AN EVALUATION OF THE IMPACT OF LAND REDISTRIBUTION FOR AGRICULTURAL DEVELOPMENT PROJECTS ON BENEFICIARIES IN THE NGAKA MODIRI MOLEMA DISTRICT OF NORTH-WEST PROVINCE, SOUTH AFRICA

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DECLARATION

I, Michael Akwasi Antwi declare that the thesis for the degree of PhD Agricultural Economics at the North-West University hereby submitted, has not previously been submitted by me at any university, that it is my own work in design and execution and that all material contained herein has been duly acknowledged.

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ABSTRACT

The fundamental objective of this study was to evaluate the impact of the LRAD projects in the Ngaka Modiri Molema district of the North-West Province. Under the ownerships of LRAD beneficiaries, the majority of the projects undertake combinations of livestock, grains and vegetable production. Based on the number of LRAD projects in the district, random sampling was performed and 65% of all the active projects under LRAD sub-programme which is the focus of this study were selected. Qualitative and quantitative analyses were performed on the data collected using a structured questionnaire from forty-seven LRAD projects in the study area. Graphs, histograms and tables were used to present the results of frequency indicator variables.

Three models, the Tobit, the Binary Logistic Regression and the Ordinary Least Squares models were fitted to the data respectively to analyse the effects of the socio-economic factors on the projects' performance. The limited dependent variable of the study, Y_i (performance) was left censored hence the Tobit regression model provided estimates which were asymptotically consistent and efficient. The Limdep Version 4.1.0 Statistical Programme was used to analyse the censored limited dependent variable model (Tobit model) and the estimates of the effects of the socio-economic factors on the projects' performance were determined. Sixteen out of the twenty explanatory variables were found to be statistically significant at the 1, 5 and 10% levels of significance.The variables which were statistically significant included: years of project operation (NYR); Number of project beneficiaries (NBNOW); Number of project beneficiaries with less than matric education (EDLM); number of project beneficiaries with matric level of education (EDM); number of project beneficiaries with tertiary level of education (EDT); number of beneficiaries employed outside the project (NBEBP); availability of project business plan (AVBP); average number of trainings attended by project beneficiaries (AVTR); number of conflicts per project (NCONF); adoption of new technologies by the projects (ADTECH); proportion of women with children per project (PROW); households of beneficiaries' food security status (HHFSD); net farm income of project (NFI); project savings (SAVINGS); farm records keeping (FRK); and number of established relevant linkages of projects (LINKAGES).

It was expected that the LRAD projects in the Ngaka Modiri Molema district of North-West Province were meeting the objectives of the LRAD programme implying that the projects were among others improving the living standards of the beneficiaries by creating jobs; generating satisfactory monthly income; ensuring food security; equipping beneficiaries with the requisite skills for effective, efficient and sustainable farming; and established reliable farm infrastructure. However, the results of the analysis showed that the aforementioned expectations have not being fully achieved by the projects. There were both negative and positive aspects of the results. Some of the aforementioned key indicator variables were lowly achieved; such as low quality of infrastructure, few skills training, less contribution to food security, poor savings and financial constraints.

The positive aspects revealed by the results of the study include: access to sizeable productive agricultural lands; improved participation of women and youth in farming; household supply of food stuffs from the projects; earning of some form of monthly income from farm produce sales; some of the projects, even though small in number, have some good farming infrastructure; through the projects, though grossly inadequate, some have means of transport and farm machinery; the projects considered in the study created some permanent and temporary jobs on the projects; the projects have also established some beneficial linkages; and some form of best practices on some of the farms.

It was recommended that sustainability of the projects would be achieved only if the LRAD projects being implemented were monitored independently by consultants on a tender and five-year renewable contract basis. The department of Rural Development and Land Affairs could intervene in and restructure failing projects. It must also provide more education and technical support. The balance of grants of some of the projects should be properly directed to solve critical problems on such projects. The project participants as clients should be involved in decisions regarding the use of grants allocated to their projects. The areas that need training are: livestock management;- financial planning and management skills; practical skills in water-point maintenance, basic mechanics and construction; irrigation management; crop production; environmental management; wildlife and game management. An integrated agrarian reform support programme will go a long way to improve productivity on the projects if it consists of a package in support services, rural infrastructure and co-operatives. There should be extension of a special grant to support government's efforts. Furthermore, the agrarian reform development support project should primarily involve the establishment of Farmer-Support centers for the acquisition and distribution of agricultural equipment to agrarian project beneficiaries. These farmers support centres will provide the necessary services and support to the agrarian reform project beneficiaries.

TABLE OF CONTENTS

CHAPTER 3

CHAPTER 4

CHAPTER 5

LIST OF TABLES

LIST OF FIGURES

ACRONYMS AND ABBREVIATIONS

AgriBBBEE	:	Agricultural Broad-Based Black Economic Empowerment
CASP	:	Comprehensive Agricultural Support Programme
CBO	:	Community-Based Organisation
CPA	:	Communal Property Association
CPI	:	Communal Property Institution
CRLR	:	Commission on Restitution of Land Rights
DACE	:	Department of Agriculture, Conservation and Environment
DBSA	:	Development Bank of Southern Africa
DLA	:	Department of Land Affairs
DRDLA	:	Department of Rural Development and Land Affairs
FNB	:	First National Bank
FSP	:	Farmer-Support Programme
FSS	:	Farmer-Support Service
IFAD	:	International Fund for Agricultural Development
LARP	:	Land and Agrarian Reform Project
LRAD	:	Land Re-distribution for Agricultural Development
MAFISA	:	Micro-Agricultural Finance Initiative of South Africa
MEC	:	Members of the Executive Committee
MoA	:	Ministry of Agriculture
NDA	:	National Department of Agriculture
NGO	:	Non Governmental Organisation
NWDACE	:	North-West Department of Agriculture, Conservation and Environment
PDLA	:	Provincial Department of Land Affairs
PLAS	:	Proactive Land Acquisition Strategy
PMU	:	Project Management Unit
SIS	:	Settlement and Implementation Support
SLAG	:	Settlement/Land Acquisition Grant

CHAPTER 1

1. Background

Land remains the single most important determinant of wealth for farmers and rural dwellers. It is a status symbol, source of power, pension and insurance policy for the future. Land, its ownership and uses, has always played an important role in shaping the political, economic and social processes at work in South Africa. The structure of the agricultural economy of South Africa means that land is the central productive resource and its ownership patterns are crucial where opportunities need to be equalized in the absence of alternative opportunities elsewhere in the economy (Van Schalkwyk & Van Zyl, 1994). Past land policies were a major cause of insecurity, landless citizens and poverty in the country (CDE, 2008). They also resulted in inefficient urban and rural land use patterns and a fragmented system of land administration. As a result of decades of dispossession and racist land laws, land distribution in South Africa is among the most skewed in the world, with large capital-intensive farms (owned by white farmers) dominating much of the rural areas. The result is that only 28% of South Africa's rural population (a large proportion of whom are Black people of South Africa and their dependants) live on 88% of the agricultural land. Thus, the remaining 12% of agricultural land supports 72% of the rural population in the overcrowded former homelands which lack the infrastructure for successful agriculture (CDE, 2008).

The lack of land ownership by Africans due to the 1913 Land Act and other racially motivated policies of the past government in South Africa was one of the strategic corner stones of the struggle against the apartheid regime. The democratic government in 1994 opted for a three-pronged land reform policy to redress the historical injustice of land dispossession, denial of access to land and forced removals: Land Restitution to restore land or provide financial compensation for people dispossessed of the land after 1913; Land Redistribution; and Land Tenure reform.

Under the Land Restitution Act of 1994, persons or communities who lost their property as a result of apartheid laws or practices after 1913 were invited to submit claims for

restitution (return of land) or compensation (usually financial). By the cut-off date in March 1999, 67 531 claims by individuals or communities were lodged. About 72% of the claims were urban and the remainder rural. By the end of the decade 36 489 claims were settled, involving about 85 000 households. For urban claims there has been mainly financial compensation for victims of forced removal and the total compensation made by December 2002 was R1.2 billion. For rural claimants, the restitution mainly took the form of the return of land and by December 2002 about 571 232 hectares were restored and at a cost of about R442 million. Government aims to complete all the land claims by 2005 (Department of Agriculture and Land Reform, 2001).

The Land redistribution is about making land available for: agricultural production, settlement and non-agricultural enterprises. During the first five years (1994-1999) the main emphasis of land redistribution was to provide the disadvantaged and the poor with land for housing and small scale farming purposes. The first phase of the Land Redistribution, the Settlement Land Acquisition Grant (SLAG) was a R16 000 cash grant for which poor and landless black South Africans could form a group to apply to buy and develop farm land. The applications took the form of group settlement with some production, cooperative production and /or commonage schemes, or farm settlements of farm workers and farm worker equity. The basic grant was supported by other grants, i.e. for planning, facilitation, and dispute resolution. In most cases, farms financed with land grants and settled by groups (up to 500 households) were far too small to support all of the beneficiaries as full-time farmers. By the end of 2000, the Ministry of Agriculture and Land Affairs had approved 484 projects under the SLAG programme, transferring 780,407 hectares to 55 383 people, with some 14% headed by women (Department of Agriculture and Land Reform, 2001).

The SLAG programme ended in 2000, and the Land Redistribution for Agricultural Development (LRAD) programme was introduced later that year. Its major difference from SLAG was that beneficiaries do not have to be poor to apply for the minimum of R20 000 land grant, and those who have more savings and can raise bigger loans to finance their farms qualify for larger grants. LRAD (Land Redistribution for Agricultural Development) is a sub-programme of the Land Redistribution Programme and potentially

the most important far-reaching component of land reform in South Africa. The LRAD sub-programme has two distinct parts. First, there is a part which deals with the transfer of agricultural land to specific individuals or groups. Second, there is a part which deals with commonage projects, which aims at improving peoples' access to municipal and tribal land primarily for grazing purposes (Khuzwayog, 2008).

This research deals only with agricultural projects covered by the first part of the sub-programme. The main objectives of LRAD include: helping previously disadvantaged people (Blacks, Coloureds and Indians) to become effective farmers on their own land; provision of help to black and poor people in rural areas of South Africa to improve their living standard by enabling them to access and use land productively; decongestion of overcrowded former homeland areas; and to expand opportunities for women and youth in rural areas (Department of Agriculture and Land Reform, 2001). Thus LRAD generally seeks to improve the livelihoods of the beneficiaries and the local economy through sustainable agricultural production.

By November 2007, some 4.2 million hectares of land had been redistributed. Since 1994, about 4.7 percent of commercial agricultural land in terms of area has been redistributed through all government programmes to date to previously disadvantaged persons in South Africa for agricultural purposes especially for agricultural development projects. The government's target is 30 per cent by 2014. According to the Department of Land Affairs (DLA), white-owned commercial farmland in South Africa comprises 82 million hectares, indicating that the transfer target is 24.6 million hectares (CDE, 2008:17).

Many land reforms usually advocate for equity distribution and efficiency regarding land resources to improve productivity, income and the standard of living of citizens. It has been very difficult for many countries to achieve any appreciable levels of the two. However, efficiency of the use of the agricultural land resource, which is the key for the attainment of the afore-mentioned benefits of land reform, has in many cases been compromised. In the end, political rather than productivity goals are achieved with consequent high levels of unemployment, food insecurity and grossly under-utilized

productive agricultural lands. One of the ways to minimize the failure of agricultural projects of the land reform programme is to undertake periodic evaluation or impact assessment. Evaluation or impact assessments of development activities can provide government officials, development managers and civil society with better means of learning from past experiences, improving service delivery, planning and allocation of resources, and demonstrating results as part of accountability to key stakeholders (The World Bank, 2004).

According to Human and Constitutional Rights (2008), land possession has been a major area of dispute for whites and blacks in Zimbabwe for decades. The organization explains further that, in 1965, upon independence from Britain, white Rhodesians seized control of the majority of fertile land within the country and forced blacks to use the poorer, arid, and unproductive ground. After minority rule ended in 1980 through the election of President Robert Gabriel Mugabe and the implementation of the Lancaster House Agreement, white landowners were granted ten years of protection from land distribution policies and reform. In addition, this agreement provided that land would not be seized without compensation. In 1990, after the government was no longer constrained by provisions of the Lancaster Agreement, the Constitution was amended in order to provide for the redistribution of land within the country. Throughout this time, various amendments have been instituted in order to provide for an adequate redistribution of the land, while allowing for the fair compensation of landowners. In addition, various governments, including Britain, have provided land assistance grants in order to facilitate the process of land redistribution and compensation.

Human and Constitutional Rights (2008) stated that by 1997, much of the more fertile land remained under control of a few thousand white farmers. Moreover, much of the land that had been distributed, remained in the hands of the black elites, and was not accessible for lower-class Zimbabweans. Throughout this period, the population of lower-class laborers within the "tribal reserves", increased. In 1998, international donor governments that had contributed to financing land reforms held a conference on increased government enforced acquisition of land. These governments adopted a set of

principles in order to guide "Phase II" of land reform in Zimbabwe. These principles included respect for the legal process, transparency, poverty reduction, consistency and ensuring affordability for acquisition and allocation of land grants. Subsequent to these proceedings, however, the relationship between the Zimbabwean government and donor governments faced instability, and Zimbabwe accused these governments of attempting to maintain the colonial distribution of wealth (Human and Constitutional Rights, 2008).

Since 2003, there has been increasing political and social tension in Zimbabwe over land-distribution and compensation. In July 2000, President Mugabe stated that he would adopt a "fast-tracts" land reform process in Zimbabwe where a national committee, the National Land Identification Committee, would identify tracks of land for redistribution. This fast-tracts model consists of two approaches: model A1, to benefit 160,000 of the poor from the general landless population; and model A2 aimed at creating 51,000 black commercial farmers. This process, however, has been noted as an inefficient and inconsistent method of allocating land. Moreover, there were increasing concerns that these methods were not monitored by the judicial system (Human and Constitutional Rights, 2008).

Impact evaluations[1] is concerned with the systematic identification of the effects (positive or negative), intended or not intended – on individual households, institutions and the environment caused by a given development activity such as a programme or project. Impact evaluation helps to better understand the extent to which activities reach the poor and the magnitude of their effects on peoples' welfare. From the foregoing, the need to assess or evaluate the impact of the LRAD projects on the beneficiaries can not be over-emphasized. Effective periodic evaluation of Land Reform agricultural development projects is required by the programme since the costs of failure are very high. In a worst-case scenario, failed land reform agricultural development projects would have catastrophic knock-on effects on the entire national economy.

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[1] A range of types of impact evaluation, including the advantages, disadvantages, cost, skills and time required to conduct each of them, is discussed in OED, *Monitoring & Evaluation: Some Tools, Methods and Approaches*, 2nd edition, World Bank, 2004.

1.1 Problem statement

As stated earlier, the SLAG programme ended in 2000, and the Land Redistribution for Agricultural Development (LRAD) programme was introduced later that year. By November 2007, some 4.2 million hectares of land had been redistributed. Since 1994, about 4.7 percent of commercial agricultural land in terms of area has been redistributed through all government programmes to date to previously disadvantaged persons in South Africa for agricultural purposes especially for agricultural development projects (CDE, 2008:17). Thus the programme has been implemented for over a period of ten years. However, according to Khuzwayo (2008), most of South African land reform supporters and opponents alike hold widespread perception that, where redistribution has occurred, it has not improved agricultural productivity or benefited the majority of participants in terms livelihoods. The author explianed further that, over the years, through LRAD, the South African government has invested significant development resources to implement a number of agricultural projects on over 2078385ha of land distributed since 1995 in South Africa including all the four regions of the North-West province.

Many critics allege that most of the Land Reform Agricultural Development projects are unsuccessful and not meeting the objectives of the programme (CSIR, 2005; CASE, 2006; and SDC, 2007). However, the extent of the problem has not been researched thoroughly. Many reasons have also been assigned to the alleged failure of the projects which include: uneconomic farming operations with too many people on small holdings; lack of reliable markets for the products; group ownership of such projects leading to in-fighting; lack of effective monitoring and evaluation; lack of effective and efficient support services; lack of management and farming skills. There are however some projects which might have been successful and whose best practices, if identified, can be adopted to improve the performance of other similar projects (on-going and future).

The LRAD programme since its inception in year 2000 has not been evaluated in many districts of South Africa. It is through evaluation of the impact of the programme which will either confirm or otherwise of the aforementioned perceptions/allegations. Periodic

evaluation of development activities/projects is considered a good practice in that it can provide government officials, development managers and civil society with better means of learning from past experiences, improving service delivery, planning and allocation of resources, and demonstrating results as part of accountability to key stakeholders (The World Bank, 2004). There is therefore the need to evaluate the impact of the agrarian reform projects on the beneficiaries after ten years of implementation.

This study therefore, seeks to analyse how these projects have performed with regards to their socio-economic and developmental impacts on the livelihoods of the beneficiaries in the study area. The Agricultural Projects may also be adversely affected by certain constraints such as conflicts, lack of finance and lack of access to markets, militating against the achievement of the aims of the land redistribution programme which need to be assessed.

1.2 Objectives of the study

The broad objective of this study was to evaluate the impact of the LRAD projects on the livelihoods of the beneficiaries in the Ngaka Modiri Molema District of the North-West Province. The specific objectives of the study among others were the analysis of:

a) The demography of LRAD beneficiaries, land sizes and years of operation of the land reform agricultural development projects in the study area;
b) The relevance and efficiency of the projects;
c) The impact of the agricultural projects on the: farming infrastructure development for beneficiaries; skills training and use of technology; up-skilling of projects' leadership and other related issues; youth and women beneficiaries participation and level of democratisation in the projects; job creation/employment on the projects; finance-related impact/income generation and profitability aspects of the projects; beneficiaries' household food security; extension support; communication, networking and linkages; and best practices among the projects;
d) The sustainability of the projects and the strength, weaknesses, opportunities and threats of the projects.

e) Beneficiaries views of the performance of the major LRAD stakeholders of the projects.
f) Constraints militating against the success of the agricultural projects;
g) The effects of socio-economic factors on the performance of the projects.

1.3 Significance of the study

This study addresses one of the most important themes in South Africa today and which has important practical implications for developments in other parts of Southern Africa. The land question continues to dorninate national debate in South Africa and numerous actions have been taken since the mid-1990's to deal with the associated problems such as rural unemployment, poverty, food ir security, etc. In the face of evidence that the land reform programme is not delivering results at the projected rates, it is important to conduct systematic assessments andevaluations to identify areas where the system is flexible to allow for the introduction of procedures to speed up the re-distribution of land and sustainably empower the black farmers who must be part of the nation's agricultural economy.

The subject-matter of the study is of current thematic and policy interest to a wide constituency and can form part of government development programming if appropriate steps are taken at certain stage to disseminate the results through, among others, workshops and direct consultations with relevant officials at the government departments responsible for the land reform programme. It is important also to establish a channel of communication with the Department of Rural Development and Land Affairs to initiate discussion on how the methodologies for evaluation can be replicated in the national programmes within the mandate of the department.

It is the researcher's strong contention that the findings of the study will provide strategic policy directions, which will impact positively on the land reform agricultural projects in the province with national implications. For instance, the constraints identified may inform policy makers on areas of the agricultural projects which require improvement.

The best practices identified by the study would serve as recommendations for implementation on similar projects within similar areas in the province. The LRAD project beneficiaries should be cognizant with factors that affect the performance of their projects. The study should make recommendations on the socio-economic determinants of the performance of the projects which would go a long way to assist the beneficiaries in the management of the projects for better income generation.

While impact assessments are not new, the idea of evaluating an on-going land reform programme in South Africa using diverse tools from a range of approaches is innovative. The complexity of real life projects compels researchers to concentrate on one or few aspects of projects at a time. To the extent that this study attempts to conduct a comprehensive evaluation of the total programme, sufficient originality is shown and its contribution to the discipline of agricultural economics and farm management is indisputable.

1.4 Research questions

Based on the study objectives, research questions were formulated that:

i. Is the LRAD programme leading to improved livelihoods of the project beneficiaries by creating jobs?
ii. Is the LRAD programme leading to improved livelihoods of the project beneficiaries by generating adequate monthly income?
iii. Is the LRAD programme leading to improved livelihoods of the project beneficiaries by ensuring food security?
iv. Is the LRAD programme leading to improved livelihoods of the project beneficiaries by equipping them with skills for sustainable farming?
v. Is the LRAD programme leading to improved livelihoods of the project beneficiaries by establishing farming infrastructure?
vi. Is the LRAD programme leading to improved livelihoods of the youth and women beneficiaries by ensuring many youth and women participation and high level of democratisation in the projects?

vii. Has the LRAD programme provided the projects with efficient and effective agricultural extension support for optimum production on the projects?

viii. Is the LRAD programme leading to improved livelihoods of the project beneficiaries through networking, effective communication systems and beneficial linkages?

ix. Is the LRAD programme leading to improved livelihoods of the project beneficiaries by established sustainable projects?

x. Are the LRAD projects possibly faced with some constraints which may be militating against the success of the agricultural projects?

1.5 Hypotheses

The following hypotheses were made in respect of the socio-economic factors included in the study: that;

ii) The years of operation of the projects would have significant positive impact on the performance of the projects;

iii) The increasing number of beneficiaries of projects would have significant negative impact on the performance of the projects;

iv) Higher educational levels of beneficiaries impact positively on the performance of the projects;

v) Increase in the number of project beneficiaries employed outside the projects would have significant negative impact on the performance of the projects;

vi) Availability of business plans on projects would have significant positive impact on the performance of the projects;

vii) Increase in the number of jobs created per project would have significant positive impact on the performance of the projects;

viii) Increase in the number of women with children per project would have significant positive impact on the performance of the projects;

ix) Increase in the number of youth per project would have significant positive impact on the performance of the projects;

x) Increase in number of food secured households on projects would have significant positive impact on the performance of the projects;

xi) The number of skills training provided to the beneficiaries would have significant positive impact on the performance of the projects;

xii) The increase in the number of conflicts on project would have significant negative impact on the performance of the projects;

xiii) Adoption of new technology by the beneficiaries would have significant positive impact on the performance of the projects;

xiv) The projects' ability to save would have significant positive impact on the performance of the projects;

xv) The projects' ability to generate net farm income would have significant positive impact on the performance of the projects;

xvi) Farm record keeping by the projects would have significant positive impact on the performance of the projects;

xvii) Increasing number of established beneficial linkages by the projects would have significant positive impact on the performance of the projects;

xviii) Increase in the number of extension visits to the project would have significant positive impact on the performance of the projects;

xix) Increasing contribution of the projects to the household food security of the beneficiaries would have significant positive impact on the performance of the projects;

1.6 Delineation

The study was only concerned with the evaluation of the impact of LRAD projects in the Ngaka Modiri Molema district of the North-West province with respect to: the livelihoods of the LRAD beneficiaries and communities in the study area; effects of socio-economic factors on the performance of the projects using the Tobit regression model; constraints militating against the success of the agricultural projects; and development of conclusions and policy recommendations.

1.7 Outline of the thesis

The thesis consists of five chapters. Chapter one discusses the background of the study, the problem statement, objectives of the study, hypotheses, significance and delineation of the study. Chapter two provides a review of previous studies on the subject matter, LRAD, constraints of land reform agricultural projects and different models of evaluation. The first part of chapter three briefly describes the study area especially in relation to agricultural resources and production in general. The second section deals with the research methodology and procedures. Chapter four is concerned with the presentation of results and discussion. Chapter five consists of the summary, conclusions and policy recommendations.

1.8 Chapter summary

The chapter explained that past land policies was a major cause of insecurity, landless citizens, inefficient urban and rural land use patterns, a fragmented system of land administration and poverty in South Africa. The democratic government in 1994 opted for a three-pronged land reform policy to redress the historical injustice of land dispossession, denial of access to land and forced removals: Land Restitution to restore land or provide financial compensation for people dispossessed of the land after 1913; Land Redistribution; and Land Tenure reform.

The focus of the study was also highlighted that it deals only with agricultural projects covered by the LRAD sub-programme which generally seeks to improve the livelihoods of the beneficiaries and the local economy through sustainable agricultural production. The chapter also explained the need for efficiency of the use of the agricultural land resource, which is the key for the attainment of the afore-mentioned benefits of land reform. It was emphasised that one of the ways to minimize the failure of agricultural projects of the land reform programme is to undertake periodic evaluation or impact assessment and that evaluation or impact assessments of development activities can provide government officials, development managers and civil society with better means of learning from past experiences, improving service delivery, planning and allocation of resources, and demonstrating results as part of accountability to key stakeholders.

The problem statement of the study points to the fact that the LRAD programme has been implemented for over a period of ten years but most of South African land reform supporters and opponents alike hold widespread perception that, where redistribution has occurred, it has not improved agricultural productivity or benefited the majority of participants in terms livelihoods (Thus most of the Land Reform Agricultural Development projects are unsuccessful and not meeting the objectives of the programme). Hence, the need to evaluate the impact of the agrarian reform projects on the beneficiaries after ten years of implementation.

The study objectives were broadly to evaluate the impact of LRAD projects on the livelihoods of the beneficiaries in the study area. The other part of the objectives focuses on the effects of socio-economic determinants on the performance of the projects. In the face of evidence that the land reform programme is not delivering results at the projected rates, it is important to conduct systematic assessments andevaluations to identify areas which require improvements.

CHAPTER 2

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter presents information on the contribution of agriculture to the economy of South Africa and the achievements of South African land reform programme. Both international and local literature available on evaluation/impact of land reform agricultural projects were consulted and reviewed. The international literature focused on: relationship between asset ownership and growth; impact of land reform agricultural projects: empirical evidence from local and international experiences from Asia, Southern Africa Development Community (SADC) and other parts of Africa and South America. Other aspects of the literature presented include: the impact of land reform on beneficiaries with respective to gender; land or agrarian reform support programme (the international experience); Farmer-Support services of South African land reform and constraints of land reform (local and international experiences). The meaning and purpose of evaluation, as well as different evaluation models and approaches including the model for this study are also presented. The types of evaluation models presented include: goal oriented evaluation; goal free evaluation; decision oriented evaluation; evaluation research; adversary evaluation; participatory evaluation; discrepancy model; theory driven model;Cost-benefit and Cost-effectiveness Models. The structure, operation and responsibilities of the major role-players of LRAD programme are also presented.

2.2 Contribution of Agriculture to the Gross Domestic Product in South Africa

Agriculture is one of the most important sectors of the South African economy that has the potential to increase the income levels of rural and peri-urban communities and create employment opportunities in these communities (Nieuwoudt & Groenewald, 2004:2). This is because agriculture can employ a large number of unskilled and semi-skilled labourers in an environment with less stringent labour laws and low mechanization. Agriculture, through its forward and backward linkages, has the potential to strengthen local and national economies.

According to the annual report of the National Department of Agriculture (2007: 1), gross farm income from all agricultural products for the year ended 30 June 2007 was estimated at R89.005 million, which is 24.9% higher than the previous corresponding period. Gross farm income from field crops increased by 54.4% and amounted to R22. 695 million. The income from horticultural products increased by 10.5%, from R19.809 million to R21.893 million. Income from animal products amounted to R44.417 million, an increase of 20.9%. The prices received by farmers for agricultural products increased on average by 21.8%, while prices paid by farmers for farming requisites rose by 6.5%, resulting in the terms of trade strengthening from 0.94 to 1.08 during the period under review (National Department of Agriculture, 2007: 3).

2.3 Evaluation

2.3.1 Definition of Evaluation

While it is not easy to provide a comprehensive definition of evaluation, the following by Smetherham (1981:33) describes its general function:

Evaluation is the collection of useful information on the basis on which decisions can be taken about the feasibility, effectiveness and value of an organisation, institution, project or programme.

From this definition, it is clear that evaluation is not a mere problem solving exercise. Its purpose is to provide guidance and reflection on organisational vision. When a project is evaluated, information and data are collected about the project's operation and its ultimate results. Having collected this information, a judgment is then made on the issues identified as being important in the evaluation. Sometimes, this information is used to make decisions about the project, such as how to improve it, whether to expand or discontinue it. Evaluation is essentially the collection and interpretation of information about a project in a manner that is credible enough to make it potentially useful Smetherham (1981:33). Similarly this study through the use of pretested structured questionnaire collected reliable information to evaluate the LRAD projects in the study

area. The recommendations from the study will go a long way to assist the programme implementers on how to improve the projects and the programme as well.

2.3.2 Monitoring Vis-à-Vis Evaluation

Monitoring is the routine collection, analysis and use of information to ascertain the status or success of a project. It has three important functions. First, it helps staff and clients to make decisions aimed at improving the project. Second, it allows project management to decide what impact the project is having (on its intended beneficiaries). Finally, it ensures accountability to all parties with a stake in the project's outcome. From this definition, it is clear that monitoring is an internal project activity that assesses the: use and delivery of project resources (money, material and staff) in accordance with the approved work plan, budget and timetable; achievements of the intended outputs in a timely and cost effective manner and the overall efficiency with which the project is being implemented.

Projects that do not have an effective monitoring system are more likely to suffer some of the following types of problems: delays and cost over-runs; exclusion or under representation of certain sectors of the target population; problem of quality control and long delays in detecting problems or conflicts within the project. Clearly, two salient differences exist between monitoring and evaluation. First, monitoring is a general managerial function that must be the direct responsibility of project management. Evaluation is rarely, if ever executed by project leadership. Second, whereas monitoring implies that performance is tracked regularly and corrective action is a legal consequence, evaluation is an occasional activity to reflect on performance in a diagnostic sense. The monitoring of the LRAD projects in the study area is done through agricultural extension officers from the Provincial Department of Agriculture and Conservation (Department of Agriculture and Land Affairs, 2001). For the past ten years that the LRAD projects have been in existence, no evaluation has been done. This as stated in chapter one, underscores the need for this study.

2.3.3 The Purpose of Evaluation

According to Smetherham (1981: 33), evaluation has two main purposes, first, to inquire into the feasibility of a project design and second, to assess the overall impact of a project. When a project does not have an effective evaluation system, potential problems arise such as: continuing a project that is not producing the intended benefits; wasting money by not selecting the most cost-effective option; and increasing difficulty in detecting and correcting some of the factors that are reducing the chances for positive impact. In essence, evaluation allows individuals and projects an opportunity to focus on the development of future possibilities for change. This in turn enables them to both use and conserve energy and creativity by accommodating that change effectively.

In the ever fluctuating world of organisations, institutions, individuals, groups and Non-Governmental Organisations (NGOs), this ability to manage change is not only possible but desirable. However, evaluation should not be entered into without a determined commitment to change. Indeed, the project should always focus on what it ought to be doing in the future as a result of its past and present experience. A well designed and implemented evaluation can be a cost effective way of: providing constant feedback on the extent to which projects are achieving their goals; identifying potential problems at early stage and proposing possible solutions; analyzing the level of accessibility of the project to all sectors of the target population; others are: assessing the efficiency with which the different components of the project are being implemented and suggesting improvements; evaluating the extent to which the project is able to achieve its general objectives; assisting project owners or workers in developing the means for future planning and providing guidelines for the planning of future projects.

Monitoring and evaluation is generally seen as a means to assess project efficiency, effectiveness, relevance and causality. Traditionally, its purpose is to promote accountability and transparency to outsiders. It is expected to yield information about project progress and accomplishments of targets (Smetherham, 1981: 33). Information is often collected to serve the needs of donor agencies, administrative and management entities and/or policy-making bodies. More recently, participatory monitoring and

evaluation or participatory impact monitoring (PIM) has emerged as an approach, seeking to involve local people, collaborating organisations and programme field staff.

The International Fund for Agricultural Development (IFAD) (2009), states that the evaluation process should be impartial and independent from both the policy-making process and the delivery and management of development assistance. Consistent with international practice, three main evaluation criteria provide the basis on which project achievements and impacts are to be, namely: performance of the project; impact on rural poverty; and performance of the partners. Each main criterion is divided into a number of elements (or sub-criteria). The first criterion- *performance of the project*- captures the extent to which project objectives are consistent with the priority of the rural poor and other stakeholders (relevance); how well the project performed in delivering against objectives (effectiveness); and how economically resources have been converted into results (efficiency). The sub-criterion of *relevance* focuses on the quality of project objectives: have the right things been done? The *effectiveness and efficiency* sub-criteria focus on the extent the right objectives were achieved at reasonable cost: Have things been done right? The performance of the project, therefore answers the question: were the right things done right (IFAD, 2009).

The second criterion- *impact on rural poverty*- assesses the changes that have occurred by project completion. IFAD defines rural poverty impact as the changes in the lives of the rural poor, intended or unintended as perceived at the time of the evaluation- to which the interventions have contributed, as well as the likely sustainability of such changes. This definition includes elements of what in other evaluation systems may be known as results, outcomes and effects.

The third criterion -*performance of the partners*- requires separate assessments of the performance of the primary partners in the project such as the government agencies responsible for implementing the project, government, NGOs and CBO's involved in project implementation and the project co-financiers. This criterion addresses how well project implementers and its partners identified, prepared and supervised the project, and the contribution each made to project success during implementation. While the

evaluation criteria summarized above serve to clarify what has happened in the project, they are intended to logically lead to further insight regarding reasons to why things went the way they did or if there were shortcomings and such problems be avoided in future. Where there are successes, the main ingredients responsible for the success will be identified and the project replicability or scaled up is determined. The evaluation exercise will thus generate lessons and insights.

2.3.4 Evaluation models and approaches

There is no single correct approach to evaluation. Several models and approaches exist, each with its own strength and weaknesses. It is the focus of the evaluation that defines its scope, purpose and ultimately the nature of the inquiry hence different models of evaluation have different foci. Stufflebeam (2001) identifies many forms of evaluation, each with its own purpose and of underlying values. This short list of evaluation models below helps to illustrate the range of models that exists:

Goal oriented evaluation: In this model, the evaluator assesses progress towards the specified goals of the project and the effectiveness of the process used. In this instance, the evaluator asks the following question: "To what extent have project goals been achieved?". According to Marsh (1978), in an age of reduced financial resources to support new programmes and sustain old ones, all programme directors must be concerned with the efficiency with which available resources are used to meet programme goals and objectives. In times such as these, competition is high for those resources that are available. Programmes that can demonstrate both effectiveness in meeting their goals and operational efficiency are more likely to be successful in the competition for these scarce resources.

The specification and measurement of programme goals remains central to most evaluation research strategies. The advantages of the goal-oriented are that: the method limits influence of evaluator bias by using programme identified goals as criteria for measurement; the method has great flexibility that allows for its use in conjunction with human service programmes progressing through various stages of development; its use

has important programmematic benefits in the sense that it forces programmes to specify goals which, of course, increases the possibility that, they will achieve these goals; and goal-oriented evaluation can be implemented with staff that has minimal experience or sophistication with respect to evaluation. The limitations or sources of bias that accompany this model derive from the fact that the specification of programme goals is useful only to the extent that the most important or representative goals are selected for measurement; and increases the possibility that evaluators will miss or ignore unspecified or unintended programme effects. Further, when programmes with the same purpose specify slightly different outcome goals, the goal-oriented approach is restricted in its usefulness for cross-programme comparisons. One last limitation of the goal-oriented approach rests in its failure to account for the organisational structure and function that ultimately contributes to the achievement of programme goals (Marsh, 1978).

Goal free evaluation: In this case, the evaluator tries to assess the effects of a project based on criteria apart from its conceptual framework by determining the actual effects of the project without regard to what the objectives and goals of the project were.

Decision oriented evaluation: Here, the evaluation is set up to facilitate intelligent judgments by decision makers related to the project. The question the evaluator asks is: "What information is needed to make a specific decision now?"

Evaluation Research: The focus of this model is on explaining effects and devising developmental strategies, policies or theories. This model is closest to the idea of evaluation as a specified process. In this case, the evaluator seeks to answer the question: "What can we learn from the methods that this project has employed?"

Adversary Evaluation: In this instance, the evaluator tries to present the best case for each of the two competing interpretations of the project's values, with both sides having access to the same information about the project. This model is used in organisational development to try to resolve internal disputes without destroying the organisation. The evaluator therefore asks the question: "What are the strengths of competing models of a project's values?". It should now be clear that an evaluation must have a specific focus in

order to achieve its intended purpose. Without focus, an evaluation will become diffuse; lose its direction and potentially its credibility.

Participatory evaluation: The concept of participatory evaluation has gained its recognition in recent years, primarily to counter the idea of dispassionate external critiques of projects which are perceived to overlook the ideas and feelings of staff. It should be recognised however that, no evaluation which alienates and ignores project staffs and beneficiaries is likely to succeed. Thus, in this sense, all evaluations must be participatory or at least inclusive, in order to be successful. A participatory evaluation is by definition, one that uses the staff and the beneficiaries of a project as the evaluators. Two alternatives exist for conducting participatory evaluations: an external evaluation facilitator may be hired to drive the evaluatory process. Therefore, the evaluation team is made up of a combination of external and internal evaluators; or the entire evaluation can be steered and carried out by the project staff and beneficiaries.

Participatory evaluation has certain strengths such as: it is less threatening; it is possible to get the deeply-held thoughts of staff and beneficiaries; and it gives staff a clear picture of the work they do. Its weaknesses are: it is disruptive and consuming; it is difficult for staff and beneficiaries to be objective about their project; if the project is experiencing major tensions and problems, it will be difficult to extract useful insights and information from staff members. One of the objectives of evaluation should be to help workers learn how to make future assessments of their projects. On-going evaluations carried out by staff can be useful in creating a climate of continuing self-evaluation and project assessment. Participatory evaluation is therefore a good way of strengthening these evaluation skills and capacity. However, as noted above, participatory evaluations have limitations and should be used only in certain circumstances (Provus, 1972).

Discrepancy Model: The discrepancy evaluation model defines evaluation as the comparison of what is a performance-to an expectation of what it should be-a standard. If a difference is found to exist between the performance and the standard, the difference is known as discrepancy. The discrepancy model has four stages, each of which involves a

comparison between performance and standards. Discrepancies are determined by examining three content categories (input, process and output) within each state and comparing performance information with defined standards at each stage (Provus, 1972).

The first stage focuses on the design and nature of the project (Project definition), objectives, beneficiaries/students, staff, activities and other resources relating to the project are all defined. Once inputs, processes and outputs are well articulated, one evaluates the comprehensiveness and internal consistency of the design that emerges becomes the standard against which the project is compared in the next stage. The second stage which is installation involves determining if a project is being implemented according to its initial standards in this regard - i.e. whether or not operational activities are congruent with the implementation plan. In the third stage (Project Process), the evaluator serves in a formative role, comparing performance with standards and focusing on the extent to which interim objectives are being achieved.

In effect, the evaluator is assessing the relationship between the variables to be changed and the processes used to bring about the change. In the fourth stage (Project Product), the evaluator focuses on product, comparing actual attainments against the standards (i.e. objectives or outcomes) derived during the project definition stage and noting any discrepancies. In order for the discrepancy model to be most effective, intended project goals must be clear and specific. Some claim, however that, such a condition narrows the scope of the evaluation and enhances the chance that unintended outcomes or unanticipated processes may be overlooked.

Theory Driven Model: Theory driven evaluation models provide a connection to social science theory and tend to focus on increasing knowledge about how effective programmes generally work (Chen, 1990). These models can be used in summative judegment or for ongoing improvement, and understandings gleaned from them can contribute to macro theories of change. In other words, such knowledge generating efforts focus beyond the effectiveness of a particular project to future programme designs

and policy formulation. By linking evaluation questions to larger social scientific issues, theory-driven models enhance the likelihood of one drawing empirical generalisations.

A theory-driven evaluation seeks to determine the theoretical assumptions and model on which the project based and the extent to which the project confirms a social scientific theory. Three approaches to theory driven models are: *Deductive Approach* - drawing on scholarly theories from the academic literature; *Inductive Approach* – doing fieldwork on a project to generate grounded theory, i.e. where theory is directly derived from the data (Strauss & Corbin, 1998); and *User focused approach* – working with intended users to extract and specify their implicit theory of action i.e. how users perceive occurrences to happen, procedures to be enacted and people to react or behave.

Once educational assumptions are made explicit, a model is generated that can be tested as part of the evaluation. Two caveats usually made regarding theory-driven models are: the project must have achieved a certain level of maturity to make the added effort involved in theory-driven evaluation fruitful; and the models may seduce researchers away from answering straightforward formative questions or determining the worth of a project and into academic theorizing (some decision-makers may simply want descriptive data for monitoring, fine tuning or improving project operations).

Cost-benefit and Cost-effectiveness Models: Cost-benefit and cost-effectiveness models deal with fiscal concerns and thus are often confused with one another. Rossi *et al.* (1999) provides most useful clarification: in cost-benefit analyses, both project inputs and outcomes are measured in monetary terms; and in cost-effectiveness analyses, inputs are estimated in monetary terms and outcomes in terms of actual impact. Another key difference between the two is that cost-benefit models may be used to compare alternatives that have very different goals (Monetary values assigned to all goals), while cost-effectiveness models compare the cost of different ways of obtaining the same goals (measurable values assigned to all goals).

Cost-benefit analysis is both more limited and more powerful than cost-effectiveness analysis in that it estimates the overall cost and benefit of each alternative (product or programme) in terms of a single quantity (Scriven, 1991). The greatest benefit of using cost-benefit analysis is not a limitation of the approach itself, which works in settings where costs and benefits are clear cut, but the extreme difficulty in quantifying social benefits in monetary terms. There are often equity concerns when examining social programmes.

Since strict cost-benefit models are often applicable in social sciences, evaluators find cost-effectiveness models more user-friendly. They do not require that both benefits and costs be reduced to the common denominator of money-typically, just costs are considered. They do require a given minimum of benefits from the programme (effectiveness) and attempt to find the alternative that provides them at the lowest cost. Advanced applications of cost-effectiveness models compare several different types of interventions (or several degrees of implementation of a given intervention) in order to determine the relative effect/cost ratio for each. They assume that all the alternatives under comparison can readily be determined to meet the objectives, eliminating from further consideration any that do not.

A cost-effective analysis is not a tool that is used to reduce cost. Rather, it offers information that decision-makers can use to decide whether the outcome that is provided by the intervention is worth its cost. Although inputs and outputs can be reported in quantitative terms, qualitative data concerning outcomes may be used. Similar to cost-benefits models, the primary limitations of cost-effectiveness models is measuring intangible benefits and costs (indirect and direct). Moreover, efficiency is not the only factor considered in decision making; such societal issues as equity, distributive justice and politics must also be considered (Scriven, 1991).

Scriven (1991) emphasises that, cost and impact must both be considered regardless of the model used. If the project has had no impact, cost data may only provide an indication of funds that might possibly be spent on another programmematic approach. If the project

has had an impact, the cost-benefit data help us decide whether the impact was worth the cost, and if an alternative level of funding for future years might be more efficient. Thus, it is common for cost-effectiveness and cost-benefit analysis to be conducted after an impact evaluation has been completed, so the outcomes are already known.

2.3.5 The evaluation models of the study

The evaluation approach/model for the study included a combination of goal-oriented approach, participatory evaluation and cost-benefit approach. In addition Ordinary Least Squares (OLS) multiple linear regression model, the Tobit regression model and the Binary Logistic Regression Model analyses of the effect of the socio-economic factors on the performance of the projects were done. The OLS Linear Multiple Regression Model, the Tobit limited dependent variable regression model[2] and the Binary Logistic Regression Model specified for the study are explained in detail in chapter three. In the goal-oriented approach, the goals set for LRAD sub-programme was the focus of the evaluation. The agreed objectives of the Land Redistribution for Agricultural Development sub-programme as reflected in the framework document were to: increase access to agricultural land by black people (Africans, Coloureds, and Indians) and to contribute to the redistribution of approximately 30% of the country's commercial agricultural land (i.e. formerly 'white commercial farmland') by 2014; contribute to relieving the congestion in over-crowded former homeland areas; improve nutrition and incomes of the rural poor who want to farm on any scale; overcome the legacy of past racial and gender discrimination in ownership of farmland; facilitate structural change over the long-term by assisting black people who want to establish small and medium-sized farms; stimulate growth from agriculture; create stronger linkages between farm and off-farm income-generating activities; expand opportunities for promising young people who stay in rural areas; empower beneficiaries to improve their economic and social wellbeing; enable those presently accessing agricultural land in communal areas to

[2] The Tobit model is a statistical model proposed by James Tobin (1958) to describe the relationship between a non-negative dependent variable y_i and an independent variable (or vector) x_i. Estimation of Relationships for Limited Dependent Variables. *Econometrica* **26(1):** 24-36.

make better productive use of their land; and promote environmental sustainability of land and other natural resources (CDE, 2008:17).

The evaluation was also participatory or at least inclusive, which accounted for its success. The reséarcher involved the staff and the beneficiaries of the projects in the evaluation interview. On the average, the government of South Africa spent over R500, 000 per project in the study area hence the need to assess the returns or benefits from this investment cannot be over-emphasized. Due to lack of comprehensive records and information on the study projects, only the major aspects of the direct costs and benefits were considered such as purchasing costs of the farms, annual production expenditures, employment, income, profit, savings, food security, skills, and infrastructure.

2.4 Achievements of South African land reform programme

Land transfers, under both redistribution and restitution, have accelerated rapidly in recent years, but lag far behind official targets. By the end of March 2007, the DLA reported a figure of 4 211 140 ha of land transferred since 1994 (DLA, 2007: 18). The long-standing target for land transfer under all aspects of the land reform programme is 24.9 million hectares by 2014, equivalent to 30% of white-owned agricultural land in 1994 (estimated at 83 million hectares). The figure of 4 211 140 ha thus represents just 5.06% of white-owned land, or one-sixth of the target amount. The total amount of land transferred under redistribution during 2006/07 is reported as 258 890 ha (DLA, 2007: 18).

2.5 Relationship between asset ownership and growth

Economic theory states that a one-time distribution of assets can, in an environment of imperfect markets be associated with permanently higher levels of growth. Thus, in contrast to what has been predicted by earlier development models, redistribution can actually be good for growth (Aghion & Bolton, 1997). Birdsall and London (1997), Deininger and Squire (1998) demonstrated that inequality in the distribution of land ownership is associated with lower subsequent growth. At the household level, asset ownership has a clear impact on subsequent economic success. Equal distributions of

land ownership have also been shown to have made significant contribution to human development indicators, for example in China as compared to India (Besley & Burgess, 2000).

2.6 Land Redistribution for Agricultural Development (LRAD)

The redistribution programme provides people with access to land, right to land for residential and production purposes and to improve the beneficiaries' income and quality of life. It aims to assist the poor, new entrants into agricultural industry, farm workers, labour tenants and women and is likely to increase black ownership of commercial farming. The programme follows an integrated approach and operates in close collaboration with other departments in particular agriculture and housing, other spheres of government and financial institutions such as Khula[3] and the Land Bank[4]. The programme is implemented within the mandate of the provision of Land Assistance Act, 1993 (Act 126 of 1993). The programme provides the following: farmer settlement; commonages; equity Schemes; settlement and non-agricultural enterprises (Department of Agriculture and Land Affairs, 2001).

The collective aim of land reform is to ensure the transfer of 30% of all agricultural land over a period of 15 years from 1995. The Land Redistribution for Agricultural Development (LRAD) sub-programme has two distinct parts. First, there is the part that deals with the transfer of agricultural land to specific individuals or groups. Second, there is the part dealing with commonage projects, which aim to improve people's access to municipal and tribal land primarily for grazing purposes. What these two parts of the sub-programme have in common is that, they deal with agricultural land redistribution. However, they operate according to different financial mechanisms, different target groups, and different delivery systems (Department of Agriculture and Land Affairs,

[3] Khula is a state-owned development finance institution in South Africa that was established in 1996 to facilitate access to finance for Small, Micro and Medium Enterprises. It also has Land Reform Empowerment Facility. www.dti.gov.za/thedti/khula.htm. 18/02/2011.

[4] The Land and Agricultural Development Bank of South Africa (Land Bank) is a development finance institution (DFI) whose mandate is to support, promote and facilitate the development and transformation of the agricultural sector through the objective of the Land Bank Act. www.landbank.co.za 18/02/2011.

2001). This study deals only with the first part of the sub-programme. Thus wherever in this document Land Redistribution for Agricultural Development sub-programme, or "LRAD", excludes the municipal and tribal commonage aspects. The agreed objectives of the Agricultural Development sub-programme as reflected in the framework are to:

Increase access to agricultural land by black people (Africans, Coloureds, and Indians) and to contribute to the redistribution of approximately 30% of the country's commercial agricultural land (i.e. formerly 'white commercial farmland') over the duration of the programme;

- Contribute to relieving the congestion in over-crowded former homeland areas;
- Improve nutrition and incomes of the rural poor who want to farm on any scale;
- Overcome the legacy of past racial and gender discrimination in the ownership of farmland;
- Facilitate structural change over the long-term by assisting black people who want to establish small and medium-sized farms;
- Stimulate growth from agriculture;
- Create stronger linkages between farm and off-farm income-generating activities;
- Expand opportunities for promising young people who stay in rural areas;
- Empower beneficiaries to improve their economic and social wellbeing;
- Enable those presently accessing agricultural land in communal areas to make better productive use of their land;
- Promote environmental sustainability of land and other natural resources.

The mode of implementation is adopted in the interest of maximum participation of beneficiaries, speed of approval and quality of outcomes. LRAD encourages participants to design what works best for them. To do this, beneficiaries can access a range of grants (R20 000 to R100 000) depending on the amount of their own contribution in kind, labour and/or cash. Beneficiaries must provide an own contribution of at least R5 000. The grant and own contribution are calculated per individual adult (18 years and older). If people choose to apply as a group, the required own contribution and the total grant are both scaled up by the number of individuals represented in the group. The approval of the

grants is based on the viability of the proposed project, which takes into account total project costs and projected profitability (Department of Agriculture and Land Affairs, 2001).

The Land Redistribution for Agricultural Development sub-programme is flexible enough to accommodate different projects. Purely residential projects are not supported under LRAD unless beneficiaries seek to establish household gardens at their new residences, and unless funds for top-structure are sourced from elsewhere, e.g. Department of Housing. The types of projects that can be catered for include – but are not limited to:

Food safety-net projects

Many participants may wish to access the programme to acquire land for food crop and/or livestock production to improve household food security. Many of these projects are at the smallest end of the scale, because poor families may be able to mobilise only the minimum own contribution in cash, labour and materials.

Equity schemes

Participants can make the requisite matching counter funding contribution and receive equity in an agricultural enterprise tantamount to the value of the grant plus the own contribution. Under the terms of LRAD, the grant is intended for people actively and directly engaged in agriculture, the grant recipient in the case of the equity scheme will be both a co-owner and employee of the farm. The purchased equity should be marketable in order to retain its value.

Production for markets

Some participants will enter LRAD to engage in commercial agricultural activities. They will access the grant and combine it with normal bank loans, approved under standard banking procedures, and their own assets and cash to purchase a farm. These farmers will typically have more farming experience and expertise than those accessing land for subsistence or food-safety-net-type activities.

Agriculture in communal areas

Many people living in communal areas already have secure access to agricultural land, but may not have the means to make productive use of that land. Such people would be eligible to apply for assistance so as to make productive investments in their land such as infrastructure or land improvements. These projects may take on the character of food safety-net projects, or may be more commercially oriented (Department of Agriculture and Land Affairs, 2001).

Beneficiaries under LRAD (e.g. rural dwellers, labour tenants, farm-workers, and people at present farming on smallholdings and others) can purchase land on offer from any owner, whether public or private. The land must be intended for an agricultural use of their choice, such as improved food production to improve household consumption, grazing, production for markets, and other agricultural activities. Land Affairs and Agriculture officers, as well as potential officials from other government departments, play a facilitative role to ensure that applicants are able to access information about land on the market. This can be done in part by tapping into existing data bases at a local level, e.g. in print and via the Internet.

People who presently have secure access to agricultural land in communal areas can also access grants. The purpose of the grants in this instance would be to enable people to make more productive use of their land, for example in terms of infrastructure investments and land improvements, productive capital, and operational inputs. These projects may take on the character of food safety-net projects, or may be more commercially oriented. These grants would not be applicable, however, to purchase livestock for communal grazing areas. Furthermore, existing land holdings cannot be counted towards one's own contribution requirement (Department of Agriculture and Land Affairs, 2001).

Land owners, communities, individuals and agents can initiate actions on their own. For example, a present owner of a large commercial farm could decide to sell a section of his/her land under LRAD, and could hire a design agent to draw up an attractive package.

Individuals or small groups of people wishing to access land, can choose a farm which is at present on the market, and offer to buy it under LRAD, with subdivision and apportionment to meet their needs. A professional developer could purchase farmland (outside LRAD, with own financing), subdivide it, establish basic infrastructure, and then sell it to beneficiaries under LRAD. Beneficiaries are responsible to design their own projects, and can use grant money to hire the services of specialists or design agents (Department of Agriculture and Land Affairs, 2001).

Although some farms may change hands as entire units, most may have to be subdivided in order to meet the objectives of beneficiaries. An owner of agricultural land seeking to subdivide in order to sell part to a beneficiary under LRAD will not be required to seek a permit. Until the restrictions on subdivision are fully rescinded, any subdivision undertaken for transactions under the land reform programme will be automatically pre-approved without further action on the part of the seller. A permit will be required only if land is to be rezoned for agricultural use (e.g. from commercial to agricultural or from forest to agricultural use). Beneficiaries may choose to access land under one of several forms of contract. The choice of contract is up to the participant. For example, land can be purchased outright. Alternatively, the participant could enter into a lease contract with an option to buy at a future date. Alternatively, they could purchase within a group such as a common property association. The size of the grant per participant will depend on the amount of the beneficiary's contribution, and not on the form of the contract (Department of Agriculture and Land Affairs, 2001).

Participants may choose to accept the assistance of a design agent. The design agent is to be paid in two parts. A small payment is to be made only to defray travel expenses. The second larger payment is to be paid only upon approval of the project. If the project is not approved and no transfer takes place, the design agent is not awarded the second payment. Payments made to design agents, together with those to valuers and expenses associated with subdivision, have to be taken out of a separate 'planning grant', which has to be a maximum of 15% of the projected total capital costs of the project. For project applications, which are processed directly through banking institutions in terms of both loans and government land grants, no up-front planning grant money has to be accessed

from the government. Upon approval of the project, however, the bank is to signal to the Provincial Grant Committee to release the planning grant to beneficiaries to pay the design agent they have appointed. Applicants may also choose to pay a retainer to design agents out of their own resources, which can be counted towards their own contribution requirement (Department of Agriculture and Land Affairs, 2001).

With improved incentives for sound and efficient design of projects, cumbersome and centralized steps in approval can be eliminated. Because project designs may have unintended or unforeseen environmental implications (e.g. with the introduction of irrigation from surface sources), projects should undergo Environmental Assessment Plan (EAP) screening according to national guidelines.

2.6.1 Qualifying criteria to access LRAD

LRAD is opened to citizens of South Africa who are members of previously-disadvantaged groups including Africans, Coloureds, and Indians; who want to farm on full time basis (except for food safety-net beneficiaries); who are willing to live on or near the land and operate or work on it; and who are committed to use the grant to purchase or lease land for agricultural activities. Men and women have equal access to all benefits under LRAD; women and the youth are expected to be actively encouraged to apply. Politicians and civil servants do not qualify for the grant. LRAD participants can access a continuum of projects via the sub-programme, ranging in size from food-safety-net and subsistence production to small, medium and large-sized farms. Beneficiaries can access LRAD to achieve objectives, such as food-safety-net projects, equity schemes and market-oriented projects. In addition to the above, the following guidelines apply for commercial projects:

a) Cropland: Minimum land-40ha; Minimum expected gross income/year - R60 000;

b) Horticulture: Minimum land-15ha; Minimum expected gross income/year - R300 000;

c) Pasture grazing: Minimum land-50 ha (high potential land); Minimum livestock unit (LSU)-100; Minimum expected gross income per year R90 000;

d) Extensive grazing: Minimum land-600ha (marginal potential land); Minimum livestock unit (LSU) - 40; Minimum expected gross income per year - R36 000.

Successful applicants are required to participate in training courses and activities designed to assist them in successful operations of their farms and gardens. Beneficiaries are allowed to graduate from smaller to larger farms, and are able to access LRAD to facilitate investment to increase scale. Smaller farmers can therefore trade up through LRAD if they have sufficient own contributions. Some beneficiaries can expect to benefit several times through trading up, although lifetime benefits for a single applicant are limited to an accumulated amount of R100 000. Two principles govern the graduation process. First, upon applying for a second or third grant, the required own contribution are gauged not in relation to the new grant being applied for, but rather in relation to the total amount of grants that have been accessed thus far, plus the new grant. Second, assets acquired by means of the grant cannot be counted as an own contribution when applying for an additional grant. Those who have previously accessed the Settlement/Land Acquisition Grant (SLAG) are eligible to apply, though priority is given to first-time applicants (Department of Agriculture and Land Affairs, 2001).

2.6.2 Procedures for implementation of LRAD

Beneficiaries, once informed about the options available within LRAD, select the desired amount of the grant according to their preferred own contribution. They also decide whether to apply individually or as members of a self-selected group. They then locate an available area of land, either through their own knowledge, or through the assistance of an estate agent or a DLA or agricultural officer. The land should have the necessary water rights if irrigation is contemplated, and the rights should be specified in the sale contract and reflected in the land price. Once a suitable area of land is located, the participant(s) enter into a contingent contract with the seller, with the contingency consisting of approval of the project under LRAD. With or without assistance of a design agent, the participant prepares a farm plan or land use proposal (project proposal), indicating the intended agricultural use of the land and estimating a rough projected cash-flow. The participant obtains evidence of additional financial resources (loan, own resources, or

both). In terms of contributions in own labour, an individual applicant can claim up to R5000 (Department of Agriculture and Land Affairs, 2001).

The participant next submits all documentation to the local agricultural officer to receive his or her opinion regarding the feasibility of the farm plan (project), including its agricultural potential, value of the land relative to market prices for that of comparable quality and access to water, cash-flow projections, and environmental assessment. Once the local agricultural officer has provided an opinion, the participant submits the proposal package to the provincial grant committee (which comprises officers of Land Affairs and Agriculture), which meets as required. A complete package ready for submission would include: The land-use proposal/farm plan (project proposal); a draft purchase or rental offer for the land; a list of beneficiaries and their contributions, if the proposal is not individual; confirmation from the local agricultural officer that the seller is in legal possession of title, and confirmation from a professional valuer (registered with the Council of Valuers) that the land price is reasonable in comparison with recent land transactions in the area; evidence of own contribution and any necessary financing in addition to the grant (draft loan agreement, own funds); opinion of the local agricultural officer on feasibility (agricultural and environmental issues).

Upon review of the package, the provincial grants committee makes one of three determinations:

Complete and in compliance with the requirements of LRAD – approve;

Complete but not in conformity with requirements of LRAD - do not approve and state reasons;

Incomplete: return to applicant and state reasons.

The provincial DLA director, who is part of the provincial grant committee, together with the Provincial Grant Committee, approves or rejects the application. The provincial Grant Committee will decide either way. The Provincial DLA director is the official to whom delegated powers in terms of the PFMA reside from the Director-General: Department of

Land Affairs, but should not and must not exercise that authority outside of and separate from the criteria used by the Provincial Grant Committee. Frequently, farm workers or former farm workers may be residing on the land being contemplated for purchase. The interests of these existing residents must be borne in mind. A number of different solutions are possible, including accommodating them within the group of applicants, and assisting them to apply for separate tenure security grants (Department of Agriculture and Land Affairs, 2001).

2.6.3 LRAD implementation responsibilities

Primary responsibility for design and implementation rests with the applicants. They select the chosen amount of the grant, engage a design agent if required, identify available land, enter into a contingent contract with the seller, apply for a normal bank loan through standard banking procedures, if necessary, engage a transfer agent, prepare a farm plan, submit all documentation to the local agricultural officer for an opinion, assemble the completed proposal package, and submit it to the provincial grant committee. Some applicants, however, may need assistance in order to develop their project proposal. For instance, some people may need assistance in exploring the different possibilities for what they would propose to do with the land, to identify and manage a suitable design agent, or identify an appropriate piece of land. Indeed, some projects may be so simple in nature that government officials can assist applicants in less time than it would take to secure the services of an appropriate design agent (Department of Agriculture and Land Affairs, 2001).

Where the applicants do choose to engage a design agent, the design agent works directly with them. The design agent can assist in any or all stages of the process as requested by the applicants. An agent may be asked to help identify land for purchase, to assist beneficiaries in preparation of a farm plan and land-use proposals, to prepare a submission to the provincial grant committee, and to assist and facilitate the process of grant approval, in case the approval committee has queries. Agricultural and land officers, and perhaps officers from other government departments at local level, play an important role in implementation. They provide a technical opinion on the proposed farm

plan, land-use and environmental assessment, and in this way, contribute to the quality of proposals. They also can assist in identifying land. They certify the accuracy of the seller's title and make a preliminary check to ensure that the price of the land is reasonable.

They can also advise beneficiaries or design agents in negotiations with sellers. Local-level officials serve as an important source of information and training for participants and agents (clarifying technical and legal aspects of LRAD). They must be adequately trained to fulfill this role. The local agricultural offices should provide assistance to applicants and design agents seeking help for and evaluation of their proposals. The offices should have all the necessary information about procedures for implementation, and how to draw up a complete application. The Provincial Executive Council should hold overall political accountability for LRAD in the province. It should further decide on the appropriate MEC to chair the provincial land reform co-ordination committee, which should consist of key stakeholders and should meet quarterly to review the performance of the provincial grant committee (Department of Agriculture and Land Affairs, 2001).

The provincial grant committee under the appropriate MEC, should consist of provincial officers of Land Affairs including to the provincial accounting officer, namely, the provincial Land Affairs director as well as officials from the Provincial Department of Agriculture together with other necessary Departments and stakeholders. The committee's main functions are to review project proposals, and to make a recommendation. The committee should check that the proposal package is complete and coherent, and whether, based on the information provided in the proposal, the project is eligible for approval under LRAD. The provincial grant committee is not expected or required independently to verify the accuracy or veracity of the submission, because much of the verification becomes evident from the documentation (e.g. contingent contract, draft loan agreement, etc).

The Departments of Agriculture and Land Affairs at the national level are responsible for the overall design of LRAD and in monitoring its impact. The Department of Land Affairs budgets for the grant components of LRAD, while the Department of Agriculture

budgets to ensure that its provincial counterparts are financially prepared to meet their commitment in providing post-transfer agricultural support. Both Departments should provide training for beneficiaries, design agents and local land and agricultural officers; co-ordinate policy issues and interdepartmental activities; monitor the flow of funds to the provincial level; monitor and evaluate the outcomes of the land reform programme, including random *ex post* financial and physical audits of approved projects. The Department of Land Affairs will rely primarily on existing procedures that may be modified for grant disbursement (Department of Agriculture and Land Affairs, 2001).

2.6.4 Agricultural services

Land reform creates an increased demand for advisory services on the part of beneficiaries. Implementation of LRAD therefore creates added urgency for reform of the agricultural extension service. The Department of Agriculture was responsible for creating a special programme to assist land reform beneficiaries, both during the process of preparing proposals and after purchase of the land. Staff of the Department will need special training to prepare them to fulfill these functions. The private sector can play a greater role in the provision of services, as it does in many other countries. The public extension service is to concentrate on the provision of advisory services that benefit a wide public, such as advice to land-reform beneficiaries, veterinary disease control, agents and market information (Department of Agriculture and Land Affairs, 2001).

2.6.5 Financing LRAD

Both the Department of Land Affairs and the National Department of Agriculture fund the grant. The Department of Land Affairs is responsible for releasing funds related to land acquisition and/or the upgrading/securing of tenure rights, while the Department of Agriculture is responsible for releasing funds related to the agricultural development. The latter, called Sunrise Packages by the Strauss Commission of 1997 on Rural Financial Service were introduced in the 2002/2003 financial year. Because LRAD is demand directed, its total costs depend on demand for grants of various amounts, and can be estimated only after observing demand in the early stages of implementation. It can be

assumed, though, that most applicants seek small grants in the range of R20 000 and that a lesser number of applicants seek bigger grants of about R50 000 on average. A range of possible total LRAD costs, depending on numbers of applicants in the various groups, can be calculated. For example, 250 000 applicants for a range of grant sizes would probably cost between R16 and R22 billion, including both land grants and planning grants, excluding the costs of agricultural support (Department of Agriculture and Land Affairs, 2001).

2.6.6 Key responsibilities of the Department of Agriculture and the Department of Land Affairs

Key responsibilities of the various agencies and levels of government for implementation are summarized in Table 2.1.

Table 2.1 Key responsibilities of the Department of Agriculture and the Department of Land Affairs

Department of Agriculture	Department of Land Affairs
National level	
• Designing of LRAD • Providing training for participants, agents and local land and agricultural officers • Co-ordinating policy issues and interdepartmental activities • Monitoring and evaluation of the outcomes of LRAD	• Designing of LRAD • Budgeting for capital transfers under LRAD • Monitoring the flow of funds to the provincial level • Co-ordinating policy issues and interdepartmental activities • Monitoring and evaluation of the outcome of LRAD
Provincial	
• Accountability for LRAD in the province • Participate in various provincial committees • Convene the grant approval committee and provide the secretariat	• Responsibility for approving release of grants • Accountability for LRAD in the province • Participate in various provincial committees • Land survey, title registration and transfer
Local level	
• Providing technical opinion on the proposed farm plan, land-use and environmental assessment • Providing agricultural support services • Working with District Council counterparts to ensure project congruence with IDPs/LDOs	• Providing information and training for participant and agents (clarifying technical and legal aspects of LRAD) • Working with District Council counterparts to ensure project congruence with IDPs/LDOs

Source: Department of Agriculture and Land Affairs, 2001.

2.6.7 Monitoring and evaluation of applications to access LRAD

The ADSP features a streamlined process of approval at the provincial level relying on documentation prepared and submitted by participants. This approach helps to deliver the desired rate of implementation. Streamlined approval can function well together with a system of selective audits, monitoring and evaluation. The audits for a selected group of approved projects, confirm the accuracy and veracity of the information submitted. The audits are both financial (to determine that expenditures have been as permissible under LRAD guidelines) and physical (to determine that the expenditures actually took place and that purchased goods and services are in place on the farm enterprise). The evaluation activities assess the quality of outcomes and the impact on beneficiaries and rural communities more generally (Department of Agriculture and Land Affairs, 2001).

2.7 Impact of land reform agricultural projects: empirical evidence from local and international experience

Traditionally, agrarian or land reform is confined to redistribution of land; in a broader sense, it includes related changes in agricultural institutions, including credit, taxation, rents and co-operatives. Although agrarian reform can result in lower agricultural productivity, especially if it includes collectivization, it may increase productivity when land is redistributed to the tiller. Pressure for modern land reform is most powerful in the underdeveloped nations. After World War II, the Eastern European nations under Communist rule implemented agrarian reforms following the Soviet model. Since the collapse of Communist rule in Eastern Europe (1989-90) and the disintegration of the Soviet Union (1991), there has been movement, sometimes successful, sometimes fitful, toward privatization of agriculture in the former republics of the USSR (The Columbia Encyclopedia, 2008).

Asia

China's Communist revolution in 1949 led, after the wholesale transfer of land, to small peasants, to the amalgamation of peasant co-operatives into larger communes. In attempt

to establish socialist agriculture prior to mechanization, the communes were much criticized by the Soviet Union. They proved inefficient, causing stagnation in agricultural productivity and China later abolished them. By 1980, China was rapidly returning land to individual smallholders and promoting market-oriented agriculture with marked success. In other parts of the world; in Asia, especially in such densely populated areas as the Indian subcontinent, agitation has been mainly for redistribution among landless laborers; for security of tenure; and for the elimination of middlemen, oppressive rents, and usurious interest. Agrarian reforms began in Japan during the Meiji Restoration (1868-1912), when feudal fiefs and stipends were abolished. After World War II, the United States occupation forces supervised further land reform. As a result, by 1949, over 80% of Japan's tenanted land had been transferred from absentee landlords to tenant cultivators. In India and Pakistan, similar programmes of agrarian reform were attempted, though with less success (The Columbia Encyclopedia, 2008).

Besley and Burgess (2000) use state level data to show an overall negative impact of land reforms on productivity. Banerjee *et al.* (2002) study the state of West Bengal, where the reforms were successfully implemented, and using a district level data found that tenancy reforms improved agricultural productivity. Bardhan and Mookherjee (2007) using village level data from West Bengal, also find significant impact of the land reforms on farm productivity. Deininger *et al.* (2008) using state-level variation in reform implementation, also find that the land reforms had a significant and positive impact on income growth and accumulation of human and physical capital in the reform households. In all, there is evidence of a significant impact of reform in West Bengal on farm productivity and poverty levels. Reforms transfer wealth, and therefore producers who had earlier been prevented from making investments, in physical and human capital, due to credit constraints, increased the level of land-related investment as well as an impact on investment in physical or human capital (Gersbach & Siemers, 2005).

According to King (1977: 206-217), some of the economic effects of the Taiwan land reform on beneficiaries are that: real income of Taiwanese farm families went up by approximately 60 percent from 1952 to 1962. Investment also increased, particularly in

farm implements. The reform beneficiaries had three sources of increased income: rent limitation, increased productivity, and non-farm income. With increased income, consumption of protein foods (pork, fish) and of luxuries such as cigarettes and radios increased markedly. House construction also increased. The increased productivity was attributed to factors, such as improved rice varieties, greater application of fertilizer and pesticides, more advanced technology, all strongly promoted by the established linkage of Sino-American Joint Commission on Rural Reconstruction.

King (1977: 206-217) further stated that, one set of data shows that inputs increased 11 per cent, outputs 23 per cent, from 1953 to 1960, a gross productivity increase of 12 per cent. Labour input for this period increased by 10 per cent. The intensity of land use increased, with higher yields per crop and increased multi-cropping. The report concluded that by any standard, land reform in Taiwan was a fine achievement. Lease contracts revised under the tenancy law totaled 377 000; about 140 000 families bought public land; and land was transferred from 106 000 landlords to 195 000 new farm owners.

Administratively, the three-stage process was by no means simple. Politically, land reform, by bringing peaceful and progressive rural social changes and economic prosperity to Taiwan, was considered a powerful weapon against communist infiltration. Socially, reform gave self-esteem to great numbers who had lacked it: an essential precondition for the modernisation of rural life. Economically, the reform had both immediate and far-reaching effects. Income redistribution was considerable, yet the landlords' interests were protected. Post-reform economic progress was rapid. Agricultural output increased at 8 per cent per year, a rate maintained after US aid was terminated in 1965. The rapid farm output increases since land reform are all the more remarkable for occurring in a country of high population growth. Onoja and Unaeze (2008) used multiple regression models with three functional forms to determine the production and income functions of rice farmers in the Philippines. The results showed that generally education and other socio-economic factors had significant effect on rice farmers' output as well as their incomes.

King (1977: 206-217), attributed the increased productivity on the Taiwan land reform farms to factors, such as improved rice varieties, greater application of fertilizer and pesticides, more advanced technology, all strongly promoted by the established linkage of Sino-American Joint Commission on Rural Reconstruction. Yeamkong *et al.* (2010) researched on the effect of experience, education, record keeping, labour and decision-making on monthly milk yield and revenue of dairy farms supported by a private organisation in Central Thailand found that farms that have experienced participants as well as the farms that kept records, had higher farm milk yield (MYF) and farm milk revenue (MRF) ($p<0.05$) than those with less experience and those without records.

Record keeping is an important tool in farm enterprises management. Records help the producer to follow up the performance of an enterprise e.g. sheep and goat enterprise and assist in making decisions based on concrete facts. It is a tool that enables the producer to take timely corrective measures based on monitoring of progress. Plant and animal breeding can be planned to optimize efficiency with proper use of breeding records. It gives a history of what has happened on the farm for the period during which it has been kept. It allows comparison of one year's records with the next; a farmer can see what progress he is making and trace weaknesses that need to be improved upon; serve as an aid to managerial control during production.

A producer can keep track of events like: whether activities are going according to plan; check on feed utilization; whether yields and profits are improving or decreasing; when animals were vaccinated, dipped, given any medicine or castrated. It helps to trace the origin of animals and serve as a tool for selection of breeding animals (If records are used for selection purposes, comparisons should be made between animals in the same flock to avoid confusion arising from differences in farm conditions or other environmental effects). It provides figures for farm planning and budgeting. Accurate financial and production data help a producer make necessary adjustments to operate more efficiently, plan for the future, pinpoint the weaknesses of a farm and allow the producer to act

accordingly; it tells how much the producer is earning by maintaining financial records that have the appropriate level of detail depending upon the complexity of the operation.

A more complex farm operation requires a more detailed system. Farm records keep track of assets: Progress in the farm operation cannot be determined from year to year without keeping an inventory. Almost everything should be included in the inventory such as money (receivables, and payables), livestock, crops, supplies and property Yeamkong, et al. (2010). The results also showed that projects with longer experience increased ($p<0.05$) monthly milk yield and revenue significantly. Skills training are very vital in improving the productivity of land reform beneficiaries who usually lack farming skills and experience. van den Berg *et al.* (2004) analysed the impact of skills training in Integrated Pest Management (IPM), in six farming villages in Sri Lanka and found that usage of insecticides and fungicides dropped to almost nil due to training, while IPM caused farmers to sharply increase their use of organic fertilizer (mostly rice straw). The IPM was associated with a yield increase of 23 percent.

King (1977: 206-217) states that, land reforms in Japan, Korea and Taiwan, have made a major contribution to overcoming the legacy of colonial development. In addition to aggregate evidence on the positive poverty impact of land reforms in India, tenancy reform in the Indian state of West Bengal is shown to have led to significant increases in productivity (Besley & Burgess, 2000). According to Deininger *et al.* (2009), in the Philippines, land reform beneficiaries have invested more in their children's education than non-beneficiaries and increased their levels of assets at about three times the rate of non-beneficiaries.

Southern Africa Development Community (SADC) and other parts of Africa

African agrarian reforms have included the distribution of excess land in Algeria (1971); nationalisation of all land in Ethiopia (1974); and the abolition of all land titles to be replaced by rights of occupancy (Tanzania, Zambia and Nigeria). Tanzania promoted farming collectives (Ujamaa) with limited success (The Columbia Encyclopedia, 2008). Within the Southern Africa Development Community (SADC), where racial policies

resulted in discriminatory land policies in Namibia, South Africa and Zimbabwe, majority rule in the late 20th century led to the pressure for land redistribution. In Zimbabwe, wholesale land redistribution at the end of the 1900 resulted in the near collapse of the country's commercial agriculture when land was transferred from white farmers to blacks who had little farming experience and inadequate equipment. Land reform has proceeded more gradually in Namibia and South Africa, resulting in greater frustration on the part of the landless but less significant decreases in agricultural production (The Columbia Encyclopedia, 2008).

According to Guardian (2003), various studies have shown that agrarian reform has had a significant impact on farmer beneficiaries. Increased per capita incomes, reduced poverty incidence, higher investments in physical capital, and greater household welfare and productivity were reported, aside from social justice and peace attained in the countryside. Land redistribution alone was not enough to liberate small farmers from poverty. Support services for the agrarian reform communities became pivotal in enhancing food security and building infrastructure that promote food production, enhance community trading and increase rural household income from agrarian reform. Access to land is a crucial factor in the eradication of food insecurity and rural poverty. Inadequate rights of access to land, and insecure tenure of those rights, often result in entrenched poverty and are significant impediments to rural development and the alleviation of food insecurity. Secure access to land often provides a valuable safety net as a source of shelter, food and income in times of hardship, and a family's land can be the last available resort in the instance of disaster (FAO, 2007). McCusker (2002) found that the livelihoods as a result of land reform are minimal in South Africa, largely due to general disorganisation, farm size problems, lack of capital, lack of skills and labour, gender bias and skewed age distribution".

The educational backgrounds of the majority of the land reform beneficiaries in South Africa are generally very low. Skills training and effective extension advice for the land reform agricultural project participants are very critical for the achievement of high productivity and income on the projects since the participants provide both labour and

managerial services to the projects. Other factors besides skills training and extension services which normally influence positive impact on land reform agricultural projects include: educational status of the land reform beneficiaries, established linkages, record keeping practice, .savings, number of years of operation/experience, employment of participants outside the project or other sources of income, women participation, food security status of beneficiaries, and the availability and use of effective business plans.

Owens *et al.* (2003) found that access to agricultural extension services, defined as receiving one or two or more visits per agricultural year from an extension worker, increases farm production by 15% in resettlement areas of Zimbabwe. Lockheed *et al.* (1980) analysis of 37 data sets from Asia, found that education has a positive effect on farm performance in all cases and that this effect was nearly always statistically significant. This study suggests that formal education improves productivity. Owens *et al.* (2003) identified that access to remittances and household's participation in off-farm activities has a positive impact on productivity. This could reflect the fact that extra sources of income relax liquidity constraints. This is also confirmed by Savadogo *et al.* (1998) who indicated that in Burkina Faso, non-farm income indirectly determines farm productivity via its effect on adoption of traction power. Okon *et al.* (2010) analysed the technical efficiency and its determinants in garden egg production in Uyo metropolis in Nigeria using stochastic frontier analysis. The study identified farm size and gender as the major determinants of technical efficiency. In addition, men were found to be less technically efficient than women.

South America

In South America, land reform is a major problem because enormous tracts of land (Latifundios) are concentrated in very few hands with labourers no better off than serfs. Although the revolution in Mexico resulted in land reform (1917), the programme of Redistribution of land is still only partially completed. A land reform law also followed the Bolivian revolution of 1952, but by 1970, only 45% of the peasant families had received titles to land. One of the most complete agrarian reforms in Latin America took place in Cuba, where land reform was one of the main platforms of the 1959 revolution.

Large holdings were expropriated by the National Institute for Land Reform, but most of them are managed by government officials and have not yet been redistributed. The remaining agricultural land is limited to a ceiling with tenants gaining ownership rights. Nicaragua's agrarian reform under the Sandinistas resulted in the expropriation of some large holdings (1979), which after initial collectivisation has been progressively redistributed to individual farmers, including returning Contras after 1989.

Chile's land reform (1970-73) was reversed with the overthrow of the Socialist Salvador Allende. Feder (1985) observed a critical issue in Latin America that, the number of peasants owning land was on the increase but nearly all of the new landowners were still poor. Even though many land reforms were often implemented in a way that reduced their possible impact on equity and efficiency, there is growing evidence all over the world that redistributive land reform help reduce poverty, increase efficiency, and establish the basis for sustained growth. In Colombia, implementation of market assisted land reform has also been shown to have a potential of targeting the most unproductive areas, thus leading to considerable productivity increases (Machado & Suarez, 1999). In Brazil, land reform has clearly been shown to be economically viable having scope of increasing beneficiary income up to 5-fold (Buainain *et al.,* 1999).

Deere and de Medeiros (2007: 80-118) states that, Brazil agrarian reform eneficiaries, besides a plot upon which to grow part of their subsistence requirements, also gain access to a range of other benefits from which they had previously been excluded: funds to build a house, and purchase foodstuffs until the harvests come in. While access to these benefits among the settlements has been uneven, when available, these resources stimulate a number of other local activities (the sale of inputs and agricultural implements, construction materials, small appliances, etc.) and hence economic activity. In addition, the Brazil agrarian reform beneficiaries establish a dialogue with the different agencies of the state and financial agents or other intermediaries, notably the Bank of Brazil, whose personnel begin to frequent long-neglected areas, in turn stimulating the demand for local services.

Deere and de Medeiros (2007: 80-118) states that, in terms of productivity on the *assentamentos* of Brazil land reform agricultural projects, the results vary significantly by region and crop, but notwithstanding, most studies suggest that the results have generally been satisfactory. In terms of income generation, the most rigorous study of income levels on the settlements was carried out by Leite *et al.* (2004). This survey of 1,568 households found that the mean gross monthly income was $312, just slightly above the poverty line. However, there was tremendous variation by state, with the range being an average $117 in Ceara in the northeast to $439 in Santa Catarina in the south. It was further stated that only one-third of the beneficiaries were above the poverty line, although this is in many ways quite an accomplishment, given the slowness of the state in providing the settlements with the promised assistance. That two-thirds of the agrarian reform beneficiaries were poor by conventional measures could lead to the conclusion that not much has been accomplished through the distribution of land. Yet, given the precarious and low standard of living in rural Brazil, the study found that beneficiaries considered themselves to be much better off in the *assentamentos* than in their previous situations (Deere & de Medeiros, 2007: 80-118).

Leite *et al.* (2004) stated that, almost two-thirds of the beneficiaries considered that they had increased their household incomes on the *assentamentos* compared with what they had previously earned. This improvement in the situation of the beneficiaries is also evident in terms of other indicators of the standard of living, such as, the quality of housing, access to electricity and potable water, ownership of small appliances. These findings bolster the argument of the social movements that the best way to tackle hunger and poverty in Brazil is by redistributing land.

Another potential indicator of the Brazil agrarian reform is in terms of desertion rates on the *assentamentos.* Deere and de Medeiros (2007: 80-118) state that most studies report some evidence of families or family members leaving the *assentamentos,* mainly young people who leave in search of educational or employment opportunities or other lifestyles. The study found that among the most frequently cited reasons for abandoning the settlements, was the lack of promised infrastructure, lack of access to schooling or health services and

the lack of support for agricultural production. According to Deere and de Medeiros (2007: 80-118), the Brazil agrarian reform beneficiaries increased their standing for local elections as councilmen/women and even mayors. Their participation was evident in civil society, whether in the rural unions or local co-operatives. To act in these spaces is to have a voice to speak for and as agrarian reform beneficiaries and to gain social legitimacy. In the process, the beneficiaries also contributed to the formation of public opinion. In elected roles, they sometimes challenged local elites and change the terms of local politics - as being in favour or against the agrarian reform and the beneficiaries.

2.8 Impact of land reform on beneficiaries: Gender analysis.

Does it matter who within the household enjoys improved access to land? Among others, Deere and León (2001) argue that it does not matter whether women or men enjoy enhanced land access. They distinguish two principal avenues by which enhanced land rights for women can be expected to have an impact on the rural household economy and on gender roles within that economy. The first avenue, "women's well-being and the family", focuses on property rights as a form of economic access to the key markets that constitute the rural economy, the markets for agricultural goods and services, for capital, for labour and for land itself. The second avenue "the empowerment of women" emphasizes the role that land rights can play in indirectly strengthening women's ability to participate effectively in important economic decision-making processes within the household, community and broader levels of society. From this perspective, increasing women's claims to land, whether as joint or individual owners, can be expected to have positive income and welfare effects both for women and for their children. The literature on intra-household expenditure patterns strongly suggests that mothers dedicate greater proportions of their incomes to household public goods, including food, child health and educational expenses.

Empowerment of women should in turn increase their influence over household expenditure patterns. In addition to the short and medium-term economic gains generated by greater access to product, capital and land markets, women with stronger property rights in terms of land are also less likely to become economically vulnerable in their old

age, or in the event of the death of or divorce from their spouses. LRAD provides an excellent vehicle in redressing gender imbalances in land access and land ownership, and therefore in improving the lives of rural women and the households they may support. The sub-programme serves as a means of creating opportunities to enable women to develop in numerous spheres of life, therefore giving them security against poverty and providing them independent economic status. By ensuring that women participate fully in asset redistribution and agrarian reform, the sub-programme will help government meet its international commitments (Department of Agriculture and Land Affairs, 2001).

2.9 Land or agrarian reform support programme: the international experience

According to MEDCO (Mindanao Economic and Development Council) (2004), the support project of the Belgian integrated agrarian reform support programme consists of a package in support services and rural infrastructure to 60 000 agrarian reform beneficiaries and some 20 000 non – agrarian reform beneficiaries in 74 agrarian reform communities in 7 provinces. Twenty co-operatives were provided with savings and credit assistance, 1442 micro projects have also been implemented. Thus, in the implementation, the agricultural reform communities' project improved the quality of life of agricultural reform beneficiary households in at least 140 agricultural reform communities nation-wide by providing basic infrastructure services towards increasing agricultural productivity and household income. In the agrarian reform infrastructure support, the projects involved tripartite approach, collaboration among the implementing agencies and provision of rehabilitation of rural infrastructure such as, irrigation facilities, farm-to-market roads and post harvest facilities, including development of farmers' organisations in the agricultural reform communities through appropriate training.

The community initiatives and natural resource management projects aimed to reduce poverty for targeted households. However, through the establishment of beneficiary institutions at the settlement level in development of project activities with regard to provision of infrastructure facilities, training, capacity building process, provision of social support services including improvement of quality and coverage of agricultural

extension services through training extension officers. The agrarian reform beneficiaries supported the extension of a special grant to support government's efforts in order to reintegrate and alleviate the poverty incidence in the area. Furthermore, the agrarian reform development support project primarily involved the establishment of the three Farmer-Support centres for the acquisition and distribution of agricultural equipment to agrarian project beneficiaries. These farmers support centres provided the necessary services and support to the agrarian reform project beneficiaries (MEDCO, 2004).

IRIN (2005), on post transfer support states that Namibia's land reform programme is flawed because poor and landless people are not being empowered to become successful farmers once they have been resettled. Most resettled persons had little or no knowledge of rotational grazing, livestock breeding systems or financial planning and management skills. They simply continued subsistence farming on the piece of land they had been allocated. Beneficiaries do not get loans, as they have no collateral. Since launching the land reform programme in 1996 to correct colonial-era discrimination in ownership, the government has bought a total of 146 commercial farms covering 932,864ha. A special scheme allowed black Namibians to acquire commercial farms by applying for soft loans from the state. A step in the right direction was the Emerging Commercial Farmers' Support Programme. Based on an agreement between the governments of Namibia, the Netherlands and the European Union; the programme will make mentorship and other assistance available to resettled people and fledgling black commercial farmers.

2.10 Farmer-Support services of South African land reform

A support service provision programme is primarily directed at those already farming. The programme is therefore not a land provision programme per se but rather a supply strategy attempting to alleviate constraints under which (resource-poor) farmers are operating. It can be structured as a (comprehensive) package of institutional arrangements aimed at creating access to services such as extension, training, research, financial support and marketing. It is argued that improved incentives, as a result of the improved services, could lead to an increase in renting of farmland and some farmers purchasing land to acquire secured title to land (Singini & van Rooyen, 1995). The Farmer-Support

Programme (FSP) concept was introduced as a coherent development strategy in 1986 through the financial support of the DBSA (Singini & van Rooyen, 1995). This programme essentially entailed the provision of access to the "normal' farming support services required by small holder producers, i.e. finance, inputs, marketing, infrastructure, and also policy and *de facto* land use.

Many of the target groups operated on communal land on small holdings. The FSP did, however, not require 'settlement' activities *per se* and access to land rights was primarily of a de facto nature. The underlying assumptions of the Farmer-Support Programme were that such small–scale producers would act rationally and optimize the use of available or introduced services on demand. Such activities would induce changes towards the more efficient utilization of resources. It was also expected that increased farm production would be economically rational, would support household level food security and generate employment and labour linkages (van Rooyen *et al.*, 1987). In general, indications are that the Farmer-Support Programme influenced small holders in a number of locations, mainly Kwazulu-Natal and the former Lebowa, Ka-Ngwane and Venda positively and were far more cost effective and sustainable than large-scale development and settlement projects which were the previous main strategy for agricultural development in South Africa.

Current FSP initiatives are increasingly characterized by the private sector providing commercial services to Farmer-Support Programmes. However, it is observed that the coherency of the public vis-à-vis privately provided services is presently jeopardized in the absence of a comprehensive Farmer-Support policy in South Africa. According to Singini and van Rooyen (1995), agricultural development and land reform polices should clearly not be divorced. Farmer-Support Services provide extension and advisory services; facilitate the training of commercial and emerging farmers, including the co-ordination of rural agricultural projects, as well as to facilitate organisational development and capacity building farmer groups. Hussein *et al.* (1994) found that more extension contact through training and visiting programme in Pakistan increased farmers' technical knowledge and induced earlier adoption of technology.

2.11 Constraints of land reform: local and international experience

SEAMEO (2000), states that, after two decades, the land reform programme in Thailand has yet to reach the point where it can make a substantial contribution to the growth and development of the economy as a whole. Obstacles to land reform are, to a large extent, those which inhibit agricultural development. Providing land to the landless does not automatically guarantee success. Land reform beneficiaries need economically efficient production mix with accessible supporting services. It is precisely the lack of economically efficient production mix with accessible supporting services which inhibits successful land reform implementation. More often than not, the land reform project beneficiaries are ill-advised in production planning and lack of supporting services to carry it out.

Co-ordination and co-operation with other government agencies have proven to be difficult. Advance planning in this respect is needed but usually vague. It is vagueness that is unacceptable for budget allocations (most of the time, detail is demanded), and thus the budget for such effort is absent. SEAMEO (2000) concluded that, land reform in Thailand is infested with numerous problems, mostly in its implementation. Little has been made to effectively overcome these bottlenecks. Political will has not been consistent, or steady. Under the land reform law, only conditional land titles were issued to the land reform beneficiaries, with a constraint on limited transfer ability. Already, it was found that much of the land under land reform in the island province was held by rich families who are more involved in business than farming. The government is constantly faced with the task of offering a sufficiently high price of land to owners and, at the same time, ensuring that the land reform beneficiaries have the proven ability to repay. This is increasingly self-defeating (SEAMEO, 2000).

Human Rights Watch (2002) indicated that in Zimbabwe, land reform in the twenty years following independence, in older resettlement areas, some of the land allocated has been abandoned or not fully utilized, due to the lack of resources such as fertilizers or tractors, and in particular the lack of access to credit. Assessments of the programmes of land redistribution undertaken during the 1980s noted positive and sustainable results,

benefiting some of the poorest people, increasing their incomes, and providing access to education and health services. However, they also noted that some areas remained without schools within walking distance or water supplies more than a decade after resettlement, as well as underutilisation of land by new settlers, and recommended that these problems be addressed as the land reform programme continued. At the Musasa resettlement scheme close to Harare, settled in 1986, for example, several household heads told Human Rights Watch that they were only able to plough a small proportion of the twelve acres allocated to them, for lack of resources. "People were very happy back in 1986, but now, there are mixed feelings. The problem is just the question of inputs."

The long-term effects of these constraints and others have had serious social and economic adversities on the country. The Food and Agriculture Organisation (2001), suggests that "the already tight food situation has deteriorated as a result of reduced cereal production and general economic decline, 705, 000 in rural areas are at risk of food shortages. In addition, 250, 000 people in urban areas are experiencing food difficulties due to a sharp increase in food prices, while some 30, 000 farm workers have lost their jobs and are left without any assistance." Export crops such as tobacco were similarly affected. Inflation topped 100 percent per annum in November 2001. The first consignment of donated maize arrived in Zimbabwe, usually a maize exporter, in January 2002, and the World Food Programme began emergency food distribution in February 2002 (Sachikonye, 2003).

In South Africa, support to beneficiaries after they acquired land has been one of the weakest areas of the land reform, and entirely absent in many projects. Land reform has focused heavily on land transfer, allocating low priority to post-transfer support. Jacobs (2003) reported that evidence from two official reviews of land reform conducted pre-2000, in addition to three qualities of life assessments, identified the lack of agricultural development support as a critical gap in the programme. The focus on land transfer and the lack of support for the productive use of land were widely recognised as key failings of the programme, which is considered to have made limited contributions to beneficiaries' livelihoods (May & Roberts, 2000). However, recognition of this problem,

has not led to a comprehensive policy. The Land Redistribution for Agricultural Development (LRAD) policy, launched in August 2001, promised significant assistance after land transfer. LRAD ostensibly links land acquisition to support for new owners in using their land effectively to improve incomes and livelihoods (MALA, 2001). Responsibility for agricultural extension advice, training and grants for things like irrigation and fencing under Land Redistribution for Agricultural Development has been assigned to the national and provincial departments of agriculture.

According to Jacobs (2003), within and outside Land Redistribution for Agricultural Development, support for sustainable and productive land use on land reform projects remains inadequate. In 2002, the National Department of Agriculture introduced a Comprehensive Farmer-Support Programme (CFSP), which proposed a once-off support package for all 'emerging farmers'. Settlement Support and Development Planning (SSDP) unit was set up in the Commission on Restitution of Land Rights to coordinate support from various public and private agencies for land claimants returning to their land. Studies by Council for Scientific and Industrial Research (CSIR, 2005), Community Agency for Social Enquiry (CASE, 2006) and Sustainable Development Consortium (SDC, 2007) have revealed the limited impact of most South African land reform projects in terms of productive land use and household livelihoods. This has been attributed to many factors, but the most widely cited are inadequate or inappropriate planning, a general lack of capital and skills among intended beneficiaries, a lack of post-settlement support from state agencies, most notably local municipalities and provincial departments of agriculture and poor dynamics within beneficiary groups.

While various initiatives have been undertaken to address the challenge of post settlement support, such as the introduction of the Comprehensive Agricultural Support Programme (CASP)[5], (which, despite its name, has effectively been limited to grants for farm infrastructure), the provision of micro-credit under the Micro-Agricultural Finance

[5] The aim of Comprehensive Agricultural Support Programme (CASP) is to provide post settlement support to the targeted beneficiaries of land reform and to other producers who have acquired land through private means and are, for example, engaged in value-adding enterprises domestically or involved in export. www.info.gov.za 18/02/2011.

Initiative of South Africa (MAFISA)[6] programme and the creation of post-settlement support units within the Commission on Restitution of Land Rights (CRLR), it would appear that many, if not most land reform projects remain without the support needed to use land productively.

Potentially, the most significant initiative in this area is the Settlement and Implementation Support (SIS) strategy, developed by the Sustainable Development Consortium on behalf of the CRLR, which proposed a joint programme of government, spearheaded by the Ministry of Agriculture and Land Affairs in partnership with organised land reform beneficiaries, private sector role-players and NGOs to provide comprehensive support services to ensure sustainable land reform projects and the fulfillment of broader constitutional obligations (SDC, 2007). The projected acceleration of land transfers does not in itself address the challenge of post-settlement support – indeed; it makes the need even greater.

Provincial departments of agriculture participate in the approval of land redistribution grants but provide little agricultural support to these projects. Another critical difficulty facing all project beneficiaries is that the only asset project beneficiaries have, the land, is 'useless', as it cannot be used as collateral which makes it is very difficult for project beneficiaries to access credit for farming purposes. At the same time, it was asserted that loans to land reform projects have to be handled carefully because there is a risk of losing the land if they default on repayment. Funds from parastatals agencies (for example, the National Development Agency), various financial institutions and donors are often insufficient to sustain agricultural development.

The Land Bank is the main financial institution land reform beneficiaries can turn to for credit, but many are not accessing this service due to a combination of factors: being unaware of opportunities to access credit, not meeting lending criteria aversion to the

[6] The main expected outcome of MAFISA is effective and efficient agricultural finance system serving the needs of emerging farmers, farm workers and farm tenants, small and medium agribusinesses, land and agrarian reform beneficiaries, Groups and individuals. www.info.gov.za/aboutgovt/programmes/ 18/02/2011.

risks involved with getting into debt (Mangena, 2006). Inadequate support to the beneficiaries of land reform has been a recurring complaint almost since the inception of the programme. Various studies have shown that beneficiaries experience severe problems accessing services such as credit, training, extension advice, transport and ploughing services, veterinary services, and access to input and produce markets (HSRC, 2003; Hall, 2004; Bradstock, 2005; Lahiff, 2007; and SDC, 2007). Attention has also been focused on the lack of support to institutions such as CPAs and Trusts charged with managing the affairs of group projects (SDC, 2007; CASE, 2006; and CSIR, 2005). Services that are available to land reform beneficiaries tend to be supplied by provincial departments of agriculture and a small number of NGOs, but the available evidence would suggest that these serve only a minority of projects.

Recognition of the need for additional support for land reform beneficiaries led to the introduction, in 2004, of the Comprehensive Agricultural Support Programme (CASP), with a total of R750 million allocated over five years, and the formation of the Micro Agricultural Finance Institute of South Africa (MAFISA), which is intended to provide small loans to farmers. Widespread problems have been reported, however, with the disbursement of CASP grants. In September 2006, the DLA reported to Parliament that nearly R60 million of the first year's allocation of R200 million had been rolled over to the next year, as only R109 million had been spent. In the next year, R250 million was allocated, and another R43 million was rolled over.

2.12 Settlement and Implementation Support (SIS) Strategy

SIS presents a comprehensive strategy for settlement and implementation support for land and agrarian reform in South Africa. Key elements of the conceptual framework are: reframing land reform as a joint programme of government with the active involvement of: Land reform participants, civil society and the private sector; measures to secure effective alignment of government actors in different spheres using the Ministry for Provincial and Local Government's draft guidelines for managing joint programmes in terms of the Intergovernmental Relations Framework Act (IGRFA); utilising area-based plans to locate planning and support needs in a clear spatial and fiscal framework within

municipal IDPs; measures to determine, secure and manage land rights and ensure ongoing land rights management support from the state; measures to provide appropriate project-based training and learning, and strengthen capacity and institutional development; measures to improve access to social development benefits – health care, education, reasonable levels of service, and mitigate impacts of HIV/Aids; measures to ensure integrated natural resource management and sustainable human settlements; and comprehensive 'front-end' services to enhance individual household livelihoods, develop enterprises, and ensure access to finance, technical and business support.

These and other functions are facilitated and enabled by the formation of dedicated SIS entities at local and district municipal scales, interacting with local associations representing the interests of land reform beneficiaries. SIS also proposes the formation of a new Chief Directorate of Settlement and Implementation Support within the Department of Land Affairs; with the responsibility of managing a joint programme of government in partnership with national and provincial departments of agriculture and putting in place the systems and procedures to enable the effective functioning of district and local support entities. It also proposes the establishment of an Inter-ministerial Forum in terms of IGRFA chaired by the Presidency to monitor the proposed joint programme. In addition, the SIS Strategy proposes measures to improve the alignment of the regional offices of the CRLR and DLA and suggests how provincial land rights offices (DLA) could be restructured to ensure that responsibility for managing provincial joint programmes and co-ordinating the provision of SIS services are appropriately located (SDC, 2007).

In the area of extension, LARP suggests that South Africa has approximately one-third of the number of extension officers required to meet its development targets and that 80% of the current extension staff are not adequately trained. It introduced a joint Extension Recovery Plan between the national and provincial departments of agriculture, which will extend over a number of years and for which funding has been approved by National Treasury. It also introduced that two or three key commodities be identified and

promoted in each province, linking agricultural production, processing activities, input suppliers, consumer interests and local and international markets.

The integration of products and services from national, provincial, local government and the private sector is seen as crucial to the success and sustainability of those projects and the achievement of LARP objectives. According to MoA (2008), the central proposal of LARP is, therefore, the concept of the 'one-stop shop' that will facilitate the integrated delivery of information and support services by various state and non-state agencies: *LARP will facilitate alignment and co-ordination of agricultural support services available at national, provincial and local level and in the private sector. A One-Stop Shop concept is envisaged to be developed under LARP which consists of service delivery and information centres close to the beneficiaries where initially all financing options and services, both grants and loans, private and public, will be made available to new farmers and where a farm business planning service can be accessed. Other social and economic services to farmers will be added to the service portfolio* (MoA, 2008).

2.13 Chapter summary

The literature explained evaluation as the collection of useful information on the basis on which decisions can be taken about the feasibility, effectiveness and value of an organisation, institution, project or programme. It was reviewed that agriculture is one of the most important sectors of the South African economy that has the potential to increase the income levels of rural and peri-urban communities and create employment opportunities in these communities. This is because agriculture can employ a large number of unskilled and semi-skilled labourers in an environment with less stringent labour laws and low mechanization.

The literature revealed that two salient differences exist between monitoring and evaluation. First, monitoring is a general managerial function that must be the direct responsibility of project management. Evaluation is rarely, if ever executed by project leadership. Second, whereas monitoring implies that performance is tracked regularly and

corrective action is a legal consequence, evaluation is an occasional activity to reflect on performance in a diagnostic sense. It was clear from the literature that evaluation has two main purposes, first, to inquire into the feasibility of a project design and second, to assess the overall impact of a project. Consistent with international practice, three main evaluation criteria provide the basis on which project achievements and impacts are to be, namely: performance of the project; impact on rural poverty; and performance of the partners.

Each main criterion is divided into a number of elements (or sub-criteria). The first criterion- *performance of the project*- captures the extent to which project objectives are consistent with the priority of the rural poor and other stakeholders (relevance); how well the project performed in delivering against objectives (effectiveness); and how economically resources have been converted into results (efficiency). The sub-criterion of *relevance* focuses on the quality of project objectives: have the right things been done? The *effectiveness and efficiency* sub-criteria focus on the extent the right objectives were achieved at reasonable cost: Have things been done right? The performance of the project, therefore answers the question: were the right things done right (IFAD, 2009). The second criterion- *impact on rural poverty*- assesses the changes that have occurred by project completion. The third criterion -*performance of the partners*- requires separate assessments of the performance of the primary partners in the project such as the government agencies responsible for implementing the project, government, NGOs and CBO's involved in project implementation and the project co-financiers. This criterion addresses how well project implementers and its partners identified, prepared and supervised the project, and the contribution each made to project success during implementation.

Cost-benefit analysis among the various evaluation models was found to be both more limited and more powerful than cost-effectiveness analysis in that it estimates the overall cost and benefit of each alternative (product or programme) in terms of a single quantity. It was further reviewed that the greatest benefit of using cost-benefit analysis is not a limitation of the approach itself, which works in settings where costs and benefits are

clear cut, but the extreme difficulty in quantifying social benefits in monetary terms. There are often equity concerns when examining social programmes. It was emphasised that a cost-effective analysis is not a tool that is used to reduce cost. Rather, it offers information that decision-makers can use to decide whether the outcome that is provided by the intervention is worth its cost.

Economic theory is very clear on the fact that a one-time distribution of assets can, in an environment of imperfect markets, be associated with permanently higher levels of growth. Thus, in contrast to what has been predicted by earlier development models, some literature pointed that redistribution can actually be good for growth. Regarding LRAD programme, the literature revealed that the Department of Land Affairs is responsible for releasing funds related to land acquisition and/or the upgrading/securing of tenure rights, while the Department of Agriculture is responsible for releasing funds related to the agricultural development. The international literature on the impact of agrarian reforms on beneficiairies revealed many success stories in the areas of increased income, access to large sizes of land, improved productivity, improved farm infrastructure, peaceful and progressive rural social changes and economic prosperity, and acquisition of relevant farming skills. However, some overall negative impact of land reform on productivity was also revealed by the literature. For instance in Zimbabwe, wholesale land redistribution at the end of the 1900 resulted in the near collapse of the country's commercial agriculture when land was transferred from white farmers to blacks who had little farming experience and inadequate equipment. Land reform has proceeded more gradually in Namibia and South Africa, resulting in greater frustration on the part of the landless but less significant decreases in agricultural production.

Some aspects of the literature also emphasised the need for integrated agrarian reform support programme consisting of a package in support services and rural infrastructure to agrarian reform beneficiaries and non – agrarian reform beneficiaries in agrarian reform communities. Providing land to the landless does not automatically guarantee success. Land reform beneficiaries need economically efficient production mix with accessible

supporting services. It is precisely the lack of economically efficient production mix with accessible supporting services which inhibits successful land reform implementation.

This section has illustrated that evaluations have limitations. Indeed, because they must have a particular focus, evaluations cannot address all of the challenges facing a project. Unrealistic expectations of an evaluation in this regard may lead to disappointments and frustration. Ultimately, organisations, project/programme leaders and managers can only expect evaluations to provide them with useful information for making decisions about future prospects for internal development.

CHAPTER 3

3.0 RESEARCH METHODOLOGY

3.1 Introduction

The chapter focuses on the methodology for the study comprising: description of the study area indicating the boundaries of the area, its local municipalities, population, climatic information, major farming and economic activities; project coverage; desktop study of existing information and data; data collection instruments (questionnaire); sample size and sampling techniques; method of data collection; indicators and their measurements used to assess the performance of the projects; models used for the data analysis which included descriptive analysis of the indicator variables, the Tobit and Binary Logistic Regression Models, Ordinary Least Squares Linear Multiple Regression; the advantages and limitations of the regression models; ethics and credibility of findings.

3.2.1 The study area

The study was undertaken in the North-West Province (Figure 3.1), specifically in the Ngaka Modiri-Molema district (Figure 3.2).

Figure 3.1. Map of North-West Province.
Source: Statistics South Africa – Quarter 3, 2010. Labour Force Survey.

Figure 3.2 Map of the Study Area (Ngaka Modiri-Molema District).
Source: http:/www.tourismnorthwest.co.za/maps/central.html. 08/03/2011.

The North-West Province of South Africa is bounded to the north by Botswana, on the south by the provinces of Free State and the Northern Cape, and on the northeast and east by the Limpopo and Gauteng Provinces. Covering 118,797sq km (45,869 sq miles), the North-West Province was created in 1994 by the merger of Bophuthatswana, one of the former Bantustans (or black homelands), and the western part of Transvaal, one of the four former Republic of South African provinces. The North-West province consists of four main districts, namely the Ngaka Modiri-Molema District, Bojanala Platinum district, Dr. Kenneth Kaunda District and Dr. Ruth Segomotsi Mompati District.

The Ngaka Modiri-Molema (Central) District Municipality is the second largest of the four districts in both population and size. The Ngaka Modiri-Molema (Central) district comprises five local municipalities namely; Ratlou, Tswaing, Mafikeng, Ditsobotla (Lichtenburg) and Ramotshere (Zeerust). It lies in the north-central part of the province and shares an international border with Botswana. Mafikeng is situated 300 km to the west of Johannesburg in the more semi-arid areas of South Africa, with a total population of over 250,000, of which only 50,000 can be described as urban (NWDACE, 2005).

The climate of the Province is characterised by well-defined seasons with hot summers and cool and sunny winters. The rainy season usually occurs from October to March. The climate and rainfall varies significantly from the more mountainous and wetter eastern region which receives between 600-700mm of rainfall per annum to the drier semi-desert plains of the Kalahari in the west with some areas receiving less than 300mm per annum. These figures are known to vary greatly from year to year. The province is almost malaria free with isolated cases occasionally being reported. The North-WestProvince is richly endowed with mineral resources such as platinum, gold, diamonds and chrome. The mining sector is dominated by large platinum mines and smelters in the Rustenburg area which produce an estimated 70% of the world's platinum as well as the gold mines of the Orkney and Klerksdorp areas. It is not surprising that mining forms the backbone of the provincial economy, contributing 42% to the GDP and 39% to the employment. Agriculture is the next most important sector of the provincial economy, contributing 13% of the GDP and 18% of employment respectively. Crops such as maize, sunflowers

and peanuts are extensively grown on the fertile plains of the central region. Cattle and game farming are prevalent in the western region of the Province.

The North-West Province has approximately 3.7 million people of which 61% of them are classified as economically active. For those economically active people, 60% are males while 40% are women (North-West Department of Agriculture Conservation and Environment, 2005). In the North-West Province, there are about 55,000 farm households of which 8,000 are commercial and the rest are developing farming units. The Dr. Kenneth Kaunda district has the largest number of farms and also receives the highest amount of rainfall in the province. The Dr Ruth Segomotsi Mompati District has the second highest number of farms and it is followed by the Bojanala Region and the Ngaka Modiri-Molema which has limited rainfall. The agricultural sector in the North-West Province contributes 9% to the total national employment and formal employment in agriculture increased annually by 13% in the year 2001. Available figures show that, the agricultural sector in the North-West Province employs approximately 55,000 males and 30,000 females of which approximately 23,000 women are casual workers (NWDACE, 2005).

3.2.2 Project coverage

The assessment study covered the agricultural projects of LRAD sub-programme in the North-West province specifically located across all the Ngaka Modiri-Molema District. A list of the names of projects, their contacts, location (municipality), status, and type of activity was obtained from the Department of Land Affairs and Rural Development. The projects vary in designs and cover both rural and peri-urban areas of the district. The project activities also cover a wide range of livestock (large and small stock), poultry, piggery, field crops and vegetable farm enterprises. Despite the dichotomous nature of the projects, they all share a common goal, that of sufficient income generation and improving the living standards of beneficiaries and the community at large.

3.2.3 Desk-top study

This was undertaken for a critical review of existing project documents and reports across DLA and DoA LRAD sub-programmes such as CASP, MAFISA, Food Security and other sources such as articles and conference proceedings. Information extracted in the analysis of the documents included: the theoretical setting of the study, the analytical framework, data collection methods, the project names, location and objectives, targets, types of projects, indicators, human & material resource allocation, management styles, project organisation, cash-flows, constraints and best practices.

3.2.4 Data collection instrument

A structured questionnaire was designed as tool and used for collecting data for analysis. The questionnaire (Annexure 1) was categorized in accordance with the established indicators as presented in Table 3.1. The various aspects covered by the questionnaire included: demographics of the project direct beneficiaries, with and without project impact on beneficiaries and community, constraints facing the projects, project planning and regular assessment, training of beneficiaries and project leaders, conflict management, project socio-economic impact, financial and institutional support, project infrastructure, communication capacity and sustainability of projects. The others cover how well project implementers and its partners identified, prepared and supervised the project and the contribution each made to project success during implementation, the environment; communication and networking, skills development and capacity building; beneficiaries' participation; security of projects; best practices, and SWOT analyses. During the first week preceding fieldwork, the questionnaire was pre-tested and validated. In the process of testing the questionnaire, the enumerators were trained on how to obtain the basic data from the farmers, and how to document the data.

3.2.5 Sampling and sample size

The desktop information and data analysis indicated that approved and transferred land reform projects in the District Municipality from 1997 to March 2009 were ninety (Annexure 2). Out of this, 5 were SLAG projects; 3 for Commonage; 72 for LRAD; and 10 for PLAS. From the project list (Annexure 2) 35% of the LRAD projects in the study

area were classified as livestock enterprises, 22% for grains and vegetables and 43% for both livestock and crops. However, the extension personnel in charge of the study area indicated that the majority of the farms have diversified under the new owners (project beneficiaries) and that they undertake combinations of livestock, grains and vegetable production. Therefore based on the projects statistics, 47 (65%) of all the active projects under LRAD sub-programme which is the focus of this study in the Ngaka Modiri-Molema district of the province were randomly selected. Typological stratification was not considered since over ninety percent of the projects have common farm enterprises combinations namely cattle, maize, goats, vegetables and poultry.

The list of all active LRAD sub-programme projects in the respective municipalities of the district was compiled and sixty-five percent of the projects per local municipality were selected randomly. This was done by putting all the names of the projects (sealed) in each local municipality in a box and selecting 65% randomly. All direct project beneficiaries (244 direct project beneficiairies) within the selected projects were interviewed. Thus, sixty-five percent of projects were included in the sample so as to enhance external validity of the findings to the total population of the active projects.

3.2.6 Method of data collection

The approach to data collection integrated survey and participatory methods using a carefully designed evaluation questionnaire as data collection instrument. The main advantage of this approach is the triangulation of quantitative data and qualitative information. Data gathering commenced with scoping exercise comprising: establishing contacts with provincial DACE and DLA offices and managers, desktop appraisal, project listing, sampling and setting itineraries for field surveys.

The selected 47 of all the active projects of LRAD sub-programme in the district were visited. The visits were per appointment and projects' contact persons were: a) informed before hand what the visit and interview would entail; b) encouraged to involve more than one representative in the discussions; c) informed about time and commitment the completion of the evaluation instrument to the level of detail it requires, would take. The

survey was carried out by two teams of two enumerators per team, one interviewer and the other one recorder. The enumerators under the supervision of the researcher conducted interviews in an interactive and participatory approach to obtain reliable and accurate data and information. The participatory approach helped to induce members to respond to interview questions by supporting themselves or filling up gaps in responses or through reminding. The interview took 1-3 hours each depending on the interviewee's capacity to provide the required data. Considerable time was reserved during this interview period to help the farmers concentrate and complete responses to the questions with accuracy. In the absence of baseline information on the situation prior to the new activities, part of the questions required memory recall of the interviewees. However, the key informants and the sampled project heads were interviewed on person-to-person basis. The researcher was part of the interview team in order to clarify some of the questions and responses of the interviewees where necessary. Information that were originally not in the questionnaire but found to be important, were also recorded by the researcher.

3.2.7 Indicators and their measurements

In order to assess the performance of projects, indicators were developed. An indicator is a tool that helps to know how far a project is from achieving its goals. Indicators are descriptions and reports on the activities and/or its impact on the target or community. Choosing the right indicator is essential for effective evaluation of progress. According to IFAD (2003) a good indicator should:

Be relevant to the project. An indicator should be related to the objectives of the project and show how the project is helping to reach its goals. It should be something that the project will affect; be easily understandable to everyone interested in the project. A good indicator is one that everyone can understand. People should be able to relate it to some common knowledge or personal experience; be easily measured. Effective indicators are based on data that is easy to access or that can be measured directly at the site; and provide reliable information. Effective indicators should give information which can be trusted in order to be certain that the indicator is telling the right thing.

A set of quantitative and qualitative indicators (Table 3.1) were selected in order to assess impacts of the various projects with respect to the set objectives of LRAD. A menu of possible goals, outcomes and output indicators for agricultural projects were developed. For each area, a set of indicators and possible measurements were identified. The majority of the measurements were quantified into percentages and numbers while others were in the form of ratings (IFAD, 2003). The indicators were applied to each project during the field surveys. The status of the different projects and their potential final outcome were assessed.

Table 3.1 Selected indicators, variables and their measurements

ID	INDICATOR AREA	INDICATOR	MEASUREMENT	TOOL OF ANALYSIS
1	Project planning and regular assessment	• Availability of business plan • Active participation of beneficiaries in developing business plan • Business plan evaluation process • M&E and regular assessment system established • Priority areas captured (as defined at national or provincial level) • Areas (district/region/towns/municipality) covered by the project. • Functioning M&E system with active participation of executing and external institutions	• Yes/No • Assessed adequacy • Independent/internal • Assessed adequacy • The number of specific project activities; sub-projects per priority area. • Number of projects in each area; % of total. • Number of impact studies; number of progress reports; general assessment of system	Frequency/percentage

2	Project infrastructure	• Offices established • Operational infrastructure established • Location of infrastructure • ICT support capacity • Infrastructural ownership • Quality of infrastructure • Functionality of infrastructure • Origin of infrastructure	• Yes/No • Adequacy • Convenience • No of offices/agents with computer/internet access; no of computer/telephones/ agent • Owner-operator/otherwise • Good/Poor • Proportion functioning • Inherited/acquired/others	Frequency/percentage
3	Community/beneficiaries participation	• Interest in farming • Motivation expressed by project beneficiaries • Perceived fit (by beneficiaries) of service providers between supply and demand for services – priority, geographical area, target groups covered. • Intensity of service delivery coverage • Beneficiaries willingness to share project costs	• Proportion of beneficiaries interested in farming • % change; number • % change • Projects per agent; area per agent • % change or number; % total	Frequency/percentage
4	Enhanced beneficiaries/community voices	• Beneficiaries request for services (disaggregated by gender and minority groups) • Beneficiaries awareness of project activities (effective communication)	• Number, % of total • % of beneficiaries	Frequency/percentage
5	Leadership and key players up skilled	• Capacity building courses attended by the project leaders by sex, gender, ethnicity, etc. • Leaders satisfaction with training attended • Perception about leaders by beneficiaries	• Number, % of total • Rating (% of positive response) • Rating	Frequency/percentage

6	Training	• Participants training courses conducted per project • Participants trained, contacted, visited by sex per project. • Frequency of face to meeting with participants. • Demonstrations established (on station and on farm per area. • Participants contest conducted. • Number of producers' organisations established. • Participants group meetings held per area. • Information materials produced and disseminated per region/area/project. • Environmental farm programme training conducted. • Participants-led trainings conducted.	• Number • Number • Average number per month; average time spent • Number • Number • Number • Number; number of participants. • Number; number of brochures and pamphlets. • Number • Number	Frequency/percentage
7	Conflicts managed	• Number of conflict per project • Conflict management plan • Representativity of beneficiaries on conflict management structure by gender, age, ethnicity, etc.	• Number • Assess adequacy • % of total, number	Frequency/percentage

8	Technology adoption	• Adoption of new practices or technologies (participants including the studies of rationales for adoption/non adoption)	• Total number of adopters; % targeted beneficiaries.	Frequency/percentage
		• Change in income, welfare, costs, yield, and productivity as result of new technology or practice.	• % change from base	
		• Change in household labour needs (disaggregate by gender and minority groups and age)	• % change from base	
		• Change in relative income from on-farm and off-farm activities (disaggregate by gender and minority groups and age)	• % change in base	
		• Yield gap between participants' and experimental trails	• % difference	
		• Yield gap between national yields' and neighboring countries.	• % difference	
		• Time-series or case studies of change in participants knowledge, skills, attitudes, or understanding of technologies and practices	• % change from base	
		• Change in land area used for sustainable, integrated production	• Area (ha)	
9	Increased resources	• Resource allocation in relation to established priorities	• % of total, number	Frequency/percentage
		• Improved/Increased access to resources by the locality or community	• % change from base, number	
10	Free Involvement of people	• Beneficiaries, private sector and civil society representation on project management committees (sex, wealth, ethnicity, project size, etc.)	• Number, %	Frequency/percentage
11	Environmental	• Environmental aspects/activities reflected in the project	• Number of environment activities per area	Frequency/percentage
		• Adoption of environmentally sound technologies	• Area (ha); Number of participants; Reduced use of agro-chemicals in litres, or kilograms; reduced erosion (soil loss in kilograms per area)	
		• Changes in use of natural resources (water, forest, vegetation, land etc.)	• Rate of use; area	
		• Projects/participants involved in environmental planning	• Area (ha); number of farms/farmers	

		programmes		
12	Social-Economic	• Population below national poverty line • Daily per capita dietary energy supply • Prevalence of malnutrition • Contribution to GDP • Income earned by beneficiaries • Employment created • Women, youth and minority groups participating • Women, youth and minority groups reached by the project • Gender balance of project beneficiaries • Ethnic balance or minority language capability of beneficiaries • Food security	• % number • Calories per capita • % number • Value • Value; % growth per year • Number of jobs; % • Number, % of total • Number, % of total • % women • % minority or language capable • % number	Frequency/percentage
13	Organisational	• Annual changes in group membership • Projects completed per year • Funding received per year • Change in participants organisations (autonomy, leadership, funding and membership, participation, planning and activities) • Change in participants s/organisations/communities' ability to market products	• % change • Number • Amount • % change, number • % change from base, number	Frequency/percentage

14	Financial	• Efficiency fund administration unit • Co-financing of project activities by beneficiaries • Co-financing of project activities by other sources • Support cost per project/beneficiary • Efficiency of project activities (demonstrations, field days, training, etc.) • Average annual gross production value from project operations • Average annual gross production expenditure from project operations • Average annual profit from project operations	• Total project costs • Average no of weeks or months from call for proposals, signing contracts and release of funds. • Percent of total cost • Percent of total cost • Cost per unit • Number per agent; cost per activity • Amount • Amount	Frequency/percentage
15	Institutional support	• Agencies providing support services (private enterprises, NGOs, producer organisations, public agencies) • Quality/skills of service providers (natural resources management, enterprise development & marketing, organisational skills, participatory technology development, etc) • Service provider awareness of competitive fund for service provision and capacity to apply successfully • Beneficiaries evaluation of the service providers • Number of established linkages/ collaboration	• Number, % of total number of sub-projects • Number of certified service providers • Number of applications per call; number or % accepted • Ratings • Number	Frequency/percentage
16	Sustainability analyses	• The project ability to attract other sources of funding besides the DLA grant • The project ability to have received other forms of assistance besides funding • The project's financial sustainability after the DLA grant got exhausted? • Some best practices that can be highlighted in the project • Security concern of the project	• Yes/No • Yes/No • Yes/No • Yes/No • Yes/No	Frequency/percentage
17	Technology	• The project's ability to	• Yes/No	Frequen

	dissemination and adoption	introduce new technologies • The project participants adoption of new technologies(s) • Has the project's new technology resulted in change in income, welfare, costs, yield, and productivity?	• Yes/No • Yes/No	cy/percentage
18	IT capacity	• Availability of computers per project • Availability of computers with internet access • Quality/reliability of the computers/internet • Accessibility to computers & internet by beneficiaries	• Number • Number • Ratings • Ratings	Frequency/percentage
19	Communication capacity	• Availability of land line • Availability of cell phones • Project's accessibility of telephones • Reliability of telephone networks • Has the project established relevant linkages with other organisations?	• Yes/No • % of beneficiaries • % • Rating • Yes/No	Frequency/percentage
20	Transport capacity	• Transport availability (vehicles) within project (numbers) • Transport availability (bi-cycles) within project (numbers) • Transport accessibility • Quality of transport • Condition of road network in project area	• Number • Number • % • Rating • Rating	Frequency/percentage

Source: International Fund for Agricultural Development (2003).

3.2.8 Data analysis

Based on the above selected indicators, a cross section for 2008/2009 farming season and time series data (where available), was collected since the inception of the projects. The information on each project was captured as follows: a) the responses (to open ended questions) were coded and an evaluation key containing the code responses were developed; and b) the codes as well as the verbatim responses were then captured in an SPSS (Statistical Programme for Social Sciences) and Excel spread sheet to provide both the base for statistical analysis and qualitative descriptions. The assessment also utilized the "With" and "without" project scenario to analyse impact on the direct beneficiaries. It is assumed that all the indicator variables selected impacted on the beneficiaries since joining the respective projects. The relative frequencies of all the indicators for the

respective projects were compiled and ranked based on the overall evaluation/total frequencies as shown in Table 3.2.

Table 3.2 Relative frequencies of project indicators

Main indicator group	**Indicators**	**Project 1**	**Project 2**	**Project ……..**	**Total per indicator for all projects**
		% or frequency	**% or frequency**	**% or frequency**	
Project planning and regular assessment	Availability of business plan				
	Active participation of beneficiaries in developing business plan				
	Business plan evaluation process				
Total frequency					
Cont…… other indicators					
Grand Total Frequency	Total Frequency Obtained/Total Freq expected X 100				

Source: International Fund for Agricultural Development (2003).

3.2.8.1 The econometric models

Three alternative types of regression model specifications were used in this study to determine the effects of socio-economic factors on the performance or success of the LRAD projects in the study area. The three regression models employed included the Tobit limited/censored dependent variable model, the Ordinary Least Squares linear multiple regression model and the Binary Logistic Regression Model. The objective for using the three regression models was to make comparison between the results from the respective plausible models. Theoretically, the Tobit model was the most suitable since the dependent variable was censored at a threshold of zero (i.e. projects' performances of zero and below zero were all considered as zero). According to Gujarati (2003) the use of Ordinary Least Squares (OLS) regression to model a censored dependent variable results

in the estimated parameters being biased and inconsistent. Austin *et al.* (2000) states that in the presence of a ceiling effect, if the conditional distribution of the dependent variable had a uniform variance, then the coefficient estimates from the Tobit model has superior performance compared with estimates from the OLS model.

3.2.8.1.1 The Tobit regression model

The Tobit regression model was specifically used to analyse the effects of socio-economic factors on the level of performance of the projects using data for the 2008/2009 farming season. The use of probability models is conceptually preferable to conventional linear regression models in the analysis of successful levels and unsuccessful projects, because parameter estimates from the former overcome most weaknesses of linear probability models namely: providing estimates which are asymptotically consistent and efficient (McDonald & Moffit, 1980). The general model is a binary choice model involving estimation of the probability of the success or performance of a given set of indicators (Y_i) as a function of a vector of explanatory variables (X_i).

The Tobit regression model, a hybrid of the discrete and continuous models, was used to determine the impact of the explanatory variables on the probability of success of the projects. As with Logit and Probit models, the estimation of a Tobit model is greatly dependent on the underlying distribution of the error term in the latent variable model. Therefore, in the estimation of the Tobit model, it is assumed that the error term has a normal distribution. The model is expressed in equation 1 below following McDonald and Moffit (1980).

$$Y_i = \begin{cases} y_i^* = \beta X_i + u_i & \text{if } y_i^* > 0 \\ = 0, & \text{if } y_i^* \leq 0 \end{cases} \quad (1)$$

$$y_i^* = \beta X_i + u_i, \quad \sim N(0, \sigma^2) \quad (2)$$

Where: i = number of respondents or projects i.e. (1, 2....)

The observable variable Y_i is defined to be equal to the latent variable whenever the latent variable is above zero and zero otherwise.

Y_i^* = level of project performance defined as:

$$\frac{\text{Total frequency obtained by a project}}{\text{Total of indicators frequency expected}} \times 100 \quad (3)$$

$y_i^* > 0$ implies that y_i^* is observed

$y_i^* \leq 0$ implies that y_i^* is not observed (a or 0 = limit).

X_i is a vector of explanatory/independent variables

β is a vector of unknown coefficients and

u_i is an independently normally distributed error term.

It can be shown that

$$E[y/x] = \Phi(\alpha)a+(1- \Phi(\alpha)) (\mu+\sigma\lambda(\alpha)) \quad (4)$$

Where $\alpha = (a- \mu)/\sigma$, $\lambda(\alpha)=\phi(\alpha)/(1-\Phi(\alpha))$,

$\mu=\beta\underline{x}$ and ϕ and Φ are the standard normal density and distribution functions respectively. $\lambda(\alpha)$ is called the inverse Mills ratio. Therefore, the marginal effects are

$$\partial E[y^*/\underline{x}]/\partial\underline{x} = \underline{\beta}. \quad \text{and} \quad (5)$$

$$\partial E[y/\underline{x}]/\partial\underline{x} = \underline{\beta}\, \Phi((\beta\underline{x}-a)/\sigma). \quad (6)$$

It is worth mentioning that the marginal effect on $E[y^*/\underline{x}]$ is the usual formula for a linear model, but the marginal effect on the mean of the censored variable y is a positive multiple of $\underline{\beta}$. In deriving the log likelihood function for the censored regression model, it is assumed that the limit value a =O, (censored at 0).

$$\text{In } Y = -1/2\textstyle\sum_1 (\text{In } (2\Pi) + \text{In } (\sigma^2) + (y_i - \beta\underline{x}_i)^2/\sigma^2) + \textstyle\sum_0 \text{In } (1- \Phi (\beta\underline{x}_i/\sigma)) \quad (7)$$

Where the first sum $\sum_1$ is over the non-censored observations and the second sum $\sum_0$ is over the censored observations (Hallahan, 1991). The Limdep Version 4.1.0 Statistical Programme was used to analyse the limited dependent variable model in equation 7 and the parameter estimates for the effects of the socio-economic factors on the projects' performance were determined. The iterations were "Normally exited". The parameters estimated included the intercept, the estimates (coefficients), standard error, t-values and approximate pr>t. If the relationship parameter β is estimated by regressing the observed y_i on x_i, the resulting ordinary least square estimator is inconsistent.

Amemiya (1973) has proven that the likelihood estimator suggested by Tobin (1958) for this Tobit model is consistent. The independent variables or socio-economic factors of the projects considered in the model are defined in Table 3.3.

Table 3.3 Variable labels and their expected effects

ID	Independent variables	Variable label	Expected sign
1	NYR	No. of years of project operation	Positive
2	NBNOW	No. of project beneficiaries	Negative
3	EDLM	No. project beneficiaries with less than Matric education	Negative
4	EDM	No. project beneficiaries with Matric level of education	Positive
5	EDT	No. project beneficiaries with tertiary level of education	Positive
6	NBEBP	No. of beneficiaries employed outside project	Negative
7	AVBP	Availability of project business plan. **0** = Not available; **1** = Available	Positive
8	AVTR	Average number of trainings attended	Positive
9	NCONF	No. of conflicts per project	Negative
10	ADTECH	Adoption of new technologies by the projects 1=Adopted, 0=not adopted	Positive
11	TOTALJOB	Total jobs created per project	Positive
12	PROWC	Proportion of women with children per project	Positive
13	PROPY	Proportion of youth per project	Positive
14	HHFSD	Households of beneficiaries' food security. If % beneficiaries $\leq$ 50% classify the group on the project as, Not secured =0, otherwise Food secured=1.	Positive
15	PCFS	Project contribution to household food security of beneficiaries. **1** = Nil; **2** = 1-50%; **3** = >50%;	Positive
16	NFI	Average annual net farm income of the project. **1**=<R50000; **2** = R50000-R200000; **3** = >R200000;	Positive
17	SAVINGS	Does project has savings? **0**=Have no saving; **1** = Have savings	Positive
18	FRK	Does project keeps farm records? **0**=No record keeping; **1** = Keep farm records	Positive
19	LINKAGE	No. of established linkages per project	Positive
20	VISITSE	Number of extension visits per season. **1** = <3 visits; **2** = 3-7 visits; **3**= >7 visits;	Positive
21	Y	Level of performance of projects	

3.2.8.1.2 The Ordinary Least Squares (OLS) linear multiple regression model

The OLS regression model specification also investigated the socio-economic factors that influence the performance or success of the projects. By implication, only those projects

which have some levels of performance or success were included in this analysis. Using the proportion or level of performance for the respective projects as the dependent variable implies that the dependent variable is continuous. Therefore, Ordinary Least Squares linear multiple regression models can be used to model a continuous dependent variable. In this respect, the OLS estimates are: linear, unbiased, with minimum variance, consistent and normally distributed (Gujarati, 2003). The OLS model may be expressed as (Gujarati, 2003):

$$Y_i = a + \beta_i X_i + \varepsilon_i \quad (1)$$

Where Y_i is the level of performance of projects, β_i are parameters to be estimated, β_0 is a constant and X_i are the socio-economic factors which influence the performance of the projects as specified in Table 3.3. The Ordinary Least Squares principle states that the sum of the squares of the deviation for all values of population Y_i and sample $\hat{Y}_i$, is to be a minimum. i.e.

$$\Sigma^{n}_{i=1}(Y_i - \hat{Y}_i)^2 \quad (2)$$

Where n is the number of data points composing the sample.
If Y is considered to be dependent upon more than one variable, then,

$$Y_j = \alpha + \beta_1 X_{1j} + \beta_2 X_{2j} + \beta_3 X_{3j} + \cdots + \beta_m X_{mj} + \epsilon_j.$$

or, more succinctly,

$$Y_j = \alpha + \sum_{i=1}^{m} \beta_j X_{ij} + \epsilon_j.$$

The sample regression equation, containing the statistics used to estimate the population parameters when there are *m* independent variables, would be

$$\hat{Y}_j = a + b_1X_{1j} + b_2X_{2j} + b_3X_{3j} + \cdots + b_mX_{mj},$$

$$\hat{Y}_j = a + \sum_{i=1}^{m} b_iX_{ij}.$$

From equation (6), b can be determined as:

$$b = \frac{\sum xy}{\sum x^2} = \frac{\sum (X_i - \overline{X})(Y_i - \overline{Y})}{\sum (X_i - \overline{X})^2} = \frac{\sum X_iY_i - \frac{(\sum X_i)(\sum Y_i)}{n}}{\sum X_i^2 - \frac{(\sum X_i)^2}{n}}$$

Then,

$$\overline{Y} = \alpha + \beta\overline{X}$$

and

$$\alpha = \overline{Y} - \beta\overline{X}.$$

The best estimate of the population parameter α is the sample statistic

$$a = \overline{Y} - b\overline{X}.$$

The assumptions of linearity, normality, homoscedasticity and independent of error were considered, to ensure validity of the model. Autocorrelation and multicollinearity were checked by the Durbin-Watson statistic and the VIF values respectively. The Statistical Package for Social Sciences (SPSS) version 18.0 was used to analyse the OLS model and the parameter estimates provided include: Regression coefficient β, constant, standard error, R^2, adjusted R^2, VIF, Residual analysis, Durbin-Watson, t-values, and the F-test.

3.2.8.1.3 The Binary Logistic Regression Model (BLRM)

The Binary Logistic Regression Model (BLRM) was the third model used to determine the effects of socio-economics factors of project beneficiaries on the performances (success) of the projects. Binomial or Binary Logistic regression is a form of regression which is used when the dependent variable is dichotomy and the independent are of any type. The impact of predictor variables is usually explained in terms of odd ratios. Logistic regression applies maximum likelihood estimation after transforming the

dependent into a logit variable (the natural logs of the odds of the dependent occurring or not). Thus the logistic regression calculates the changes in the log odds of the dependent variable. Logistic regression has many analogies to OLS regression: logit coefficients correspond to b coefficients in the logistic regression equation, the standardized logit coefficients correspond to beta weights, and a Pseudo R^2statistic is available to summarize the strength of the relationship. Unlike OLS regression, however, logistic regression does not assume linearity of relationship between the independent and dependent variables, does not require normally distributed variables, does not assume homoscedasticity and in general has less stringent requirements. It does, however, require that observations be independent and that the independent variables be linearly related to the logit of the dependent (Hosmer & Lemeshow, 1989).

The method has been used by researchers to analyse similar studies on livestock farmers' choices in decision making on the impacts of climate change (Seo *et. al.*, 2005). The main advantage of the BLRM over other models of discrete and limited dependent variables is that it allows the analysis of decisions across two categories, allowing the determination of choice probabilities from different categories. In addition, its likelihood function, which is globally concave, makes it easy to compute. However, the main limitation is the independence of irrelevant alternative properties, which states that the ratio of the probabilities of choosing any two alternatives is independent of the attributes of any other alternatives in the available choice selections (Deressa *et. al.*, 2009).

In BLRM, a single outcome variable Y_i *(i=1, ...,n)* follows a Bernoulli probability function that takes on the value 1 with probability P_i and 0 with probability 1-P_i. P_i/1-P_i and is referred to as the *odds* of an event occurring. P_i varies over the observations as an inverse logistic function of a vector X_i, which includes a constant and K explanatory variables (Greene, 2003). The Bernoulli probability function can be expressed as:

$$Y_i \Theta Bernoulli(Y_i / P_i) \qquad (1)$$

or

$$In\left[\frac{P_i(Y_i=1)}{1-P_i(Y_i=1)}\right] = In\ (Odds) = \alpha_0 + \sum_{k=1}^{k} \beta_k X_{ik} \qquad (2)$$

In the study, Y_i represent the levels of performance of the projects. Those projects whose performances are above the sample's average performance were classified with a value of 1 (successful), while those projects with performances lower than the sample's average were classified with the value of 0 (unsuccessful). The socio-economic factors considered in the analysis are presented in Table 3.3. Equation (2) above is referred to as the log odds and also the Logit and by taking the antilog of both sides, the model can also be expressed in odds rather than log odds, i.e.

$$Odds = \left[\frac{P_i(Y_i = 1)}{1 - P_i(Y_i = 1)}\right] = exp\left[\alpha_0 + \sum_{k=1}^{k} \beta_k X_{ik}\right] \quad (3)$$

or

$$= e^{\alpha + \sum_{k=1}^{k} \beta_k X_{ik}} = e^{\alpha_0} * \prod_{k=1}^{k} e^{\beta_k X_k} = e^{\alpha_0} * \prod_{k=1}^{k} \left(e^{\beta_k}\right)^{X_k} \quad (4)$$

There are several alternatives to the BLRM that might be just as plausible in a particular case. However, as stated above, the BLRM is comparatively easy from a computational point of view. There are many tools available which can be used to estimate logistic regression models but in practice the BLRM tends to work fairly well. If either of the odds or the log odds is known it is easy to figure out the corresponding probability which can be written as:

$$P = \left[\frac{odds}{1 + odds}\right] = \left[\frac{\exp(\alpha_0 + \beta' X)}{1 + \exp(\alpha_0 + \beta' X)}\right] \quad (5)$$

The unknown α_0 is a scalar constant term and β' is a K x 1 vector with elements corresponding to the explanatory variables. In this study, the parameters of the model were estimated by maximum likelihood. That is, the coefficients that make the observed results most likely were selected. The likelihood function formed by assuming independence over the observations can be written as:

$$L(\alpha, \beta) = \prod_{i=1}^{n} P_{x_i}^{Y_i} (1 - P_{x_i})^{1 - Y_i} \quad (6)$$

To random sample (x_i, y_i), $i=1,2,...,n$, by taking logs and using equation (2), the log-likelihood simplified to:

$$In[L(\alpha_0, \beta)] = \sum_{i=1}^{n} \{y(\alpha + \beta x) - In(1 + \exp(\alpha + \beta x)\} \quad (7)$$

The estimator of unknown parameter α and β can be gained from the following equations by means of maximum- likelihood estimation.

$$\frac{\delta In[L(\alpha_0,\beta)]}{\delta\alpha_0} = \sum_{i=1}^{n}\left| y_i - \frac{\exp(\alpha+\beta x)}{1+\exp(\alpha+\beta x)} = 0 \right. \quad (8)$$

$$\frac{\delta In[L(\alpha_0,\beta)]}{\delta\beta_0} = \sum_{i=1}^{n}\left| y_i - \frac{\exp(\alpha+\beta x)}{1+\exp(\alpha+\beta x)} = 0 \right. \quad (9)$$

Since equations (8) and (9) are non-linear, the maximum likelihood estimators must be obtained by an iterative process, such as the Newto-Raphson or Davidson-Flecher-Powell or Berndt-Hall-Hall-hausman algorithm (Greene, 2003). A statistical model based on likelihood ratio (LR) was deemed appropriate. This ratio was defined as follows:

$$LR = 2(LogL_R - LogL_U)$$

Where $LogL_u$ was defined as the log-likelihood for the unrestricted model and $LogL_r$ was the log-likelihood for the model with k parametric restrictions imposed. The likelihood ratio statistic follows a chi-square (χ^2) distribution with k degrees of freedom. The Statistical Package for Social Sciences (SPSS) was used to analyse the Binary Logistic Regression regarding the effects of the socio-economic factors on the projects' success or otherwise.

The predictive success of the logistic regression can be assessed by looking at the classification table, showing correct and incorrect classification of the dichotomous, ordinal, or polytomous dependent. Goodness-of-Fit test, such as the likelihood ratio test are available as indicators of model appropriateness, as is the Wald statistic to test the significance of individual independent variables. The recommended test for overall fit of a logistic regression model is the Hosmer and Lemeshow test, also called the Chi-Square test which is considered more robust than the traditional chi-square test particularly if continues covariates are in the model or sample size is small. A finding of non-significance corresponds to conclusion that the model adequately fits the data (Hosmer & Lemeshow, 1989). The dependent variable of this study was transformed from

continuous to dichotomous by classifying projects with performances above the sample mean as successful (Y=1) and those below the mean as unsuccessful (Y=0). The independent variables were the socio-economic factors presented in Table 3.3.

3.2.9 Credibility of findings

The researcher ensured that the findings were based on a rigorous data collection and analysis. Without this, it is difficult to attain a convincing evaluation regarding the validity of the conclusions reached and the lessons learned, especially since the evaluation is critical of project outcomes or impacts, or the way implementation has been undertaken. The need to obtain credible and well supported findings was a major consideration in planning the overall evaluation study in terms of both selecting the topics/indicators to be examined and deciding on the most appropriate method of investigating them. The process of identifying methods was balanced with time and resource considerations.

3.2.10 Ethical procedures of data collection

Standardisation and uniformity was adopted for the study procedure for all the respondents. Permission to enter to the LRAD projects was obtained from the project coordinator at the Provincial Land Affairs and Rural Development Department. He was consulted and informed about the objectives of the research project as his consent was very important. Permission was also received from the leaderships of the sampled projects to indicate their willingness to participate in the survey. Respondents were assured that the information obtained would be treated as very confidential, that the results would be used for research purposes and may be used to develop policy guidelines that may be used in LRAD programme. The respondents were also treated with respect, dignity, and information was treated with the utmost confidentiality. The objective of the research was explained to the respondents who were told how the findings of the research will benefit them. Participation in the research was voluntary for respondents and interview focused only on issues related to the project, no personal issues were entertained.

3.2.11 Chapter summary

The chapter provided a detailed research methodology for the study. The study area was clearly defined as the Ngaka Modiri-Molema (Central) District Municipality is the second largest of the four districts in both population and size. The Ngaka Modiri-Molema (Central) district comprises five local municipalities namely; Ratlou, Tswaing, Mafikeng, Ditsobotla (Lichtenburg) and Ramotshere (Zeerust). The climate of the Province is characterised by well-defined seasons with hot summers and cool and sunny winters. Agriculture is the second most important sector of the provincial economy, contributing 13% of the GDP and 18% of employment respectively. Crops such as maize, sunflowers and peanuts are extensively grown on the fertile plains of the central region. Cattle and game farming are prevalent in the western region of the Province. A desktop analysis was undertaken for a critical review of existing project documents and reports across DLA and DoA LRAD sub-programmes. Under the ownerships of LRAD beneficiaries, the majority of the projects sampled for the study undertake combinations of livestock, grains and vegetable production.

Based on the number of LRAD projects in the Ngaka Modiri Molema district, random sampling was performed and 65% of all the active projects under LRAD sub-programme which is the focus of this study were selected. In order to assess the performance of the projects, indicators were developed taken into account their relevance to the objectives of the study; understandable to everyone interested in the project; measurability; and the ability to provide reliable information. The design and contents of the questionnaire for the data collection was informed by the selected indicator variables. The primary data for the study was collected using a structured questionnaire from forty-seven projects representing 65% of all the active projects under LRAD sub-programme in the study area. All direct project beneficiaries (244 direct project beneficiairies) within the selected projects were interviewed. The approach to data collection integrated survey and participatory methods. The variables considered in the questionnaire include: demographics of the project direct beneficiaries, with and without project impact on beneficiaries and community, constraints facing the projects, project planning and regular assessment, training of beneficiaries and project leaders, conflict management, project

socio-economic impact, financial and institutional support, project infrastructure, communication capacity and sustainability of projects. The others cover how well project implementers and its partners identified, prepared and supervised the project and the contribution each made to project success during implementation, the environment; communication and networking, skills development and capacity building; beneficiaries' participation; security of projects; best practices, and SWOT analyses.

Three alternative types of regression model specifications were used in this study to determine the effects of socio-economic factors on the performance or success of the LRAD projects in the study area. The three regression models employed included the Tobit limited/censored dependent variable model, the Binary logistic Regression Model and the Ordinary Least Squares linear multiple regression model. The objective for using the three regression models was to make comparison between the results from the respective plausible models and to ensure that the findings were based on a rigorous data collection and analysis. The Limdep Version 4.1.0 Statistical Programme was used to analyse the limited dependent variable model (Tobit model) and the estimates of the effects of the socio-economic factors on the projects' performance were determined. The Statistical Package for Social Sciences (SPSS) was used to analyse the descriptive statistics, the Binary Logistic Regression and the Ordinary Least Squares Linear Multiple Regression regarding the effects of the socio-economic factors on the projects' performance.

CHAPTER 4

4.0 RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results and discussion of the study. The chapter is divided into two sections. The first section focuses on the results and discussion of descriptive statistics while the second section presents the results and discussion of the functional (inferential) analysis. The descriptive statistics presented included: demographics of project beneficiaries; the relevance and efficiency of the projects; impact of projects on infrastructure development, skills training and technology, employment, household food security, income generation, communication, networking and linkages; best practices among the projects; leadership issues in the projects; participation and level of democratization within the projects; sustainability of the projects; SWOT Analysis of the projects; constraints facing the projects; and the LRAD projects beneficiaries' views of LRAD stakeholders. The results of the functional analyses consisted of the Tobit, the Binary Logistic and OLS regression model outputs which are subsequently compared. In all the discussions, the results are linked to the existing literature where necessary.

4.2 Results and discussion of descriptive statistics

4.2.1 Land sizes on the LRAD projects

The range of sizes of land available to the projects is presented in Table 4.1. The sizes of the land at the disposal of the beneficiaries range between 5 and 1600 hectares. The sizes of land of the majority (66%) of the projects lie between 1 and 300 hectares.

Table 4.1 Range of sizes of land available to the projects

Range	Frequency	Percentage
1 – 300 hectares	31	66
301 – 600 hectares	11	23
601 – 900 hectares	4	09
> 900 hectares	1	02
Total	47	100

4.2.2 Demographics of project beneficiaries

a) Number of project beneficiaries and years of operation of the projects

The demographics of the project beneficiaries are presented in Figure 4.1. The study established that the majority (53%) of the projects have been in operation for 6 to 10 years. The number of beneficiaries on all the 47 projects involved with the study was

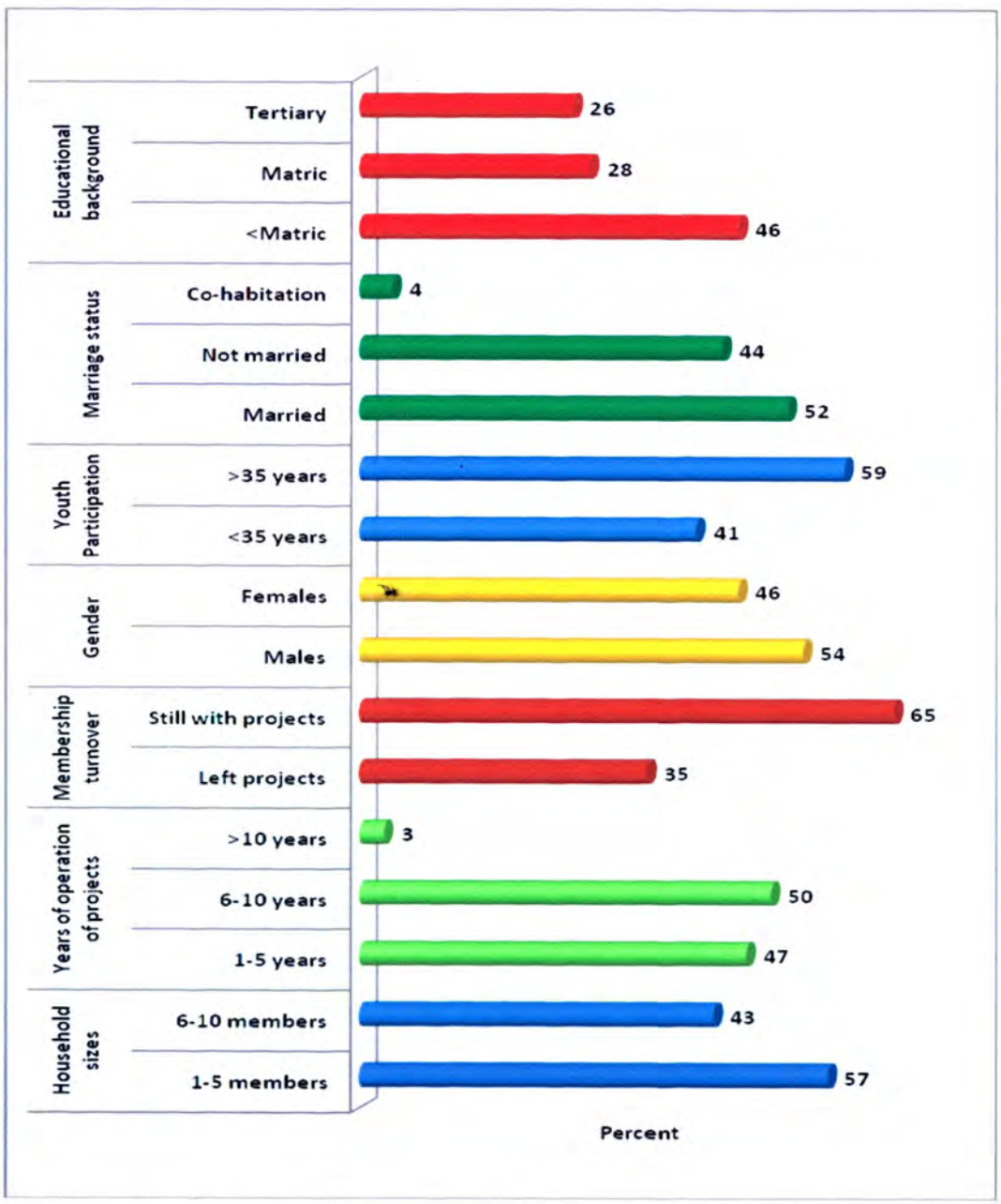

Figure 4.1 Demographics of the respondents of the study

244. This implies that one of LRAD's objectives of redistributing agricultural land to the previously disadvantaged South Africans is being achieved (Department of Agriculture and Land Affairs, 2001). The average numbers of direct beneficiaries per project in the study sample was five with a range of 1 to 11. However, there was an exceptional situation like Bodibe Trust; its membership exceeds 600 people and was treated as outlier. The results of the analysis (Figure 4.1) show that about 35% of the beneficiaries who started on the various projects have left the projects due to the very poor net cash-flows on the projects. About 65% of the initial beneficiaries are still with the projects.

b) Gender analysis

The majority (54%) of the beneficiaries of the projects included in the study were men, 46% were women while 41% were youth (Figure 4.1). It is a common observation that most of the farmers in South Africa are over fifty years of age. The study established that women/youth/minority groups in the projects are less than 50%. Even though the combined participation of this group is less than 50%, it is an improvement compared to the previous system thus, fulfilling the objective of LRAD in encouraging strong participation of women in land ownership and development in South Africa (Department of Agriculture and Land Affairs, 2001). However, one project out of the 47 projects had no woman among its membership. The study found that the most active and committed members of the projects were mostly women.

Gender equity, children and youth in rural areas are among the critical targets of the Land Reform Programme. Deere and León (2001), argue that it does not matter whether women or men enjoy enhanced land access. They explain that, increasing women's claims to land, whether as joint or individual owners, can be expected to have positive income and welfare effects both for women and for their children. Deere and León (2001) indicated further on intra-household expenditure, that, mothers dedicate greater proportions of their incomes to household public goods, including food, child health and educational expenses. This is because these groups constitute the most vulnerable with respect to poverty. Women empowerment is one of the effective ways of ensuring food security among rural households which are mostly female headed. It was found that the

majority of the project beneficiaries (52%) were married while 44% were not married with 4% as co-habitation (Figure 4.1).

c) *Educational background, household sizes and ethnic groups of the project beneficiaries.*

The educational background in Figure 4.1 shows that the majority (46%) of the beneficiaries had attained education level of less than matric and 28% had attained matric while about 26% of the beneficiaries have attained tertiary level education. The study established that the majority (57%) of the beneficiaries' households had a size of 1-5 members while 43% had sizes of 6 to 10 people. This underscores the importance of the income earned from the project by the beneficiaries in supporting the dependents. The support was in the form of provision of food, shelter, clothing, education and health. The ethnic composition of the members of the projects was predominantly black and the dominant language is Setswana.

4.2.3 Impact of projects on infrastructure development

The various aspects of infrastructure on the projects are presented in Figure 4.2. One of the ways in which LRAD projects have contributed to development of many land reform beneficiaries of the study area is through the establishment of infrastructure which has improved the quality of lives of some of the beneficiaries and communities. The study established that 51% of the LRAD projects in the study area had over 50% of the required established infrastructures for their operations. About 49% of the projects at the time of the study had less than 50% of their operational infrastructural needs (Figure 4.2). The types of infrastructure established included among others: irrigation systems, electricity, farm houses, fencing, offices, chicken houses, farm machinery, and vehicles. The study found that about 94% of the infrastructure was fully owned by the beneficiaries while 6% were either rented or partially owned. From Figure 4.2, only 15% of the projects rated the quality of their infrastructure as excellent; 49% rated the quality of their infrastructure as good e.g. Malwane co-operation and Uitgefonde farm have very good fencing, excellent boreholes and good farm houses. About 36% of the projects classified their infrastructure

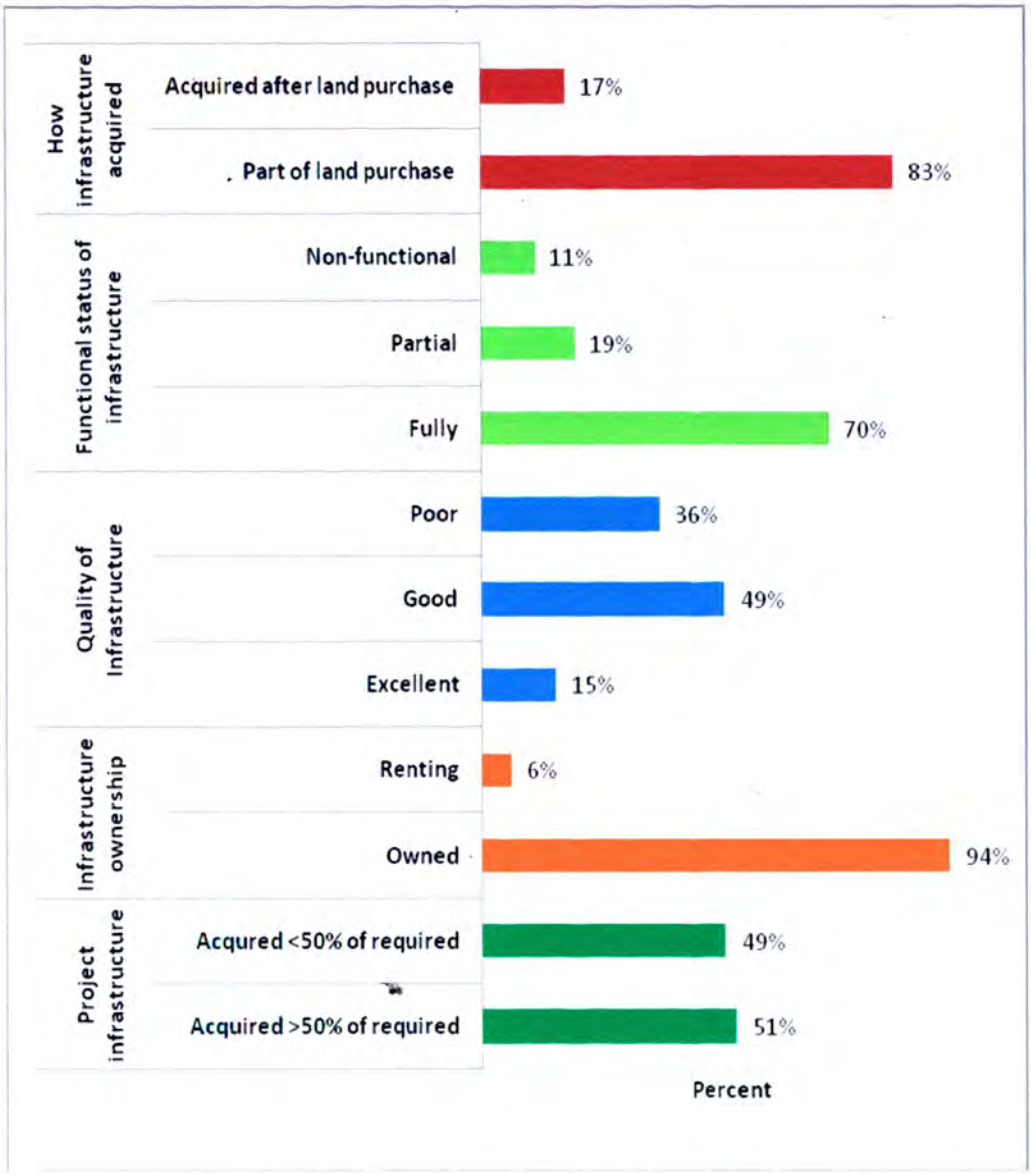

Figure 4.2 Aspects of infrastructure on the projects

as poor e.g. Thusano Trust has dilapidated farm houses, broken fences, disconnected electricity and broken boreholes. All the infrastructure of Kopanelo farming co-operation were unemployed. This could be attributed to poor infrastructural support system for the projects. The situation is similar to that in the Thai as expressed by SEAMEO (2000) that, after two decades, the land reform programme in Thailand has yet to reach the point where it can make a substantial contribution to the growth and development of the people and the economy as a whole. Providing land to the landless does not automatically ensure that success is forthcoming.

Land reform beneficiaries need economically efficient production mix with accessible supporting services (SEAMEO, 2000). About 70% of the existing infrastructure on all infrastructure on the projects was functioning, while 19% of them were partially functioning, with 11% classified as non-functional (Figure 4.2). The study also established that 83% of the infrastructure on all the projects in the study area was acquired as part of the purchased land while 17% was acquired after the land purchase by the beneficiaries themselves. Deininger *et al.* (2009) stated that in the Philippines, land reform beneficiaries have invested more than non-beneficiaries and increased their levels of assets at about three times the rate of non-beneficiaries. Deininger *et al.* (2008) using state-level variation in reform implementation, also find that the land reforms had a significant and positive impact on income growth and accumulation of human and physical capital in the reform households. In all, there is evidence of a significant impact of reform in West Bengal on farm productivity and poverty levels. Reforms transfer wealth, and therefore, producers who had earlier been prevented from making investments, in physical and human capital, due to credit constraints, increased the level of land-related investment as well as an impact on investment in physical or human capital (Gersbach & Siemers, 2005).

Figure 4.3 presents the aspects of transportation impact on the projects. With respect to transport within the projects, 21% did not have any vehicles of their own for use on the projects. The members had to rely on hired vehicles or use public transport to implement project activities. In 79% of the cases, the projects have their own means of transport which are usually bakkies and trucks in few cases. Out of this, 65% of the projects possess one or two means of transport while about 35% have more than two vehicles providing transport services. It was also established that, transport was quite accessible and available to the members. Figure 4.3 shows that about 45% of the projects with means of transport rated accessibility of the transport by the beneficiaries as excellent while 32 and 23% of the projects rated transport accessibility as good and poor respectively. Although it was not clearly evident that the lack of own vehicles were negatively affecting project implementation, it was generally clear that the owning of vehicles had helped those projects to advance quite smoothly. The study did not detect

any sign or level of vehicle misuse. The conditions of road networks in the areas where most of the projects (64%) are located were generally considered to be in a bad state as shown in Figure 4.3, although there were some projects (36%) with roads considered to be in a good state.

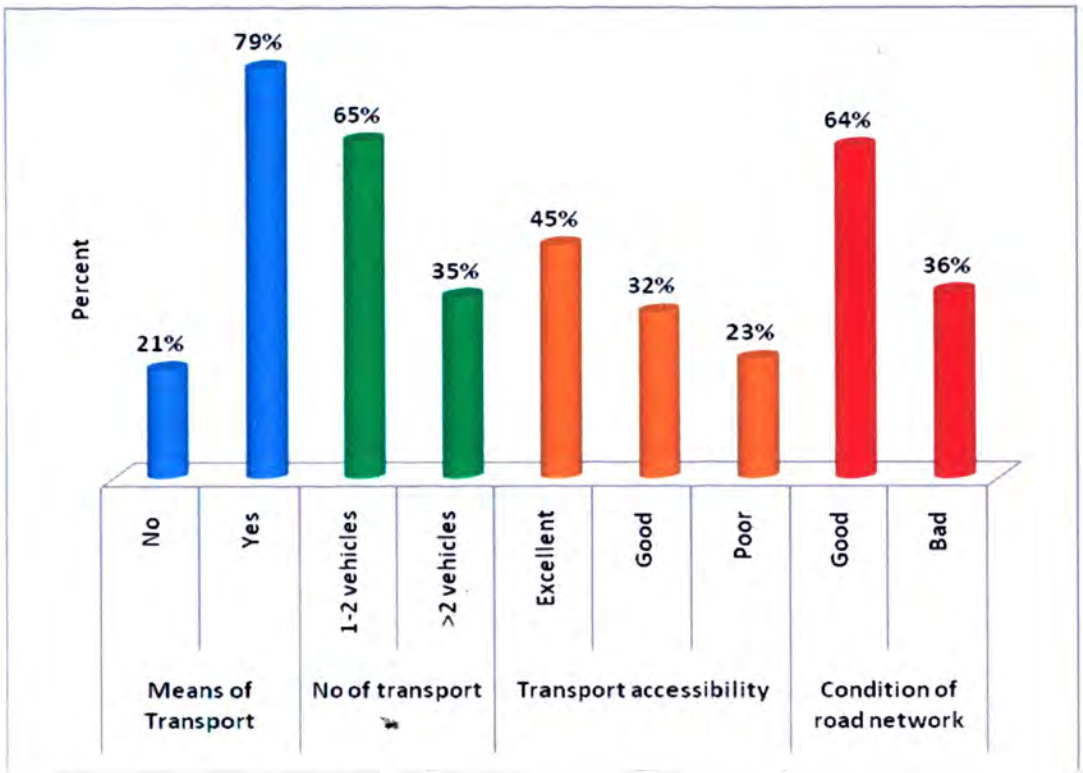

Figure 4.3 Aspects of transportation on the projects

4.2.4 Impact of the projects on skills training and technology

Another way that the LRAD programme has impacted positively on the beneficiaries is skills empowerment. Figure 4.4 shows the aspects of skills training and technology adoption on the projects. The study established that prior to joining the LRAD projects, most of the beneficiaries did not have good farming skills. Most of the LRAD projects involve and require diverse levels of skills and capacity. One of the major contributions that each of the projects has made to the direct beneficiaries are to expose them to different training and skills development.

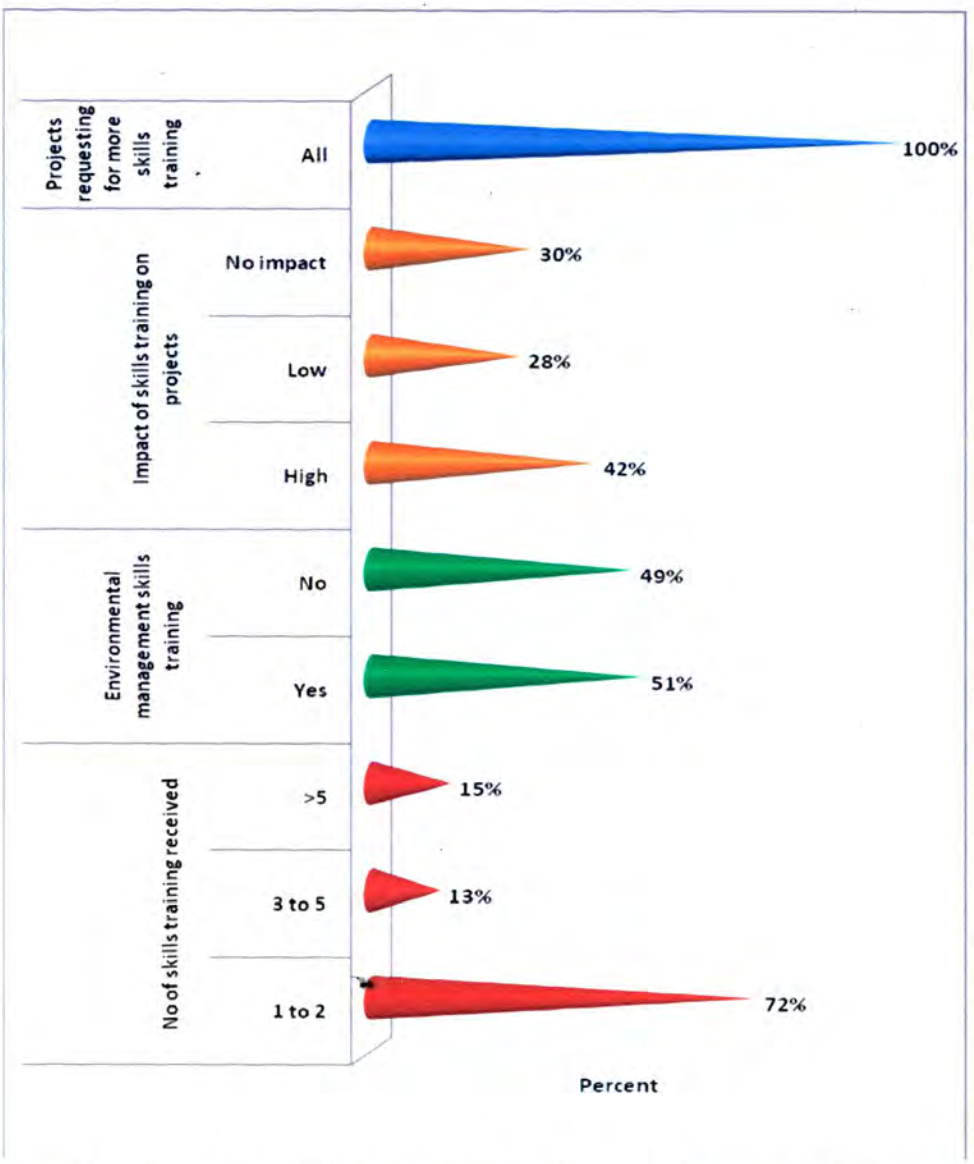

Figure 4.4 Aspects of skills training and technology adoption on the projects

The results show that the projects have given training to the direct beneficiaries. These capacity building initiatives have imparted some of the much needed knowledge, skills, as well as confidence of the participants. Hussein *et al.* (1994) found that more extension contact through training and visiting programme in Pakistan increased a farmer's technical knowledge and induced earlier adoption of technology. It is expected that smallholder growers would benefit from more training. Figure 4.4 indicates that 72% of the LRAD projects in the study area received 1 or 2 skills training; 13% received 3 to 5 skills training with 15% receiving more than 5 skills training since their establishments.

Most of the training was primary production oriented such as livestock, crop production and general farm management; e.g. Molamu and sons project participants received farm management training organised by the First National Bank (FNB). Some of the projects such as Batlhakwana project had as many as six skills training for the beneficiaries. However, some of the projects like Borabalo and Botlokwa farms never had any skills training. Most of the skills training were organised by the North-West Department of Agriculture, North-West farmers' co-operatives (GWK) and others such as the FNB. However, some of the projects engaged in a number of farm environmental management skills training.

Farm environmental management skills are very pivotal for the sustainability of most livestock and crop production projects. It was found that many of the project participants were aware of the environment and the need to conserve it. The results show that about 51% of the projects have had environmental management training while 49% of the projects never had any environmental training. These technologies included: use of organic manure as fertilizer, use of newly released high yielding cultivars and rotation grazing. The result is contrary to that found by IRIN (2005). IRIN (2005) on post-transfer support states that, Namibia's land reform programme is flawed because poor and landless people are not being empowered to become successful farmers once they have been resettled.

Most of the resettled persons had little or no knowledge of rotational grazing, livestock breeding systems or financial planning and management skills. They simply continued subsistence farming on the piece of land they had been allocated. The adoption of these improved and environmentally friendly technologies of the LRAD projects are expected not only to improve changes in the use of natural resources of the projects but also to higher productivity and income by the projects. However, the results show that only 15% of the participants indicated that the new technologies resulted in improved productivity and income. Their inability to achieve very high level of improved productivity and income may be as result of the lack of funds for resources acquisition for optimum implementation of the adopted technologies.

From the results in Figure 4.4, 42% of the project participants expressed the view that the impact of skills received from training on the projects performance is high. However, 28% of the participants rated the impact of the skills received from training on the projects as low, while 30% of them did not recognise any impact from skills on the projects performance. All the projects participants (100%) indicated that they will require training in some relevant skills in future in order to improve their performance. Among the areas which the beneficiaries are interested to be trained are game and wild life management, vegetable production, livestock breeding, soil and irrigation management, poultry production, vaccination programmes, repair of farm machinery, farm management and book keeping.

4.2.5 Leadership issues in the LRAD projects in the study area

Leadership is one of the critical factors that affect the success or failure of community projects. The building of leadership capacity among projects is therefore very important. It is clear from Figure 4.5 that the majority (94%) of the leaders among the LRAD projects in the study area has attended between 1 and 5 capacity building courses during the period of their involvement with the projects. About 64% of the leaders rated their level of satisfaction of the training attended to be below 40%, while 8% rated their satisfaction as between 40 and 70% with 28% of them rating their level of satisfaction over 70%. This is a clear indication that the majority of the leaders of the projects were not satisfied with the training. Subsequently, the majority, (62%) of the project leaders described the training given as not useful. Only 38% of the leaders rated the usefulness of the training attended as highly useful. Figure 4.5 indicates that the majority, (62%) of all project beneficiaries in the study area perceive their leaders as not quite good. About 18 and 20% of them perceive their leadership as excellent and good respectively. The general indifference perception about leadership displayed by the beneficiaries show that the managements of the projects are quite ineffective.

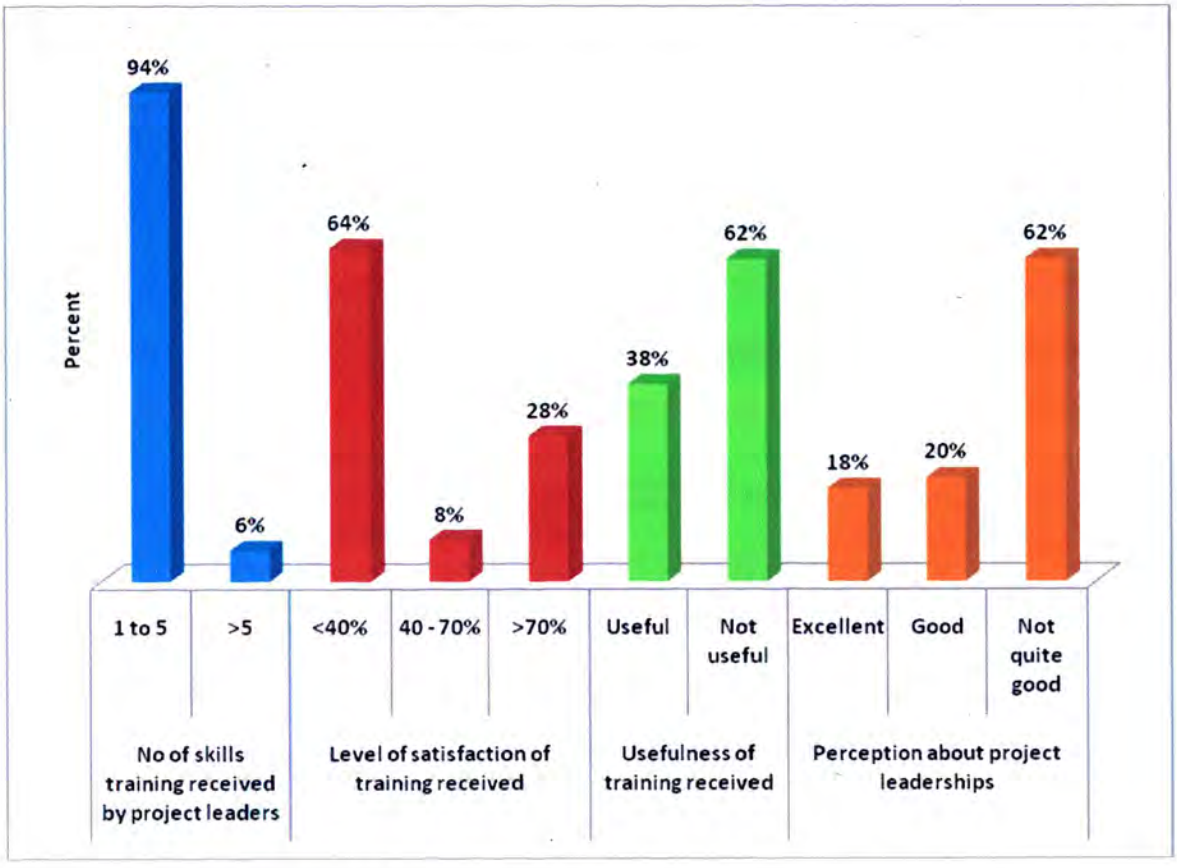

Figure 4.5 Leadership skills training on the projects

4.2.6 Beneficiaries' participation and level of democratization within the LRAD projects

The participation of the beneficiaries in the LRAD programme has also impacted on them various aspects of group dynamics. Project beneficiaries' participation in decision making, their motivation and participation in project planning and implementation is very crucial for projects' success as well as in other social developments. The participation of project beneficiaries during the development of business plans is important as it motivates participation during project implementation and evaluation leading to creation of ownership by participants. Participation of beneficiaries in decision making on projects is also regarded as one of the main pillars in projects' conflict care management. Figure 4.6 shows the beneficiaries participation and levels of motivation. The study established that the majority of the LRAD projects in the study area had business plans for their projects. This is considered a best practice on the part of the programme implementers.

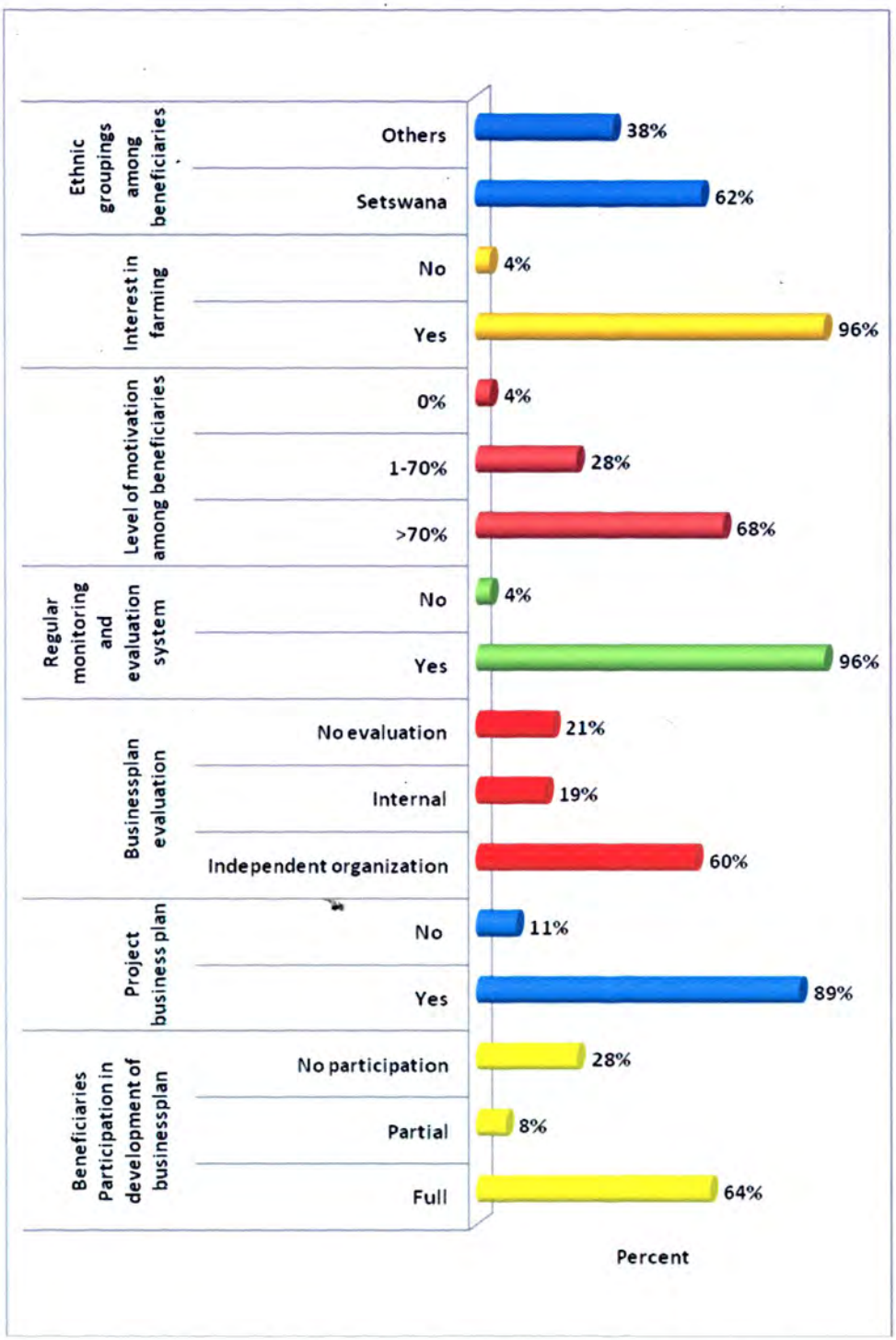

Figure 4.6 Beneficiaries participation and levels of motivation

The study found that about 89% of the projects had business plans. About 11% of the projects did not have business plans. The proportion of beneficiaries' participation in the development of business plans of the projects is presented in Figure 4.6. About 72% of

the beneficiaries indicated that they participated either partially (8%) or fully (64%) in the development of the projects' business plans. These beneficiaries indicated that they had knowledge of the existence and the use of business plans in the projects.

This participation exposed the beneficiaries to the skills and knowledge of developing project business plans and gave them a sense of commitment to the projects. The other projects (28%) which did not involve the beneficiaries in the development of the business plans explained that their business plans were drawn exclusively by consultants with some inputs from their leaders. The study also found that about 60% of the business plans were evaluated by independent organisations while 19% were internally evaluated. However, about 21% of the business plans were never evaluated. Over 96% of the projects indicated that they either partially or fully established a regular monitoring and evaluation system by themselves (26%) and the Department of Agriculture and the Department of Rural Development and Land Affairs (70%).

Figure 4.6 shows the level of motivation expressed by the beneficiaries within the projects. The results indicate that 68% of the beneficiaries rated the level of motivation in the projects as above 70% while 28% of them rated their levels of motivation as between 40 and 70%. The beneficiaries explained that even though they were facing several constraints, especially financial, they remained motivated for the fact that they now have access to quite sizeable agricultural land. Only 4% of the beneficiaries indicated that they were not motivated. The result is not consistent with the situation on some land reform projects in Zimbabwe. Sachikonye (2003), indicated that at the Musasa resettlement scheme close to Harare, settled in 1986, for example, several household heads told Human Rights Watch that they were only able to plough a small proportion of the twelve acres allocated to them, for lack of resources. "People were very happy back in 1986, but now they have mixed feelings. The problem is one of inputs".

Furthermore, the results of the analysis show that over 96% of the project beneficiaries stated that they were interested in farming. The reasons given regarding their high interest in farming was most often based on political history rather than expectation of financial

and better standard of living. Only 4% of the beneficiaries stated that they were not interested in farming. One of the projects in the Iputheng area is among the few that indicated they were not quite interested in farming. They indicated that if they could secure better jobs, they would prefer to work rather than farming.

Women participation in the projects is very important in that women play a very important role in ensuring household food security. Levels of youth participation in the projects are very essential for many reasons including succession of the old participants as well as their possible assistance in the drudgery activities. Figure 4.6 shows that, representation of women in the execution of the projects is 46% and 41% as youth. As explained in the demographics of the respondents, Deere and León (2001) argue that, it does not matter whether women or men enjoy enhanced land access. They explain that, increasing women's claim to land, whether as joint or individual owners, can be expected to have positive income and welfare effects both for women and for their children. About 62% of the projects have only Setswana speaking beneficiaries with 38% of the projects having beneficiaries with mixed African backgrounds (i.e. Xhosas, Zulus, Sotho and Coloureds). Even though Women/youth/minority groups in the projects as well as reached by the projects are less than 50%, the sub-programme's objective of expanding the opportunities of promising young people who stay in the rural areas can be said to be on course.

Figure 4.7 presents the average numbers of conflicts occurring within the LRAD projects in the study area. About 13% of the projects had experienced one to five major conflicts since their existence. About 17% of the projects have experienced more than five major conflicts. The beneficiaries of Relebone Willow Park project indicated that they have experienced over six major conflicts since its establishment. Contrary to expectation, about 70% of the projects had experienced no major conflict since their establishment. Iputheng Youth Co-operation and Thakadu farms indicated that they have not experienced any major conflicts since their establishment. The study established that 45% of the projects had conflict management plans with established committees (Figure 4.7) while the majority (55%) of the projects does not have conflict management plans.

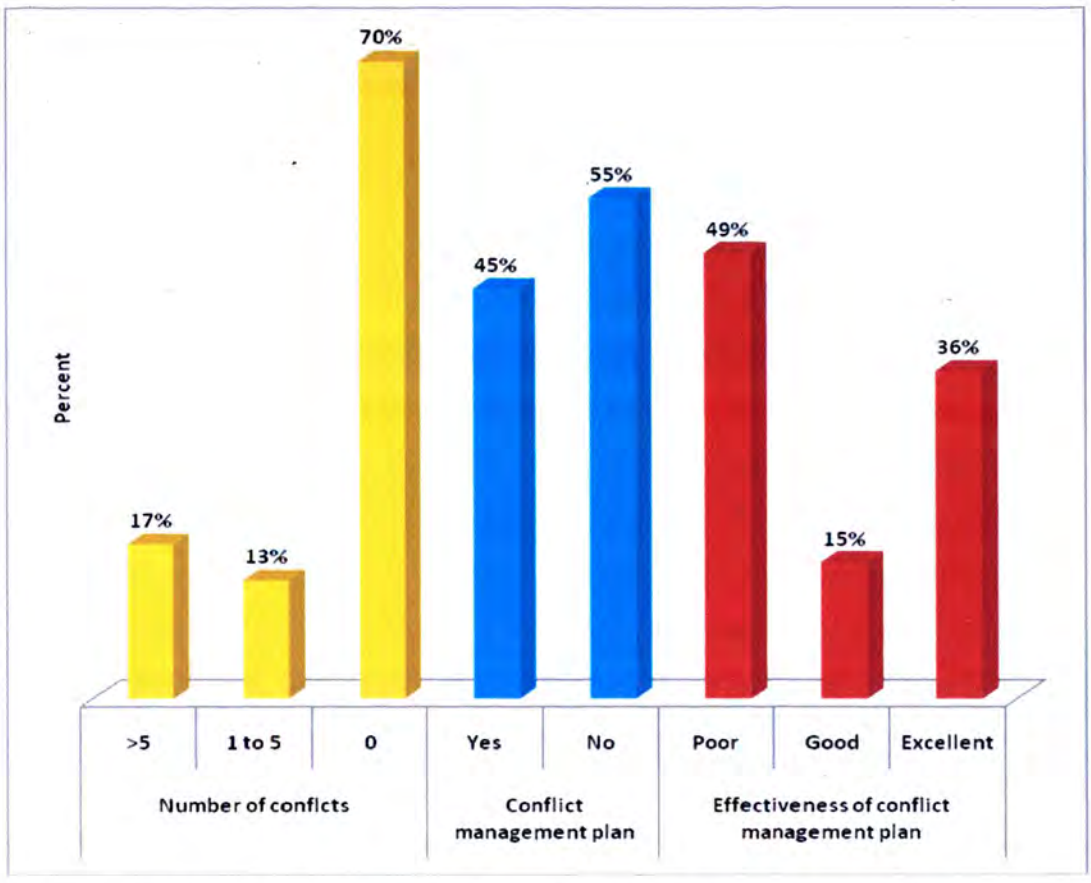

Figure 4.7 Incidence and management of conflicts on the projects

Figure 4.7 shows beneficiaries assessment of the effectiveness of the conflict management plans within the projects. About 49% of the projects which have conflict management plans in place assessed the effectiveness of the conflict management structures as poor while 15% of those projects rated effectiveness of their conflict plans good. Only 36% of those projects assessed the effectiveness of their conflict management plans as excellent.

Some of the projects without conflict management plans indicated that beneficiaries solve their own conflicts without the plan. In every human endeavour conflict is bound to occur. It is therefore important to encourage the projects without conflict management plans to develop and implement a workable conflict management plan. It is recommended that the LRAD programme implementers should evaluate these conflict management plans to ensure that they are properly designed and effectively implemented.

It is very important for all conflict management plans to cover the various aspects of conflict viz conflict care, conflict identification, conflict handling and conflict cure.

4.2.7 Impact of the projects on employment

In almost all the projects, the creation of employment for both the direct and indirect beneficiaries was one of the most important impacts of the projects. About 100% of the projects indicated that their projects had created some jobs. In all, 660 jobs (244 permanent and 416 temporary) were created by all the LRAD projects in the study. It was quite impressive to observe that 37% of these jobs were permanent (mainly the direct project beneficiaries) with 63% as temporary (Table 4.2). Among the projects which employed most temporary employees annually include: Moleding Business (45), Vukanduku Zompi (32) and Mulvane farm (15). The creation of employment by projects was seen to play an important role in extending the benefits of the project to the larger community as many people were engaged. This provided a source of income for many community members who would otherwise not be employed. It is hoped that the potential impact of the projects in creating jobs for their respective communities will increase further when all the projects are in full operation.

Table 4.2 Employment created by the projects

Type	Number created	Percent (%)
Permanent	344	45
Temporary	416	55
Total	760	100

The majority of the jobs created were temporary; most of the workers living within the immediate communities of the projects' locations. The temporary jobs were normally engaged during land preparation, planting, weeding, and harvesting activities especially for vegetable production. The projects also engaged services of many service providers for some of the afore-mentioned activities. About 83% of the projects made use of between one and five service providers while 17% used more than six service providers.

It was also claimed by some of the project leaders that the achievements in some of the projects helped the participants to realize their potential and instilled a sense of pride, responsibility and high esteem among the beneficiaries. The agricultural projects also made some positive impacts on the communities including: selling of cheaper and quality vegetables to the communities; supplying local shops with fresh and quality products; and creation of temporary jobs. Consequently, there was a high level of motivation among participants in the projects and some of the participants were willing to share project costs. In many of the projects, it was established that members paid project expenses from their own pockets and used personal vehicles when necessary.

4.2.8 Impact of the projects on beneficiaries' household food security

One of the important expectations or impact of the LRAD projects on the participants is the assurance of food security among the beneficiaries. The results of the study found that the majority (85%) of the households in the projects were food secure (Figure 4.8), with 15% who were food insecure, such as beneficiaries of Batlokwa farming project. This is a positive impact of the LRAD projects on the beneficiaries. The main source of the food security was through food produced from the projects and purchasing of some of the food using income from the projects and other sources such as employment outside the projects and pension claims.

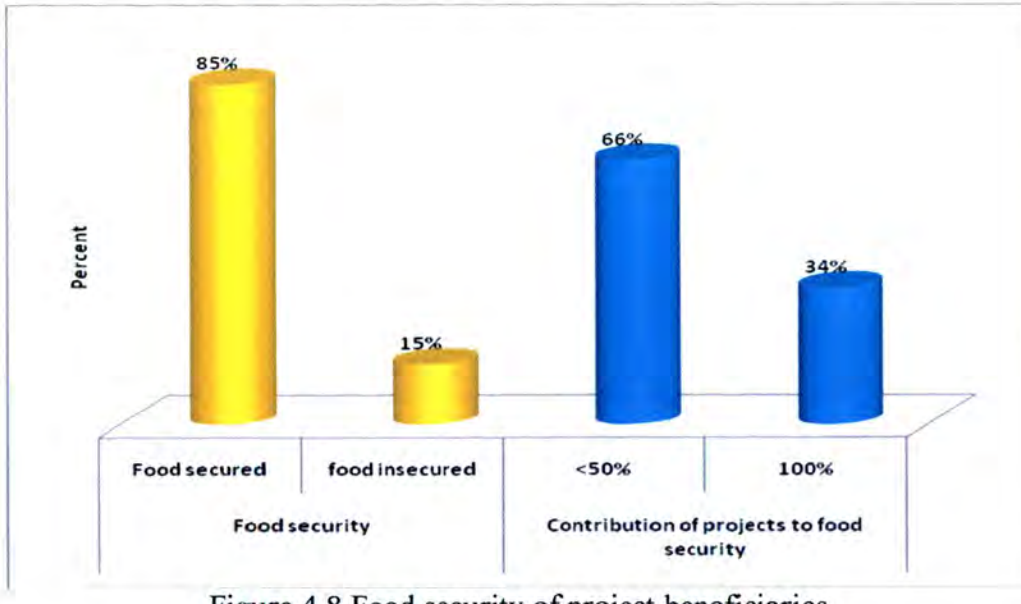

Figure 4.8 Food security of project beneficiaries

The majority of the projects produce both crops and livestock products. About 66% of the beneficiaries indicated that the LRAD projects contribute less than 50% of their food security while only 34% of the beneficiaries' food securities depend solely of the contribution from the LRAD projects. The result is consistent with that of CSIR (2005), CASE (2006) and SDC (2007). Studies by CSIR (2005), CASE (2006) and SDC (2007) have revealed the limited impact of most South African land reform projects in terms of productive land use and household livelihoods. This has been attributed to many factors, but the most widely cited are inadequate or inappropriate planning, a general lack of capital and skills among intended beneficiaries, a lack of adequate post-settlement support from state agencies, most notably local municipalities and provincial departments of agriculture and poor dynamics within beneficiary groups.

4.2.9 Finance-related impact

The financial aspects of the projects are presented in Table 4.3 and Figure 4.9. Government invested the taxpayers' money as grant in land and production capital with the aim of establishing sustainable land reform agricultural projects. This taxpayers' money has been invested by the LRAD beneficiaries under consideration on farm infrastructure, implements, livestock and production to generate income. The project beneficiaries invested R37, 623, 129.64 in farm purchases to establish the 47 projects included in the study at an average of R800, 492.12 per project (Table 4.3). The government provided R21, 449, 993.01 of the above farm purchase investment as grant/loan at an average of R456, 382.83 per project. Besides this, the government provided some production capital to the projects.

Table 4.3 Government investment in the projects

ID	ITEM	TOTAL	AVERAGE/PROJECT
1	Grant	R21, 449, 993.01	R456, 382.83
2	Farm purchase	R37, 623, 129.64	R800, 492.12
3	Loan	R16, 173, 136.63	R344, 109.29

The study found that the LRAD programme implementers (PDA & PDLA) spent less than R500, 000 per project on about 78% of the projects; spent between R500, 000 and R1m per project on 11% of the projects; and spent more than R1m per project on 10% of the projects in the study area.

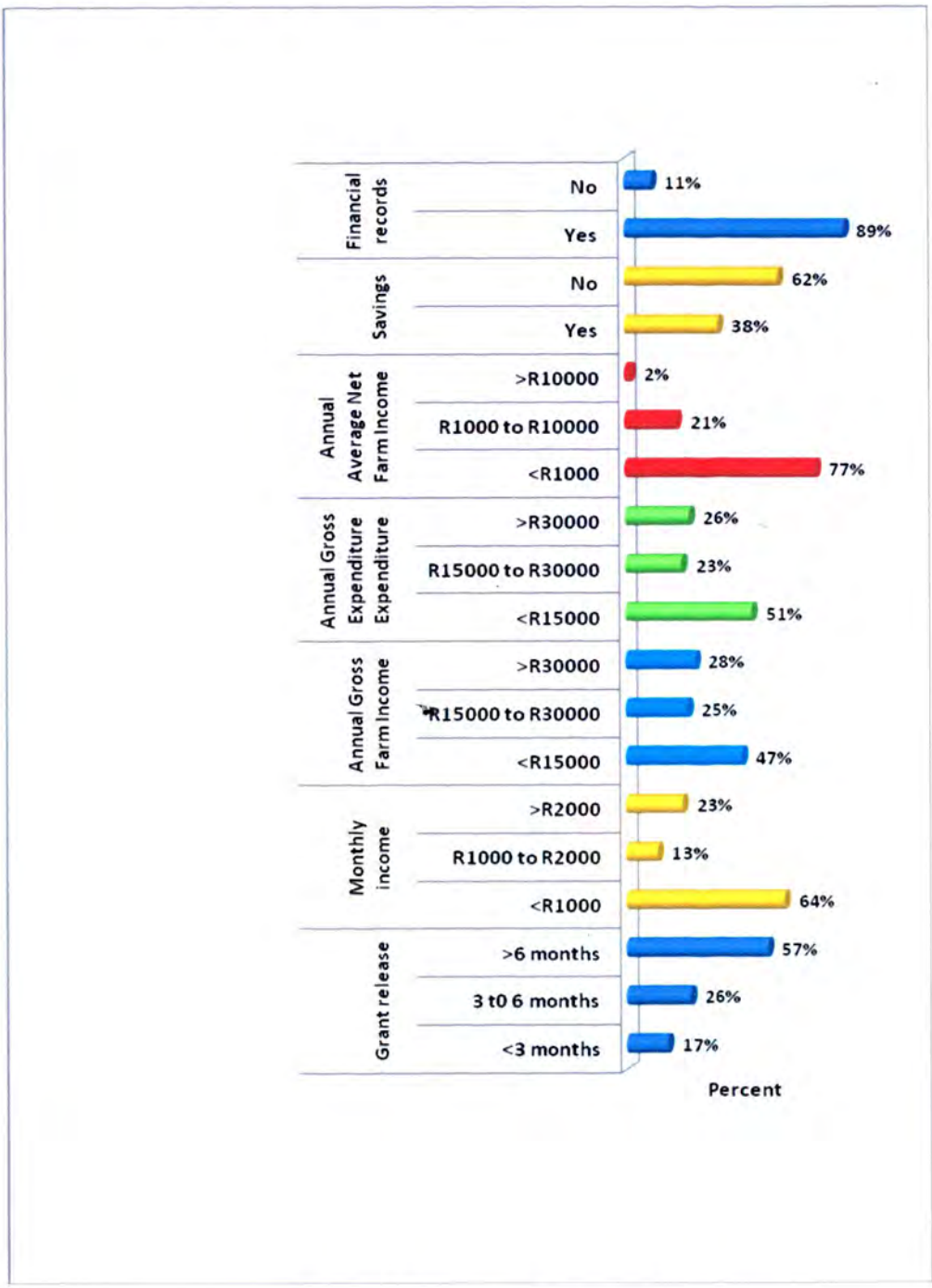

Figure 4.9 Financial aspects of the projects

Regarding efficiency of fund administration, only 17% of the projects received their funding in less than 3 months period from application date. It took between 3 to 6 months for about 26% of the projects to receive their funding for the purchase of the land while 57% of the projects took over 6 months to receive the funding after approval of their application by the Department of Land Affairs (Figure 4.9). The impact of income from the project is critical for the food security of the beneficiaries, acquisition of resources and the sustainability of the projects.

Figure 4.9 shows that, the majority of the project members (64%) earned a monthly income of less than R1 000 from the projects (e.g. Marabatsa farm) while some 13% of them earned a monthly income of between R1 000 and R2 000. About 23% of the project members indicated that they earned more than R2 000 per month especially projects with very few beneficiaries (e.g. Bosrant farm). The study found that about 47% of the projects were still at the development stages of 1-5 years of establishment (Figure 4.1). It is therefore important that these projects are seen through this development stage fully in order to achieve the intended impact. Increase in income normally occurs when there are good prices for the products, or if production is quite high resulting in high gross production values. Incomes accruing to farmers are very important motivating factor in the present world since this help them take care of their dependants as well as ensuring food security. It is LRAD's cardinal objective to improve beneficiaries' income, nutrition, social and economic wellbeing (Department of Agriculture and Land Affairs, 2001).

In Brazil, land reform has clearly been shown to be economically viable having scope of increasing beneficiary income up to 5-fold (Buainain *et al.*, 1999). According to MEDCO (2004), in Belgium, in the implementation of the agricultural reform, communities' projects improved the quality of life of agricultural reform beneficiary households in at least 140 agricultural reform communities nationwide by providing basic infrastructure services towards increasing agricultural productivity and household income. Machado *et al.* (1999), reported that in Colombia, implementation of market assisted land reform has also been shown to have led to considerable productivity and income increases.

Prosterman and Hanstad (1995) states that, besides increase in the size of production by rising farm income a dynamic agriculture has significant forward and backward linkages to broader social development. Reyes (2002), using panel data from about 1,500 farm households and estimating from a Logit model, showed that agrarian reform has had a positive impact on farmer beneficiaries. It led to higher real per capita incomes and reduced poverty incidence between 1990 and 2000. Compared to non-agrarian reform beneficiaries, the agrarian reform beneficiaries tend to have higher incomes and lower poverty incidence. The study found that the average annual gross farm incomes from projects' operations were: less than R15, 000 for 47% of the projects; between R15, 000 and R30, 000 for 25% of the projects; and more than R30, 000 for 28% of the projects in the study area. The average farm income per project was found to be R27, 150.00.

The study established that the average annual gross operational expenditures of the projects were: less than R15, 000 for 51% of the projects; between R15, 000 and R30, 000 for 23% of the projects; and more than R30, 000 for about 26% of the projects in the study area. The average farm operational expenditure was found to be R26, 250.00, hence average net farm income of R900. This is too little considering the huge investment in the farm purchase and production capital. Again, this is an average value and does not reflect much on the differences in the farm incomes among the respective projects (about 44% of the projects do not make net farm income).

The results of the financial analysis show that 44% of the projects did not make a net farm income. The average annual Net Farm Income (NFI) from operations of some 33% of the projects was less than R1, 000. About 21% of the projects indicated that they realised a net farm income in the range of R1, 000 to R10, 000 while the Net Farm Income of about 2% of the projects far exceeded R10, 000 (Figure 4.9). Savings can be made by the projects only if NFI accrue. The study found that only 38% of the projects have made some savings from the NFI made from the projects' activities. The majority (62%) of the projects did not save (Figure 4.9). This result is consistent with that of Leite *et al.* (2004).

In terms of income generation, the most rigorous study of income levels on the settlements was carried out by Leite *et al.* (2004). This survey of 1,568 households found that the mean gross monthly income was $312, just slightly above the poverty line. However, there was tremendous variation by state, with the range being an average $117 in Ceara in the northeast to $439 in Santa Catarina in the south. It was further stated that only one-third of the beneficiaries were above the poverty line, although this in many ways was quite an accomplishment, given the slowness of the state in providing the settlements with the promised assistance. That two-thirds of the agrarian reform beneficiaries were poor by conventional measures, could lead to the conclusion that not much has been accomplished through the distribution of land. Contrary to the results of this study, in Brazil, land reform has clearly been shown to be economically viable having scope of increasing beneficiary income up to 5-fold (Buainain *et al.*, 1998). All things being equal, more NFI to the projects imply more savings which can be used to expand the projects or invested in other profitable ventures. Savings culture may help the projects to secure credit from many financial institutions.

The study also found that the majority (89%) of the projects keep farm records which are very good practices. However, the financial records concentrated mainly on the major transactions especially those spent from the grant and not much on their recurring and related expenses. The importance of record keeping in agricultural projects cannot be over emphasized. The projects may use these records for future budget estimates, tax returns, debt and credit management, preparation of annual financial statements and other informed management decisions which may be required. Producers who have efficient record keeping systems may use it as a management tool for effective planning and other decision processes.

4.2.10 Impact on communication, networking and linkages

The results of the analysis of impact of the projects on communication, networking and linkages are presented in Figure 4.10. The impact of the projects on communication between other organisations and the projects was assessed and found that most of the projects had telephone either as land lines or cell phones. The results in Figure 4.10 show

that about 30% of the projects had Telkom land lines while 98% of them had cell phones. This made it easier for the members to gain access to the telephone when needed. About 77% of the projects stated that the reliability of telephone networks in the projects was good (Figure 4.10). About 96% of the responding beneficiaries rated the effectiveness of communication within the projects to between good and excellent (Figure 4.10). Among the projects with excellent communication levels, is Sebedi Investment with Louis Boerdery, while Thusano Trust has the lowest levels of communication within the projects.

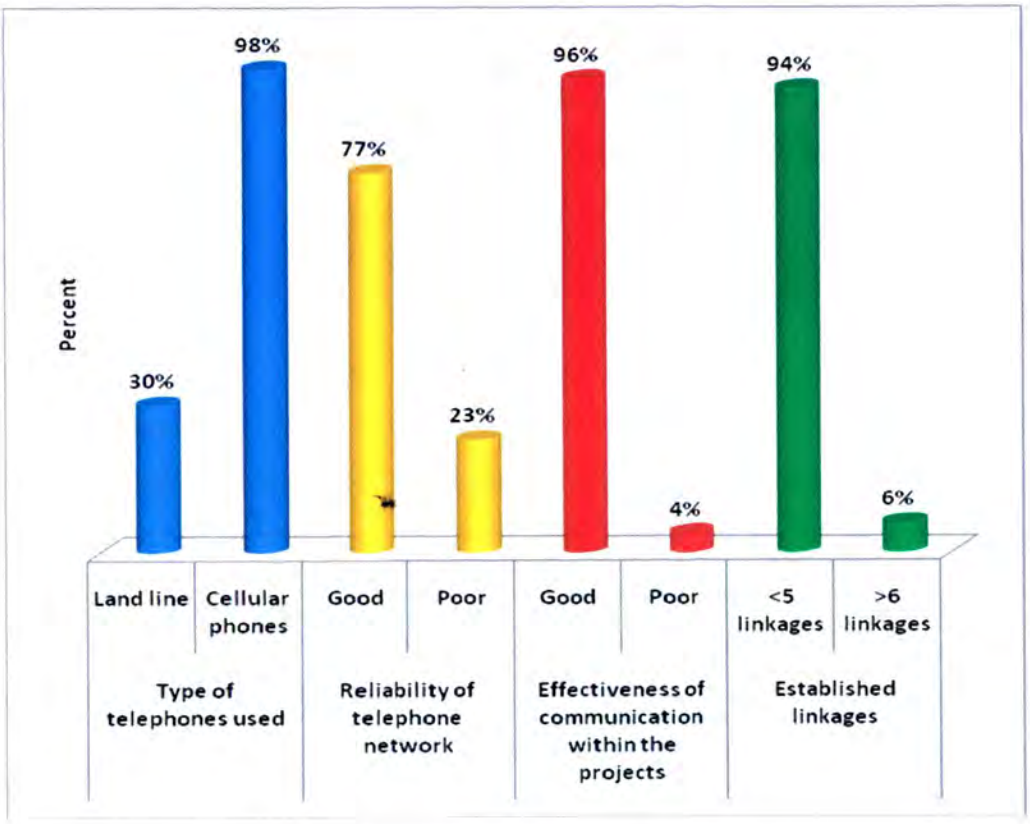

Figure 4.10 Impact on communication.

Good communication is important not only within the project structures but also for interactions with the outside community. The establishment of linkages with beneficial organisations and individuals most often adds value to projects. According to the results of the study, about 94% of the projects had established at least five linkages while 6% of the projects have established six or more links with other organisations and institutions

such as the Department of Labour, Department of Social Development, Municipalities, the Provincial Department of Agriculture, GWK and Pannar (Figure 4.10). These linkages were used to share information and other support besides money such as skills training. It also facilitated the procurement of quality inputs and equipments. For example, Pannar provides seeds to some of the projects. King (1977: 206-217), attributes the increased productivity on the Taiwan land reform farms to factors, such as, improved rice varieties, greater application of fertilizer and pesticides, more advanced technology, all strongly promoted by the established linkage of Sino-American Joint Commission on Rural Reconstruction.

Agricultural extension not only provides skills training but also advises and assists farmers to source some important technical services. They may also facilitate the introduction or adoption of new technologies by farmers. The main link between the LRAD projects and the PDACE is the agricultural extension support. The result of the analysis shows that about 62% of the projects received between one and three visits by the agricultural extension officer during the 2009 farming season while 15% of the projects had between 4 and 7 visits by the extension officers. However, 23% of the projects indicated that the extension officers responsible for their area visited the projects on more than seven occasions. Most of the beneficiaries indicated their dissatisfaction with the frequency and the quality of the agricultural extension services. However, the importance of agricultural extension services to the LRAD projects cannot be over-emphasized. Owens *et al.* (2003), found that access to agricultural extension services, defined as receiving one or two or more visits per agricultural year from an extension worker, increases farm production by 15% in resettlement areas of Zimbabwe.

4.2.11 Best practices among the projects

Best practices can be defined as the most efficient (least amount of effort) and effective (best results) way of accomplishing a task, based on repeatable procedures that have proven themselves over time for large numbers of people. Some of the best practices among the LRAD projects in the study area were covered. Figure 4.11 shows that 57% of LRAD projects could identify some form of best practices associated with the project.

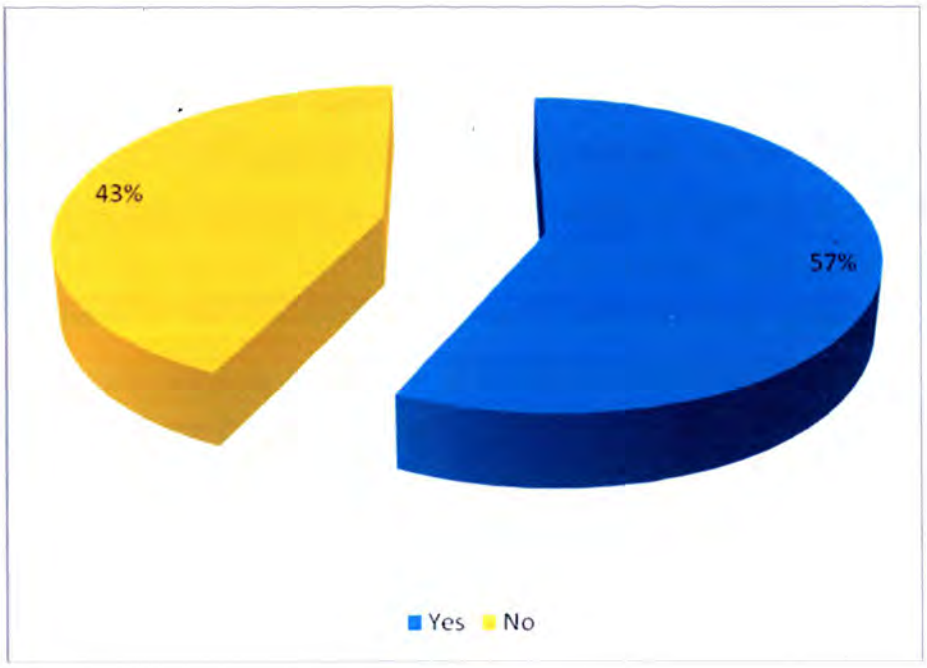

Figure 4.11 Best practices

These best practices were in a form of techniques, methods, processes, activities, incentives or rewards. Some of the best practices identified by the study from the various projects included: the use of employment contracts for members as required by the labour laws for employees; daily meetings organised by most of the projects, mentorship programmes, skills training and use of improved seeds.

The impact or importance of identifying such best practices is that they can be used as a tool for transferring knowledge and technologies across the projects in order to improve the performance of similar projects in the same area. Monitoring and evaluation system was one of the best practices that were common among the majority (74%) of the projects in the study area. As presented earlier (Figure 4.9), the majority (89%) of the projects keeps financial and other farm records which are very good practices. The projects may use these records for future budget estimates, tax returns, debt and credit management, preparation of annual financial statements and other informed management decisions which may be required.

4.2.12 Sustainability of the projects

One of the major expectations of the South African government, including the National Department of Agriculture, the Department of Land Affairs and Rural Development is the sustainability of LRAD projects after their establishment. The capital investments in the projects are expected to be utilized economically to develop them to optimal functional status that benefits both direct beneficiaries and the community as a whole. Figure 4.12 shows further that the vast majority 53 and 64% of the projects studied had not secured funding and any other forms of assistance respectively besides the funding from the DLA and Land Bank. This situation is worrisome for the sustainability of such projects considering that the DLA funding is mainly for acquisition of more farms for applicants. On the question of financial sustainability of the projects, about 19% of the projects indicated that their projects will not be sustainable mainly due to financial constraints (Figure 4.12). However, about 81% of the projects were certain that their projects will be sustainable.

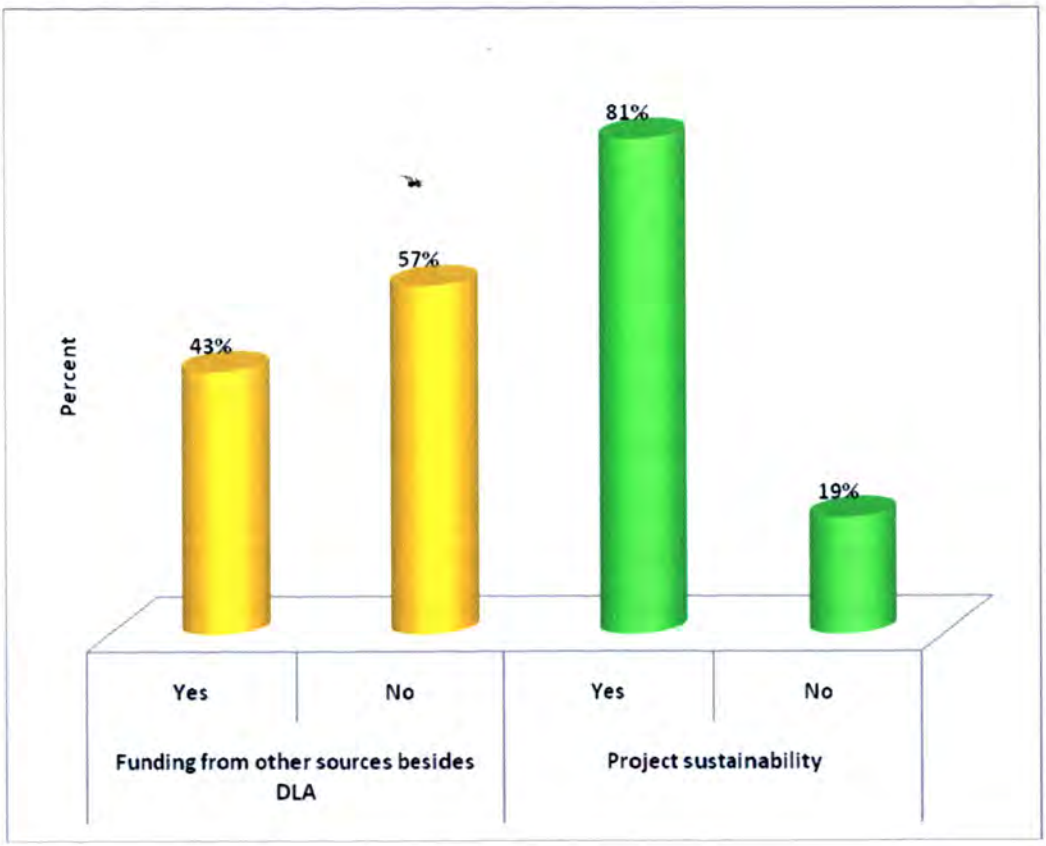

Figure 4.12. Project sustainability and funding from other sources besides PDLA

The study found that only 38% of the projects have made some savings from the profit made from the projects activities. The majority (62%) of the projects do not save. More profits to the projects imply more savings which can be used to expand the projects or invested in other profitable ventures. Savings culture may help the projects to secure credit from many financial institutions and ensure sustainability. All the projects indicated that much as they appreciated the government's initial financial support, it was grossly insufficient especially funds for production. This would underscore the importance of having other sources of assistance either in monetary or material forms. It was therefore surprising to find that the majority (81%) of the projects indicated that they could sustain themselves financially. The consequences of such poor financial structure could be many and varied. Projects that do not already have enough infrastructure may never acquire them.

The study established that about 49% of the projects at the time of the study had less than 50% of their operational infrastructural needs. However, only 15% of the projects rated the quality of their infrastructure as excellent; 49% rated the quality of their infrastructure as good and 36% of the projects classified their infrastructure as poor with 11% classified as non-functional. The study also established that only 17% of the infrastructure on the projects was acquired after the land purchase by the beneficiaries themselves. The importance of agricultural extension support for the sustainability of the projects cannot be over-emphasized. Farmer-Support Service is supposed to provide extension and advisory services; facilitate the training of commercial and emerging farmers, including the co-ordination of rural agricultural projects, as well as facilitate organisational development and capacity building farmer groups (Singini & Van Rooyen, 1995). However, the result of the analysis shows that the majority (62%) of the projects received only between one and three visits by the agricultural extension officer during the 2009 farming season (Figure 4.13). The majority of the beneficiaries indicated their dissatisfaction with the frequency and quality of the agricultural extension services. The result is not consistent with the Farmer-Support system reported by MEDCO (2004). MEDCO (2004) reported that the Belgian integrated agrarian reform support programme consists of a package in support services, rural infrastructure and co-operatives.

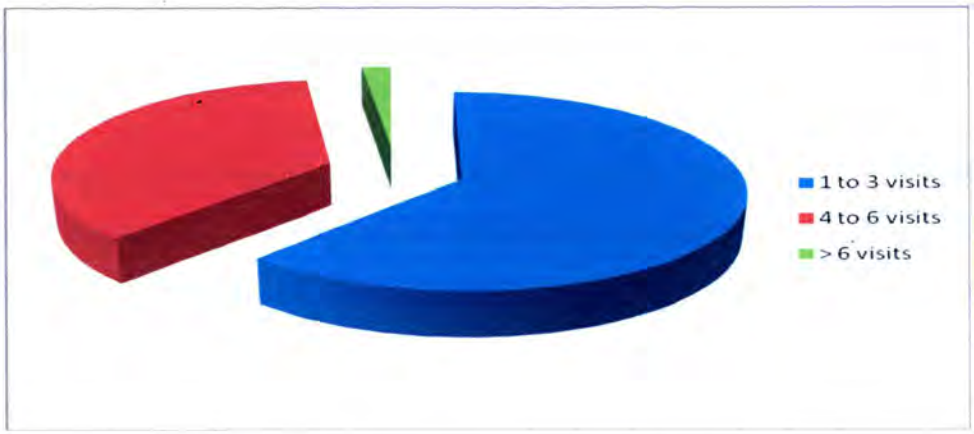

Figure 4.13 Extension visits to the projects

There was extension of a special grant to support government's efforts. Furthermore, the agrarian reform development support project primarily involved the establishment of the three Farmer-Support centres for the acquisition and distribution of agricultural equipment to agrarian project beneficiaries. These farmer support centres provided the necessary services and support to the agrarian reform project beneficiaries. The quality and quantity of extension services in South Africa has been declining over the past few years. HSRC (2003), Hall (2004), and Bradstock (2005) show that land reform beneficiaries experience problem accessing services of extension advice.

For any crops and livestock projects, the importance of environmental management can not be over-emphasized. The study found that about 49% of the projects have had no environmental skills training. The participants need to be trained in areas such as irrigation, soil and veldt management in order to ensure the sustainable use of the land resources. With the current escalating cost price squeeze of farm profit, the need for the use of improved animal/crop production and protection cannot be over-emphasized. Contrary to expectation, the study established that over 73% of the projects have not been introduced to new production technologies. Again, 43% of the projects indicated that they do not have any best practices in their projects. Improved technology adoption is very vital for the success of many agricultural projects. It is therefore recommended that the programme implementers equip beneficiaries in these projects with tried and tested new

technologies through training for effective and efficient production and marketing of their various agricultural products. This also calls for the effective and efficient implementation of the current extension system.

The prevalence of conflicts on the projects is also a factor which can affect the anticipated sustainability of the projects. About 30% of the projects had experienced at least one or more major conflicts since their establishment. Due to the large sizes of memberships of some of the projects, conflicts are inevitable. The study established that all the projects started with a total of 376 beneficiaries but is now left with 244 implying a turnover of 35%. Another situation which is worrisome for the sustainability of some of the projects is that of security on some of the projects. It was further established that 66% of the projects were concerned with security and had taken steps to guard against it. Most of the projects reported theft involving livestock, food crops and vegetables in the field and farm equipment. It is recommended that, apart from security, the other reasons for the non-sustainance (especially 19% of the projects who indicated that their projects can not sustain after DRDLA funding) of these projects needs to be properly investigated and solutions provided. The two issues that could be considered are that it may be necessary to revisit the DRDLA funding and also that it may be important for DRDLA to encourage co-funding of the projects.

4.2.13 Relevance and efficiency of the projects

An analysis of the project objectives revealed that it is consistent with the needs of the target beneficiaries and also with the objectives of the Land Reform programme of South Africa. Some of the main objectives of the LRAD programme include income generation, food security and improved standard of living of the project beneficiaries. The projects were implemented in rural areas with high rate of unemployment, acute food insecurity, lack of entrepreneurship and development skills. Table 4.2 shows that the projects in general created 244 permanent jobs and 416 temporary jobs. Figure 4.8 also shows that about 34% of the project beneficiaries depended solely on the projects for their food security. As shown in Figure 4.9, 64% of the beneficiaries receive a monthly income of $\leq$R2500.

The population in the project areas shows a good proportion of women headed households and the youth. Thus, the projects targeted unemployed people of the study area including women and the youth. The projects provided the beneficiaries with the skills and infrastructure for the various agricultural productions. This enabled the communities to partially address their food security and unemployment problems. It also provided skills empowerment among the beneficiaries and the community as a whole. These agricultural land based production projects are appropriate to such rural areas which have very limited advanced development skills, industries and other economic activities. In this respect, the projects meet the selection criteria by the Land Redistribution for Agricultural Development programme implementers and satisfy their mandate. With respect to project management, most of the projects had well designed business plans which were independently certified to be financially and economically viable.

4.2.14 SWOT Analysis of the sampled projects

The study conducted a SWOT analysis on all the projects sampled and established the following major strengths, weaknesses, opportunities and threats of the major categories of projects. The result are summarized in Table 4.4

Table 4.4 SWOT Analysis

ITEM	LIVESTOCK ENTERPRIESE (CATTLE/SHEEP/ GOATS/POULTRY /PIGGERY)	CROPS AND VEGETABLE ENTERPRISES	COMMON FOR PROJECTS
STRENGTHS	Quite good veldt conditions. Some of the farms have already existing infrastructure such as boreholes, tractors and equipment (Annexure 3). Availability of electricity on the projects.	Enough fertile lands. Some of the farms have already existing infrastructure such as borehole, tractors and equipment (Malwane co-operation). These infrastructure were not in perfect conditions but can support commercial production to quite appreciable levels if	General commitment, interest and motivation of project participants. Established linkages with other institutions.

		operating funds were available Availability of electricity on the projects.	
WEAKNESSES	Stock and produce theft. Lack of milking equipment on some of the farms which have dairy cattle Weak infrastructure e.g. weak fences.	Most of them do not have contract markets. Weak infrastructure e.g. weak fences, irrigation systems and unequipped boreholes (Kopanelo farm).	Under-utilization of available farm lands (Bodibe Trust). Weak participation by some members/Laziness of some project participants. Jealousy and lack of unity among project participants High electricity bills. Poor finances. Lack of farm management skills (Botlokwa farming project). Lack of requisite farm machinery like tractors. Dependency on PDACE and DLA for extension and financial support.
OPPORTUNITIES	Addition of better enterprises e.g. game farming.	Access to the export market. Contract with vegetable markets. Value adding e.g. processing of vegetables.	Form co-operatives. Large scale production. Employ more community members
THREATS	Theft and vandalism Drought and wild fire.	Poor value for farm produce. Competition with markets. Drought.	Lack of finance. High levels of conflicts among beneficiaries (Relebone Willow Park project). Diseases and pests. Absenteeism, especially projects with large numbers of membership Unbearable high interest rates by the Land Bank. Deaths due to HIV/AIDS.

4.2.15 Constraints facing the LRAD projects in the study area

Despite the fact that the South African government has devoted considerable energy and expenditure to the process of land and agrarian reform, a broad spectrum of stakeholders agree that some land reform projects are experiencing several challenges, which have led to some farms being abandoned or operating sub-optimally. Presented in Table 4.5 are the major constraints facing the LRAD projects in the study area.

Table 4.5 Constraints faced by the LRAD projects in the study area

Type of constraint	Percent
Lack of finance	81
Lack of reliable sources of water	43
Poor/Lack of farm equipment	36.2
Poor fencing	36.2
Lack of farm machinery	32
Lack of farm inputs	30
Lack of irrigation infrastructure	21.3
Drought	21.3
Poor infrastructure	19.1
Lack of electricity	17
Lack of governmental support	15
Lack of marketing information	15
Lack of security	13
Lack of storage facilities	12.8
Poor extension services	12.8
Lack of access to veterinary services	10.6
Lack of skills training	8.5
Lack of skilled labour	8.5
Lack of kraals	8.5
Financial assistance withheld by the DLA	8.5
Lack of transportation	6.4
Group dynamics problems	4.3
Lack of grazing camps	4.3

According to Jacobs (2003), land reform in the twenty years after independence in older resettlement areas in Zimbabwe revealed that, some of the land allocated has been abandoned or not fully utilized. This is due to the lack of resources such as fertilizers or tractors, and especially, the lack of access to credit. The problem is "just the question of inputs". Equally, two farms in the study area between Mafikeng and Lichtenberg have

been leased back to some white commercial farmers due to the lack of finance to purchase inputs and production operations. Providing land to beneficiaries without the necessary production support programme will definitely result in serious under utilisation of the agricultural land resource and low productivity. As shown in Table 4.5, the major constraints faced by the LRAD projects in the study area include among others: lack of finance (81%); lack of reliable sources of water (43%); poor/lack of farm equipment (36.2%); poor fencing (36.2%); lack of farm machinery (32%); lack of farm inputs (30%); lack of irrigation infrastructure (21.3%); and drought (21.3%).

Pivotal to successful farming among others are: reliable source of funding, good underground source of enough water and irrigation infrastructure, reliable and quality farm inputs, equipment and machinery. The majority of the projects (81%) are faced with financial constraints. A critical analysis of the major constraints shows that many if not all of the constraints will be solved if a proper solution is provided to the financial constraints. The issue of unavailable farm equipments, broken fences, lack of farm machinery and farm inputs as wells as the lack of irrigation infrastructure can be resolved if the project beneficiaries can access credits at reasonable interest rates with longer flexible terms of payment.

According to Mangena (2006), a difficulty facing all land reform agricultural project beneficiaries is that, the only asset project beneficiaries have, the land, is 'useless', as it cannot be used as collateral. This means that it is very difficult for project beneficiaries to access credit for farming purposes. At the same time, it was asserted that loans to land reform projects have to be handled carefully because there is a risk of losing the land if they default on repayment. Mangena stated further that, funds from parastatals (for example, the National Development Agency), various financial institutions and donors are often insufficient in sustaining agricultural development. The Land Bank is the main financial institution land reform beneficiaries can turn to for credit, but many are not accessing this service due to a combination of factors: being unaware of opportunities to access credit, not meeting lending criteria aversion to the risks involved with getting into debt.

Other constraints that adversely affecting the projects include the lack of market information (15%), poor extension services (12.8%), lack of access to veterinary services (10.6%), lack of skills training (8.5%) and financial assistance withheld by the DRDLA (15%). According to SDC (2007), provincial departments of agriculture participate in the approval of land redistribution grants but provide little agricultural support to these projects. Inadequate support to the beneficiaries of land reform has been a recurring complaint almost since the inception of the programme. Many studies have shown that beneficiaries experience severe problems accessing services such as training, extension advice, transport and ploughing services, veterinary services, and access to input and produce markets (HSRC, 2003; Hall, 2004; Bradstock, 2005; Lahiff, 2007; and SDC, 2007). SDC (2007) states further that services that are available to land reform beneficiaries tend to be supplied by provincial departments of agriculture and a small number of NGOs, but the available evidence would suggest that these serve only a minority of projects.

The performance of the Comprehensive Agricultural Support Programme (CASP) and the Micro Agricultural Finance Institute of South Africa (MAFISA), on these projects leaves much to be desired. About 15% of the projects in the study area found the administration of their funds by the DRDLA very poorly executed. They expressed their dissatisfaction regarding the appointment and payment of service providers.

4.2.16 Beneficiaries' views of LRAD stakeholders

The main partners who have contributed to the planning and implementation of the projects include: the Provincial Department of Agriculture, the Department of Rural Development and Land Affairs and the Land Bank. According to the project beneficiaries, the Land Bank through the Department of Rural Development and Land Affairs provided funding to the projects. The majority of the beneficiaries (95%) indicated that the preparation and use of business plans, extension advice services and some of the skills training were provided by the North-West Provincial Department of Agriculture. Other stakeholders such as the North-West co-operative also provided skills training and other services to the projects which were highly appreciated by the

beneficiaries than the services provided by the extension service personnel from the Provincial Department of Agriculture.

All the project beneficiaries using the Land Bank loans expressed their disapproval of the services provided by the Land Bank. Many were of the view that the interests on the loans were too high. The beneficiaries were also unhappy with procedures followed by the Department of Rural Development and Land Affairs regarding payments to service providers on the various projects. They complained that the amounts paid to the service providers were most often, too high for such services. The beneficiaries also complained bitterly about payment of electricity bills even if no production was carried out.

4.3 Presentation of the results and discussion of the inferential analysis.

4.3.1 Summary of the results of the Tobit Regression Model Analysis

The Tobit estimates for the effects of the socio-economic factors on the projects' performance are presented in Table 4.6. The assumption that the Tobit model's error term has a normal distribution was confirmed as the sum of the deviations of the observed Y and the predicted values of XbetaY was approximately zero signifying the model fit. The Akaike Information Criterion (AIC) and the finite AIC which are measures of trade-off between bias and variance in a model construction or accuracy and complexity of the model were both minimal and not of much difference (6.60234 and 7.49940 respectively). The Bayesian Information Criterion (BIC) which penalizes the number of parameters strongly than the AIC was 7.46826, not significantly different from the value of the finite AIC. The value of the ancillary statistic or sigma (4.113) which is analogous to the square root of the residual variance in OLS regression is very minimal. Most of the estimates or coefficients associated with the explanatory variables have the expected parameter signs and sixteen of the twenty independent variables were found to be statistically significant at 1%, 5% and 10% levels of significance. It is worth mentioning that the signs of the estimates do not normally change between Ordinary Least Square Regression and Tobit model regression. What normally changes are the magnitudes and interpretation of the coefficients. Gujarati (1999) explained that "a positive (negative)

sign on an explanatory variable's coefficient indicates that other things being equal, higher values of the variable increase (decrease) the likelihood of it".

Table 4.6. Regression results for alternative model specifications when modeling the effects of socio-economic determinants (x_i) on levels of project performance/success (y_i).

MODEL	TOBIT	BINARY LOGISTIC			OLS			
DEPENDENT VARIABLE	Level of performance (censored at zero). (n=47)	Successful (if y>mean of y_i=1) or otherwise y_i=0. (n=47)			Level of performance (n=47)			
						95% Conf. Interval for β		
Variable	**Coefficient**	**Coefficient**	**Wald**	**Exp (β)**	**Coefficient**	**L Bound**	**U Bound**	**VIF**
CONSTANT	20.316** (8.496)	0.388** (0.297)	1.702 (1df)	1.474	20.316* (11.423)	-3.167	43.80	
NYR	0.746** (0.343)	1.273 (7174)	0.003 (1df)	3.571	.163 (0.461)	-0.202	1.694	3.1
NBNOW	-7.089* (3.582)	-55.787 (31747)	0.003 (1df)	0.000	-1.473 (4.816)	-16.989	2.811	3.8
EDLM	8.254** (3.626)	62.203 (33299)	0.005 (1df)	1.033E27	1.543 (4.875)	-1.768	18.28	2.3
EDM	7.557** (3.562)	69.048 (32405)	0.000 (1df)	9.707E29	.832 (4.790)	-2.288	17.40	8.2
EDT	7.983* (4.059)	83.270 (37774)	0.016 (1df)	1.457E36	.704 (5.457)	-3.234	19.20	7.9
NBEBP	-6.634* (3.858)	-106.032 (36822)	0.003 (1df)	0.000	-.219 (5.187)	-17.296	4.027	8.5
AVBP	7.793** (2.938)	4.493** (1.772)	6.432 (1df)	89.386	.170* (3.951)	-0.328	15.91	2.2
AVTR	3.684** (1.440)	15.766 (11341)	0.008 (1df)	7032326	.192* (1.936)	-0.294	7.663	3.1
NCONF	-9.867*** (1.841)	-2.142** (0.973)	4.849 (1df)	0.117	-.537*** (2.475)	-14.954	-4.78	5.5
ADTECH	8.206** (3.493)	-40.162 (51891)	0.386 (1df)	0.000	.207* (4.696)	-1.446	17.86	4.2
TOTALJOB	-0.012 (0.104)	-0.654 (1381)	0.000 (1df)	0.520	-.011 (0.140)	-0.298	0.275	5.5
PROW	0.659** (0.276)	0.740 (5717)	0.015 (1df)	2.096	.208* (0.371)	-0.103	1.422	4.1
PROPY	-0.019 (0.148)	1.552 (2266)	0.000 (1df)	4.722	-.014 (0.199)	-0.427	0.390	6.4
HHFSD	6.473** (2.771)	-26.129 (46040)	0.001 (1df)	0.000	.172* (3.726)	-1.185	14.13	3.0
PCFS	1.422 (1.756)	2.557** (1.013)	6.378 (1df)	12.902	.077 (2.361)	-3.432	6.276	5.0
NFI	8.081*** (2.221)	39.937 (25940)	0.001 (1df)	2.209E17	.276** (2.987)	1.942	14.22	3.1
SAVINGS	8.213*** (2.099)	37.469 (25890)	0.020 (1df)	1.874E16	.283** (2.822)	2.413	14.01	2.8
FRK	6.999**	-32.573	0.001	0.000	.153*	-0.365	14.36	1.8

	(2.665)	(35579)	(1df)		(3.583)			
VISITSE	1.140 (1.072)	8.424 (28754)	0.160 (1df)	4555.878	.068 (1.441)	-1.822	4.101	2.2
LINKAGE	4.820** (2.316)	4.130** (1.620)	6.514 (1df)	62.166	.159 (3.113)	-1.580	11.22	3.2
TOBIT								
Iterations	Normal exit							
Log likelihood	-133.1526							
Info. Criterion: AIC	6.60224							
Finite Sample: AIC	7.49940							
BIC	7.46826							
HQIC	6.92813							
Observations > 0	47							
Conditional mean at sample point	58.4957							
Scale Factor for Marginal Effects	1.0000							
R^2	0.4189							
Sigma	4.11276498							
BINARY LOGISTIC								
-2Log likelihood		11.021						
Cox & Snell R^2		0.641						
Nagelkerke R^2		0.900						
Hosmer and Lemeshow Goodness-of-Fit		Chi-Square	4.0580					
		DF	5					
		Pr > ChiSq	0.5411					
Classification		Not Successful	26%					
		Successful	74%					
		Overall percent	58.8%					
ORDINARY LEAST SQUARES								
R^2					0.915			
Adjusted R^2					0.850			
Std Error					5.52963			
Durbin-Watson					1.757			
F-Test					14.012			
Prob (F)					0.000			
Mean of predicted value					58.495			
Mean of residual					0.000			

Note: ***, **, and * indicates statistical significance at 1%, 5% and 10% respectively, and standard errors are in parentheses.

The variables which were not statistically significant include: Total jobs created per project (TOTALJOB); Proportion of youth per project (PROPY); Project contribution to household food security of beneficiaries (PCFS); and the number of extension visits per season (VISITSE).

4.3.2 Summary of the results of Binary Logistic Regression Model Analysis

Table 4.6 also presents the results of the estimated model of the Binary Logistic Regression. The estimated model indicated classification rates of 26 percent for not successful and 76percent for successful projects and an overall classification rate of 58.8 percent. These results indicate the degree of accuracy of the model and the reliability of the resulting estimated coefficients with their accompanying statistics. From the data, the dependent variable would explain between 64.1 percent and 90.0 percent of the variation in results as indicated by the diagnostics. The non-significance of the goodness of fit even though not quite high, indicates that the model adequately fits the data (Spicer, 2004). Out of the twenty independent variables used in the analysis, only four were found to be statistically significant by this model which included: availability of project business plan (AVBP), number of conflicts experienced on the project (NCONF), project contribution to household food security (PCFS) and number of relevant linkages established by the project (LINKAGE). With the exception of project contribution to household food security (PCFS), the other three variables were also found to be significant by the results of the Tobit model analysis. However, from the results of the OLS regression analysis, only two of the variables were significant i.e. availability of project business plan (AVBP) and number of conflicts experienced on the project (NCONF).

4.3.3 Summary of the Ordinary Least Squares (OLS) Regression Analysis

The estimated model of the ordinary lest square (OLS) regression analysis is presented in Table 4.6. The estimated model indicated R^2 value of 0.915 which implies that the independent variables included in the analysis explains 91.5 percent of the variation in the dependent variable (Y_i=level of performance of projects). The adjusted R^2 was 0.850 which is quite close to the value of the R^2 indicating that enough independent variables were included in the analysis as well as an appreciable size of the sample for the study. The mean of the residuals was 0.000 which indicates that the OLS model fit the data. The Durbin-Watson statistic was 1.757 which shows that there were no autocorrelation among the data. The variance inflationary factor (VIF) values for the respective variables ranged between 1.8 and 8.89, an indication of no multicollinearity. Berenson and Levine (1996: 824), states that, if a set of explanatory variables are highly intercorrelated, then VIF will

exceed 10. The F-statistic was estimated at 14.012 ($p<0.01$) which indicates that, the combined effect of the independent variables on the performance of the projects was very significant. However, from the t-values of the coefficients, only nine out of the twenty independent variables were found statistically significant by the OLS regression model analysis.

The statistically significant variables at different levels of significance as estimated by the OLS model included: availability of project business plan (AVBP), average number of skills training given to the project participants (AVTR), number of conflicts experienced on the project (NCONF), adoption of technology by the project (ADTECH), participation of women in the project (PROW), participants' household food security status (HHFSD), net farm income of the projects (NFI), savings availability on the projects (SAVINGS) and farm record keeping by the projects (FRK). It is worth mentioning that all the nine explanatory variables found statistically significant by the OLS model were also found statistically significant by the Tobit model even though at different significance levels. However, there were also other seven variables whose coefficients were statistically insignificant in the OLS model but were found statistically significant by the Tobit model. The seven variables included: number of years of operation of the projects (NYR), number of beneficiaries per project (NBNOW), number of beneficiaries with below matric level of education (EDLM), number of beneficiaries with having matric level of education (EDM), number of beneficiaries with having tertiary level of education (EDT), project beneficiaries' participation in project business plan preparation (NBEBP) and average number of relevant linkages established by the projects (LINKAGE).

4.3.4 Coefficients of the estimated Tobit Model of the study

In all, the results of the analysis of the Tobit model have six-teen coefficients which were statistically significant; the results of the analysis of the OLS regression model identified nine coefficients which were statistically significant; while the results of the analysis of the Binary Logistic regression model have only four coefficients which were statistically significant. Thus the OLS model failed to identify the significant positive impact of seven variables on the performance of the LRAD projects in the study area. Similarly, the

BLRM also failed to identify the significant impact of twelve variables which were considered significant by the Tobit model. However, it is worth mentioning that all the signs of the statistically significant variables of the three respective models were equal. The limited dependent variable of the study, Y_i was left censored hence the Tobit regression model provided estimates which are asymptotically consistent and efficient (McDonald & Moffit, 1980). The observable variable Y_i was defined to be equal to the latent variable whenever the latent variable (performance) was above zero and zero otherwise. The coefficient estimates of the respective variables of the Tobit model are thus discussed:

a) Years of operation of the projects

The Tobit coefficient estimate associated with the years of operation of the project (NYR) is positive (0.746) and statistically significant ($p<0.05$) indicating that performances of the projects increase as the years of operation increases (Table 4.6). This may be due to the fact that the beneficiaries have been making good use of experience acquired over the previous years in various aspects of the projects including production, financial, marketing, socio-economic and group dynamic issues. The result is consistent with that of Yeamkong, et al. (2010) in Thailand who found that dairy farms that have experienced participants had higher farm milk yield (MYF) and farm milk revenue (MRF) ($p<0.05$) than those with less experience. The study established that the majority (53%) of the projects have been in operation for 6 to 10 years. Most of the project beneficiaries might have acquired some farming experience through skills training organised by the programme implementers and their participation in the various production, marketing and financial activities of the farm.

b) Number of direct beneficiaries per project

The coefficient associated with the number of members per project (NBNOW) is negative (-7.089) and statistically significant ($p<0.10$) indicating that other factors held constant, the performances of the projects decrease as the members per project increases (Table 4.6). Most of the projects have experienced conflicts and other group dynamic

problems which can normally be attributed to a very large number of participants per project.

c) Educational levels of the project beneficiaries

The estimates associated with the number of members having tertiary education, matric or less than matric levels of education per project (EDLM, EDM & EDT respectively) are positive and statistically significant (8.254: $p<0.05$, 7.557: $p<0.05$, & 7.983: $p<0.10$ respectively) indicating that the performance of the projects increase as the members per project with the various types of educational background increases (Table 4.6). This positive association between beneficiaries' education and project performance is consistent with the review of Lockheed *et al.* (1980), using 37 data sets from Asia, which revealed that, formal education has positive effect on farm performance in all cases and that this effect was nearly always statistically significant. As stated above, the results of this study suggests that formal education improves productivity since the estimates associated with education of the project members are positive (Lockheed *et al.*, 1980); therefore, investment in rural LRAD beneficiaries' education may make extension much more cost-effective by allowing much use of written materials. Over the long run, education may increasingly substitute for extension by enabling farmers to acquire information and skills from a wider range of sources. Education should therefore be empowering in the sense that, first it equips people to make effective decisions about their own lives and second, it must furnish people to go about commonly desired change.

d) Skills training impact

The estimates associated with the average number of skills training in agriculture received by the project participants (AVTR) is positive (3.684) and statistically significant ($p<0.05$). This implies that other factors held constant, the more relevant training is provided to the project participants, the better the performance of the projects. The result is similar to that of van den Berg *et al.* (2004). They analysed the impact of skills training in Integrated Pest Management (IPM) in six farming villages in Sri Lanka. It was discovered that the IPM was associated with a yield increase of 23 percent. If relevant training in the areas of finance, record keeping, production and marketing are

provided to the beneficiaries of the LRAD projects, it would greatly impact positively on the performance of the participants.

e) Project business plans

The importance of business plans for agricultural projects can not be over-emphasised. It normally contains the baseline plans of the projects and serves as implementation guide. The results in Table 4.6 show that the estimates associated with projects that have business plans (AVBP) is positive (7.793) and statistically significant ($p<0.05$). This implies that all things being equal, projects with business plans perform better than those without business plans. This may be due to the proper use of the business plans during project implementation as well as translation of the perceived strong interest into actual contribution by the members to the implementation of the projects.

f) W*omen participation in the projects*

The results of the analysis show that the estimate for women participation (PROW) is positive (0.659) and statistically significant ($p<0.05$) indicating that the projects with more women in the study sample perform better than the ones with less or no women. The result of the study is consistent with Okon *et al.* (2010). This study, using stochastic frontier analysis, found men to be less technically efficient than women. The study identified farm size and gender as the major determinants of technical efficiency. This underscores the need to increase women participation in the LRAD agricultural projects. Since many of the households in the study area are headed by women, including those on the study projects, they put in maximum effort in the projects' activities which serve as the only source of food security for the majority of the project beneficiaries.

g) *Conflict on the projects*

From the results of the functional analysis in Table 4.6, the estimates associated with the number of conflict per project (NCONF) is negative (-9.867) and statistically significant ($p<0.01$) indicating that the performance of the projects decrease with an increase in the number of conflicts within the projects (Table 4.6). Due to large numbers of project beneficiaries on many LRAD projects, conflicts may be very prevalent in most of the

projects. All the projects in the study sample indicated that they have incorparated conflict resolutions processes in their project constitutions. However, this has not been effectively applied in most of the conflicts that have plagued the projects.

h) Project beneficiaries employed outside the projects

The study established that some of the members of the respective projects not only work on the LRAD projects but are also engaged in other income generating activities beside the LRAD projects. The estimates associated with the number of beneficiaries employed outside the projects (NBEBP) is negative (-6.634) and statistically significant ($p<0.10$) indicating that the performances of the projects decrease with increases in the number of beneficiaries employed outside the projects (Table 4.6). This may be due to the fact that those having jobs outside the projects may not be able to give much attention or contribution to the project. There may also be high levels of absenteeism on the part of such participants which can affect the contributions of the other project members who do not have jobs outside the projects. They may be using the incomes earned from the jobs outside the project to ensure their food security. This result is not consistent with that of Owens *et al.* (2003) who identified that, access to remittances and household's participation in off-farm activities has a positive impact on farm productivity. This could reflect the fact that extra sources of income relax liquidity constraints. This is also confirmed by Savadogo *et al.* (1998) who established that in Burkina Faso, non-farm income indirectly determines farm productivity via its effect on adoption of traction power.

i) Food secured project participants

The results of the functional analysis indicated that the estimate for the project beneficiaries who are food secured (HHFSD) is positive (6.4723) and statistically significant ($p<0.05$) indicating that increase in the number of members with secured food security will result in the increase of the performance of the projects (Table 4.6). This may be attributed to the fact that some of the food secured households might have achieved it via the projects and other routes outside the LRAD projects. The analysis also showed that as the contribution by the LRAD projects to food security increases, the performance of the projects also increases. Thus, the estimate for the contribution of

projects to food security (PCFS) is positive (1.422). It is expected naturally that if projects are doing well and contributing more to food security, then participants will be motivated to put in more effort to sustain and improve the performance of the projects (Table 4.6).

j) Net Farm Income and savings from project

The results of the functional analysis show that the estimates for both Net Farm Income (NFI) and savings (SAVINGS) of the projects are positive (8.081& 8.213) and statistically significant ($p<0.01$ & $p<0.01$ respectively) indicating that increases in both variables will result in the increase of the performance of the projects (Table 4.6). Deininger *et al.* (2008) using state-level variation in reform implementation, also maintain that the land reforms had a significant and positive impact on income growth and accumulation of human and physical capital in the reform households. The study found that the majority (77%) of the projects have <R1000 Annual Average Net farm income. The results also indicate that the majority of the projects (62%) do not save part of the annual net incomes from the projects (Figure 4.9). Bank savings and other savings investments by the projects will go a long way to help the beneficiaries to secure loans from commercial entities for farm improvements, services and skills development.

k) Farm record keeping

The estimate for farm record keeping (FRK) is positive (6.999) and statistically significant ($p<0.05$) indicating that increase in record keeping by the project participants will increase the performance of the projects (Table 4.6). The study also discovered that the majority (89%) of the projects keep farm records which are very good practices (Figure 4.9). This result is similar to that of Yeamkong *et al.* (2010) that dairy farms that kept records had higher farm milk yield (MYF) and farm milk revenue (MRF) ($p<0.05$) than those without records. Record keeping is an important tool in farm enterprises management. Records help the producer to follow up the performance of an enterprise e.g. sheep and goat enterprise and assist in making decisions based on concrete facts. It is a tool that enables the producer to take timely corrective measures based on monitoring progress.

l) Established linkages

The results of the analysis show that the estimate for established linkages (LINKAGE) by the projects is positive (4.820) and significant ($p<0.05$) indicating that increases in the establishment of linkages with important organisations, institutions and individuals by the projects will increase the performance of the projects (Table 4.6). According to the results of the study, about 94% of the projects had established at least five linkages while 6% of the projects have established six or more links with other organisations and institutions such as the Department of Labour, the Department of Social Development, Municipalities, the Provincial Department of Agriculture, GWK and Pannar (Figure 4.10). The results is similar to that of Deere and de Medeiros (2007:80-118), which states that, Brazil agrarian reform beneficiaries, besides a plot upon which to grow part of their subsistence requirements, also gained access to a range of other benefits from which they had previously been excluded such as; the establishment of dialogues and linkages with the different agencies of the state and financial agents or other intermediaries, notably the Bank of Brazil, whose personnel begin to frequent long-neglected areas, in turn stimulating the demand for local services. King (1977: 206-217), stated that the increased productivity in the Taiwan agrarian reform was attributed to strongly promoted linkage of Sino-American Joint Commission on Rural Reconstruction.

m) Use of modern technology

The results of the analysis show that the estimate for use of modern technology on the project (ADTECH) is positive (8.206) and statistically significant ($p<0.05$) indicating that increases in the use of improved technologies will increase the performance of the projects (Table 4.6), other factors held constant. King (1977: 206-217), stated that the increased productivity in the Taiwan agrarian reform was attributed to factors such as; improved rice varieties, greater application of fertilizer and pesticides, and more advanced technologies. Most of the projects in the study area use various types of technologies including among others: chemical fertilizers, improved seeds, sprinkler irrigation systems, tractors and accessories.

4.4 Chapter summary

The analysis focused on the extent to which the project objectives are consistent with the priorities of the rural poor and other stakeholders (relevance). The study assessed the changes that have occurred due to the projects. Thus, impact or changes in the livelihoods of the participants including the rural unemployed as perceived by the time of the evaluation to which LRAD has contributed as well as the likely sustainability of the projects. The domains of the impact considered included: Physical and financial assets; thus physical entitlements to land, water/irrigation/boreholes, livestock, tools, equipment, machinery, farm infrastructure, transport, technologies, communication, savings; human assets; social capital and peoples' skills empowerment; food security and jobs created. The assessment was further complimented with a functional analysis using the Tobit limited dependent model to determine the effect of the selected independent variables on the performance of the LRAD projects in the study area. There was a separate assessment of the performance of the primary partners in the project which included the Department of Agriculture, the Department of Land Affairs and the Land Bank.

CHAPTER 5

5.0 SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Agriculture is one of the most important sectors of the South African economy that has the potential to increase the income levels of rural and peri-urban communities and create employment opportunities in these communities. The study area, Ngaka Modiri-Molema (Central) District Municipality is the second largest of the four districts of North-West Province in both population and size. The Ngaka Modiri-Molema (Central) district comprises five local municipalities namely; Ratlou, Tswaing, Mafikeng, Ditsobotla (Lichtenburg) and Ramotshere (Zeerust). Agriculture is the second most important sector of the provincial economy after mining, contributing 13% of the GDP and 18% of employment respectively. Crops such as maize, sunflowers and peanuts are extensively grown on the fertile plains of the central region.

As a result of decades of dispossession and racist land laws, due to the 1913 Land Act, land distribution in South Africa is among the most skewed in the world, with large capital-intensive farms dominating much of the rural areas. The democratic government of South Africa in 1994 opted for a three-pronged land reform policy to redress the historical injustice of land dispossession, denial of access to land and forced removals: Land Restitution to restore land or provide financial compensation for people dispossessed of the land after 1913; Land Redistribution; and Land Tenure reform. The Land Redistribution for Agricultural Development (LRAD) programme which was the focus of this study was introduced in year 2000.

By November 2007, some 4.2 million hectares of land had been redistributed. Since 1994, about 4.7 percent of commercial agricultural land in terms of area has been redistributed through all government programmes to date to previously disadvantaged persons in South Africa for agricultural purposes especially for agricultural development projects including the study area. The desktop information and data analysis indicated

that approved and transferred land reform projects in the District Municipality from 1997 to March 2009 were ninety (Annexure 2). Out of this, 5 were SLAG projects; 3 for Commonage; 72 for LRAD; and 10 for PLAS. The LRAD programme has been implemented for over ten years and needed to be evaluated since evaluation or impact assessments of agricultural development projects can provide government officials, development managers and civil society with better means of learning from past experiences, improving service delivery, planning and allocation of resources, and demonstrating results as part of accountability to key stakeholders. The main objective of the study was therefore to assess the impact of the LRAD projects on the livelihoods of the beneficiaries in the study area. The literature of the study revealed many success stories as well as overall negative impact of agrarian land reform programmes world-wide.

5.2 Summary of the findings

The analysis and discussions of the study were presented in chapter four. The focus of this chapter therefore, is the summary of the findings of the study, conclusion and policy recommendations. The findings of the study include the following:

5.2.1 Land sizes, years of operation of projects and demographics of project beneficiairies.

The size of the land at the disposal of the beneficiaries ranges between 5 and 1600 hectares. The size of the land for the majority (66%) of the projects lies between 1 and 300 hectares (Table 4.1). The majority (53%) of the projects have been in operation for 6 to 10 years. The coefficient associated with the years of operation of the project (NYR) is positive (0.746) and statistically significant ($p<0.05$) indicating that performance of the projects increase as the years of operation increases (Table 4.2). The number of beneficiaries in all the projects involved with the study was 244. This implies that one of LRAD's objectives of redistributing agricultural land to the previously disadvantaged South African is being achieved (Department of Agriculture and Land Affairs, 2001). The average numbers of direct beneficiaries per project in the study sample was five with a range of 1 to 11. The coefficient associated with the number of members per project

(NBNOW) is negative (-7.089) and statistically significant ($p<0.10$) indicating that other factors held constant, the performance of the projects decrease as the members per project increases (Table 4.6).

About 35% of the beneficiaries who started on the various projects have left the projects due to the very poor net cash-flows on the projects. The majority (54%) of the beneficiaries were men, 46% were women while 41% were youths (Figure 4.1). Project beneficiaries between the ages of eighteen and thirty-five were classified as youth in this study. Women/youth/minority groups in the projects are less than 50%. Even though the combined participation of this group is less than 50%, it is an improvement compared to the previous system in South Africa prior to the introduction of LRAD programme in encouraging women strong participation in land ownership and development (Department of Agriculture and Land Affairs, 2001). However, one project out of the 47 projects had no woman among its membership. The most active and committed members of the projects were women. The majority of the project beneficiaries (52%) were married while 44% were not married with 4% in the category of co-habitation (Figure 4.1).

The majority (46%) of the beneficiaries had attained education level of less than matric and 28% had attained matric while about 26% of the beneficiaries have attained tertiary level education. The estimates associated with the number of members having tertiary education, matric or less than matric levels of education per project (EDLM, EDM & EDT) are positive and statistically significant ($8.254:p<0.05$, $7.557:p<0.05$, & $7.983:p<0.10$ respectively) indicating that performance of the projects increase as the members per project with the various types of educational background increases (Table 4.6). The majority (57%) of the beneficiaries' households had a size of 1-5 members while 43% had sizes of 6 to 10 people.

5.2.2 Relevance and efficiency of the projects

The project objectives revealed that it is consistent with the needs of the target beneficiaries and also with the objectives of the Land Reform Policies of South Africa.

The projects were implemented in rural areas with high rate of unemployment, acute food insecurity, lack of entrepreneurship and development skills. The projects helped the beneficiaries to partially address their food security and unemployment problems. The projects meet the selection criteria by the Land Redistribution for Agricultural Development programme implementers and satisfy their mandate.

5.2.3 Infrastructural impact

About 51% of the LRAD projects in the study area had over 50% of the required established infrastructures for their operations. About 49% of the projects at the time of the study had less than 50% of their operational infrastructural needs (Figure 4.2). The types of infrastructure established included among others: irrigation systems, electricity, farm houses, fencing, offices, chicken houses, farm machinery, and vehicles. About 94% of the infrastructure was fully owned by the beneficiaries while 6% were either rented or partially owned. Only 15% of the projects rated the quality of their infrastructure as excellent; 49% rated the quality of their infrastructure as good. About 36% of the projects classified their infrastructure as poor.

About 83% of the infrastructure on all the projects in the study area was acquired as part of the purchased land while 17% was acquired after the land purchase by the beneficiaries themselves (Figure 4.2). With respect to transport within the projects, 21% did not have any vehicles of their own for use within the projects. The members had to rely on hired vehicles or use public transport to implement project activities. In 79% of the cases, the projects had their own means of transport which were usually bakkies and trucks in few cases. The conditions of road networks in the areas where most of the projects (64%) are located were generally considered to be in a bad state as shown in Figure 4.3 although there were some projects (36%) with roads considered to be in a good state.

5.2.4 Skills trainingimpact

Prior to joining the LRAD projects, most of the beneficiaries did not have good farming skills. About 72% of the LRAD projects in study area received one or two skills training;

13% received three to five skills training with 15% receiving more than five skills training since their establishments (Figure 4.4). Most of the training was primary production oriented such as livestock farming, crop production and general farm management. Most of the skills training were organised by the North-West Department of Agriculture, the North-West farmers' co-operatives (GWK) and others such as the First National Bank. However, some of the projects engaged in a number of farm environmental management skills training. About 51% of the projects have had environmental management training while 49% of the projects never had any environmental training. These technologies included: the use of organic manure as fertilizer, use of newly released high yielding cultivars and rotation grazing.

Close to 42% of the project participants expressed the view that the impact of skills received from training on the projects performance is high. However, 28% of the participants rated the impact of the skills received from training on the projects as low while 30% of them did not recognise any impact from skills on the projects performance (Figure 4.4). The estimates associated with the average number of general production, marketing and finance training in agriculture received by the project participants (AVTR) is positive (3.684) and statistically significant ($p<0.05$). This implies that other factors held constant, the more relevant training is provided to the project participants, the better the performance of the projects. All the projects participants (100%) indicated that they will require training in some relevant skills in future in order to improve their performance. Among the areas which the beneficiaries are interested in being trained are; game and wild life management, vegetable production, livestock breeding, soil and irrigation management, poultry production, vaccination programmes, repair of farm machinery, farm management and book keeping. The majority (62%) of the project leaders described the training given as not useful.

5.2.5 Beneficiaries participation, planning and motivation

About 89% of the projects had business plans. About 72% of the beneficiaries indicated that they participated either partially (8%) or fully (64%) in the development of the projects' business plans (Figure 4.6). The estimates associated with projects that have

business plans (AVBP) is positive (7.793) and statistically significant ($p<0.05$). This implies that all things being equal, projects with business plans perform better than those without business plans. Over 96% of the projects indicated that they have either partially or fully established regular monitoring and evaluation system by themselves (26%) and the Department of Agriculture and the Department of Land Affairs and Rural Development (70%). Only 4% of the beneficiaries indicated that they were not motivated in the projects. About 4% of the beneficiaries stated that they were not interested in farming. Iputheng Youth Co-operation is among the few who indicated that they were not quite interested in farming. They indicated that if they could secure better non-farm employment, they would prefer non-farm employment to farming. The estimate for women participation (PROW) is positive (0.659) and statistically significant ($p<0.05$) indicating that the projects with more women in the study sample perform better than the ones with few or no women.

5.2.6 Conflict management on the projects

The estimate for the number of conflicts per project (NCONF) is negative (-9.867) and statistically significant ($p<0.01$) indicating that the performance of the projects decreases with increase in the number of conflicts within the projects (Table 4.6). Conflicts on the projects were normally as a result of non commital attitudes of some beneficiairies to work on the projects. Other cause of the conflicts was stated as absenteeism on the part of some of the beneficiairies. Some respondents of the projects indicated that some members report on the projects only when money is received from sales of produce to demand their share of the revenue. About 13% of the projects had experienced one to five major conflicts since their inception. About 17% of the projects have experienced more than five major conflicts. Contrary to expectation, about 70% of the projects had experienced no major conflict since their establishment. The majority (55%) of the projects do not have conflict management plans (Figure 4.7).

5.2.7 Employment creation

In all, 660 jobs (244 permanent and 416 temporary) were created by all the 47 LRAD projects in the study area. It was quite impressive to observe that 45% of these jobs were

considered permanent (mainly the direct project beneficiaries) with 55% as temporary (Table 4.6). About 83% of the projects made use of between 1 and 5 service providers while 17% used more than six service providers. The estimates associated with the number of beneficiaries employed outside the projects (NBEBP) is negative (-6.634) and statistically significant ($p<0.10$) indicating that the performance of the projects decrease with increases in the number of beneficiaries employed outside the projects (Table 4.6). This may be due to the fact that those having jobs outside the projects may not be able to give much attention or contribution to the project. There may also be high levels of absenteeism on the part of such participants which can affect the contributions of the other project members who do not have jobs outside the projects.

5.2.8 Impact on food security

The majority (85%) of the households in the projects were food secure with 15% who were food insecure (Figure 4.8). The estimate for the food secured households on the project (HHFSD) is positive and statistically significant ($p<0.05$). In addition the estimate for the contribution of projects to food security (PCFS) is positive (1.422). About 66% of the beneficiaries indicated that the LRAD projects contribute less than 50% of their food security while only 34% of the beneficiaries' food securities depend solely on the contribution from the LRAD projects.

5.2.9 Finance- related impact

The LRAD programme implementers (PDA & PDLA) spent less than R500, 000 per project on about 78% of the projects; spent between R500, 000 and R1m per project on 11% of the projects; and spent more than R1m per project on 10% of the projects in the study area. Only 17% of the projects received their funding in less than 3 months period from the date of application. It took between 3 to 6 months for about 26% of the projects to receive their funding for the purchase of the land while 57% of the projects took over 6 months to receive the funding after approval of their application by the Department of Land Affairs (Figure 4.9). The majority of project members (64%) earned a monthly income of less than R1000 from the projects (e.g. Marabatsa farm) while 13% of them earned a monthly income of between R1000 and R2000. About 23% of the project

members indicated that they earned more than R2000 per month especially projects with very few beneficiaries.

The average annual Net Farm Income from project operations of most (77%) of the projects were less than R1, 000; 21% realised Net Farm Income in the range of R1, 000 to R10, 000 while the NFI of about 2% of the projects exceeded R10, 000 (Figure 4.9). The estimates for both Net Farm Income (NFI) and savings (SAVINGS) of the projects are positive (8.081 & 8.213) and statistically significant ($p<0.01$ & $p<0,01$ repectively) indicating that increases in both variables will result in the increase of the performance of the projects (Table 4.6). Only 38% of the projects have made some savings from the NFI generated from the projects' activities. The majority (62%) of the projects do not save (Figure 4.9). Most (89%) of the projects keep financial and other farm records which are very good practices.

5.2.10 Impact on communication and linkages established

Most of the projects had telephones either as land lines or cell phones. About 30% of the projects had Telkom land lines while 98% of them had cell phones (Figure 4.10). The estimate for established linkages (LINKAGE) by the projects is positive (4.820) and statistically significant ($p<0.05$) indicating that increases in the establishment of linkages with important organisations, institutions and individuals by the projects will increase the performance of the projects (Table 4.6). About 94% of the projects had established at least five linkages while 6% of the projects have established six or more links with other organisations and institutions such as the Department of Labour, the Department of Social Development, Municipalities, the Provincial Department of Agriculture, GWK and Pannar (Figure 4.10). The estimate for visits to the projects (VISITSE) by the extension officers to the projects is positive (1.140) but statistically insignificant (Table 4.6). The main link between the LRAD projects and the PDACE is the agricultural extension support. About 62% of the projects received between one and three visits by the agricultural extension officer during the 2009 farming season while 15% of the projects had between 4 and 7 visits by the extension officer (Figure 4.13). However, the majority

of the beneficiaries indicated their dissatisfaction of the frequency and the quality of the agricultural extension services.

5.2.11 Impact on best practices and sustainability of the projects

About 57% of LRAD projects could identify some form of best practices associated with the project (Figure 4.11). The vast majority 53 and 64% of the projects studied had not secured funding and any other forms of assistance respectively besides the funding from the DLA and the Land Bank. This situation is worrisome for the sustainability of such projects considering that the DLA funding is mainly for the acquisition of more farms for applicants. About 19% of the projects indicated that their projects will not be sustainable mainly due to financial constraints (Figure 4.12). However, about 81% of the projects were certain that their projects will be sustainable. All the projects started with a total of 376 beneficiaries but are now left with 244 implying a turnover of 35%. About 66% of the projects were concerned about security and had taken steps to guard against it. Most of the projects reported theft involving livestock, food crops and vegetables in the field and farm equipment.

The major threats facing the projects among others include: lack of finance; theft and vandalism; poor value for farm produce; and unbearable high interest rates by the Land Bank. The majority of the project beneficiaries expressed their disapproval of the services provided by the Land Bank. Many were of the view that the interests on the loans were too high. The beneficiaries were also not happy with procedures followed by the Department of Rural Development and Land Affairs regarding payments to service providers on the various projects. They complained that the amounts paid to the service providers were most often too high for such services. The beneficiaries also complained bitterly about payment of electricity bills even if no production was done.

5.2.12 Constraints facing the projects

The major constraints faced by the LRAD projects in the study area include among others (Table 4.5): Lack of finance (81%); Lack of reliable sources of water (43%); Poor/Lack of farm equipment (36.2%); Poor fence (36.2%); Lack of farm machinery (32%); Lack of

farm inputs (30%); Lack of irrigation infrastructure (21.3%); Drought (21.3%); Lack of market information (15%); Poor extension services (12.8%); Lack of access to veterinary services (10.6%); Lack of skills training (8.5%) and financial assistance withheld by the DRDLA (15%).

5.3 Conclusions

The broad objective of this study was to evaluate the impact of the LRAD programme on the livelihoods of the beneficiaries in the Ngaka Modiri Molema District of the North-West Province. Both local and international literature about impact evaluation of agrarian land reform was reviewed. It was clear from the literature that evaluation has two main purposes, first, to inquire into the feasibility of a project design and second, to assess the overall impact of a project. Consistent with international practice, three main evaluation criteria provide the basis on which project achievements and impacts are to be, namely: performance of the project; impact on rural poverty; and performance of the partners.
The literature pointed that land redistribution can actually be good for growth. Regarding LRAD programme, the literature revealed that the Department of Land Affairs is responsible for releasing funds related to land acquisition and/or the upgrading/securing of tenure rights, while the Department of Agriculture is responsible for releasing funds related to the agricultural development.

The international literature on the impact of agrarian reforms on beneficiairies revealed many success stories in the areas of increased income, access to large sizes of land, improved productivity, improved farm infrastructure, peaceful and progressive rural social changes and economic prosperity, and acquisition of relevant farming skills. However, some overall negative impact of land reform on productivity was also revealed by the literature. For instance in Zimbabwe, wholesale land redistribution at the end of the 1900 resulted in the near collapse of the country's commercial agriculture when land was transferred from white farmers to blacks who had little farming experience and inadequate equipment. The literature also emphasised that Land reform beneficiaries need economically efficient production mix with accessible supporting services. The

literature suggested in general that, organisations, project/programme leaders and managers can only expect evaluations to provide them with useful information for making decisions about future prospects for internal development.

Qualitative and quantitative analysis were performed on the data collected using a structured questionnaire from forty-seven LRAD projects in the study area. Graphs, histograms and tables were used to present the results of descriptive analysis which was performed on all the indicator variables. The Limdep Version 4.1.0 Statistical Programme was used to analyse the limited dependent variable model (Tobit model) in equation 7 and the estimates for the effects of the socio-economic factors on the projects' performance were determined (Table 4.6). Most of the estimates or coefficients associated with the explanatory variables have the expected parameter signs and fifteen out of the twenty independent variables were found to be statistically significant at the 5% level. The variables which were not statistically significant included: Total jobs created per project (TOTALJOB); Proportion of youth per project (PROPY); Project contribution to household food security of beneficiaries (PCFS); Number of extension visits per season (VISITSE).

It was expected that the LRAD projects in the Ngaka Modiri Molema district of the North-West Province are meeting the objectives of the LRAD programme implying that the projects are among others improving the living standards of the beneficiaries by creating jobs; generating satisfactory monthly income; ensuring food security; equipping them with the requisite skills for effective, efficient and sustainable farming; and established reliable farm infrastructure. However, from the results or findings of the analysis, it is clear that such expectations were only partially achieved. There were both negative and positive aspects of the results. Some of the afore-mentioned key indicator variables were lowly achieved. For instance, close to 50% of the projects at the time of the study did not have 50% of the required farm infrastructure to perform productively; only 15% of the projects rated the quality of their infrastructure as excellent; the majority (72%) had a maximum of two skills training; 62% of the project leaders described the skills training given them as not useful; 66% of the beneficiaries indicated that the LRAD

projects contribute less than 50% of their food security; 62% of the projects do not have savings; 53% of the projects did not manage to secure funds from any other sources besides the one from the government; and 81% of the projects are faced with financial constraints.

The positive aspects revealed by the results of the study include: access to sizeable productive agricultural lands; improved participation of women and youth in farming; household supply of food stuffs from the projects; earning of some form of monthly income from farm produce sales; some of the projects even though small in number, have some good farming infrastructure; through the projects, though grossly inadequate, some have means of transport and farm machinery; the projects considered in the study created permanent and temporary jobs on the projects; the projects have also established some beneficial linkages; majority of the projects could also identify some form of best practices. From the foregoing, coupled with the level of motivation among the participants, there could be improvement in all the projects if the post settlement Farmer-Support is improved. The policy implication points to an integrated agrarian reform support programme for improving productivity of the projects (the programme package may include support services, rural infrastructure and formation of co-operatives). There could also be policy to establish Farmer-Support centres for the acquisition and distribution of agricultural equipment to agrarian project beneficiaries.

5.4 Recommendations

a) Based on the constraints identified, the study recommends the following:
The DRDLA should continue funding these projects because of their contribution to the socio-economic development of the communities;

b) There should be increased site visits and interaction between the DRDLA managers and project participants to assist in management and problem solving. Even though the result of the study found that only 30% of the projects considered in the sample, the DRDLA should evaluate the conflict management plans to ensure that they are properly designed and effectively implemented. It is very

important for all conflict management plans to cover the various aspects of conflict viz conflict care, conflict identification, conflict handling and conflict cure;

c) The DRDLA should encourage individual ownership of projects where sustainability and impact are shown to be high;

d) The identified best practices in some of the projects should be transferred to the other projects which are lagging behind;

e) The DRDLA should continue the monitoring and evaluation of projects during and beyond the funding of the projects as an after-care programme that can contribute to sustainability;

f) It is recommended that, other than security, the other reasons for the non-sustainance (especially 19% of the projects who indicated that their projects can not sustain after DRDLA funding) of these projects needs to be properly investigated and solutions provided. The two issues that could be considered are that it may be necessary to revisit the DRDLA funding and also that it may be important for DRDLA to encourage co-funding of the projects;

g) It is recommended that sustainability can be achieved only if the LRAD projects are implemented over a longer-term period of over 15 years, on condition that the projects are monitored independently by consultants on a tender and five-year renewable contract basis and the DRDLA must be prepared to intervene in and restructure failing projects. It must also provide more education and technical support;

h) The balance of grants of some projects should be properly directed to solve critical problems on such projects. Some of the beneficiaries expressed their dissatisfaction of the lack of transparency in the appointment of service providers

by the DRDLA personnel. The participants as clients should be involved in decisions regarding expenditures from grants allocated to their projects;

i) The transition from small scale and communal farming to commercial farming for most emerging farmers requires giving farmers the necessary management skills and technical know-how. This was further underscored by the fact that all the projects (100%) indicated that they need more skills training to improve their productivity. The areas that training is required include: livestock breeding; including animal health, herd composition management, breeding systems, livestock grading and animal nutrition; financial planning and management skills; the nature of credit has to be explained to beneficiaries; practical skills in water-point maintenance, basic mechanics and construction have to be developed; irrigation management; crop production; environmental management; wildlife and game management;

j) The majority of the project participants expressed their dissatisfaction about the frequency and quality of extension service provided by the Provincial Department of Agriculture, Conservation and Environment personnel. Both the frequency and the quality of the agricultural extension service should be improved;

k) An integrated agrarian reform support programme will go a long way in improving productivity of the projects if it consists of a package in support services, rural infrastructure and co-operatives. There should be the extension of a special grant to support government's efforts. Furthermore, the agrarian reform development support project should primarily involve the establishment of Farmer-Support centres for the acquisition and distribution of agricultural equipment to agrarian project beneficiaries. These farmers support centres will provide the necessary services and support to the agrarian reform project beneficiaries.

REFERENCES

Aghion P & Bolton P (1997). A theory of trickle-down growth and development. *Review of Economic Studies* 64 (2): 151-72.

Ameyiya T (1973). Regression analysis when the dependent variable is truncated normal. *Econometrica,* 41: 997-1016.

Austin PC, Escobar M & Kopec JA (2000). The use of the Tobit model for analyzing measures of health status. *Quality of Life Research* 2000 (9):901-910. PMID: 11284209.

Banerjee AV, Gertler PJ & Ghatak M (2002). Empowerment and efficiency: Tenancy reform in West Bengal. *Journal of Political Economy* 110 (2): 239-80.

Bardhan P & Mookherjee D (2007). *Land reform and farm productivity in West Bengal.* Stanford Center for International Development.

Berenson ML & Levine DM (1996). *Basic Business Statistics.* 6th Edition. ISBN0133030091.

Besley T & Burgess R (2000). Land reform, poverty reduction and growth: evidence from india. *Quarterly Journal of Economics* 115 (2): 389-430.

Birdsall N & London JL (1997). Asset inequality matters: an assessment of the World Bank's approach to poverty reduction. *American Economic Review, Papers and Proceedings* 87(2): 32–37.

Bradstock A (2005). Changing livelihoods and land reform: Evidence from the Northern Cape province of South Africa. *World Development 33* (11): 1979-92.

Buainain MA, Da Silveira JM, Souza HM & Magalhaes M (1999). Community-based land reform Implementation in Brazil: A new way of reaching out to the marginalized?. GDN Conference paper, Bonn, Germany. December 1999. www.gdnet.org 03/02/2011

CASE (Community Agency for Social Enquiry) (2006). *Assessment of the status-quo of settled land restitution claims with a developmental component nationally.* Research conducted for the Monitoring and Evaluation Directorate, Department of Land Affairs, South Africa. 14 February.

CDE (Centre for Development and Enterprise) (2008). *Land reform in South Africa; Getting back on track.* Transmedit Place, 5 Eton Road, Parktown Johannesburg 2193, South Africa. ISBN: 978-0-9802628-0-3.

Chen H (1990). *Theory-driven evaluations.* CA: Sage publications. Newbury Park.

Chiputwa B (2006). *Socio-economic Analysis of Wetland Utilization and Livelihood Implications on Poor Farmers:* A case Study of Intunjambili Community. Unpublished MSc. Thesis, University of Zimbabwe.

CSIR (Council for Scientific and Industrial Research) (2005). *Review of communal property institutions.* Pretoria: CSIR.

Deere CD & Leon M (2001). Who owns the land: Gender and land titling programmes in Latin America. *Journal of Agrarian Change.* 1(3): 440-467.

Deere CD & de Medeiros LS (2007). *Agrarian reform and poverty reduction. Lessons from Brazil.* Chapter 3 in Land, Poverty and Livelihoods in an Era of Globalization. Perspectives from developing and transition countries (p80-118). Edited by: Akram-Lodhi A.H, Borras Jr S.M and Kay C. Routledge Taylor and Francis group.

Deininger K & Squire L (1998). New ways of looking at old issues: Inequality and growth. *Journal of Development Economics* 57 (2): 257-85.

Deininger K, Jin S & Yadav V (2008). Impact of land reform on productivity, land value and human capital investment: Household level evidence from West Bengal. *Agricultural and Applied Economics Association series; 2008 Annual Meeting, July 27-29, 2008,* Orlando, Florida, number 6277.

Deininger K, Jin S & Nagarajan HK (2009). Land reforms, poverty reduction, and economic growth: Evidence from India. *The Journal of Development Studies, Taylor and Francis Journals, vol.* 45(4): 496-521.

Department of Agriculture and Land Affairs (2001). *Land Redistribution for Agricultural Development (LRAD):* A Sub-Programme of the Land Redistribution Programme. Pretoria, South Africa.

Deressa TT, Hassan RM, Ringler C, Alemu T & Yesuf M (2009). Determinants of farmer's choice of adaptation methods to climate change in the Nile Basin of Ethiopia. *Global Environmental Change, vol.* 19: 248-255.

DLA (2007). *Annual report. 1 April 2006–31March 2007.* Pretoria: Department of Land Affairs.

FAOa (2001). Food supply situation tightening in Southern Africa. *Africa report.* No. 3, December 2001.

FAOb (2001). *The State of food insecurity in the World.* Rome: FAO.

FAO (2007). *Good governance in land tenure and administration.* FAO Land Tenure Studies (9). ISBN 978-92-5-105753-7. http://www.fao.org/sd/LTdirect/ltstudies_en.htm. 20/11/2010. Rome: FAO.

Feder G (1985). The Relation between farm size and farm productivity: The role of family labor, supervision and credit constraints. *Journal of Development Economics* 18 (2-3): 297-313.

Gersbach H & Siemers L (2005). Land reforms and economic development. Discussion paper 5184. London: Center for Economic Policy Research.

Greene WH (2003). *Econometric Analysis, fifth edition.* Prentice Hall. ISBN 0-13-066189-9.

Guardian EA (2003). Impact of access to land on food security and poverty: the case of Philippine agrarian reform. FAO Corporate Document, 2003/2. Rome.

Gujarati DN (1999). *Essentials of econometrics*, 2nd Edition, McGraw-Hill. New York.

Gujarati DN (2003). *Basic econometrics.* 4th Edition. New York: McGraw-Hill Higher Education.

Hall R (2004). *LRAD Rapid systematic assessment survey: Nine case studies in the Eastern Cape.* Programme for Land and Agrarian Studies, University of the Western Cape.

Hallahan C (1991). 'A Window-based Graphics Toolkit Using SAS/IML', 1991, Proceedings of SUGI 16, 320-328.

Hosmer D & Stanley Lemeshow (1989). *Applied Logistic Regression.* John Wiley and Sons, Inc.

Human and Constitutional Rights (2008). *Zimbabwe Government and farmers locked in land reform dispute:* http:www.hrcr.org. 24/06/2011.

HSRC (Human Sciences Research Council) (2003). *Land redistribution for agricultural development:* Case studies in three provinces of South Africa. Integrated Rural Development. 2003.

Human Rights Watch (2002). *Fast track land reform in Zimbabwe*. 8 March 2002, A1401.

Hussein SS, Byerlee D & Heisey P (1994). Impact of training and visit extension system on farmers' knowledge and adoption of technology: Evidence from Pakistan. *Journal of Agricultural Economics,* 10(1).

IFAD (International Fund for Agricultural Development) (2003). *A methodological framework for project evaluation, main criteria and key questions for project evaluation;* Thirty-fourth session. Marchesi Grafiche Editoriali S.P.A., Rome, Italy.

IFAD (International Fund for Agricultural Development) (2009). *Evaluation manure: Methodology and processes.* Office of evaluation. Marchesi Grafiche Editoriali S.P.A., Rome, Italy.

IRIN (Integrated Regional Information Network) (2005). Namibia: land reform must include post transfer support, says new report. A service of the UN Office for the Co-ordination of Humanitarian Affairs. Available at http://www.irinnews.org. 11/12/2010.

Jacobs P (2003). *Support for agricultural development.* Evaluating land and agrarian reform in South Africa. Series no. 4. Cape Town. Programme for Land and Agrarian Studies. School of Government, University of the Western Cape.

Jera R (2004). *Comparative Socio-economic Evaluation of Alternative Farming Systems with Intergrated Striga Management Technologies:* Adoption Prospects and Livelihood Implications for Smallholder Farmers in Zimbabwe. Unpublished MSc. Thesis, University of Zimbabwe.

Khuzwayo W (2008). Land reform policy is still in shambles. *Business Report*; Online Edition.

King R (1977). *Land reform. A world survey*. London. B. Bell & Sons Ltd. (p207-217). ISBN 0 7135 1995 9.

Lahiff E (2007). 'Willing buyer, willing seller': South Africa's failed experiment in marketed agrarian reform. *Third World Quarterly* 28(8).

Leite S, Heredia B, Medeiros L, Palmeira M, & Cinarao R (2004). *Impactos dos assentamentos: um estudo sobre o mciorural Brasileiro*. Sao Paulo, Brazil: Editora UNESP.

Lockheed ME, Jamison DT & Lau LJ (1980). Farmers education and farm efficiency: a survey. *Economic Development and cultural change*. 29:37-76.

Machado A & Suarez R (1999). *El mercado de tierras en Colombia: Una alternativa viable?* Bogotá, Tercer Mundo Editores. in Deininger, K., van den Brink, R., Hoogeveen, H, and Moyo, S. (2000), (eds), *How land reform can contribute to economic growth and poverty reduction: Empirical evidence from international and Zimbabwean experience.*

MALA (Ministry of Agriculture and Land Affairs) (2001). *Land Redistribution for Agricultural Development (LRAD)*. A sub-programme of the land redistribution programme. Pretoria, South Africa.

MALA (Ministry of Agriculture and Land Affairs) (2003). *Review of the Land Redistribution for Agriculture (LRAD) programme.* Pretoria, South Africa.

MALA (Ministry of Agriculture and Land Affairs) (2005): *Land Redistribution for Agricultural Development; A sub-programme of the land redistribution programme.* Pretoria, South Africa.

Mangena M (2006). Opening address by the Minister of Science and Technology, Mr Mosibudi Mangena, at the Academy of Science of South Africa symposium on evidence-based advice.

Marsh JC (1978). The goal-oriented approach to evaluation: critique and case study from drug abuse treatment. *Journal of Evaluation and Programme Planning.* 1: 41-49 (1978).

May J & Robert B (2000). Monitoring and evaluating the quality of life of land reform beneficiaries: 1998/1999. Summary report prepared for the Department of Land Affairs, 19 June, 2000.

McCusker B (2002). The impact of membership in communal property associations on livelihoods in the Northern Province, South Africa. *Geo Journal* 10:1-10. Kluwer Academic Publishers.

Mcdonald JF & Moffitt RA (1980). The uses of tobit analysis. *Review of Economic and Statistics* 62:318-321

MEDCO (Mindanao Economic and Development Council) (2004). *Annual report on Belgian Integrated Agrarian Reform Support Programme (BIARSP) in the Philippines.* Philippines-Belgium Development Co-operation, August, 2004.

MoA (Ministry of Agriculture) (2008). In capital and market access constraints in land reform projects; Three case studies from Mpumalanga, South Africa. Eds. Williams, Chris and van Zyl, Niel.

Moyo S (2000). The political economy of land acquisition and redistribution in Zimbabwe, 1990-1999. *Journal of Southern African Studies.*26 (1):5-28.

Moyo S (2004). Overall impacts of the fast track land reform programme. Prepared for the "Review of the Zimbabwean Agricultural sector following the implementation of the land reform policies"

Moyo S (2006). The evolution of Zimbabwe's land acquisition. In *Zimbabwe's agricultural revolution revisited*, edited by R. Mandivamba, P. Tawonezvi, C. Eicher, M. Munyuki-Hungwe, and P. Matondi. Harare: University of Zimbabwe Publications.

Muhammad NS & Muhammad AG (2003). *Adoption and Impact of Zero Tillage Technology for Wheat in Rice-Wheat System – Water and Cost Saving Technology.* A Case Study from Pakistan. Center for Research on Poverty Reduction and Income Distribution. Pakistan.

National Agricultural Directory (2005). National Department of Agriculture South Africa, *Annual report* 2004/2005.

NDA (National Department of Agriculture) (2007). *Economic review of the South African agriculture. Annual report. 2006/2007.*

Ng'ong'la DH & Mangisoni JH (1994). Production efficiency of Barley Estates: A Case Study of Kaasungu agricultural division. *Agricultural Economics and Rural Development* (4): 29-53.

Nieuwoudt WL & Groenewald JA (eds) (2004). *The challenge of change:, Agriculture, Land and the South African economy.* Pietermarizburg, University of Natal Press.

NWDACE (North-West Department of Agriculture, Conservation and Environment) (2005). *Annual report* 2004/2005.

NWDACE (North-West Department of Agriculture, Conservation and Environment) (2005). Five Year Strategic Plan and Annual Performance Plan (April 2005-March 2010).

Okon UE, Enete AA &Bassey NE (2010). Technical efficiency and its determinants in garden egg (*Solanum Spp*) production in Uyo Metropolis, Akwa Ibom State, Nigeria. *Field Actions Science Report*. www.factsreports.org 17/12/2010.

Onoja AO & Unaeze HC (2008). Socio-economic determinants of productivity and income of rice farmers in Udenu local government areas, Enugu State, Nigeria. *Journal of Agriculture and Social Research* (JASR) Vol. 8, No. 2, 2008, 125.

Owens T, Hoddinott J & Kinsey B (2003). *The impact of agricultural extension on farm production in resettlement areas of Zimbabwe. Economic Development and Cultural Change* 51: 337–58. Pretoria: Commission on Restitution of Land Rights.

Prosterman R & Hanstad T (1995). *Land reform: Neglected, yet essential*. Seattle, WA: Rural Development Institute.

Provus M (1972). *Discrepancy evaluation*. Berkeley, CA: McCutcheon publications. Regional Development Division, HSRC, Pretoria, October.

Reyes CM (2002). Impact of agrarian reform on poverty. *IPDS Discussion paper series* no. 2002-02. Manila: Philippines Institute for Development Studies.

Rossi PH, Freeman H & Lipsey K (1999). *Evaluation: A systematic approach* (6th edition). Thousand Oaks, CA: Sage publications.

Sachikonye LM (2003). The situation of commercial farmers after land reform in Zimbabwe. Report prepared for the Farm Community Trust of Zimbabwe. Mimeo.

Savadogo K, Reardon T & Pietola K (1998). Farm productivity in Burkina Faso: Effects of animal traction and nonfarm income. *American Journal of Agricultural Economics* 76(3): 608-612.

Scriven M (1991). *Evaluation thesaurus* (4th edition). Newbury Park, CA: Sage publications. Special Issue 1.

SDC (Sustainable Development Consortium) (2007). *Clarification of the numbers of claims and land reform projects to be settled or achieved.* Cape Town: SDC.

SEAMEO (South-East Asian Ministers of Education Organisation) (2000). *Problems in land reform.* SEAMEO secretariat, Bangkok 10110, Thailand. 01 June 2000.

Seo SN, Mendelsohn R & Munasinghe M (2005). Climate change and agriculture in Sri Lanka. *Environment and Development Economics, vol.* 10: 581 - 596.

Singini R & van Rooyen CJ (1995). *Serving small-scale farmers: An evaluation of the DBSA's Farmer-Support Programmes.* Halfway House: Development Bank of Southern Africa.

Smetherham D (1981). *Practising evaluation.* ISBN-13: 9780905484396. Nafferton Books publishers. 33-165.

Spicer J (2004). Making sense of multivariate data analysis. Sage Publications, California: 123-151.

Strauss A & Corbin. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory.* Thousand Oaks, CA: Sage publications.

Stufflebeam DL (2001). Evaluation models. *New Directions for evaluations,* 89 (Spring): 7-99.

The Columbia Encyclopedia (2008). Sixth Edition. Columbia University Press.

Tobin J (1958). Estimation of relationships for limited dependent variables. *Econometrica* 26(1): 24-36.

van Den Berg H, Senerath H & Amarasinghe L (2004). *The impact of participatory Integrated Pest Management (IPM) in Sri Lanka1.* IPM Farmer Field Schools. Wageningen University, Global IPM Facility.

van Rooyen CJ, Vink N & Christodoulou NT (1987). Improving access to the agricultural market in Southern Africa – The Farmer-Support Programme. *Development Southern Africa,* 4(2): 207-23.

Van Schalkwyk, H & Van Zyl, J (1994). The Land Market. In *Agricultural Land Reform in South Africa: Policies, Markets and Mechanisms.* Edited by Van Zyl, J., Kirsten, J. & H.P., Binswanger, Oxford: Oxford University Press.

World Bank (2001). *World Development Report 2000/01. Attacking poverty.* Oxford: Oxford University Press.

World Bank (2004). *Monitoringand evaluation: Some tools, methods and approaches.* 2nd edition.

World Bank (2004). *World Development Indicators 2004.* Washington, DC: World Bank.

Yeamkong S, Koonawootrittriron S, Elzo MA & Suwanasopee T (2010). Effect of experience, education, record keeping, labor and decision making on monthly milk yield and revenue of dairy farms supported by a private organisation in Central Thailand. *Asian - Australasian Journal of Animal Sciences* (May 27, 2010).

ANNEXURE 1

PROJECT INFORMATION QUESTIONNAIRE

1. Name of project and start date.....
2. Number of direct beneficiaries .....
3. General objectives of the project .....

.....

.....

4. Classification of the project (Current agricultural activities undertaken by the project)

.....

5. Project capital .....
6. Major project achievements/impacts

VARIABLES	BEFORE	AFTER	DETAILS (beneficiaries and community)
Food security			
Net working			
Capacity building:			
- Financial administration.			
- project management			
- conflict resolutions			
- entrepreneurial Skills			
Income			
Standard of living			
Formal education			
Employment			
Social status			
Social attitude			
Infrastructure			
Security (Crime)			
Others			

7. *Constraints facing the project implementation*

List and explain the major constraints facing the project implementation or operation.

ID	Constraint/problem	Explanation & suggested solution
1		
2		
3		
4		
5		
6		
7		
8		

8 Demography of Project beneficiaries

ID	INDICATOR	1	2	3
1	Gender	Female	Male	
	Explain :			
2	Age (years)	≤20	>20<50	>50
	Explain :			
3	Level of education	<Matric	Matric	Tertiary
	Explain :			
4	Marital status	Married	Not married	

	Explain :			
5	Household size	1-5	6-10	>10
	Explain :			
6	Responsibility/position in the project	None	Management	Others
	Explain :			
7	Employment besides the project (other sources of income)	Yes	No	
	Explain :			

9 Project planning and regular assessment

ID	INDICATOR	1	2	3
1	Availability of business plan	Yes	No	
	comments:			
2	Active participation of beneficiaries in developing business plan	None or symbolic	Partial	Full
	Comments:			
3	Business plan evaluation process	None	Independent	Internal
	Comments:			
4	M&E and regular assessment system established	None	Partial	Established
	Comments:			
5	Priority areas captured (as defined at national or provincial level)	None	Some	Sufficient
	Comments:			
7	Functioning M&E system with active participation of executing and external institutions. Number of evaluations/impact assessment done.	None	1-4	>4
	Comments:			

10 Beneficiaries participation

ID	INDICATOR	1	2	3
1	Motivation expressed by beneficiaries of the projects (Quantification)	≤40%	>40%<70%	>70%
	Comments:			
2	Average number of service providers per project	≤5	6-10	>10
	Comments: types of services provided and quality			
3	Beneficiaries willingness to share	≤40%	>40%<70%	>70%

	project costs			
	Comments:			
4	Proportion of project beneficiaries interested in farming	% interested	% not interested	
	Comments (other areas interested by those not interested in farming):			

11 Training of beneficiaries

ID	INDICATOR	1	2	3
1	Average number of training courses organised per project per year	≤2	3-5	>5
	Comments (Types of training):			
2	Information materials produced and disseminated per region/area/project	0 1-100	>100<1000	>1000
	Comments:			
3	Environmental training programmes organised	0	1-5	>5
	Comments:			
4	Impact of training received on the projects	None	Low	High
	Explain:			
5	Are there any Identified areas for future training	Yes	No	
	Explain :			

12 Conflict management

ID	INDICATOR	1	2	3
1	Average number of conflicts per project	0	1-5	>5
	Comments (major types and causes of the conflicts)			
2	Existence of project conflict management plan	Yes	No	
	Comments:			
3	Representativity of beneficiaries on conflict management structure by gender, age, ethnicity, etc. (quantification)	0	1-50%	>50%
	Comments:			
4	Effectiveness of the conflict management structures	Poor	Good	Excellent

13 Technology dissemination and adoption

ID	INDICATOR	1	2	3
1	Adoption of new practices or technologies (participants including	0%.	1-50%	>50%

	the studies of rationales for adoption/non adoption)				
	Comments:				
2	Change in income, welfare, costs, yield, and productivity as result of new technology or practice.	0%	1-50%	50-100%	>100%
	Comments:				

14 Environmental

ID	INDICATOR	1	2	3
1	Proportion of projects that reflects environmental aspects/activities	0%	1-50%	>50%
	Comments:			
2	Proportion of projects that have adopted environmentally sound technologies?	0%	1-50%	>50%
	Comments:			
3	Proportion of projects that have shown changes in the use of natural resources (water, forest, vegetation, land etc)	0%	1-50%	>50%
	Comments:			

15 Socio-economic

ID	INDICATOR	1	2	3
1	Number of jobs created by the projects in the area	<100	>100<1000	>1000
	Comments (Disaggregate into temporary and permanent):			
2	Proportion of women, youth and minority groups participating in the projects	0%	1-50%	>50%
	Comments (Disaggregate into Women/youth/minority groups):			
3	Gender balance of project beneficiaries (proportion of women and men) within the projects	0%	1-50%	>50%
	Comments:			
4	Ethnic balance or minority language capability of beneficiaries within the projects	0%	1-50%	>50%
	Comments:			

5	Household food secured	Yes	No	
	Explain :			

6	What is the project's contribution to your household food security	0	1-50%	>50%
	Explain :			
7	Income earned by beneficiary (per month)	<R1000	>R1000<R2000	>R2000
	Explain :			

16 Financial analyses

ID	INDICATOR	1	2	3
1	Efficiency of fund administration unit (Quantification). Number of months/weeks/years taken for funding application to be approved and released by the DLA and PDA	<3 month	>3<6 months	>6 months
	Comments:			
2	Co-financing of project activities by beneficiaries (equity). Beneficiaries' contribution to the capital of the project.	0%	1-50%	>50%
	Comments (other types and cash contributions):			
3	Co-financing of project activities by other sources	0%	1-50%	>50%
	Comments:			
4	Average Support cost per project by PDA/DLA	<R500000	>R500000<R1000000	>R1000000
	Comments:			
5	Non salary operational costs as percentage of total project budget (average)	0%	1-50%	>50%
	Comments:			
6	Average annual gross farm income from project operations	<15 000	>15 000<30 000	>30 000
	Comments:			
7	Average annual gross operational expenditure from project	<15 000	>15 000<30 000	>30 000
	Comments:			
8	Average annual NFI from project operations	<1 000	>1 000<10 000	>10 000
	Comments:			
9	Which enterprise fetched highest profit?	1st	2nd	3rd

	Comments:			

17 Institutional supports

ID	INDICATOR	1	2	3
1	Number of institutions providing support to the project	<3	4-6	>6
	Comments: May use a separate sheet. Name of institution: Type of service: Quality of service: Remarks 1. 2. 3. 4. 5 6.			
2	Average number of established linkages/ collaboration per project	<5	5-10	>10
	Comments (Type of linkage):			
3	Number of visits by the agric extension officer per season	<3	4 - 7	>7
	Comments:			

18 SWOT Analysis

	Strength	Weaknesses	Opportunities	Threats
1				
2				
3				
4				
5				

19 Project site and infrastructure

ID	INDICATOR	1	2	3
1	Proportion of projects with established offices	0%	1-50%	>50%
	Comments:			
2	Proportion of projects with established operational infrastructure	0%	1-50%	>50%
	Comments:			
4	ICT support capacity (proportion of projects offices/agents with computer/internet access; no of computer/telephones/agent)	0%	1-50%	>50%
	Comments:			
5	Infrastructural ownership	No	Partial	Full ownership
	Comments:			

6	Type of infrastructural ownership of the projects	% Renting	% Owner operator	% Shared
	Comments:			
7	Quality of infrastructure	Poor	Good	Excellent
	Comments:			
8	Functionality of all infrastructure	0-20%	21-50%	>50%
	Comments:			
9	Origin of infrastructure	Was part of farm when purchased	Acquired after land purchase	others
	Comments (e.g. from CASP or MAFISA):			

20 Communication capacity

ID	INDICATOR	1	2	3
1	Proportion of project (s) that can be reached by phones	0%	1-50%	>50%
	Comments:			
2	Reliability of telephone networks	Poor	Good	Excellent
	Comments:			
3	Rating of communication between DLA & PDA and the projects	Poor	Good	Excellent
	Comments:			

21 Sustainability analyses

1	Have the project managed to attract other sources of funding besides the DLA grant?	Yes	No	
	Explain (if yes give proportion) :			
2	Have the project received other forms of assistance besides funding?	Yes	No	
	Explain (if yes, specify the assistance):			
3	Can the project financially sustain itself after the DLA grant?	Yes	No	
	Explain :			
5	Are there some best practices that can be highlighted in the project?	Yes	No	
	Explain:			
6	Is security a concern to the project?	Yes	No	
	Explain:			

22 Enhanced beneficiaries/community voices

ID	INDICATOR	1	2	3
1	Knowledge of the extent to which services were requested by beneficiaries (disaggregated by gender and minority groups)	Yes	No	
	Explain :			
2	Beneficiaries awareness of project activities (effective communication)	Yes	No	
	Explain :			
3	Effectiveness of communication within the project	Poor	Good	Excellent
	Explain :			

23 Free Involvement of people

ID	INDICATOR	1	2	3
1	Beneficiaries, private sector and civil society representation on project management committees (sex, wealth, ethnicity, project size, etc.)	0	1-50%	>50%
	Explain :			
2	Level of democratization of decision making within the project	None	Low	High
	Explain :			

24 Increased resources

ID	INDICATOR	1	2	3
1	Resource allocation in relation to established priorities	<20%	20-70%	>70%
	Explain :			
2	Improved/Increased access to resources by the locality or community	<20%	20-70%	>70%
	Explain :			

25 Transport capacity

ID	INDICATOR	1	2	3
1	Transport availability (vehicles) within project (numbers)	0	≤2	>2
	Explain :			
2	Transport availability (bi-cycles) within project (numbers)	0	≤2	>2
	Explain :			
3	Transport accessibility	Poor	Good	Excellent
	Explain :			
4	Quality of transport	Poor	Good	Excellent

	Explain :			
5	Condition of road network in project area	Poor	Good	Excellent
	Explain :			

26 communication capacity

ID	INDICATOR	1	2	3
1	Availability of land line	Yes	No	
	Explain :			
2	Availability of cell phones	Yes	No	
	Explain :			
3	Project's accessibility of telephones	0%	<50%	>50%
	Explain :			
4	Reliability of telephone networks	Poor	Good	Excellent
	Explain :			
5	Has the project established relevant linkages with other organisations?	Yes	No	
	Explain (if yes mention the relevant ones):			

27 IT capacity

ID	INDICATOR	1	2	3
1	Availability of computers per project	0	1-5	>5
	Explain :			
2	Availability of computers with internet access	0	1-5	>5
	Explain :			
3	Quality/reliability of the computers/internet	Poor	Good	Excellent
	Explain :			
4	Accessibility to computers & internet by beneficiaries	0%	<50%	>50%
	Explain :			

28 Technology dissemination and adoption

ID	INDICATOR	1	2	3
1	Has the project introduced new technologies?	Yes	No	
	Comments:			
2	Has the project participants adopted	Yes	No	

	the new technologies(s)?				
	Comments:				
3	Has the project's new technology resulted in change in income, welfare, costs, yield, and productivity?	Yes	No		
	Comments:				

29 Leadership and key players up skilled

ID	INDICATOR	1	2	3
1	Capacity building courses attended by the project leaders by sex, gender, ethnicity, etc	≤5	6-10	>10
	Comments:			
2	Leaders satisfaction with training attended	≤40%	>40%<70%	>70%
	Comments:			
3	Perception about leaders by beneficiaries	Poor	Good	Excellent
	Comments:			
4	Usefulness of the training attended	None	Low	Useful
	Comments:			

ANNEXURE 2

Local Municipality	Project name	Transfer date	Product Type	Enterprise	Individuals	NO of Females	No. female headed household	No. House holds	NO of Youth (<=35 years)	HA transferred	Grant Amount Approved	Land Purchase Price
Ditsobotla	Welverdiend	1-Aug-98	SLAG	Single type production	300	205	88	110	0	337.9006	R 1,815,000.00	R 339,2
Ditsobotla	Bakerville	18-Aug-99	SLAG	Single type production	1800	129	129	372	0	799.9658	R 5,340,000.00	R 600,0
Ditsobotla	Grasfontein	8-Nov-99	SLAG	Single type production		0	0	230	0	898.7582	R 3,450,000.00	R 584,1
Tswaing	Jachtkraal	19-May-00	SLAG		120	75	40	70		203.4970	R 1,280,000.00	R 630,0
Ratlou	Siyaya CPA(Madibogo)	13-Jun-00	LRAD	Crop & Livestock	69					352.5286	R 1,280,000.00	R 630,0
Ditsobotla	Boikhutso (commonage)	10-Sep-01	Commonage	Single type production		0	0	65	0	72.2400	R 424,000.00	R 424,0
Ditsobotla	Quiet living Schuinsdrift 75	10-Dec-01	LRAD(LB)	Single type production	6	2	0		1	111.5126	R 319,068.00	R 400,0
Ditsobotla	Rietdraai - Modisane J.B	25-Jan-02	LRAD	Livestock	10	0	0			12.8480		R 406,0
Ditsobotla	Ratshikana S. A.	2-Apr-02	LRAD(LB)	Mixed farming	1	1	0		0	299.7841	R 100,000.00	R 339,9
Ditsobotla	Modiphane B.J.	20-Jun-02	LRAD(LB)	Agriculture	2	1	0		0	7.0001	R 102,642.00	R 80,0
Ditsobotla	Sebolai A.A	10-Jul-02	LRAD(LB)	Livestock, grain	1	0	0		0	51.7859	R 78,230.00	R 150,0
Ditsobotla	Phaedi M.J.	11-Jul-02	LRAD(LB)	Crop, Piggery	4	2	0		2	329.1316	R 219,284.00	R 490,0
Ramotshiri Moiloa	Reida Property	22-Aug-02	LRAD(LB)	Livestock&Maize	2	0	0		0	773.1570	R 199,205.00	R 850,0
Mafikeng	Mpahlele M.S	12-Sep-02	LRAD(LB)	Livestock, grain	2	1	0		0	685.2420	R 191,620.00	R 620,0
Ditsobotla	Bodibe Chain Farmers(Bloedzuigerspan)	15-Sep-02	LRAD	Crop farming	180	90	0		0	915.1330	R 3,600,000.00	2,192,2
Ditsobotla	Kruger V.F	9-Oct-02	LRAD(LB)	Livestock, grain	3	1	0		1	513.9173	R 300,000.00	R 564,3

Ditsobotla	Tiro G.T	18-Oct-02	LRAD(LB)	Livestock, grain	2	1	0		0	239.5691	R 200,000.00	R 160,(
Ramotshiri Moiloa	Braklaagte	11-Nov-02	Commonage	Livestock		0	0	0	0	2086.0000	R 1,462,150.00	1,462,1
Ramotshiri Moiloa	Leeuwfontein	11-Nov-02	Commonage	livestock	NA	0	0	0	0	1422.0000	R 1,562,150.00	1,562,1
Ventersdorp	Present Perfect	19-Dec-02	LRAD(LB)	Horticulture	1	0	0	1	0	843.1846	R 100,000.00	1,625,(
Tswaing	Maribogo	23-Jan-03	LRAD(LB)	Agriculture	7	6	0		5	177.1815	R 350,214.00	R 420,(
Mafikeng	Masibi P.H	29-Jan-03	LRAD(LB)	Single type production	2	1	0		0	2198.8075	R 100,000.00	R 680,(
Ramotshiri Moiloa	Makanda Properties - Goedgelegen	7-Feb-03	LRAD(LB)	Agriculture	6	3	0		4	135.3778	R 500,000.00	2,200,(
Ramotshiri Moiloa	Enselberg	9-Feb-03	LRAD	Agriculture	328	150	110	328	0	3200.0000		
Ditsobotla	Legotlo	10-Feb-03	LRAD(LB)	Mixed farming	1	0	0		0	457.0270	R 100,000.00	R 458,(
Ditsobotla	Lesolobe Family Trust	14-Mar-03	LRAD(LB)	Livestock	6	4	0		3	849.5926	R 465,425.00	1,020,(
Ramotshiri Moiloa	Moisane P.B	14-Mar-03	LRAD(LB)	Beef, vegetables	2	1	0		0	186.0177	R 109,198.00	R 148,(
Ditsobotla	Marabutse MD	12-May-03	LRAD(LB)	Vegetables	4	2	0		2	131.1494	R 144,324.00	1,422,(
Ditsobotla	Monye KE	12-May-03	LRAD(LB)	Livestock, grain	2	0	0		0	254.7402		R 400,(
Ditsobotla	Zilimbola TS	15-May-03	LRAD(LB)	Livestock, grain	6	2	0		4	254.7398	R 313,704.00	R 400,(
Ditsobotla	Mahamba WV	19-Aug-03	LRAD(LB)	Livestock	1	0	0	1	0	42.8266	R 91,493.00	
Ditsobotla	Valleifontein	28-Aug-03	LRAD	Livestock	2	1	0		0	82.4980	R 196,000.00	R 100,(
Ramotshiri Moiloa	Teipaa Eeindomme	20-Jan-04	LRAD	Livestock	4	2	2			685.1047		
Ditsobotla	Tholo Agric Trading (farms)	23-Feb-04	LRAD	Broilers/crop		0	0		0	368.1638	R 472,736.00	R 764,1
Ramotshiri Moiloa	AST Afrika	25-Feb-04	LRAD(LB)	Veg/Livestock	3	0	0		0	171.3064	R 296,790.00	R 790,(
Ramotshiri Moiloa	Reaoboka (Valkop)	27-Feb-04	LRAD	Veg/Poult/Fruit/Crop/Grazing		0	0		0	229.7362	R 1,000,000.00	R 640,(
Ramotshiri Moiloa	Klaarstroom	8-Mar-04	LRAD	Livestock	6	2	0	0	3	720.0000		
Ramotshiri Moiloa	Kgatlopele(Nkaikela)	12-Mar-04	ESTA	Crop&Livestock		0	69	126	63	426.2988	R 2,016,000.00	R 800,(

Ditsobotla	Bodibe Chain Farmers(Rietkolk farm)	31-Mar-04	LRAD	Crop farming	180	90	0		0	214.0000	R 3,600,000.00	R 692,(
Ditsobotla	DE Vos Bala Farm Blaauwbank	12-May-04	LRAD	Maize	2	1			0	402.0000	R 173,116.00	R 643,8
Ditsobotla	Grootfontein	9-Jun-04	LRAD		6	1			0	143.6905	R 174,306.00	R 174,3
Mafikeng	Kgame SE	4-Jul-04	LRAD	Agriculture	3	1			0	24.7468		R 270,(
Mafikeng	Tlhagale Family	19-Nov-04	LRAD	Agriculture	1	0			0	436.0197	R 100,000.00	R 365,1
Ditsobotla	Blaauwbank	22-Dec-04	LRAD	Livestock	12	5			2	538.0000	R 563,648.00	R 765,4
Tswaing	Woodpark (Ithuteng)	4-Jan-05	LRAD	Mixed farming	16	3			16	428.0000	R 567,136.00	R 350,(
Ramotshiri Moiloa	Klaarstroom(Nexor)	10-May-05	LRAD		4	2		0	0	771.5379	R 549,007.00	1,000,(
Mafikeng	De Wig Portion 1	4-Aug-05	LRAD	Livestock	5	2		1	3	982.4800	R 1,650,000.00	1,650,(
Ramotshiri Moiloa	Klaarstroom(Al Najam)	14-Sep-05	LRAD	Livestock	4	2		1		6.3069	R 400,000.00	2,000,(
Ditsobotla	Willowpark	17-Jan-06	LRAD	Dairy & Vegetables	72	37		37	43	410.9904	R 637,590.00	R 905,9
Ditsobotla	Vaalbank & Leeuwfontein(Morule family)	1-Feb-06	LRAD	Livestock	8	4		1	5	4699.4650	R 637,590.00	R 905,9
Ramotshiri Moiloa	Open Area	23-Feb-06	LRAD	Livestock	6	1		6	3	317.1430	R 339,708.00	R 500,(
Ramotshiri Moiloa	Kwena Sedi Investment cc	7-Mar-06	LRAD	Broiler production	3	1			2	69.5190	R 237,291.00	R 330,(
Ramotshiri Moiloa	Moatswi Trust	10-Jun-06	LRAD	Livestock	10					931.5457	R 900,946.00	2,500,(
Ramotshiri Moiloa	Menoe	29-Jun-06	LRAD	Livestock	2					210.5455		
Mafikeng	Thusano Trust	5-Oct-06	LRAD	Livestock& Crop	11					5.6659	R 220,000.00	R 150,(
Tswaing	Mokotedi	12-Oct-06	LRAD	Livestock	2					256.0000	R 200,000.00	R 650,(
Ditsobotla	La-rey-Stryd	23-Nov-06	PLAS	Crop						614.0000	R 4,800,000.00	4,800,(
Mafikeng	Bamboo Rock 1242	1-Dec-06	LRAD	Livestock	3					338.1698	R 219,297.00	R690 (
Mafikeng	Molamu & Sons	1-Dec-06	LRAD	Livestock & Crop	5					235.0952	R 427,135.00	R 740,(
Ditsobotla	Bakwena Batlankwaneng	11-Dec-06	LRAD	Livestock	5					642.1900	R 600,000.00	2,400,(
Ditsobotla	Witpan	15-Dec-06	LRAD	Livestock	8	4		1	5	566.0000	R 550,000.00	2,750,(
Tswaing	Bamboo Rock	11-Jan-07	LRAD	Livestock&	10					359.3048	R 930,648.00	

	1275			Crop								1,520,0
Tswaing	Double Star Trading	24-Jan-07	LRAD	Mixed type	6	3		1	4	5287.2280	R 515,884.00	1,424,8
Tswaing	Manyedi Kopanelo	20-Mar-07	LRAD	Livestock	4	2		1		272.3133	R 229,451.00	R 305,0
Tswaing	Masebe	25-Mar-07	LRAD		8	6		1	4	370.0190	R 538,053.00	1,200,0
Tswaing	Schoonoord	17-Apr-07	LRAD	Livestock & production	8	2		1	4	359.3099	R 690,000.00	1,280,0
Tswaing	Thathana FARMS cc	24-Apr-07	LRAD	Livestock & production	6	2		3	1	686.5261	R 354,927.00	1,267,6
Tswaing	Kebontshitse	17-May-07	LRAD	Single type production	10	3		5	3	357.6674	R 510,106.00	R 750,0
Mafikeng	Putjesvlakte 91	3-Jul-07	PLAS	Mixed type production	5	2		2	2	831.5070	R 1,550,000.00	1,550,0
Tswaing	Klippan(Metswamere)	3-Sep-07	LRAD	Mixed type production	7	4		4	4	2350.9520	R 548,392.00	R 658,2
Ditsobotla	Thusano CPA	4-Oct-07	LRAD	Livestock & production	12	5			2	538.5966	R 433,440.00	R 361,2
Ramotshiri Moiloa	Frisbee trade and investment	5-Dec-07	LRAD	Mixed type production	10	3		3	4	137.9032	R 977,721.00	1,930,0
Tswaing	Schoongeszicht1	24-Jan-08	PLAS	Single type production						434.8113	R 2,077,000.00	2,077,0
Mafikeng	Otter Mist Trading 1087 CC	18-Feb-08	LRAD	Mixed farming	9	5		4	1	709.2000	R 476,936.00	R 567,2
Ditsobotla	Kliplaagte	25-Feb-08	PLAS	Crop & Cattle farming	3	1				513.9698	R 4,472,000.00	4,472,0
Ramotshiri Moiloa	Borabalo Bed & Breakfast	27-Mar-08	LRAD	Livestock & production		7				1645.4297	R 285,755.00	R 257,6
Ditsobotla	Vaalbank	31-Mar-08	PLAS	Crop & Dairy production						1316.1580	R 6,520,000.00	6,520,0
Ratlou	Expath 390C2	16-May-08	PLAS	Animals (and By-Products)	0	0	0	0	0	**555.0235**	N/A	R 1,650,0
Tswaing	Schoongezicht PLAS 2	19-May-08	PLAS	Animals (and By-Products)	0	0	0	0	0	**371.3164**	N/A	R 1,600,0
Tswaing	Malwane Co-operative	17-Jun-08	LRAD	Animals (and By-Products)	11	3	0	2	2	**526.9990**	R 601,832.00	R 1,900,0
Ratlou	Expath 385C2	4-Jul-08	PLAS	Animals (and By-Products)	N/A	N/A	0	N/A	N/A	**856.5320**	N/A	R 2,650,0

Ditsobotla	Retlhabetse Trading	9-Jul-08	LRAD	Animals (and By-Products)	12	7	0	N/A	5	**279.0595**	R 558,144.00	R 550,0
Tswaing	Vukandukuzempi Security and Projects	16-Jul-08	LRAD	Horticulture	4	1	0	1	2	**192.6099**	R 400,000.00	R 575,0
Tswaing	Dikamotse Farming cc	**13-Aug-08**	LRAD	**Crop farming**	10	5	0	0	6	**287.6512**	R 626,912.00	**R 1,200,0**
Ramotshiri Moiloa	Ikageng Community Trust	**25-Aug-08**	SLAG	Crop farming	164	78	0	164	N/A	**325.9490**	R 0.00	**R 1,400,0**
Tswaing	Dwaalkraal 01	30-Oct-08	PLAS	N/A	0	0	0	0	0	**623.6500**	R 0.00	R 2,600,0
Mafikeng	Mojaki Family cc	1-Dec-08	LRAD	LIVESTORK PRODUCTION	6	2	0	1	3	**85.6532**	R 212,418.00	R 209,0
Ratlou	Shepherds Bush Trust	4-Dec-08	PLAS	Animals (and By-Products)	0	0	0	0	0	**2886.5128**	R 11,546,051.00	R 11,546,0
Tswaing	Dwaalkraal 02	9-Dec-08	PLAS	Animals (and By-Products)	0	0	0	0	0	**1070.3928**	R 6,800,000.00	R 6,800,0
Mafikeng	Kgobokoe Family Project	23-Dec-08	LRAD	Animals (and By-Products)	2	1	0	1	0	**712.0522**	R 860,000.00	R 569,0
Ratlou	RIGOZ WOMAN	19-Jan-09	LRAD	Animals (and By-Products)	7	7	0	7	0	**561.6172**	R 778,064.00	R 422,4
Mafikeng	LANRIC	6-Feb-09	LRAD	Animals	4	2	0	1	2	**51.3905**	R 444,608.00	R 10,0
				sum	3569	987	438	1552	216	60326.14	R 88,014,345.00	107,066
				mean	44.613	12.494	8.264151	36.952	3.0422	655.7189	R 1,086,596.85	1,259,6
				max	1800	205	129	372	63	5287.228	R 11,546,051.00	11,546,0
				min	0	0	0	0	0	5.6659	R 0.00	R 10,0
				count	80	79	53	42	71	92	81	