzerland

Krantz, February 2001, The Sustainable Livelihood Approach to Poverty Reduction, Swedish International Development Cooperation Agency, Division for Policy and Socio-Economic Analysis.

Kydd, J., January 2002, Agriculture and rural livelihoods:lis globalisation opening or blocking paths out of rural poverty?, Agricultural Research & Extension Network, Overseas Development Institute.

Laderchi, C.R., December 2000, The monetary approach to poverty: a survey of concepts and methods, QEH Working Paper Series, Working Paper Number 58.

Lahiff, E., 2008, Land Reform in South Africa: A Status Report 2008, Report no. 38, Published by the Programme for Land and Agrarian Studies, School of Government, University of the Western Cape, Cape Town, South Africa.

Lehloesa, T.L., 2000, South Africa's Growth, Employment and Redistribution Strategy in the Context of Structural Adjustment Programmes in the South. Thesis submitted in partial fulfilment of the requirements for the degree of Masters of Arts (International Studies), Rhodes University, Grahamstown.

Machethe, C.L., October 2004, Agriculture and poverty in South Africa: Can agriculture reduce poverty?: Overcoming *Underdevelopment Conference in Pretoria, 28-29 October 2004, Department of Agricultural Economics, Extension and Rural Development and Postgraduate School of Agriculture and Rural Development, University of Pretoria.*

Manona, S., October 2005, Smallholder agriculture as Local Economic Development (LED) strategy in rural South Africa: exploring prospects in Pondoland, Eastern Cape, A thesis submitted in fulfillment of the requirements for the degree of Masters of Philosophy (Land and Agrarian Studies), Programme for Land and Agrarian Studies, Faculty of Economic and Management Sciences, University of Western Cape.

MartinRodgers, N., September 2011, Individual, family, and community factors that predict economic self-sufficiency: An analysis of Minnesotans who receive community action agency services, a dissertation submitted to the faculty of the graduate school of the University of Minnesota in partial fulfilment of the requirements For the degree of Doctor of Philosophy.

May, J., 1998 Poverty and inequality in South Africa. Report to the Office of the Executive Deputy President and the Inter-Ministerial Committee for Poverty and Inequality.

May, J., September 2010, Poverty Eradication: The South African Experience, Paper prepared for Department of Economic and Social Affairs, Division for Social Policy

and Development and Economic Commission for Africa, Economic Development and NEPAD Division Expert Group Meeting on Poverty Eradication United Nations Conference Center, Addis Ababa, Ethiopia.

Mbeki, T, February 2004, State of the Nation Address of the President of South Africa, Houses of Parliament Cape Town.

Mbuli, B.N., March 2008, Poverty reduction strategies in South Africa, Dessertation submitted in fulfillment of the Master of Commerce in Economics, University of South Africa.

Mebalo, K.J. and Morojele, M.E., 2010, Dissemination of agricultural technologies in small grain production through extension services to small scale farmers in South Africa

Ministry of Agriculture and Land Affairs, 1998, Agricultural Policy in South Africa: A discussion document, www.Daff.gov.za/docs/Policy/policy98.htm (viewed on 15/09/2012).

Moir, B. and Morris, P., 2011, Global food security: facts, issues and implications, Issue 1. Science and Economic insights**,** Australian Bureau of Agricultural and Resource Economics and Sciences, Australian Government.

Mlambo-Ngcuka, P., 6 February 2006, Media Briefing; *Background document,* A catalyst for Accelerated and Shared Growth-South Africa (ASGISA).

Morduch, J., 2012, Fighting Poverty, between market and gift, Field Actions Science Reports, Special Issue 4

Mukumbi, K., 2008, South Africa's agriculture Broad Based Black Economic Empowerment (Agri-BEE) policy: Implications from a domestic content model, Thesis submitted in fulfilment of the Master of Science, Department of Agricultural, Food and Resource Economics, Michigan State University,

National Agricultural Marketing Council, August 2009, Food Price Monitor: Media release.

National Agricultural Marketing Council, January 2011, Food Price Monitor: Media release.

National Youth Development Agency, March 2012, The Integrated Youth Development Strategy (IYDS) of South Africa (2012-2016), Policy and Research Cluster, Policy Unit, Halfway House, Johannesburg, South Africa

Nattrass, N. 1994. Economic restructuring in South Africa: the debate continues. *Journal of Southern African Studies* 20(4).

Ngquhwa Integrated Development Plan, 2006, Local Municipality IDP review, Peddie.

Obi, A., December 2006, Trends in South African agricultural land prices, Submitted in fulfilment of the requirements for the degree of PhD, University of Free State.

Obi, A., van Schalkwyk, H.D. and van Tuliburg, A., 2011, Market access, poverty alleviation and socio-economic sustainability in South Africa, Unlocking markets to smallholders: Lessons from South Africa, Chapter 1. Mansholt publication series, Volume 10.

Obi, A. and Pote, P., 2011, Technical Constraints to Market Access for Crop and Livestock Farmers in Nkonkobe Municipality, Eastern Cape Province, Unlocking markets to smallholders: Lessons from South Africa, Chapter 4. Mansholt publication series, Volume 10.

Organisation for Economic Co-operation and Development (OECD), 2006, South Africa's Agriculture Policy Review.

Organisation for Economic Co-operation and Development (OECD), 2008. Rising Food Prices: Causes and Consequences.

Office of the Premier and the Eastern Cape Socio Economic Consultative Council, 2009, Update of Eastern Cape Provincial Development Growth Plan: Proposed process.

Oxford Dictionary. 2010. 8th Edition. Oxford University Press.

Phuhlisani solutions, September 2009, International and local approaches to rural development: Key issues and questions*:* A review of the literature for the Drakenstein Municipality,

Phuhlisani solutions, June 2008, Extension and small holder agriculture: Key issues from a review of the literature

Pratt, A.N. and Dioa, X., 2006, High value products or staple crops? A discussion on development strategies for Southern Africa.

Public Service Commission, June 2009, Background notes for the dialogue on poverty reduction strategies and interventions: Measurement of poverty; Africa's experience with poverty reduction strategies; and the evaluation of poverty reduction programmes and strategies.

Public Service Commission, February 2007, Report on an Audit of Government's Poverty Reduction Programmes and Projects.

Rai, N., 2008, "Growth & poverty reduction strategy" and its coherence with the principles of the NSSD. A case study of Ghana, Masters in Public Policy and Human development, School of Governance, University of Maastricht, the Netherlands.

Republic of South Africa, 2010, Millenium Development Goals report.

Reitzes, M., September 2009, The Impact of Democracy on Development: The case of South Africa Research Report 120, Centre for Policy Studies, Johannesburg.

Rietdorf, U., 2005, Economic Growth and Poverty Reduction: What Role for the Informal Economy?, Universität Leipzig, Germany.

Rivera 1989. An overview of agricultural extension services: Extension definitions and systems, in Kesseba A.M (ed). Technology systems for small farmers: issues and options: Westview press, Boulder, San Francisco and London

Rudaheranwa, N. 2009. Biofuel Subsidies and Food Prices in the Context of WTO Agreements. Common wealth, Trade Hot topics.

Rugege, S., 2004, Land Reform in South Africa: An Overview, 32 Int'l J. Legal Info. 283.

Sachs, W. & Santarius, T., (2007), Slow Trade — Sound Farming. A Multilateral Framework for Sustainable Markets in Agriculture, Heinrich Böll Foundation, Misereor and the Wupperthal Institute. Germany.

Scoones, I., 1998, Sustainable rural livelihoods: a framework for analysis, IDS working paper 72.

Scoones, I., 2009, Livelihoods perspectives and rural development, Vol 36, No. 1, Journal of Peasant Studies, Routledge Taylor and Francis group.

Semana A.R, undated, Agricultural extension at cross-roads: present dilemma and possible solutions for future in Uganda, Department of Agricultural Extension/ Education, Makerere University.

Siyazondla Programme, 2012, The concept document, Food security section, Department of Rural Development and Agrarian Reform.

Statistics South Africa, National Treasury, February 2007, A national poverty line for South Africa

Statistics South Africa, 2010, Work programme 2010/11.

Studies in Poverty and Inequality Institute, 2007, The Measurement of Poverty in South Africa Project: Key issues

Solesbury, W., June 2003, Sustainable Livelihoods: A Case Study of the Evolution of DFID Policy, Working Paper 217, Overseas Development Institute, London.

Southern African Catholic Bishops Conference, April 2006, An outline and brief analysis of ASGISA, Briefing Paper 156.

South Africa Government Online, 2012, Government programmes and projects. Accessed on http://www.info.gov.za/aboutgovt/programmes/index.html ; on 3 August 2012.

South African Human Development Report, 2003, The challenge of Sustainable Development in South Africa: Unlocking people's creativity.

South African Local Economic Development Network, 2010, Municipality: OR Tambo District Municipality.

Swanepoel, F., A. Strobel, A. DE lange, E. Nesamvuni and A. Nyamandepitso (2004), "The Evaluation of Empowerment Policies, Strategies and Performance

within the Agricultural Sector", *Integrated Report*, Pretoria, National Department of Agriculture.

Swanson, B.E. (2008) Global Review of Good Agricultural Extension and Advisory Services Practices. Rome: FAO.

Technical Centre for Agricultural and Rural Cooperation (CTA), 2011, Innovations in extension and advisory services international conference programme, http:extensionconference2011.cta.int.

Tefera, T. A., November 2004, Community Development Initiatives and Poverty Reduction: The Role of the Ethiopian Kale Heywot Church in Ethiopia, Thesis Presented in partial fulfillment of the requirement for the MA Degree in Development Studies, Institute for Social Development, Faculty of Arts, University of the Western Cape.

Terreblanche, S.E., 2002, The history of inequality in South Africa, University of KwaZulu Natal Press, Pietermaritzburg, South Africa.

Terreblanché, S.E., 2007, Towards professionalism in agricultural extension: the professional registration of extensionists in South Africa – a dream or a reality? the role of the South African Society of Agricultural Extension (SASAE), Vol. 36.

Terre Blanche, M., Durrheim K. and Painter D.(Eds), 2006, Research in practice: applied methods of social science, second edition, University of Cape Town Press, Cape Town.

Thirlwall, A.P. 2006. Growth and Development with special reference to developing economies. 8th Ed. Palgrave McMillan. New York.

Thomson, A. M., January 2000, Sustainable Livelihoods Approaches at the Policy Level: Paper prepared for FAO e-conference and Forum on Operationalizing Participatory Ways of Applying a Sustainable Livelihoods Approach.

Tregurtha, N, 2008, Review of agricultural policies and support instruments 1994-2007, Presidency Fifteen Year Review Project, ComMark Trust.

Trostle, R. 2008. Global Agricultural Supply and Demand: Factors Contributing to the Recent Increase in Food Commodity Prices. United States Department of Agriculture.

Twigg, J., March 2001, Sustainable livelihoods and vulnerability to disasters, Benfield Greig Hazard Research Centre, Disaster Mitigation Institute (DMI).

Ugoh, S. C., 2009, Appraising the trend of policy on poverty alleviation programmes in Nigeria with emphasis on a National Poverty Eradication Programme (NAPEP), University of Lagos, Department of Political Science, Akoka Lagos Nigeria.

Umhlobo Wenene, 11 December 2012, 13h00 radio news, SABC, South Africa.

United Nations Children's Fund (UNICEF), May 2012, Measuring child poverty.

United Nations Conference on Trade and Development (UNCTAD). 2008. Tackling the Global Food Crisis. United Nations Conference on Trade and Development. UNCTAD policy briefs.

United Nations Development Programme (UNDP), June 1997, Promoting Sustainable Livelihoods: A briefing note submitted to the Executive Committee.

United Nations Development Programme (UNDP), 2000, Definitions of agricultural approaches, United States

United Nations Development Programme, 2011, Human Development Report, Sustainability and Equity: A Better Future for All.

United Nations Development Programme, 2011, Human Development Report- South Africa, Sustainability and Equity: A Better Future for All.

United Nations Task Force on Hunger, 2005, Halving hunger: it can be done

Ute, R., 2005, Economic Growth and Poverty Reduction: What Role for the Informal Economy? Strengthening Institutional Conditions.

Van Rooyen, J., 2008, Land reform in South Africa: effects on land prices and productivity, A thesis submitted in partial fulfilment of the requirements for the degree of masters of commerce in financial markets, Rhodes University, South Africa.

Vink, N., & Kirsten, J., 2003, Agriculture in the national economy. In L. Niewoudt & J. Groenewald (Eds.), *The Challenge of Change: Agriculture, Land and the South African Economy*. Pietermaritzbrg: University of Natal Press.

Von Broun, J. 2007. When Food Makes Fuel: the Promises and Challenges of Biofuels. International Food Policy Research Institute. Washington, USA.

Weeks, J., November 1999, Stuck in Low GEAR? Macroeconomic Policy in South Africa, 1996-1998, Central for Development Policy & Research School of Oriental & African Studies, London, SOAS Working Paper No. 85, Published in the *Cambridge Journal of Economics,* Vol. 23, No. 6 pp. 795-811

Williams, B., Mayson, D., de Satgé, R., Epstein, S. and Semwayo, T.,(2008). Extension and small holder agriculture: Key issues from a review of the literature, first draft. Phuhlisani

World Bank, 2004, Vietnam development report: poverty. World Bank: Washington, DC, USA.

World Bank, August 2012, Severe Droughts Drive Food Prices Higher, Threatening the Poor. Press release.

World Development Report 2000/1, September 1999, Attacking Poverty: Approach and Outline.

Woolard, I and Leibbrandt, M., February 2006, Towards a Poverty Line for South Africa: Background Note.

Worth, S.H., 2002: sustainable Extension: not transformation but renewal. Proceedings of the 18th annual conference of AIAEE, Durban South Africa

Worth, S.H., January 2008, An assessment of the appropriateness of agricultural extension education in South Africa. Dissertation submitted in fulfilment of a Doctor of Philosophy in Agriculture, University of KwaZulu-Natal.

Youth group, 2011, Poverty and education: Poverty in South Africa. Fact sheet 5.

Zimbabwe Human Rights N G O Forum, April 2010, Land Reform and Property rights in Zimbabwe.

Zuma, J.G., 2012, General Debate of the 67th Session of the General Assembly, New York, 25 September 2012. Theme: *"Bringing about Adjustment or Settlement of International Disputes or Situations by Peaceful Means"*

Zwane, E.M., 2009, Participatory development of an extension approach and policy, Submitted in partial fulfillment of the part of the requirements for the degree in Doctor of Agrarian extension, Department of Agricultural Economics, Extension and Rural Development. University of Pretoria.

APPENDIX 1

THE RESEARCH PLAN

Tertiary Questions	Potential Answers	Information Needed	Information Source	Choice of Method/ Tool	Expected Analytical Outputs
The effectiveness of the extension model applied in the HVC programme in terms of skills transfer and capacity development					
What was the motivation behind training the farmers?	Poverty alleviation. Skills transfer.	Agricultural activities before and after the intervention.	DRDAR -EC. ARC. Is'Baya NGO.	Key informant interviews. Secondary information.	Reasons for intervention
What are the extension strategies and practices applied in the extension model?	Training. Workshops. Participatory Extension	Extension approaches.	Farmers. DRDAR-EC. Is'Baya NGO.	Focus group discussions. Key informant interviews.	List of effective extension strategies. Technology transfer methods.

	Approach.				
What technical skills have farmers gained from the model?	Fruits and vegetables production. Record keeping. Production of herbs.	Training and skills provided.	Farmers. DRDAR-EC. ARC. Is'Baya NGO.	Focus group discussions. Key informants interviews. Observation.	List of trainings and skills provided. Stakeholder contribution to the training. List of beneficiaries trained.
What are the reasons that led to the adoption of the model?	Poverty alleviation. Job creation. Skills transfer.	Agricultural activities.	DRDAR-EC. Is'Baya NGO. Farmers.	Key informant Interviews. Secondary data.	Reasons for adoption of the extension model.
How do the different stakeholders perceive the extension model?	Positive Negative Enthusiastic Satisfied.	Perception from each stakeholder on the model. Funding. Participation of stakeholders	Farmers, key informants and stakeholders.	Focus groups, interviews. Key informant interviews. Semi-structured questionnaire.	Perspectives of different stakeholders regarding the model.
What is the extent of	No participation.	Level of	Farmers.	Interviews,	Identified roles

stakeholder participation in the programme?	Functional participation. Interactive participation.	participation/contribution of each stakeholder. Roles of each stakeholder.	Key informants. Stakeholders. DRDAR-EC. Is'Baya NGO.	Secondary data, Questionnaires	and levels of participation of each stakeholder
Socio-economic impacts of the HVC programme on the livelihoods of the people.					
Which benefits and limitations have been realised from this programme?	Food security. Job creation. Income generation. Rural Development. **Limitations.** Market access. Infrastructure.	Perceptions of the model from the stakeholders – negative and positive.	Beneficiaries. DRDAR. Is'Baya NGO.	Focus group discussions and interviews. Key informant interviews. Semi-structured questionnaires	Benefits and limitations of the extension model.

The extent to which the HVC programme has empowered women and youth					
How does the programme contribute towards gender empowerment?	Women entrepreneurs. Gender biased. Gender equality.	Number of women and men involved in the project.	Stakeholders. DRDAR-EC Is'Baya NGO	Secondary data. Interviews. Focus groups discussions.	Gender issues
How does the programme empower youth?	Youth participation in agricultural activities	Benefits of the youth from the programme	Youth. Is'Baya NGO. DRDAR	Secondary data Focus groups discussions.	Number of youth participating in the programme.
Sustainability of the programme					
Which factors were considered important when adopting the programme in the district?	Vulnerability context. Natural resource. Willingness from	Cooperation of stakeholders, funding, natural resource management, farmer participation, list of prevailing factors	Stakeholders. Key informants. DRDAR-EC. Is'Baya NGO	Secondary data, interviews, focus groups, livelihood analysis, transect walks, resource maps and seasonal	Assessment of factors for and against the model

	stakeholders. Funding.			calendars.	
How was the programme expanded to other local municipalities in the district?	Funding. Stakeholders participation. Farmers participation. Research.	Activities of various stakeholders. Information on funding from stakeholders	DRDAR-EC. Farmers. Stakeholders. Key informants. Is'Baya NGO.	Secondary data, semi-structured interviews.	Identified opportunities for replicability of the model.
What has sustained the programme?	Social cohesion. Support from stakeholders. Full participation of the farmers. Natural resources	The success stories of the model. Agro-economical benefits. Implementation of the model in the other areas of the district.	Farmers. DRDAR-EC. ARC. Is'Baya NGO.	Focus group discussions and interviews. Key informant interviews. Semi-structured questionnaires transect walks Resource maps Seasonal	Factors sustaining the programme.

				calendars.	

APPENDIX 2

QUESTIONNAIRE

Effectiveness of the HVC based extension model to improve rural livelihoods

Questionnaire

Name of village ----------
Interview date …….
Respondent Name …….
Age …….

Section A: Introductory questions

1. Do you know about the Siyazondla programme of the Department of Rural Development and Agrarian Reform?

Yes	No

2. Are you involved in the project?

Yes	No

3. For how long have you been involved in the project? ..……

4. How was the project introduced to you?

A. Extension officer

B. Councillor.

C. Other, specify_____

5. Membership of an organisation.

Yes	No

6. What form of organisation?

   A. Co-operative.

B. Association.

C. Project members.

D. Study group.

E. Stockvel

F. Other, specify_____

7. How do farmers contribute to the implementation of this project?

   A. 50 % Financial.

   B. Labour.

   C. Both

8. Who are the different stakeholders involved in the project?

Stakeholders	**Their roles**	**Closeness/ Relationship**	**How long?**
Department of Rural Development and Agrarian Reform			
Traditional Leader			
Ward committee			
Non-Governmental Organisations			
Other:			

9. What are your different income sources? May you use the 10 stones (or chapatti diagram) to demonstrate your different sources of income and percentage from each source?

Income sources	Percentage	Amount (if possible)
Farming		
Child grants		
Pension		
Remittances		
Off-Farm income		

10. What is the size of your farm/plot? Hectares?_____

11. Do you cultivate the entire farm/plot, or part of it?

Yes	No

12. How do you do soil preparation?

    A. Tractor.

    B. Animals.

    C. Garden tools.

13. If you are using a tractor, how much does it cost?_____

14. Can you use the 10 stones (or chapatti diagram) to show the land allocated towards the production of each crop?

Crops produced	Size of operation / percentage allocated to each crop	Since when?
Spinach		
Cabbage		

Carrots		
Lettuce		
Beetroot		
Onion		

15. Which production inputs do you use in the production of fruit and vegeTables?

    A. Fertiliser.

    B. Insecticides.

    C. Manure.

    D. Sunlight soap.

    E. Other,
    specify_____
    _____

16. How much water is needed per day on your plot?
    _____

17. How far are the sources of water?

    A. Not far.

    B. Far.

    C. Very far.

18. Are you able to irrigate daily?

Yes	No

Section B: Project income

19. Do you market your produce?

Yes	No

20. Where do your market your produce?

    A. Community.

    B. Retailers.

    C. Other, specify_____

21. Do you market your produce as group or as individuals?

    A. Group.

    B. Individual.

22. Are you processing any of your produce?

Yes	No

23. Do you keep records?

Yes	No

24. What is the highest income you have generated from the project?_____

25. In which year?_____

26. Does income from your produce cover for the costs of production?

    A. Yes.

    B. No.

    C. Do not know.

Section C: Project status

27. What was the plan of implementing the programme in the district during its inception?

    A. Few villages.

B. Few individuals showing interest in vegeTable production in a village.

C. Individuals receiving food parcels.

D. Other,
specify_____

28. What is the current geographical spread of the programme? Number of local municipalities and villages?_____

29. How many beneficiaries in total?_____

30. Has the planned number been reached?

Yes	No

Section D: Extension Model

31. What are the extension strategies and practices applied in the extension model?

Extension visits and information transfer	
Farmer to farmer	
Researcher to farmer	
Information days	
Other, specify	

32. Which technical skills have been transferred to the farmers?

Planting skills.	
Maintenance of plants	
Inter-cropping.	
Financial record keeping	
Processing	
Cooperative governance	

33. What are the reasons that led to the adoption of the model?

_____
_____
_____
_____
_____
_____
_____
_____

34. How do you perceive the extension model?

Effective in transferring skills.	
Not effective in transferring skills.	

Section D: Socio-economic impacts of the extension model

35. What are the benefits of the model?

A. Food supplement.

B. Income supplement.

C. Skills.

D. Other,
specify_____

36. How do other villagers benefit from the project?

A. Job opportunities.

B. Food availability at cheaper prices.

C. Planting skills.

D. Other,
specify_____
_

37. What are the limitations realized from the model?

    A. Lack of infrastructure.

    B. Water availability.

    C. Lack of funds for production inputs.

    D. Limited land.

38. What is the distance travelled (minutes/Km) by farmers from their villages to access these facilities?

    Input market ……

    Nursery for seedlings ……

    Organisations providing credit or loans ……

    DRDAR ……

Section E: Gender and youth empowerment

39. Are there women participating in the programme?

Yes	No

40. Do practices done in the programme allow women participation?

    A. Yes.

    B. No.

    C. Most practices.

41. Do women take part in decision making?

Yes	No

42. Do women have ownership and or control of production resources?

Ownership	
Control	
Ownership and control	

43. Does youth participate in this programme?

Yes	No

44. How does the programme empower youth?

Treatment is the same as other beneficiaries.	
Special programmes designed for youth	

45. What is the perception of youth towards this programme?

Passionate about Agriculture	
Don't want to be associated with Agriculture.	

Section F: Sustainability of this project?

46. How were the project beneficiaries identified?

Identified by Extension officers	
Identified by Councillor	
Identified by Ward committee	
Farmers were involved in identification.	

47. How many times does an extension officer visit farmers per month?

A. Monthly.

B. Weekly.

C. Daily.

48. Who initiates these visits?

Extension officer	
Farmers	
Programme ,	

49. Who is perceived as the main driver of the programme?

Department of Rural Development and Agrarian Reform	
Traditional Leader	
Ward Committee	
NGO	
Other	

50. Who coordinates different activities happening among farmers involved in the programme?

Department of Rural Development and Agrarian Reform	
Traditional Leader	
Ward Committee	
NGO	
Other	

51. Do other stakeholders independently consult farmers without knowledge the Department of Rural Development and Agrarian Reform?

Yes	No

52. How was the programme expanded to other local municipalities in the district?

A. Initiative of the Department of Rural Development and Agrarian Reform.

B. Request from farmers.

C. Request by Ward committees.

D. Other, specify_____

53. What are challenges facing agricultural development in your district?

Funding	
Soil types	
Water availability	
Environmental conditions	

54. What has sustained the programme since its inception?

Availability of funding.	
Commitment from farmers.	
The extension model applied	

Section G: Drawings

55. Seasonal calendar: rainfall, soil preparation, maintenance, harvesting.

56. Resource map.

1. Code book

This is a code book for the survey done in villages involved in the HVC program in the OR Tambo District and villages involved in Siyazondla program in the Amathole District and these include: Hluleka, Zanci, Noqhekwana, Hombe, Xhokonxa, Ndakana, Mgababa and Xhora.

1. Village- VILL

Hluleka= 1

Zanci= 2

Noqhekwana= 3

Hombe= 4

Xhokonxa=5

Ndakana= 6

Mgababa= 7

Xhora=8

2. Age- AGE

Youth= 1

Middle age= 2

Pensioner= 3

3. Type of farmer –FAMA

Lead farmer= 1

New farmer= 2

No distinction= 3

4. Farmer contribution- CONT

50% contribution= 1

Labour= 2

Both= 3

3 Different sources of income.

Farming= 1

Child grants= 2

Pension= 3

Remittances= 4

Jobs= 5

Off farm income= 6

4 Soil preparation- SOPR

Garden tools= 1.

Tractor= 2.

7. Tractor costs- TRAC= Actual.

8. Sources of water – SWAT

Not far = 1

Far= 2

Very Far = 3

9. Market- MKT

Yes= 1

No= 2

10. Where do you market? WHER

Community= 1

Retailers= 2

Other= 3

11. Marketing approach – INDV

Group= 1

Individual= 2

12. Processing- PROC

Yes= 1

No= 2

13. Record keeping- RECO

Yes= 1

No= 2

14. Highest income- HIGH= Actual

15. Does income cover costs- PROF

Yes= 1

No= 2

Do not know= 3

16. Technical skills transferred and adopted- SKILL

Planting, Maintenance and intercropping= 1

Record keeping= 2

Processing= 3

Cooperative governance= 4

1& 4= 5

1, 3& 4= 6

1,2, 3 & 4= 7

17. Extension visits- EVIS

Weekly= 1

Fortnightly= 2

Monthly= 3

No visits= 4

18. Community benefits- VBEN

Job opportunities= 1

Food at cheaper prices= 2

Planting skills= 3

19. Distance to loan institutions= DLON = Actual

20. Do practices allow women participation –WMEN

Yes= 1

No= 2

Most practices= 3

APPENDEX 3

CODE BOOK

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Yes= 1

No= 2

Most practices= 3

APPENDIX 4

PICTURES

The picture below shows the board in the Is'Baya offices in Port St Johns. This portrays Thina Sinako as a sponsor of the HVC programme.

The picture shows households using stones to demonstrate percentage distribution of commodities in their plots during the field survey.

The picture below shows the Siyazondla plot intercropped with different vegetables in Mgababa village.

The picture below shows the intercropping of fruit trees with vegetables in Hombe village.

The picture below shows other rural livelihood activities observed during the field study in Ndakana village.

The picture below shows the mode of transport used in Zanci Village to fetch crops from the fields. This carrier is pulled by animals.

The picture below shows the focus group meeting in Hluleka village. Also a household head next to the banana tree in Hluleka.

The picture below was taken during the transect walk in Noqhekwana village. Most of their houses are round shaped, these houses are called rondavells. The village is bushy and households are far from each other.