

Financial analysis of the Recapitalisation and Development Programme in South Africa

By

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DECLARATION

I, Ndidzulafhi Nengwekhulu, declare that this thesis which I hereby submit for the degree of MSc Agricultural Economics at the University of Pretoria is my original work and where someone else's work was used due acknowledgement was given and referencing was made according to departmental requirements.

Signature:.....

Date:.....

DEDICATION

This MSc thesis is dedicated to my daughter Phathutshedzo, whom I love so dearly, and my brother Nkhumeleni Nengwekhulu who has always given me endless support in all my studies.

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I would like to acknowledge the guidance and patience of my supervisor, Prof Charles Machethe, without him the study couldn't have been a success. To my family and friends, thanks for the endless support, your love has kept me going.

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Degree: Master of Science in Agriculture (Agricultural Economics)

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ABSTRACT

The Recapitalisation and Development Programme (RECAP) is the government's agricultural support programme administered by the Department of Rural Development and Land Reform (DRDLR). The programme uses about 25% of the department's budget. The programme is administered as an agricultural support programme with the following objectives: employment creation, food security, increased farm production, market access and establishing rural monitors. RECAP is one of the government's most prioritised agricultural support programmes and the investment made in the programme is enormous compared to other government agricultural support programmes. The programme began in 2009/10 and in 2014 government investment in the programme amounted to R3.32 billion; government continues to invest in the programme.

The purpose of this study was to carry out a financial analysis of RECAP by evaluating the relationship between budgeting and spending of the programme to determine if the investment made by the government in the programme can be justified in the light of the programme's objectives. Financial analysis informs decision making on an investment to either approve or disapprove continuing investment in the programme. To do the assessment, the study examined the budget and expenditure of the programme using two data sets. Primary data is from impact assessments done on 98 RECAP projects in six provinces of South Africa. Secondary data is the budget estimates for various provinces from the DRDLR.

Qualitative, comparative and quantitative methods were used and the results are presented, using descriptive statistics, to achieve the objective of the study. Two quantitative methods were used; the multiple linear regression and the logistic analysis were applied to determine the relationship between spending and the achievement of the programme's objectives. The study assessed the relationship between budgeting, spending and the achievement of RECAP objectives, which are employment, food security, farm production and market access.

The study results show that there is a sound budgeting method at the DRDLR and farmers are spending their grants to acquire farming assets, equipment and other farming inputs. The expenditure on the programme has facilitated the achievement of some of the programme objectives at the farm level, but there is an inverse relationship between the level of investment and achievement of the programme objectives. Better progress of the programme is seen in employment and market access and there is slow progress in area of farm production and food security. Provinces which have received the highest average grant per farm, namely, North West and Free State, are not better performing provinces in terms of programme objectives, while

provinces with a low average grant invested per farm, namely, Limpopo and KwaZulu-Natal, have performed better in terms of achieving programme objectives. The sluggish progress of the programme is attributed to the spending at provincial and farm level. Farmers and their respective provinces are underspending their grants and at farm level more money is being spent on activities designated as requiring less spending, and less spending on activities listed as requiring more money.

Keywords: spending; budgeting; objectives; recapitalisation; purpose; underspending and overspending.

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ACRONYMS AND ABBREVIATIONS

CASP	Comprehensive Agricultural Support Program
DAFF	Department of Agriculture, Forestry and Fisheries
DoA	Department of Agriculture
DRDLR	Department of Rural Development and Land Reform
EBF	Emerging Black Farmers
LRAD	Land Redistributed for Agricultural Development
MAFISA	Micro-Agricultural Financial Institution of South Africa
NDP	National Development Plan
PLAS	Proactive Land Acquisition Strategy
RECAP	Recapitalisation and Development Program
SLAG	Settlement and Land Acquisition Grant
SMMEs	Small, Medium and Micro Enterprises
SPLAG	Settlement Production Land Acquisition Grant

CHAPTER 1: INTRODUCTION

1.1 Background

In 1994, the South African government introduced the land reform programme with the intention of redistributing 30% of white-owned commercial farm land to black previously disadvantaged South Africans, who were unfairly dispossessed of their land during the apartheid era (Department of Rural Development and Land Reform [DRDLR], 2014). Through land reform, the government aims to improve the lives of rural people and enhance food security, but the South African land reform programme has been criticised for not having well-designed agricultural support programmes which, supports farm production (Vink, Van Rooyen & Karaan, 2012). After receiving land most of the land reform beneficiaries are faced with many challenges, including lack of skills, access to finance, credit, production inputs and accounting skills (Zimmerman, 2000; DRDLR, 2013a). Poor support for land reform beneficiaries has been viewed as the main reason behind the programme's failure to achieve its intended objectives (Moroaswi, 2013).

To strengthen the land reform programme to achieve its intended objectives, government, through the then Department of Land Affairs, committed to assist land reform beneficiaries with complementary development support to ensure productive and sustainable land use, infrastructure support, farm credit access, agricultural inputs and access to markets (Jacobs, Lahiff & Hall, 2003). Since 1994 the government has introduced several programmes through different departments to support land reform beneficiaries, with both financial and non-financial support.

In 2004, government introduced the Comprehensive Agricultural Support Programme (CASP) through the Department of Agriculture (DoA) to assist all small-scale and emerging farmers with

funding. CASP is built on six pillars that address the different needs of farmers. These are training, technical advice, marketing and business development, on-farm and off-farm infrastructure, production inputs and financial assistance. CASP has been designed with a special provision for land reform beneficiaries. At the provincial level CASP funding set aside an amount of R10 to R20 million specifically for land reform beneficiaries (Hall, 2004). After CASP, government, also through the DoA, introduced the Micro Agricultural Financial Institutions of South Africa (MAFISA) scheme in 2005 with the objective of providing loans to emerging farmers who had been denied loans by commercial banks due to lack of collateral (Lahiff, 2007).

Despite the introduction of CASP and MAFISA, land reform projects were reported not productive, with about 70% to 90% of all land reform projects having failed and beneficiaries unable to produce marketable products (Cronje, 2015). In 2009/2010 government through the DRDLR introduced the Recapitalisation and Development Programme (RECAP) specifically for land reform beneficiaries whose farms are in distress (DRDLR, 2012). RECAP was introduced with the following objectives:

- to increase production;
- to guarantee food security;
- to graduate emerging farmers to commercial farmers;
- to create job opportunities within the agricultural sector; and
- to establish rural development monitors.

RECAP was established to focus exclusively on recapitalising farms acquired through different land reform programmes (DRDLR, 2010). RECAP supports land reform beneficiaries with cash grants, mentorship and capacity building to finance infrastructure development, acquisition of mechanisation, entrepreneurial support, production inputs, market support and value chain integration. Financing of infrastructure development is the most prioritised component of the programme. A large amount of the funding is directed towards infrastructural development (DRDLR, 2012). RECAP funding has no ceiling in terms of the amount of money that an individual farmer should receive. Farmers qualify for any amount, but the grants are approved using a bankable farm business plan, and the business plan is financed by RECAP for a period of five years (DRDLR, 2014).

RECAP beneficiaries access their funds for a period of five years uninterruptedly and farmers receive their tranche of money in percentages. In the first-year RECAP funds 100% of the farm business plan; in the second year 80%; in the third year 60%; in the fourth year 40%; and in the fifth year 20%. Thereafter, RECAP funding of the farm business plan ceases (DRDLR, 2014).

1.2 Research problem

In 2009, it was reported that approximately 1,807 land reform projects were in distress and needed to be recapitalised (Financial Mail, 2012). From the 1,807 land reform farms in distress, the DRDLR managed to recapitalise¹ 1,351 farms by 2013 (DRDLR, 2013e). In 2013 all recapitalised farms combined created 7,400 jobs and generated a net farm income of R126 million (DRDLR, 2013d). However, the combined net income and jobs created from all recapitalised farms did not

¹ Recapitalise refers to the capital renewal or restructuring of poor and previously disadvantaged and under producing agricultural enterprises of emerging black farmers who are beneficiaries of the state land reform programme.

make a quarter of the money already invested on RECAP by the government. RECAP is the highest priority of the DRDLR. The programme alone takes 25% of the DRDLR's budget (DRDLR, 2013c).

The budget of the programme constitutes 25% of the baseline budget for land redistribution and restitution of land rights and the rest of the money is from replaced programmes such as the Proactive Land Acquisition Strategy (PLAS), 25% of the budget is from PLAS operating budget, 25% is from household development grants, 25% is from restitution development grants, and 25% is from restitution settlement grants and commonage infrastructure grants (DRDLR, 2013d). The programme was started in 2009/10 and in 2014 the programme has cost the government R3.32 billion. During inception, RECAP was meant to exist for a period of five years (DRDLR, 2014).

There have been several assessments of the RECAP. The study by Ntlou (2016) found that a majority (72%) of projects which benefited from RECAP were not economically viable, with low levels of agricultural income. The assessment by Mabuza (2016) showed that RECAP has made good progress towards improving the socioeconomic status of beneficiaries, progress having been observed in production, food security, employment and economic status. An assessment by Business Enterprises at University of Pretoria (2014) found that RECAP had made progress towards achieving its intended objectives but the progress made cannot justify the low return on investment in the programme. There has been significant investment for the programme; in 2010/11 the RECAP had a national average spending per farm of R390 000 which increased to R2 million in 2012/13. The amount of money spent per farm has been significantly increasing since the first year of the programme, there are farms who have received the highest grant of R3.6 million

in a year. Assessments done on RECAP did not include a comprehensive financial analysis of RECAP. This study aims to fill the gap.

Financial analysis is important because it examines the financial viability, stability and profitability of a specific project and is done as a basis for decision making, such as increasing or decreasing business operations, purchase of new assets, new investment or capital and to inform management about various alternatives in conducting the business. Financial analysis is executed to make investment choices on a specific project, such as whether to continue making investments or not (Das, 2010). Additionally, financial analysis assists with evaluations of the overall financial health of an enterprise which later assist in detecting accounting irregularities that have manifested or can manifest in the future (Du Toit and Vermaak, 2014).

1.3 Research questions

The research questions are as follows;

- i. What is the level of RECAP spending, according to its purpose at national, provincial and farm levels?
- ii. How is RECAP budgeting and spending done at the national, provincial and farm levels?
- iii. What is the relationship between RECAP spending and achievement of the programme's objectives?

1.4 Study objectives

The overall objective of the study is to determine whether government spending on RECAP can be justified on the basis of the programme's objectives.

Specific objectives of the study are;

- i. To determine the level of RECAP spending, according to purpose at the national, provincial and farm levels.
- ii. To assess RECAP budgeting and spending at national, provincial and farm level since the programme's inception.
- iii. To determine the relationship between RECAP spending and achievement of the programme's objectives.

1.5 Hypothesis of the study

The hypothesis tested in this study is that there is a positive relationship between the level of investment in RECAP and the achievement of its objectives.

1.6 Definitions of the key terms

Emerging farmers – those persons who were excluded from South Africa's formal agricultural economy on the basis of their skin colour, and who have recently begun to engage in farming on a large scale to sell crops and livestock on the market with the support and assistance from the state (DRDLR, 2014).

Previously disadvantaged – South African citizens who are racially classified as African, coloured and Indians (DRDLR, 2014).

Recapitalisation – capital renewal or restructuring of poor and previously disadvantaged and under producing agricultural enterprises of emerging black farmers who are beneficiaries of state land reform programs (DRDLR, 2014).

Budgeting – a process whereby financial resources are allocated to their units, activities and investments and used to transfer information into decisions (Hutten, 2012). In this study budgeting means the allocation of RECAP funds by the national DRDLR to provinces and farmers.

Spending – the utilisation of budgeted funds to different individuals and different activities. Spending is primarily done in the form of investment for a specified purpose (Paxon and Schandy, 2002). In this study spending entails purchases of goods and services done with RECAP grant.

Expenditure – amount of budget spent to achieve planned activities. And it is used to define the success of the budget (Lethoko, 2014). In this study expenditure means the amount of money spent by RECAP beneficiaries.

Objectives – steps towards the attainment of goals. They involve finding specific, measurable and time targeted objectives and are an immediate regulator of actions (Epps and Emerson, 2011). In this study objectives refers to RECAP objectives which are increased production, guaranteed food security, graduating emerging farmers to commercial farmers, creating job opportunities and establishing of rural development monitors.

Purpose – a determinant of the final delivery of the project value. It further determines project criteria and concept solution and eventual project delivery (Whelton, 2004). In this study purpose refers to the Recapitalisation and Development Programme purpose which is to provide grant to farmers to be spent on agricultural activities only.

Overspending – a spending problem that arises when a projected budget has been exceeded during spending allocations and the problem is created by factors such as high operating costs, and impractical income projections (National Treasury, 2012).

Underspending – insufficient allocation of the budgeted funds to specific activities, negatively affecting the intended activities (National Treasury, 2012).

1.7 Outline of the study chapters

The remaining chapters of this study are organised as follows: Chapter 2 presents the relationship between budget distribution and expenditure. Chapter 3 examines the relationship between spending levels and the purpose of the programme. Chapter 4 considers the theoretical relationship between spending and objectives of the programme. Chapter 5 contains methods and procedures used in this study. Chapters 6, 7 and 8 contain the results of the study. Finally, Chapter 9 presents the summary, conclusion and recommendations.

CHAPTER 2: BUDGET DISTRIBUTION AND EXPENDITURE

This chapter outlines the relationship between budget and expenditure. The chapter starts by addressing issues around budget allocation, followed by discussion of the importance of budget allocation and methods used in allocating a budget. It concludes by addressing issues around spending the allocated budget.

2.1 Budget allocation

A budget is a quantitative expression of a proposed plan of action for a specific period and it assists with coordination of what needs to be done to implement the proposed plans. Budgeting is a process whereby financial resources are allocated to units, activities and investments and is used to transform information into decisions. It contains outcomes to be achieved with the available funds; these outcomes are mainly goals and objectives. Furthermore, it assists in implementing the operation of the organisation and it is used as a planning tool that later becomes an implementation tool of a project. A budget is useful for coordination, communication and performance evaluation of goals and targets for the specific period (Hutten, 2012).

A budget is further used as a tool for public accountability. Thus, it should be easy to read, widely accepted and often inventively implemented. The effectiveness of a budget is benchmarked in terms of outputs and outcomes and their relatedness to the expected goals. It is designed with the intent to control spending by setting limits for spending choices and is mainly based on a short-term philosophy (Mattson, 2011).

2.2 Importance of budget allocation

Allocating a budget means asserting control in areas of a special interest. Budgeting responsibility requires authority and responsibility to be allocated to individuals within the organisation's responsible structures. Budgeting responsibility further requires a system for measuring and evaluating performance/control structure in terms of inputs, costs, activities and outputs. Control structures are fully aligned with the organisation's account structure, since the information it provides is used to coordinate unit activities and responsibilities (Jones and Thompson, 2002).

The allocation of a budget involves planning and distribution of funds that are justified in terms of serving intended goals. Planning on a budget is done with three major goals: to maintain aggregate fiscal discipline, to allocate resources in accordance with priorities and to promote the efficient delivery of services. It further works as a limiting tool for fiscal spending and can either be implemented with fixed expenditure limits for a fiscal year plan or implemented without limits. Budget modification can be done either through implementing budget cuts or supplementing the budget to cover initial budget targets; it further works as a tool to control expenditure in a programme and activities. It also seeks to provide flexibility in the use of funds to promote efficient delivery of services (Currestine and Bas, 2007).

A budget is allocated with objectives that are measurable and realistic. Furthermore, the size of a budget allocated for a specific goal is not uniform. It is prone to allocation changes, which are due to many factors. According to Birowo (2011), budget allocation changes are mainly due to project priority changes and the change can either be positive or negative depending on a programme's objectives (Liliana and Marius, 2009; Obioma and Ozughalu, 2010; Birowo, 2011; Lopes and Hanley, 2014).

An allocated budget has meaning when it is devoted to areas such as basic development facilities, poverty alleviation activities and human resource development, as these areas stimulate other activities such as trade, investments, output growth and income increase. These activities support job creation and accelerate economic growth and development (Liliana and Marius, 2009; Obioma and Ozughalu, 2010; Birowo, 2011; Lopes and Hanley, 2014). The budget allocated for socioeconomic programmes is well spent if it is on economically beneficial factors, such as purchase of new production machines, tools necessary for the production and reconstruction and modernisation and extension of the existing tools and machines.

2.3 Budget allocating methods

There are two popular budget allocating methods widely used during the budgeting process, namely, outcome-based and incremental budget allocation processes. Outcome-based budget allocation is a budgeting system that focuses on the outcomes of the funded activities. Outcome-based budgeting is qualitatively different from other forms of budgeting because its concern is to make outcomes a primary focus of budget allocation (Martin, 2002). The outcome-based budgeting process presents a programme's input and output by allowing easy verification of the programme's importance and efficiency. Furthermore, this type of a budget allocation is concerned with making public programmes transparent, and communicating information about these programmes to stakeholders, as they are about outcomes. The allocation is done using two approaches. The first is a budgeting system that links specific outcomes to the budget and budget process, and the second one is a budgeting system that purchases or allocates specific resources for the accomplishment of a specific outcome. The process is a linking approach which enables stakeholders to see what specific resources are being allocated towards the accomplishment of the

specific outcomes, and the purchase approach involves specific resources for the accomplishment of specific outcomes (Martin, 2002).

The other type of budgeting is an incremental budgeting approach and it focuses on budget activities rather than function. This approach places emphasis on yearly budget change rather than long-term budget change and it makes no distinction between discretionary spending and other types of mandatory categories. The method applies a standard percentage increase to the previous year's budget, increasing the budget from the previous year's planning without providing an opportunity to redefine and reprioritise expenditures. The process is based on last year's budget with a special attention given to a narrow range of increases or decreases. This approach ignores budget totals, revenues, deficits or surplus and other budget measures and is widely criticised for unclear mutual adjustment and bargaining process with the outcomes of the budgeting (Leloup, 2002; Van Schalkwyk, 2012).

Despite these criticisms, incremental budgeting is the preferred method of budgeting, as it involves little reviewing of the whole budget, thus reducing time spent during budget review, and eliminating costs. However, the method is criticised for putting more focus on the current budget allocation with no focus on future budgeting. The method gives little explanation on how decisions are made and on how increments on the yearly budgets should be divided and where more expenditure should be directed. There is a lack of explanation in terms of why spending on a budget is small or large in other years and the details on the outcome of the budget issued are not clear, the emphasis being on yearly increase or decrease (Schick, 2005).

2.4 Spending of the allocated budget

There is a relationship between expenditure and budget, in that they influence each other either positively or negatively (Obioma and Ozughalu, 2010). The amount of budget allocated in a specific year is informed by the expenditure of the previous year. For example, if in the previous year there was overspending, the amount of a budget to be allocated for the year that follows shifts upwards to match the increased spending, and if in the previous year the budget was underspent, the budget for the year that follows shifts downwards to match the decreased spending. Budgeting should be done with the knowledge of actual spending information to avoid variance between budget and expenditure (Obioma and Ozughalu, 2010; Wehner, 2010). Frequently budget adjustment is determined by the performance of the programme. For example, if the programme has recorded good performance, it causes allocation of a larger budget for that project and if the programme recorded poor performance, the budget allocation for that project experiences budget reduction (Birowo, 2011).

Spending can be reallocated, adjusted or modified within budget limits during implementation. Spending is used to benchmark the value for money in a project. Benchmarking of the spending is done by weighing budget targets against actual spending to support decision making, leading to improved performance and accountability. Performance results are applied during the budgeting processes to direct funds where they are needed most and are used in conjunction with prioritised spending (Curristine and Bas, 2007). Expenditure information should outline actual spending targets and it should be timely to curb unauthorised budget practices (Wehner, 2010).

Expenditure defines the success of allocated budget and is considered successful when spent on intended and planned activities (Lethoko, 2014). Furthermore, the effectiveness of budget

spending depends on the project environment: if the budget is allocated in the agricultural sector, the spending should stimulate agricultural exports, support repayment of farmers' credits and adoption of new machines to reduce risk. Expenditure should also be directed to the development of human resources either through technical skills transfer or educational training. Skilled, educated people increase production output and later free up funds directed to socioeconomic programmes to other public investment programmes (Ciobanu, 2010; Goren, 2003).

The main importance of a budget is to estimate expenditure required to implement plans. In many cases the budget allocated is less than the estimated expenditure amount. However, there are two mechanisms that assist to offset expenditure and budget mismatch. The first is project priorities, meaning the estimated amount per cost centre and per service is adjusted by taking into account past trends, future needs and policy priorities; this should be very participative process based on comprehensive information. The second is incremental adjustment, which means taking the percentage difference of the allocated budget to estimate budget and adjusting all cost centres by the same percentage difference (Engelbrecht et al., 2002).

2.5 Characteristics of budget spending

The spending of a budget is generally characterised by the problems of underspending and overspending. These two problems arise mainly due to indecisiveness in terms of the amount that should be allocated between functions and the basis at which the budget should be decided between different activities (Beckett, 2002).

The problem of overspending happens when the projected budget has been exceeded during spending allocation. There are number of contributing factors that lead to overspending. These

include high operating costs, and impractical revenue projections. These three factors are attributed to waste, bureaucratic inefficiency or unrealistic budgeting. Overspending in many cases is a result of spending slowness at the beginning of the financial year. The sluggishness is attributed to the fact that, at the beginning of the financial year, project design, planning and procurement preparations necessary for the project to begin are not yet finalised. The spending sluggishness leads to spending catch-up towards the end of the financial year and this often leads to overspending (National Treasury, 2012). Overspending impacts budget allocation severely and the budget authorities respond to overspending by increasing funds allocated in the next fiscal year (Lee and Plummer, 2007).

The problem of underspending refers to smaller allocation of the projected funds on specific activities than what is budgeted for. This spending problem influences the ability to achieve intended activities and deliver services. The problem emanates from poor allocation of funds and inadequate spending of allocated funds. Like overspending, underspending is also associated with spending sluggishness at the beginning of the financial year due to poor planning and incompetence of the budget authorities (National Treasury, 2012; Lethoko, 2014). Funds that are not spent are surrendered at the end of the fiscal year in full to the donor, whatever the reason for under expenditure, and this may affect funds allocation for the years that follow; usually funds allocated in the subsequent year are reduced (Shand, 1998).

2.6 Summary

The chapter has discussed the relationship between budget and expenditure. The chapter started with a presentation of issues around budget allocation, followed by discussion of the importance

of budget allocation, methods used in allocating budget and concludes by presenting issues around spending of the allocated budget.

There is a relationship between budgeting and spending; the amount of a budget allocated in a programme for a year is informed by the spending of the budget from the previous year. However, there are two major problems that disrupt the relationship between budget and expenditure. These are the problems of underspending and overspending of the budgeted funds; these problems are attributed to the sluggishness of the programme planning and design at the beginning of the financial year.

CHAPTER 3: DETERMINATION OF SPENDING ALLOCATIONS

This chapter outlines the theoretical relationship between the level of spending and the purpose of the programme. The chapter has presented the level of spending and factors that contributes to spending levels.

3.1 Spending levels

Spending is determined by a budget and is allocated to different individuals and different activities. Spending is primarily done in the form of investment for a specified purpose. Spending happens in the form of investment in a specified programme requirement which informs fund allocation and is done to achieve specified objectives (Paxson and Schady, 2002). Spending is informed by different elements which include economic and administrative institutional factors. The levels of spending are subject to limits but their limits can be adjusted through reviews after the budget resolution if the adjustment is agreed on (Heniff, 2010).

The level of spending level is measured using priorities, which are measured as a percentage of a total funds outlay devoted to each practical field (Hofferbert and Budge, 1992). Spending allocations have two categories, high and low level of spending. Neither of the spending categories determines the success or failure of a project; high spending levels do not guarantee a programme's success, and low spending levels do not determine the failure of a programme. A low level of spending does not imply a programme's poor performance and high spending levels do not imply the value for money in a programme. Successful spending is concerned with core activities that are important on the programme. Important activities that are related to the programme purpose (Van der Merwe, 2010).

Some studies (Hofferbert and Budge, 1992) regard spending as a response to the underlying social problems, which indicate a need for government intervention through spending. Normally, these interventions would be a set of objectives in a programme, and to stimulate spending of funds. Spending is used to achieve several objectives; it can be used as an assessment tool to measure the level at which the target has been reached. Spending is mainly guided by the project funding proposal which contain estimates of all targeted expenditure items. The more funds are allocated for spending the more the targets of the programme are reached (Paxson and Schandy, 2002). Furthermore, spending can be used to assess prioritised activities. Priority during spending is given to proposals that are deemed viable and are of value to the targeted beneficiaries. This does arise the difficulty of budgeting authorities being uncertain of which activities deserves attention when spending is allocated (Ravallion, 1999).

Spending should be in line with the purpose of the programme. For example, spending to enhance agricultural production should be on agricultural assets and activities that includes land, fertilisers, machinery, physical infrastructure, labour and education (Fan and Roa, 2003). Farm production also increases in a situation where farmers have access to improved technologies and physical infrastructure such as roads and electrification (Mellor, Nabi & Tusneem, 2009).

Controlling and maintaining spending level is difficult and tends to be even more difficult in a situation where a programme is administered by more than one sphere of government; for example, when a programme is funded by central government and administered by the local government. In programmes that are administered locally and funded by the central government it is difficult to contain spending because in this case local government officials are not incentivised to be cost-effective. Additionally, local officials are also not incentivised to implement rigorous work

assessments and to carefully adhere to other requirements contained in the programme expenditures (McFarlan and Oxley, 1996).

Even though controlling of spending levels is difficult, they can be controlled by adhering to the grant conditions. Grants are issued in various forms: there are earmarked grants and non-earmarked grants. Earmarked grants are given with a specified purpose under which they should be used and non-earmarked grants are given without conditions that authorise funds usage and they are provided mainly to sub-national governments as own income and profit. The above-mentioned two types of grants are provided either as compulsory or optional. A compulsory grant requires conditions laid down in a statute or executive decree. Compulsory grants are globally the most common. Optional grants are given without rules and are deemed discretionary. This type of grant is mainly temporary in nature, like grants for infrastructural projects or emergency aid for disaster areas (Bergvall et al., 2006).

The difficulty of spending within level can be dealt with differently depending on a situation. For example, in a case where the disbursement of the grant to recipients is not uniform, spending levels can be maintained by having different budget categories, for example, having the budget controlled by both local and central government (McFarlan and Oxley, 1996). Furthermore, the level of spending should be monitored closely, and a correlation of performance and budget cycles is considered necessary to make sure that funds are used as intended and that authorities can be made accountable for the results obtained. When connection is in place, information about unsatisfactory results cannot only be used to adjust the programme or the minimum standards, but also to adjust the financing of the grant (Bergvall et al., 2006).

Expenditure can be controlled more easily by a co-funded grant, when the grant is co-funded by both central and local governments. If a local government has income-raising power to co-fund grants with the central government, these types of the grants can be linked to the performance targets easily and this assists to obtain local government commitment to the objectives set by the central government. Co-funded grants assist in fostering responsible behaviour since local governance will generally take better care of funds they have contributed (Bergvall et al., 2006). Furthermore, the budget reporting requirements also assist in controlling spending levels since, budgets are mainly subjected to local legal requirements and are prepared in accordance. With a budget, no funds are used in any manner other than as provided for in the adopted budget, although the overseers can adjust the budget during the year (Lee and Plummer, 2007).

3.2 Factors that contribute to spending levels

Spending levels are subject to change, either increasing or decreasing. In a situation where levels of spending increase, it is attributed to two factors which include change of the targeted group that potentially falls within the scope of the programme, and residual items which include the effects of changes in eligibility conditions and programme entitlements. Changes in the size of the target group and the share of the targeted group in the population contribute significantly to spending level change. Other factors that influence spending level are demographic structure, risk characteristics of the population and programme coverage. Although these factors are less important in influencing spending levels change, spending levels change to a large degree are associated with rules governing eligibility and entitlements and how governing rules are interpreted (McFarlan and Oxley, 1996).

Types of programme benefits influence spending level change. Programmes associated with low benefits lead to sharply lower spending levels while programmes with high benefits are associated with high spending levels. Additionally, the lifespan of the programme's benefits influences spending level. Programmes associated with low lifespan benefits are also associated with low spending levels, while programmes associated with high lifespan benefits are also associated with high spending levels (McFarlan and Oxley, 1996). Programmes associated with higher benefit levels tend to have more beneficiaries and the spending levels tend also to be high (Howard, 2000).

The other determinant of spending levels is the eligibility conditions in a programme; the influence of eligibility on spending is more than the influence of programme's benefits on spending. Eligibility is the determinant of the number of beneficiaries, with key rules affecting who can receive benefits differing from programme to programme (McFarlan and Oxley, 1996).

Additionally, the sector in which the programme is placed influences spending. For example, social assistance programmes have high spending compared to programmes in other sectors. High spending on a social assistance programme is subject to the fact that social assistance provides the main means of support for relatively large groups of beneficiaries. The high level of spending in social assistance programmes is due to a fundamental concern in providing adequate benefits to minimise the incentives and opportunities for long-term dependency by beneficiaries. Long-term dependency on social assistance is because social assistance is available for unlimited duration, and recipients tend to be beneficiaries of programmes for a long time (McFarlan and Oxley, 1996). In different sectors, the classification of expenditure items determines spending levels. Furthermore, social assistance which aims at guarding social welfare tends to have high spending levels (Howard, 2000).

The levels at which spending takes place are subject to many problems, with spending cuts counted as the major problem. Cutting of expenditure occurs when money to be used on specified objectives is reduced and this later affects programme targets. Spending cuts are solved through adjustment of levels at which spending is done with better targeting so that the targeted beneficiaries do not end up in a worsened state (Ravallion, 1999).

Included in the list of spending problems is the issue of dishonest activities which lead to fruitless spending of money. Dishonesty increases the overall level of spending and reduces the part of expenditure which really reaches the targeted group. Spending associated with dishonesty raises the cost while reducing the quantity of output provided by the programme. Spending yields poor outcomes where dishonesty is high. People involved in a programme characterised by spending dishonesty tend to favour investments that offer them high incentives even though these investments are not necessarily important. This diminishes the impact of spending on social outcomes and alters the quality of public services and it further alters spending on items that are entailed in the programme because dishonesty diverts spending towards the direction not envisioned (Delavallade, 2006).

During spending, there is a challenge of funds diversion. This occurs mostly in social assistance programmes whose target groups are mainly the poorest of the poor and do not benefit from the expenditure, simply because the benefits of the programmes are diverted to different directions that advance personal benefits which are not intended objectives of the programme. This usually contradicts the original intention of the programmes (Van der Merwe, 2010). Funds diversion is mainly inconsistent with the objective of the programme and leads to the non-attainment of the planned objectives (Pauw, 2004). The misalignment between spending and intents of the distributed funds hinders attainments of the planned objectives. Spending materialises in a

situation where there is proper alignment between budget distribution and spending of the distributed money (Soroka and Lim, 2003).

Poor targeting is another factor associated with spending levels, for example grants targeted to poor people can be leaked to the non-poor. Poor targeting primarily results from programme design. Mostly, programmes that are funded by the central government but relying on the provincial government for the spending of funds tend to perform poorly. Most programmes are designed and funded by the national level of governance and filtered down to provinces for implementation, so that exact targeted group of beneficiaries are identified by provinces. The filtered programmes tend to be uniform across all provinces with no acknowledgement of the provinces' diversity. Provinces are diverse and their performance in programmes is different, so province diversity calls for consideration by central government during allocation of funds for spending in specific programmes. Frequently, the central government is not informed about provinces' diversity during programme design. Absence of diversity information on provinces hinders programmes' success and results in poor programme spending (Ravallion, 2000).

3.3 Summary

This chapter has described the relationship between the level of spending and the purpose of a programme. The chapter discussed the level of spending and factors that contributes to spending levels. Expenditure is determined by a budget, and the money is invested in activities that are to be achieved in a programme. The activities to be achieved are informed by the socioeconomic issues which require government's interventions to control them. Hypothetically, there is a relationship between spending and the purpose of the programme, but the relationship can be

disrupted by many issues such as spending cuts, dishonesty, funds diversion and unauthorised spending.

CHAPTER 4: DEVELOPMENT OF PROGRAMME OBJECTIVES

This chapter discusses the meaning of objectives and the factors that lead to the attainment of objectives in a programme. The chapter starts by considering the meaning of objectives, followed by the importance of programme objectives, changes associated with the objectives of a programme and factors that inform the achievement of objectives. It concludes by presenting problems that are associated with achieving objectives.

4.1 Objectives of the programme

Objectives are steps towards the attainment of goals. They involve finding specific, measurable and time targeted objectives and they are an immediate regulator of actions (Epps and Emerson, 2011). They further define a programme's performance targets (Food and Agriculture Organization of the United Nations, 2015). They are agreed on in both private and public programmes as a motivational tool for programme overseers and they are used as a tool to translate policy into actions. They are used as a reflection of every activity that administrators do and they inform the background of actions taken in pursuit of them. Actions taken to track objectives are like activators for performance and are used as a tool by programme designers to achieve expected outcomes. Objectives should be measurable in order to ensure effective evaluation of progress (Tear et al., 2005).

In addition, objectives are set as expectations for a programme to achieve its goals. They function as steps towards achieving goals; they are specific, quantifiable statements of achievement, well-articulated, time bound and quantify programme goals. Project objectives are measured by three things: cost, time and quality. The three should be clear in terms of the target set for each parameter

and a view of the relative importance in each target should be supported by the budget (Booth, 1998; Rupert, 1998; Toffler, 2011).

According to Moore, Ellsworth and Kaufman (2008), objectives are characterised by the following:

- An objective states only the ends and never includes the means, methods and activities used to accomplish it.
- Objectives are quantitatively measurable.
- Objectives have components that measure what is to be accomplished, who and what conditions will demonstrate the accomplished results, under what conditions the results will be observed and measured and what the measurable results will be.
- Useful objectives are grounded on meeting documented needs or gaps between current results and required results.
- Each objective should state one result to be accomplished.
- Each objective is linked to results and consequences for individuals, small groups, organisations, external clients and society.

Even though the objectives are motivational tools, they do not propose methods, approaches and activities to be used towards their achievement; instead they focus on the outcome. They are based on solid performance evidence and are rooted in the needs and gaps between current results and desired results. Needs and gaps are identified from the formal assessment and objectives without roots of assessment hinder the completion of a programme (Moore et al., 2008).

There are two generally known types of objectives. There is a process objective which focuses on activities to be completed in a specific time. This type of objective supports accountability by setting specific activities to be completed by a specific date. The other type of objective is the outcome objective which defines expected results and what needs to be recorded. Outcome

objectives are specific and concise, they clarify the programme expectations and are used to determine progress towards a programme goal. Outcome objectives are realistic targets for a programme and are used to assess achievement (Toffler, 2011).

4.2 Importance of programme objectives in a programme

Objectives are useful since they map programme goals, ideas and activities (Sooryamoorthy, 2005). Objectives differ from goals since goals are broad and visionary, while objectives are measurable and ensure effective evaluation of progress (Tear et al., 2005). Furthermore, the purpose of the programme differs from objectives and goals because purpose is what determines the final delivery of the project value. Purpose emerges from the interaction of the project stakeholders and it is ultimately constructed through the interconnected relationship of needs, stakeholders' values and project constraints (Whelton, 2004). Objectives offer an opportunity to plan their effect for they provide a link to the valuable strategic, tactical and operational purposes. The link between objectives and value added is well understood if there are effective operations, since objectives without proper operations are meaningless (Moore et al., 2008).

In addition, projects without objectives make it difficult to assess the use of a programme's funds. Where there is no objective, there is a serious problem of credibility in assessing the programme's contribution to improved performance on indicators and ensuring that funds are used for authorised purposes. In the absence of objectives as a performance measure, it is difficult to measure any incremental effects of funds in a programme and the prevention of waste, fraud, errors and abuse of the spent funds is difficult to control since objectives are the first enforcing requirements in a programme. Articulated purpose, goals and objectives demonstrate the need for using and allocating funds, thus eliminating perceived deficiencies in funds allocation due to lack of

objectives and providing assurance measures that funds are being properly allocated. Hence, programmes without clearly stated objectives should not receive funds (Epps and Emerson, 2011).

4.3 Changes associated with programme objectives

Programme objectives are associated with the problem of unintended change. Generally, the objectives of a programme are usually clear at the beginning of the programme, but as time goes by change arises due to the complexity and growth of a programme. When the programme grows, the initial objectives may get lost along the way and the programme tends to adopt new objectives which differ from the initial objectives. The change mainly affects the relationship between objectives and beneficiaries. When the relationship between a programme and beneficiaries is lost, it results in an inconsistency between programme, beneficiaries and objectives. Objectives also change due to abandonment or addition of the objectives, and the change is mainly in response to the transforming socioeconomic, cultural and administrative environment. The change of objectives also can result from the change of the programme's context (Sooryamoorthy, 2005).

Deserting objectives results in complete loss of basic objectives or incorporation of new objectives. Changing objectives are also attributed to poor coherence which is associated with programme's expansion, which happens rapidly without proper planning, or appropriate programme and managerial competency, and this threatens the value of the programme. Embracing new objectives also happens when there is failure to appropriately identify beneficiaries who are suitable for new objectives (Sooryamoorthy, 2005). Objectives define programme performance targets. For example, a social assistance programme intended for poverty reduction should target the poor and the results in terms of poverty reduction should be on poor people (Food and Agriculture Organization of the United Nations, 2015).

4.4 Achieving programme objectives

Programme objectives are usually multiple in nature, and accomplishing some of the specific objectives does not mean that the overall objective has been reached. Multiple objectives require alignment because poorly aligned objectives result in misinterpretation of the programme. Achieving the overall objective requires the achievement to be on achieving specific objectives first and achieving specific objectives requires a clear weighting of each specific objective against the overall objective. The fitness of specific objectives to reach the overall objective is important since achieving specific objectives is useful, given that all the achievements are related to the overall objective (Moore et al., 2008).

Objectives can be poorly achieved and this is attributed to the gap between planning and implementation. The gap may be a result of poor administrative capacity, manipulation by influential individuals, beneficiaries, local cultural needs and pursuit of the individual needs over programme goals (Sooryamoorthy, 2005). There are different standards of objectives that determine achievement of the objective. There are poor and quality specific objectives; poor specific objectives yield undesirable results which divert from the overall objective, while quality-specific objectives lead to the achievement of the overall objective (Moore et al., 2008). Poorly achieved objectives tend to implement corrective measures and this affects the competitiveness of the project and later causes funding problems.

Achievement of objectives is related to the impact of the programme. Programme impacts differ; some are related directly to the objectives of the programme while others are unintended consequences. Achievement depends on a number of factors such as how well the targeted group is reached. Programme targeting generates broad and popular support and enhances sustainability

of the programme, even though benefits of the programme can be manipulated during targeting and shift benefits to a few favoured groups (Food and Agriculture Organization of the United Nations, 2015).

Achieving programme objectives is also determined by a commitment to the goal. Goal commitment is defined as an attachment or determination to reach the goal, regardless of its origin. Successful achievement is when the goal is reached with adherence to budget, time and functionality of the programme. A well-achieved goal happens within time, budget, required specification and products that are of an acceptable quality. Where there is commitment, decisions that are made are mainly in line with the achievement of the objective (Korzaan, 2009). There are two key elements that facilitate commitment to a goal, factors that make goal attainment important to people, such as the importance of the outcomes that people expect as a result of achieving a goal, and a belief in the ability to attain the goal (Epps and Emerson, 2011).

Achieving an objective is further determined by the time specified for the programme. Programme with unrealistically short time frames tend to fail. When bureaucrats realise that it is impossible to reach the objective within the proposed schedule this results in less commitment to a programme (Korzaan, 2009).

4.5 Problems associated with programme objectives

The objectives of a programme usually flow from high-level policies, strategies and international agreements. Objectives are broadly stated, and hence are difficult to incorporate directly into programme administrators' plans because their results are unpredictable. Usually, there is a conflict with choices to be made in terms of which of the several alternative operational actions to

answer questions, such as what specific outcomes are intended by the programme overseers' decisions, what information is needed to support decisions made in a project and how programme success or failures will be measured and detected (Sainsbury et al., 2000). Preferably, objectives are developed through the hierarchical processes, which include broad, visionary and long-term goals (Tear et al., 2005).

Achieving objectives means developing the best possible compromise between socioeconomic needs and aspirations of people and programme requirements. To succeed, the programme actions must be focused and ordered, and there should be a way of measuring their progress and efficiency. Objectives are influenced by socioeconomic dimensions, driven by factors such as diversity of culture and goods and services, and will vary with culture and prevailing human circumstances. The factors mentioned above determine the emphasis of the proposed programme, which is critical to determine if there is essential local support for a programme. Furthermore, achievement requires narrowing of the broad policy to smaller sub-programs which address the national policy. The next requirement is to establish an agency charged with overseeing and implementing this policy and to ensure that the agency is structured and equipped to undertake the responsibility effectively and efficiently. Attainment of goals depends on the success of the earlier actions. The orderly achievement of sequence of priorities is required and the action plan that describes the progress to be accomplished in each time span in terms of objectively verified indicators (Child, 2003).

In addition, the objective should have indicators to be followed. During the selection of objectives, it is important to have indicators that are limited in number, easily measurable and depict trends in key programme processes. Efficient programme achievement requires a programme process to deliver the expected products on time and of the quality required. This requires making parties

involved responsible for meeting objective indicators and holding them accountable for the quality of the products achieved and for not missing targets. Project success depends on good communication, effective management and teamwork, proper reporting and review procedures within the programme (Child, 2003).

The other problem associated with objectives is setting of quantitative objectives which are set without consistency and logical precision. As a result, programme overseers fail to provide credible answers to the question of how much is sufficient. This is a serious problem because objectives profoundly shape where and how limited resources are spent, and help to create a shared vision for the future, since programme objectives compete with other goals and objectives that have a more powerful influence on public policy (Tear et al., 2005).

4.6 Summary

The chapter has outlined the meaning of objectives and the factors that lead to the attainment of objectives in a programme. The chapter covers issues around the meaning of objectives, followed by presenting the importance of programme' objectives, changes associated with the objective of the programme, factors that inform the achievement of objectives and concludes by presenting problems that are associated with achieving objectives. Objectives are measurable, quantifiable, time bound and realistic, and in a programme they are used as directions to allocate funds; without objectives, it is difficult to allocate funds and measure programme progress. Theoretically, there is a positive relationship between spending and attainment of the programme's objectives since objectives inform the allocation of the financial resources and it is difficult to allocate financial resources where there are no objectives.

CHAPTER 5: METHODS AND PROCEDURES

This chapter describes methods and procedures used to conduct this study. The chapter starts with a presentation of the theoretical background on evaluation of budget and expenditure, measurement of programme spending levels, and relationship between spending and objectives. This is followed by a discussion of the methods and procedures applied to achieve the objectives of the study.

5.1 Theoretical background

This section presents a theoretical background for assessing budget and expenditure of the programme.

5.1.1 Evaluation of the budget and expenditure

Spending and budgeting assessment is done to understand the process that takes place from budget discussion until the funds are released for spending. The assessment involves explaining and understanding of the budgeting process and further carrying out comparisons to find changes in the final allocation (Beckett, 2002). The assessment is done through measuring of the overall percentage change of the funds allocated to various activities with respect to the total funds released (Klase, Dougherty & Song, 2001).

Furthermore, budgeting and spending assessment involves evaluating the relationship between the money allocated and targeted achievements (Birowo, 2011). The assessment is done through studying the content to establish variable relationships; from the relationship themes are developed and categorised to inform easy comparison of the variables in question (Hutten, 2012). Thematic grouping of variables is done to understand their occurrence (Mamphekgo, 2011). The approach

can also be indicator-specific. For example, the expenditure approach can be applied to assess whether all actual spending happened within the allocated budget (Financial and Fiscal Commission, 2015).

5.1.2 Measuring spending level in a programme

Assessment of the spending levels is done with different methods and for different purposes. The assessment is done to acknowledge the variance that results from spending and other administrative efforts designed to ensure that the funds are spent within the objectives (Ravallion, 2000). The spending assessment is mainly done by the central government to monitor performance of the grants. Spending assessment is considered necessary for making sure that funds are used as intended and that authorities are accountable for results obtained (Bergvall et al., 2006).

Spending examination is done in various ways, including doing spending level examination as part of a budget in relation to how much has been spent according to objectives and how much was allocated to all other activities outside the objectives. From the assessment, actual spending per item drawn from the budget is assessed and the actual items are further measured as a percentage of the budget spent (Delavallade, 2006). The assessment examines spending priorities through measuring of funds devoted to each substantive field, to determine the relationship between programme spending emphasis and essential fields related to expenditure priorities (Hofferbert and Budge, 1992). The assessment includes all items purchased (goods and services), and this involves studying the amount of money spent on all items, mainly using receipts of purchase to conduct a survey of different grant recipients (Frechting, 2006).

5.1.3 Measuring the relationship between spending and objectives

The relationship between spending and objectives achievement is done to evaluate the degree of financial resource utilisation and to assess the effectiveness of the implemented programme (Hambrusch and Weber, 2014). Furthermore, the evaluation measures performance of a project, to give a clear signal to beneficiaries about regulatory authority or service provision if it is recognised as going well or poorly. Hence, performance measurement is used as one of the crucial measures in distributing funds to various programs. Outcome measurement is always preferable in performance reporting, as it shows programme progress in achieving objectives (Epps and Emerson, 2011).

Assessing programme achievements is done by measuring the relationship across all levels involved through studying the programme, beneficiaries and objectives. The relationship between the programme, beneficiaries and objectives is measured by assessing uniformity between them. Spending assessment assists in studying the reaction of programme beneficiaries (Sooryamoorthy, 2005; Jacob, 1994). In addition, the assessment is done through studying outcomes resulting from the programme depending on the type of programme (Moore et al., 2008).

5.2 Sampling

The study used two forms of data, primary and secondary data. The primary data used was collected using a structured questionnaire, administered to RECAP beneficiaries in six South African provinces: Limpopo, Gauteng, North West, KwaZulu-Natal, Free State and Eastern Cape. The survey was not done specifically for this study; it was done for the review of RECAP by the Department of Monitoring and Evaluation through the Business Enterprises at University of

Pretoria and the University of Pretoria Post Graduate School of Agriculture and Rural Development.

The primary data was collected through direct face to face interviews with RECAP beneficiaries and a purposive and stratified sampling was used to select 98 respondents. These methods ensured that attributes of the farms such as geographic distribution to include regional climatic variations is taken into consideration and both rural and urban farms are included, enterprise type to include both livestock and crops projects; size of the projects to include both small scale and large scale farms; and stage of the farm to include all the stages of the projects (planning, implementation and production) (Business Enterprise, 2013).

Data was collected from the following provinces: Gauteng (10 farms), Free State (22 farms), Eastern Cape (9 farms), Limpopo (13 farms), North West (20 farms), and KwaZulu-Natal (24 farms) (Business Enterprises, 2014). Secondary data was obtained from information on the budget and expenditure of the programme for the national and provincial DRDLR during the first five years of RECAP implementation. Since the budget was distributed to all the nine provinces, the study analysed the all provincial budgets.

The sample consists of previously disadvantaged individuals, who have gained access to land through different programmes of land reform in South Africa. The beneficiaries are characterised by high levels of illiteracy and a lack of business skills, especially accounting skills. The beneficiaries depend heavily on the government and agricultural consultants for farming and business skills to be transferred to them. The other characteristic that defines the beneficiaries is poor access to commercial banking credit due to lack of collateral (Zimmerman, 2000).

5.3 Data analysis

Due to the nature of the survey data, which is in both qualitative and quantitative, the study applied the qualitative, quantitative and comparative data analysis approach to achieve the three specific objectives of the study. Multiple linear regression and a logit model were used to address the third specific study objective, which is to determine the relationship between spending and achievement of the RECAP objectives (employment, food security and production). The logit model was used to determine the relationship between RECAP spending and achievement of market access. The use of qualitative, quantitative and comparative data analysis approach has been used by other scholars in previous studies including Klase et al. (2001), Beckett (2002), Birowo (2011), Mamphekgo (2011) and Hutten (2012). In this study, yearly percentage change of the budgeted funds was assessed. Furthermore, the relationship between budget, and expenditure was determined through assessment of the difference between the amount of grant received, and grant spent on the programme.

5.3.1 Discussion of the main research method

At the national level, the study focuses on understanding the purpose of the grant. At that level the grant is not spent on goods and services, the yearly distribution of RECAP budget from the national level to the provincial level was treated as the national level expenditure. Furthermore, the study examined the purpose of the grant and the spending conditions specified at DRDLR to govern the process of budget distribution to provinces. According to Delavallade (2006), expenditure levels are examined as part of a budget by assessing how much has been spent according to purpose and how much is allocated to all other activities. Additionally, Ravallion (2000) notes that budget allocation is a tool to assess spending levels.

At the provincial level, the study examined the amount of spending by provinces. This entailed determining the number of enterprises or agricultural activities that farmers have requested funding for, to determine the relationship between spending and the purpose of the grant at farm level. After identifying farm level grant purpose, actual spending per province was assessed to determine variation in spending level across provinces. In assessing spending level performance, actual activities in which money was spent were categorised. Categories of actual activities were developed in relation to RECAP grant purpose at the project level. According to Ravallion (2000), assessment of spending levels is done by examining all spending that has happened across different geographic areas and match these spending with the programme targets.

Moreover, the assessment at the farm level was done by developing categories of farmers based on their RECAP requests. Thereafter, the amount of money spent on activities was aggregated per category. Costing of each activity financed was done, since expenditure assessment can be done using a costing model which does the examination by categorising actual spending into different activities which are considered basic. The approach assesses the exchange of money to obtain goods and services (Frechting, 2006). Furthermore, the examination at the project level compared the grant request and spending on actual activities by farmers to understand the relationship between expenditure and the purpose of the programme. According to Ravallion (2000), expenditure examination is done by assessing total spending on goods and services to determine their relationship with the programme's purpose. During the implementation of the study, the problem of data unavailability on actual spending was acknowledged. According to Frechting (2006), it is difficult to obtain data on actual spending but data on the amount of money budgeted for spending is always available.

5.3.2 Analytical models

The study applied two analytical models; the multiple linear regression and the logistic regression analysis to determine the relationship between RECAP investment and the achievement of programme objectives.

5.3.2.1 Multiple linear regression analysis

This model was used to determine the relationship between investment and achievement of the following RECAP objectives: employment, food security and farm production. The multiple linear regression model was chosen due to its *ceteris paribus* power, which allows explicit control for many other factors that simultaneously affect the dependent variable. The *ceteris paribus* power makes multiple linear regressions important in testing economic theories and evaluating policy effects using non-experimental data (Wooldridge, 2009). The *ceteris paribus* power of the multiple linear regression analysis has allowed the study to determine the relationship between RECAP investment and the achievement of RECAP objectives without considering the simultaneous influence of other variables.

Multiple linear regression models are stated as follows;

$$y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots \beta_kx_k + \varepsilon$$

Where:

y - is the dependent variable and, in this study, the dependent variable is RECAP objectives (employment, farm production and food security).

β_0 - is the intercept

β_s - are parameters to be estimated

X_s -are independent variables

\mathcal{E} - is the error term

The dependent variables in the estimated models were employment, farm production and food security and each model was estimated using both categorical and continuous variables. The following multiple linear regression models were estimated;

$$\mathbf{Employment} = \beta_0 + \beta_1RINVEST + \beta_2FSIZE + \beta_3ETYPE + \beta_4FINCOME + \beta_5FPROD + \beta_6FEXPR + \beta_7NBENEF + \mathcal{E} \dots\dots\dots(1)$$

$$\mathbf{Production} = \beta_0 + \beta_1RINVEST + \beta_2INPUT + \beta_3TRAIN + \beta_4FEXPR + \beta_5FASSETS + \beta_6LACCESS + \beta_7FSISE + \mathcal{E} \dots\dots\dots(2)$$

$$\mathbf{Food security} = \beta_0 + \beta_1RINVEST + \beta_2FEXPR + \beta_3FSIZE + \beta_4ETYPE + \beta_5FINCOME + \beta_6NBENEF + \beta_7TRAIN + \mathcal{E} \dots\dots\dots(3)$$

Where:

Table 5.1: Description of independent variables used in the multiple linear regression

Continuous variables		
X-variables	Description	Measurement
RINVEST	RECAP investment value	Rands
FSIZE	Farm size	Hectares
FINCOME	Farm income	Rands
FEXPR	Farming experience	Years
NBENEF	Number of beneficiaries	Number
FPROD	Farm production	Number
Categorical variables		
X-variable	Description	Measurement
ETYPE	Enterprise type	1 = Mixed
		0 = Crops/ livestock
INPUT	Input used	1 = Yes
		0 = No
TRAIN	Training received	1 = Yes
		0 = No
FASSETS	Farm assets	Rands
LACCESS	Access to loans	1 = Yes
		0 = No

The study estimated three multiple linear regression models to determine the relationship between RECAP investment and achievement of RECAP objectives. The description of the independent variables used in the regression equation 1, 2 and 3 are stated below.

i. Employment creation model

Equation 1 estimated the relationship between RECAP investment and employment creation. Employment creation is the number of people employed by RECAP beneficiaries. The independent variables that have effects on employment are explained below.

RECAP investment – is the amount of RECAP grant spent on the farm, measured in Rands. Investment is expected to have a positive effect on employment. According to Innovation for poverty action (2010), the recipients of cash grants expand their production land, increase profits and use more inputs. To expand the land the grant recipients will require more labour to do the work, since it is not easy to increase the size of the land under production without increasing labour (Abrah, 2015). Therefore, investment is expected to have a positive effect on farm employment.

Farm size – is the size of the farm measured in hectares. The size of the farm is the most important part of agricultural production. However, it is not easy to increase the size of the land under production without increasing the labour. Farmers with large operating land size would have better production and income if there is sufficient labour available (Abrah, 2015). Farm size is expected to impact employment, since it is impossible to expand the farm without more labour.

Farm income – is the amount of income from agricultural produce measured in Rands. Increased farm income is associated with expansion of land under cultivation by farmers for additional farm production. For land to be expanded for further farm production it requires additional labour to

participate in the expansion of the farm area under cultivation and production of high volume. Therefore, farm income is expected to have a positive effect on farm employment.

Use of inputs – captured as a dummy variable, represented by 1 for farmers who are using inputs for their production and 0 for farmers who are not using inputs for their production. Planting of new seeds cultivars and application of fertilisers is associated with improved yields in the farm. Farms with high yields will require more labour to plant, harvest, package and take the farm produce to the market. The use of input is expected to have a positive impact on farm employment.

Farm production – is the amount of farm produce. Agricultural production has been identified as the best mechanism to reduce rural poverty by improving most of the employment in rural areas (Machethe, 2004). Emerging farmers are the biggest employers because they use labour intensive methods as opposed to large commercial farmers who tend to be capital intensive (Mhlaba and Brey, 2014).

Farming experience – is the number of years in farming. Experience is expected to have a positive effect on farm employment. Experienced farmers are associated with big land size as opposed to inexperienced farmers. Big land size and high volume production will require more labour to work in the farm. Therefore, experience is expected to have a positive effect on employment creation by RECAP beneficiaries.

Number of beneficiaries - the number of people benefiting from the farm. The number of beneficiaries is expected to impact farm employment. An increasing number of beneficiaries exert pressure on the farm (Mabuza, 2016; Mafora, 2014; Hall, 2004). The involvement of many beneficiaries on the farm may cause conflicts, since the income generated in the project will not be enough for all of them. An addition of one more beneficiary in the farm is expected to have a

negative effect on farm employment, because, as the number of beneficiaries increases, the lesser will be the chances of employing non-beneficiary members.

ii. Farm production model

Equation 2 estimated the independent variables that affect farm production. Farm production is the amount of production in the farm produced by RECAP beneficiaries. The effect of independent variables on farm production is explained below.

RECAP investment – is the amount of RECAP grant spent on the farm measured in Rands. According to Innovation for Poverty Action (2010), investment in agriculture has many effects for farmers such as increasing income and improving livelihoods of the people. Countries that have cash grants for farmers have witnessed a significantly higher farm productivity and farm profits. For example, in Malawi farmers who have received cash grants improved their outputs and profits by 13 and 12 percent respectively (Innovation for Poverty Action, 2010). Therefore, RECAP investment is expected to have a positive effect on farm production.

Farm size - is the total area of land used for production in hectares. The variable is expected to have a positive effect on farm production. According to Abrah (2015), the larger the farm size of the farm, the higher is the volume of production and income of the farm.

Input use – captured as a dummy variable. Contain 1 if farmers are using inputs for their production and 0 if farmers are not using inputs for their production. Input use is expected to have a positive effect on farm production. The use of inputs is associated with increased agricultural yields (Abrah, 2015). The application of fertilisers or improved seedlings has a positive impact on the productivity of the land.

Training – equipping of farmers with farming skills. It is captured as a dummy, farmers who have received training through RECAP are represented by 1 and farmers who did not receive training through the programme are represented by 0. The variable is expected to have a positive effect on farm production, as farmers who have received technical skills training improved their production, opposed to farmers who have not received training (Mafora, 2014; Mabuza, 2016).

Farming experience – is the number of years in farming. Farming experience is expected to enhance farm production, since experienced farmers highly depend on their previous knowledge of farm practices to produce different crops and livestock (Abrha, 2015).

Farm assets – agricultural production is directly influenced by the ownership of assets. According to Abrha (2015) and Sabatta (2014), the larger the number of assets the farm has, the more the production and income from agriculture will be. Furthermore, according to Wittman (2009), Fan and Rao (2003) and Mellor et al. (2009), access to farming assets such as infrastructure and equipment assist farmers to produce more and enables them to enter into both produce and input markets.

Loan access – access to credit facilities can assist farmers to buy agricultural inputs and finance farm production. However, access to credit by emerging farmers is scarce. This variable is expected to have a positive effect on farm production. According to Machethe (2004) one of the key elements in rising agricultural productivity is improved access to credit. According to Abrah (2015), capital is the scarcest asset in the developing countries in general especially in the rural areas. There is a need for money to adopt new technologies such as increasing yield inputs.

Enterprise type - type of enterprise is captured as a dummy where respondents involved in either crops or livestock production were accorded the value of 1 and respondents involved in both crops

and livestock production were accorded the value of 0. The variable is used as a proxy for diversification as farmers with diversified enterprises are expected to have high farm production. The variable is expected to impact farm production, since farmers with multiple enterprises will have high production volume compared to farmers with one enterprise.

iii. Food security model

Equation 3 estimated independent variables that affect food security. Food security is the amount of farm produce used by farmers and their families for consumption. The effect of each independent variable on food security is explained below.

RECAP investment – is the amount of RECAP grant spent by farmers measured in Rands. The amount of money spent by farmers is expected to have a positive effect on food security. According to Mabuza (2016), large capital inputs like seed and fertilisers, machinery and infrastructure development during the establishment phase of agricultural projects, present an important challenge to farmers. Farmers with financial support are more likely to be successful in farming and, therefore can develop their socio-economic status such as food security and other.

Farming experience – number of years that farmers have been involved in farming and it is expected to have a positive effect on food security, since farmers with more experience in farming are associated with high production for both markets and consumption. According to Mabuza (2016), as farmers' experience increases they become more productive and food secure because of improved technical and managerial experience gained over time.

Farm size – the total area of land used by farmers for production measured in hectares. Farm size is expected to have a positive effect on food security. According to Abrah (2015), food production can increase extensively through the expansion of areas under cultivation. If farmers increase

production they will have enough food for their own household consumption, and sell the surplus to the produce markets to generate income which they can use to cover the cost of both production and consumption.

Enterprise type – was captured as dummy variable, respondents involved in either crop production or livestock production only were given a value of 0, and a value of 1 for those who are involved in both livestock and crop production. This variable is used as a proxy for diversification in the study. Farmers engaged in more than one enterprise are likely to enjoy increased farm income which improves their likelihood of being food secure compared to farmers engaging in one enterprise only.

Farm income – amount of income generated from agricultural production measured in Rands. According to Ndobu (2013), income is the most important determinant of food security. Households generating income from their production can use money to purchase food for their household consumption opposed to their counterparts.

Number of beneficiaries – number of people directly benefiting from the farm. This factor is expected to influence food security status of RECAP beneficiaries. According to Mabuza (2016) and Mafora (2014), increasing the number of beneficiaries tend to exert pressure on consumption. Thus, a negative relationship between the number of beneficiaries and food security is expected. Furthermore, Hall (2004), acknowledged that the involvement of many beneficiaries in the project results in conflicts among them, since the income generated in the project will not be enough for all of them.

Training – was captured as a dummy variable which took a value of 1 if farmers reported that they have received training through RECAP, and a value of 0 if they did not receive any training through

RECAP. Training is expected to have a positive effect on beneficiary food security. This is because beneficiaries who had received technical farming skills are more likely to be efficient in production which raises their chances of being more food secure than those without technical skills (Mafora, 2014).

The study tested for multicollinearity among independent variables by computing the correlation matrix for each regressed model. Multicollinearity refers to the correlation among the independent variables in a multiple regression model and it is usually invoked when some correlation magnitude is large, but there is no actual magnitude defined (Wooldridge, 2009). Correlation coefficients for each regression have been computed and their significance has been indicated using matrices in Appendices 2, 3, and 4. According to (Wooldridge, 2009), correlation coefficient measures a linear dependency between two random variables that do not depend on a unit of measurement and is bounded between -1 and 1. Furthermore, correlation coefficient measures the robustness of the linear relationship between two variables. The results of the regression models and their correlation matrices are presented in tables and their significance are shown using P-values at 1%, 5% and 10% levels of significance in chapter eight. A large correlation coefficient indicates the presence of multicollinearity and the presence of multicollinearity can be solved by removing any of the strongly correlated variables from the model. However, it cannot be explained how much correlation among explanatory variables is too much. The estimated models and their correlation matrices were computed using STATA version 14.

5.3.2.2 Logistic regression analysis

The logit model was used to determine the relationship between RECAP spending and the achievement of the RECAP objective (market access). The model was selected since market access is a categorical variable and the use of multiple linear regression is not applicable on non-continuous variables. The logit model is used mainly by researchers when the dependent variable is binary and is chosen because of its comparative mathematical simplicity. Furthermore, the logistic regression has an assumption that individuals are faced with a choice between two alternatives and the choice is dependent on identifiable characteristics (Gujarati and Porter, 200). The estimated model was computed using STATA version 15. Before the model was estimated multicollinearity between independent variables was tested and the correlation matrix is presented in appendix 5.

Logit model is stated as follows;

$$\text{Log} (P/ (1-P)) = \alpha + \beta_1 *X \dots\dots\dots(1)$$

Where:

P =1 (if access to market is available); 1-P = 0 (if no access to market is available), α represent the constant; β represent parameters to be estimated; X represent the sets of independent variables.

When the error term is included the model becomes:

$$\text{logit} (y) = \alpha + b_1x_1 + b_2x_2 + b_3x_3 + \dots\dots\dots + \varepsilon \dots\dots\dots(2)$$

The following independent variables explained below were used in the logistic regression to determine whether they have influence on RECAP beneficiaries' access to market:

RECAP investment – is the amount of the grant spent on the farm. Investment is expected to impact the likelihood of participation in the market by farmers. Capital is the scarcest asset in the developing countries especially in the rural farming areas. Despite capital being the scarcest asset in the rural farming communities, capital is important to improve various farming activities such as infrastructure, production, extension services and market information (Apind, 2015). Farmers who have access to cash grants improve their production and profit. Increased profit is from selling of production surpluses in the market (The innovation for poverty action, 2010). Therefore, investment is expected to impact the likelihood of market participation by farmers.

Farm size – is the total area of land used for production in hectares. Farm size impacts market access. Farmers with bigger cultivatable land were found to participate more in the market by Sebatta et al., (2014) and Apind (2015), because of their ability to produce large volumes that ensure marketable surplus.

Experience – is the number of years that farmers have been in farming as well as the knowledge that they have accumulated over time. Farmers with more years of farming experience have more experience in marketing because they understand the needs of the market. The study by Pote (2008) and Sabatta et al., (2014), found that experienced farmers understand information regarding markets. Experience increases the likelihood of farmers' participation in the market.

Farm Production – is the amount of farm produce harvested. Farm production is expected to impact farmers' likelihood of participating in the market. The study by Apind (2015) found that production output increases the likelihood of market participation by farmers.

Loan access – is captured as a dummy, presented as 1 for respondents who have access to credit facilities and 0 for respondents who have no access to credit facilities. Loan access is expected to

impact the likelihood of participating in the market. There is a need for credit especially in the rural farming areas to adapt to new technologies (Abrah, 2015). The study by Apind (2015), refers to a positive relationship between credit access and market participation.

Farm assets – is the value of farming assets in Rands that farmers own and use for production. Farm assets are expected to have a positive effect on market participation. The study by Sabatta et al., (2014) and Von Oppen et al., (1997), found that farm assets such as physical infrastructure increases the likelihood of both marketing and production.

Training - is captured as a dummy variable. 1 represents the respondents who have received training through RECAP and 0 represents respondents who did not receive training through the programme. Acquiring new skills relevant to farming such as farm management, bookkeeping and technical skills for production improves production and the way farmers manage their farms. Improved production is associated with production surpluses that enters the produce market. Therefore, training is expected to impact the likelihood of market participation by farmers.

5.4 Summary

This chapter has presented the methods and procedures followed during data analysis. The chapter has discussed the importance of doing a budgeting and spending analysis. The methods applied to achieve the study's specific objectives are qualitative, quantitative and comparative analysis. The chapter also discussed the two analytical methods used in the study which is the multiple linear regression method and logistic regression.

The multiple linear regression method was selected for its *ceteris paribus* power, which allows for explicit control of many other factors that simultaneously affect the dependent variable and the Logit model was selected because of its assumption that individuals are faced with a choice

between two alternatives, with the choice being dependent on identifiable characteristics. Variables used in the two analytical models were also described in the chapter.

CHAPTER 6: RESULTS ON LEVEL OF RECAP SPENDING ACCORDING TO THE PURPOSE OF THE PROGRAMME

This chapter contains the results of the study on the RECAP level of spending, according to the purpose of the programme, at the national, provincial and farm levels. The chapter begins with the presentation of the results at the national level, followed by the results at the provincial level and concludes with the presentation of results at the farm level.

6.1 Spending of RECAP grant at the national level

This section covers the spending of RECAP at the national level. At the national level, there is no actual spending; only distribution of the budget estimates to provincial level happens at this level. At the national level the budget estimates are distributed on the condition that only agricultural activities can be financed with the grant (DRDLR, 2012).

6.2 The spending of the RECAP grant at the provincial level

This section contains the results of the study on RECAP spending levels at provincial level. The section starts with the presentation of the results of farming activities that have contributed to the spending levels at provinces and at the end presents the actual spending in different provinces.

6.2.1 Enterprises contributing to the spending levels of RECAP grant at the provincial level

The results show that provinces have requested RECAP grants to cover agricultural activities. The activities requesting more funding are field crops, followed by cattle, poultry and other agricultural enterprises as shown in Table 6.1.

Table 6.1: Activities funded by RECAP per province

Province	Field crops	Poultry	Cattle	Other	Total
Eastern Cape	6	1	0	0	7
Free State	8	3	10	0	21
Gauteng	1	0	0	3	4
KwaZulu-Natal	20	1	0	1	22
Limpopo	4	2	0	3	9
North West	5	4	4	0	13
Total	44	11	14	7	76

Data source: Business Enterprises (2014)

6.2.2 Activities funded at the provincial level with the grant

Provinces are spending their grants to acquire different agricultural goods and services as illustrated in Figure 6.1. The spending of RECAP grants on activities differs across provinces. Provinces are spending their grants on irrigation, buildings, fertilisers, tractors, farm equipment, fencing, seedlings and ‘other’ agricultural activities.

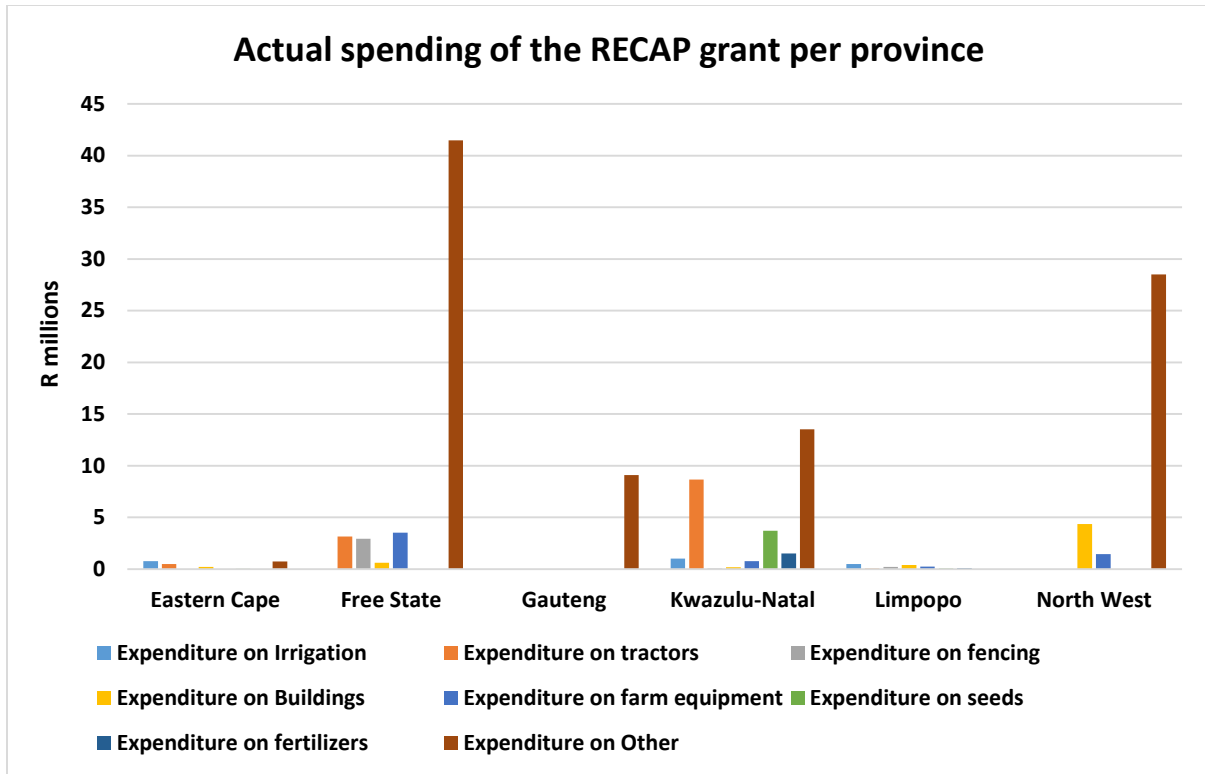


Figure 6.1: Actual spending of RECAP grant in provinces

Data source: Business Enterprises (2014)

Figure 6.1 shows that provinces are responding differently to the grants received. Even though they are spending their grant on similar activities, their spending levels are different. In all the provinces more funds are used to finance ‘other’ agricultural activities. Free State leads all provinces in terms of financing ‘other’ agricultural activities, followed by North West, KwaZulu-Natal, Gauteng, Eastern Cape and Limpopo. The figure above depicts that provinces are responding differently to the RECAP grant since their spending levels are different. The different spending level by provinces was also recognised by Ravallion (2000), provinces are diverse and their reaction to a programme is different, some will perform better and others will not. The diversity of the provinces requires consideration by the central government during programme planning and during funds distribution. The spending diversity of provinces can be seen in figure 6.1, even

though provinces are spending their grants on similar activities, their preferences for these activities is different, some spend more money in areas where others are spending less.

The results in Figure 6.1 show that activities funded with RECAP grants are agricultural activities but in all the provinces assessed the amount of the grant spent is too low compared to the amount of the grant received by provinces. The low spending levels by provinces diverges from the findings of Paxson and Schandy (2002) and Ravallion (1999) and Hofferberg and Budge (1992), more spending of the grant led to the attainment of the programme's targets and expenditure functions as a tool to assess the programme success.

Even though, the spending levels of RECAP at the provincial level are low, there is spending of the grant on agricultural activities such as irrigation, buildings, seedlings and other agricultural activities. According to Fan and Rao (2003), spending to enhance agricultural production should be directed on activities such as fertilisers, machinery, physical infrastructures and other agricultural activities. Additionally, findings by McFarlan and Oxley (1996) and Howard (2000), accepted low spending levels because of programme's benefits, for example, programmes with low benefits, beneficiaries tend to spend less on them, while programmes with high benefits, beneficiaries tend to spend more on them. Also, the life span of the programme's benefits determines spending levels, programmes with short life span benefits beneficiaries spend less, while programme with long life span benefits beneficiaries spend more. RECAP can be associated with programmes which has both less benefits and short life span benefits, since, it's an agricultural support programme and programme beneficiaries get benefits if they have produced marketable products.

The fact that the RECAP budget is from the national level could be the motive behind low spending levels by provinces, since provinces are not responsible for funding the programme but, are responsible for spending the funds from the national level. This was also confirmed by McFarlan and Oxley (1996) and Ravallion (2000), low spending levels by provinces is attributed to the fact that, provinces are not the funder of the programme, the central government is, and then provinces are not incentivised to adhere to the programme spending requirements. Furthermore, the results in figure 6.1, indicate that provinces spending levels are low and more funds are used on agricultural activities which required less funding and less funds are used on agricultural activities which required more funds.

6.3 The level of RECAP spending, according to purpose at the farm level

This section contains study results on the assessment of RECAP spending levels, according to purpose at the farm level. The section present all the items purchased with the RECAP grant at the farm level.

6.3.1 Actual spending of RECAP grant by farmers

As shown in Figure 6.2, farmers are spending RECAP grants to acquire agriculture-related resources; more funds are spent on ‘other’ agricultural resources, followed by spending on tractors, buildings, farm equipment, fencing, seeds, irrigation and fertilisers.

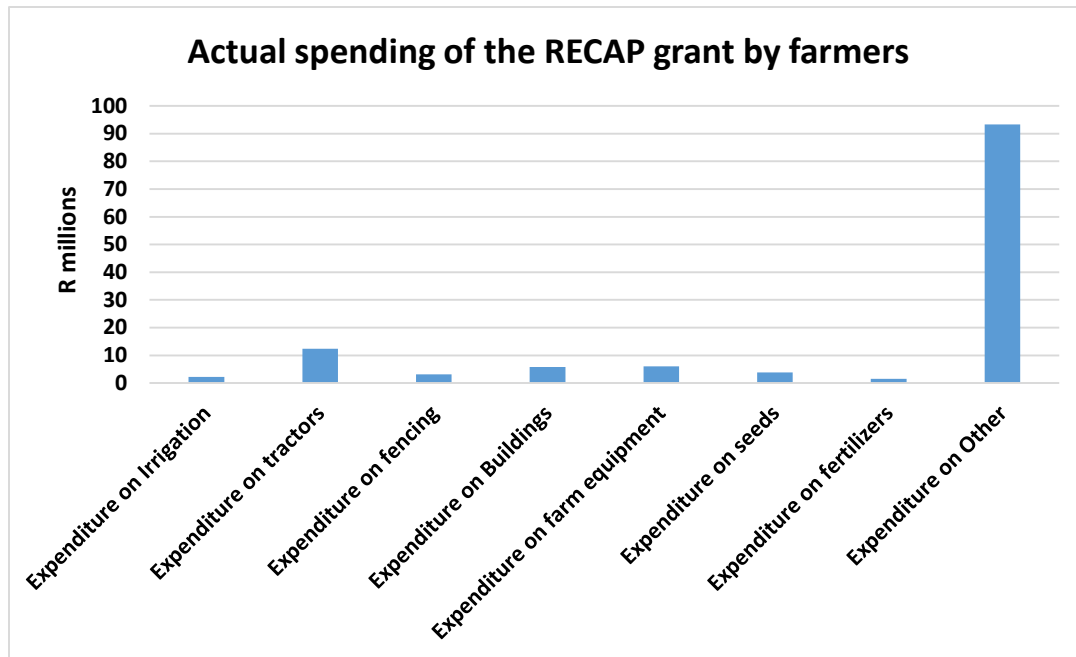


Figure 6.2: Actual spending of RECAP grant by farmers

Data source: Business Enterprises (2014)

The results show that farmers are spending more funds on activities where less funding was required as shown in Table 6.1, farmers received more funding to finance crop production, but in Figure 6.2 the actual spending of the grant is more on ‘other’ agricultural activities. The results show that even though farmers are using the grant to acquire farming resources, they are not spending the grants according their listed needs. They are diverting the grant by spending more funds on less important activities and spend less on important activities. The study findings were corroborated by Mbata (1991), Cord and Wodon (2001) and Setianto et al., (2014), farmers divert the grant to acquire less important assets. Furthermore, they spend the received grant to fund agricultural activities that they themselves consider important, even if they are not in line with the grant requirements.

Farmers are not spending RECAP grant according to their listed needs, this implies grant diversion by farmers. Grant diversion was acknowledged by Delavallade (2006) and Soroka and Lime (2003), spending of the grant by beneficiaries not following the listed needs is attributed to the fact that programme's beneficiaries favours part of the programme's spending that offers them more incentives, even though these areas are not necessarily important in the programme. RECAP grant beneficiaries are investing more funds to purchase 'other' agricultural activities which is least important on the RECAP grant.

Additionally, the results show the level of spending at the farm level is different from the listed needs funded by RECAP grant. The study results show that the spending levels on all activities are low compared to the funds received, which is consistent with Van der Merwe's (2010), view that neither high nor low spending levels determine the success of the programme. Low spending levels do not imply a programme's poor performance and neither do higher spending levels imply good programme performance. The same can be said about RECAP, the fact that the programme have invested too much money, it doesn't guarantee the programme's success, since the programme is spending more on less important activities and less on important activities.

The results show that farmers are spending more funds where they should spend less and less funds where they should spend more, farmers are aware of the RECAP grant purpose but they are not spending the grant accordingly. Furthermore, farm level spending is more on 'other' agricultural activities which required less funding and less on agricultural activities that required more funding.

Table 6.2: Relationship between RECAP spending level and the purpose of the programme

Levels of RECAP	Priorities/ purpose	Actual realised	Remarks
National	RECAP budget distribution to be spend on agricultural related activities only.	Budget distribution to provinces and their respective farmers.	Reasonable budget distributed.
Provincial	Allocate RECAP grant to fund activities that will increase the production of field crops, cattle, poultry and ‘other’ agricultural production.	RECAP grant spent on agricultural activities such as irrigation, farm buildings, fertilisers, tractors, fencing, seeds, farm equipment and ‘other’ agricultural activities.	RECAP grant spending is low and more funds are spent ‘other’ agricultural activities which requires less funding and less funds are spent on agricultural activities which required more funds.
Farm	Spending RECAP grant on activities that increase the production of field crops, cattle, poultry and other farming activities.	Grant spent on activities such as irrigation, tractors, fencing, buildings, farming equipment, seeds, fertilizers and ‘other’ agricultural activities.	RECAP grant spending is low compared to the amount of funds received. And spending is more on activities requiring less funds and less on activities requiring more funds.
Overall	Allocation of RECAP grant to increase agricultural production.	Grant spent on different agricultural activities. However, the spending of the grant is low compared to the amount of funds received by provinces and their respective farmers.	Grant is spent more on agricultural activities which are least important and less on agricultural activities which are important to increase farm production.

6.4 Summary

The chapter presented the study findings on the assessment of RECAP grant spending, according to purpose, at the national, provincial and farm level. The study found that DRDLR at the national level is responsible for budget distribution to support actual spending at the provincial and farm levels. The national DRDLR distributes budget to provinces with a purpose that it should be spent on agriculture-related activities only.

The assessment at the provincial level shows that provinces have requested the grant to finance agriculture-related activities. The needs to be addressed with RECAP grant are similar across all provinces. However, the spending levels done with the grants are low compared to grants received by farmers and activities that required more funds, less funds are being spent on them and activities which have required less funds, more funds are being spent on them. There is underspending of funds on important activities and overspending of funds on least important activities by the farmers.

The spending of the grant at provincial and farm level is on various agricultural activities, which is in line with the purpose of the grant. However, the level of spending with the grant is low and more funds are spent on least important activities and less funds are spent on important activities.

CHAPTER 7: RESULTS ON BUDGETING AND SPENDING ON RECAP AT NATIONAL, PROVINCIAL AND FARM LEVEL

This section presents the findings of the study on budgeting and spending at the national level, followed by budgeting and spending at the provincial level and concludes by presenting budgeting and spending at the farm level.

7.1 Budgeting and spending at the national level

This section presents the process that is followed by the DRDLR to allocate the budget for RECAP.

7.1.1 Budget allocation at the national level

Examination of budget allocation at the national level indicates that the RECAP budget is allocated using the same budgeting approach every year and the method that is used to allocate the budget is founded on a percentage change from year to year. However, the budget is not adjusted by a uniform percentage change. There is change from one year to the other. The budget allocated increased every year in absolute terms, except for the fifth year as shown in Table 7.1.

Table 7.1: RECAP budget allocation at the national level

Year	Budget distributed (R'000)	% change
2009/2010	348 332	-
2010/2011	435 135	24.95
2011/2012	635 755	46.10
2012/2013	1 161 794	82.74
2013/2014	1 050 606	-9.57
Average	726 324	36.05

Data source: DRDLR (2014)

As shown in Table 7.1, the overall budget allocation change is 36% over a five-year period since 2009/10. The yearly changes are as follows: In the second year the allocated budget changed by 24.9%; in the third year the allocated budget changed by 46.1%; in the fourth year the budget changed by 82.7% and in the fifth year the allocated budget changed by -9.6%. The fifth year is the only year that RECAP budget changed by a negative value.

The results indicate that at the national DRDLR, the budget is administered using an incremental budgeting method which adjusts yearly by either a positive or a negative percentage change. This method of budgeting was acknowledged by Rubin (1990), Carstens (2007), Stoian, Stoicea, Adrian, Beciu and Sterghiu (2012) and Anessi-Pessina and Sicilia (2012). The budget that changes by a negative value indicates that the budget has been reduced from the previous year and a change by a positive value indicates that the budget has been increased from the previous year's budget. According to Birowo (2011), the use of an incremental budgeting method is viewed as a good method of budgeting and the positive percentage adjustment on the yearly budget is a sign of good budgeting practices.

Furthermore, Van Schalkwyk (2012) and Schick (2005) acknowledged incremental budgeting as a budgeting method that is concerned with the standard percentage change in the yearly budget allocation without providing opportunities to redefine and reprioritise the usage of the allocated funds. This method of budgeting gives little insight about budgeting decisions and how yearly increases or decreases are made. The same can be said about RECAP, the programme has received an adjusted budget every year without changing the purpose of the programme.

7.1.2 Spending of RECAP budget at the national level

This section covers budgeting and spending of RECAP funds at the national level.

Table 7.2: Difference between RECAP Budget allocation and expenditure at the national level

Year	Budget allocation at the national level (R'000)	Expenditure at the national level (R'000)	Difference between budget allocation and expenditure (R'000)
2009/2010	348 332	Data not available	N/A
2010/2011	435 135	Data not available	N/A
2011/2012	635 755	Data not available	N/A
2012/2013	1 161 794	1 151 028	10 765
2013/2014	1 050 606	1 081 827	-31 221

Data source: DRDLR (2014)

The results show that there is both underspending and overspending of RECAP funds at the national level. Overspending of the allocated funds was acknowledged in the study done by Lee and Plummer (2007), Fallan et al., (2010), and Naidoo and Pintusewitz (2012). Furthermore, the study by Obiama and Ozughalu (2010), acknowledged the presence of both underspending and overspending because of the relationship that exists between budget and expenditure, which can either be positive or negative depending on the previous year's spending and budget of a programme. That is the amount of a budget allocated in a year, dependent on the spending of the previous year. As depicted in table 7.2, during 2012/13 RECAP budget was underspent and that underspending has resulted in the RECAP budget for 2013/14 being reduced.

The presence of both overspending and underspending indicates poor budget implementation. This was also acknowledged in Hutten (2012) and Lethoko (2014), as the result of absence of good direction or poor support to budgeting or changing budget parameters.

The overall adjustment of the budget at the national level is positive and it implies good budgeting methods in the programme. However, the spending of the budget is poor and diverts from the budgeted funds. Both underspending and overspending problems exist at the national level.

7.2 Budgeting and spending at the provincial level

This section provides budgeting and spending of RECAP at the provincial level. Budgeting of the programme is presented first followed by the spending presented.

7.2.1 RECAP budget allocation per province

From the results it can be seen that the allocation of the budget is different per province each year. The results show that there is no province with a constant budget; all provinces experience budget changes every year as shown in Figure 7.1.

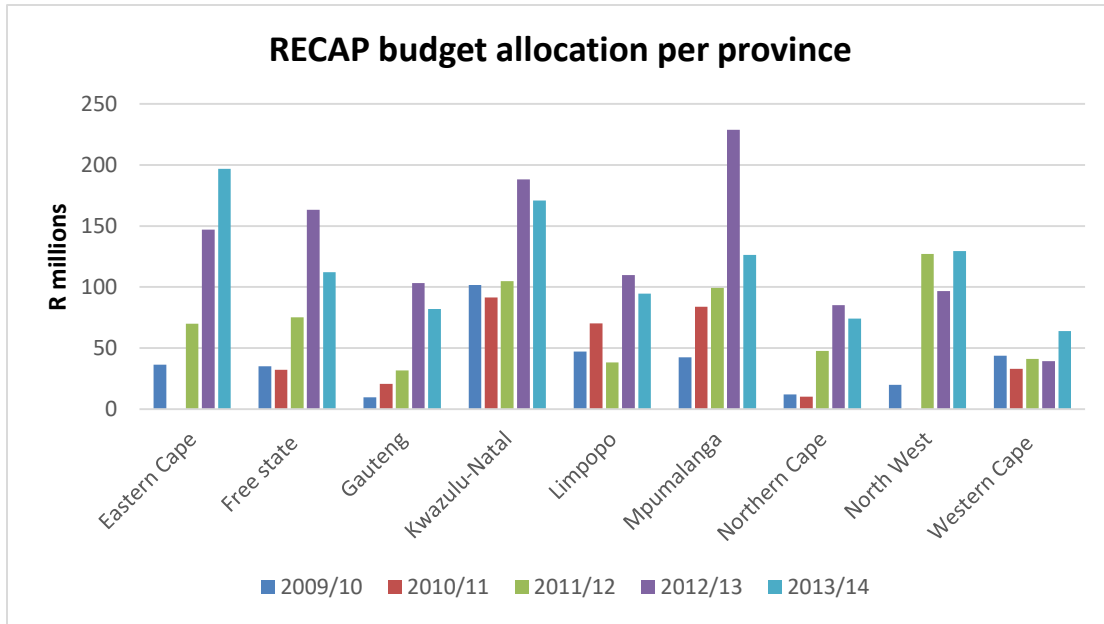


Figure 7.1: RECAP grant yearly budget allocation to provinces

Data source: DRDLR (2014)

The results indicate that budget allocation at the provincial level follows the national level budget allocation trend, since the allocated budgets are adjusted every year in all provinces and all provinces are given different amounts of budgets. The allocation of budget at provincial level is not uniform; provinces receive different amounts every year. The province that has received the largest budget in 2009/10 is KwaZulu-Natal followed by Limpopo, Western Cape, Mpumalanga, Eastern Cape, Free State, North West, Northern Cape and Gauteng. In 2010/11 the province that has received the largest budget is KwaZulu-Natal followed by Mpumalanga, Limpopo, Western Cape, Free State, Gauteng, Northern Cape, North West and Eastern Cape. In 2011/12 the province that has received the largest budget is North West followed by KwaZulu-Natal, Mpumalanga, Free State, Eastern Cape, Northern Cape, Western Cape, Limpopo and Gauteng. In 2012/13 the province with the largest budget is Mpumalanga followed by KwaZulu-Natal, Free State, Eastern Cape, Limpopo and Gauteng. In 2013/14 the

province with the largest budget is Eastern Cape followed by KwaZulu-Natal, North West, Mpumalanga, Free State, Limpopo, Gauteng, Northern and Western Cape.

7.2.2 Spending of RECAP grant at the provincial level

The spending of RECAP funds at the provincial level is low. Underspending of the received funds by provinces is shown in Figure 7.2.

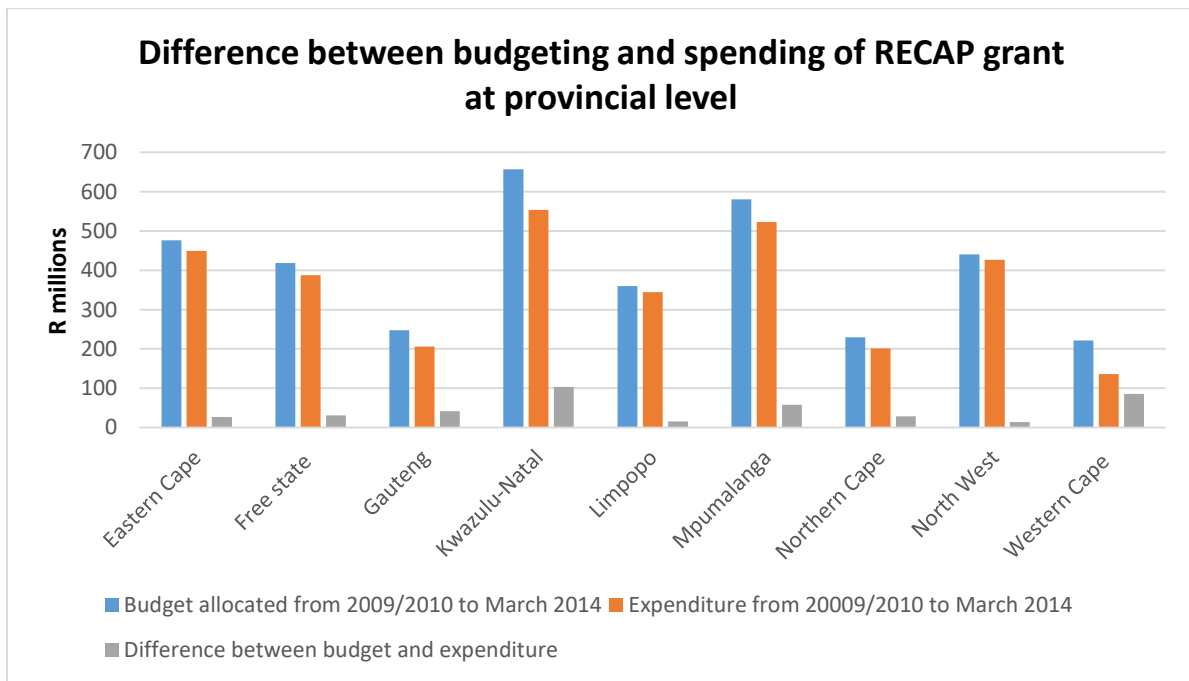


Figure 7.2: Difference between budget allocation and spending at the provincial level

Data source: DRDLR (2014).

As indicated in Figure 7.2, provinces are underspending the grant. Provinces that have underspent most is KwaZulu-Natal, followed by Western Cape, Mpumalanga, Gauteng, Free Stat, Northern Cape, Eastern Cape, Limpopo and Limpopo. Clearly there is a problem of underspending of the grant received by provinces. The problem of underspending was acknowledged on the study by Beckett (2002), underspending problem arises due to indecisiveness on the amount that should be

allocated between activities and the basis at which the budget should be decided between activities. Furthermore, Lethoko (2014) and Shand (1998), recognised underspending because of sluggish spending of the funds at the beginning of the financial year due to poor planning and incompetency by the grant beneficiaries.

7.3 Budgeting and spending of RECAP at the farm level

This section presents the budgeting and spending of the grant by farms, benefited from RECAP grant.

7.3.1 RECAP funds received by farmers

Table 7.3: Minimum and maximum funds received per farm in their respective provinces

	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	North West	Total
Number of farms	3	11	4	15	7	8	48
Total amount received (R'000)	6 400	42 720	15 000	30 562	13 833	32 700	141 215
Average amount received per farm (R'000)	2 133	3 883	3 750	2 037	1 976	4 087	2 941
Maximum amount received per farm(R'000)	3 200	9 000	10 000	7 500	3 600	16 000	16 000

Data source: Business Enterprises (2014)

Table 7.3 indicates that the total amount of grant received by farmers in their respective provinces between 2009/10 to 2013/14 is R141.2 million, the largest amount was received in the Free State with R42.7 million and followed by North West with R32.7 million, and the smallest amount was received by Limpopo with R13.8 million and followed by Eastern Cape with R6.4 million.

The average grant received per farm between 2009/10 to 2013/14 is R2.9 million. Farms which have received more money are in North West with R4.1 million, and followed by farms in Free State with R3.9 million, and KwaZulu-Natal and Limpopo has received least amount of grant per farm at about R2.0 million each.

The maximum amount of the grant received by farms between 2009/10 to 2013/14 is R16 million. The farms which have received the largest grant are situated in the North West with R16 million and followed by Gauteng with R10 million, and the smallest grant has been received in Limpopo of R3.6 million and Eastern Cape of R3.2 million.

7.3.2 RECAP grant distribution at the farm level

From Figure 7.3 the funds requested by farmers to cover their expenditures was not received in total, farmers have received less than what they had requested.

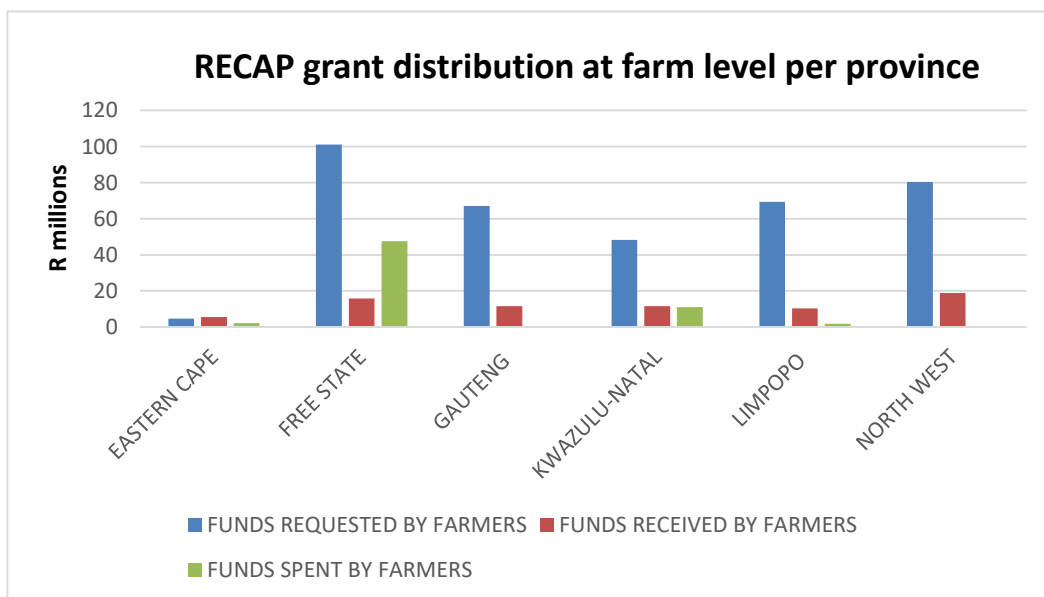


Figure 7.3: RECAP grant allocation and spending at the farm level

Data source: Business Enterprises (2014)

Figure 7.3 shows that the farms that have requested more funds than others are situated in Free State, followed by farms in North West, Limpopo, Gauteng, KwaZulu-Natal and Eastern Cape. In terms of the grant received, farms in North West have received more funds, followed by farms in the Free State and Gauteng. KwaZulu-Natal and Limpopo have received equal amounts. In terms of the grant spending, more funds were spent by farms in Free State, followed by farms in KwaZulu-Natal, Limpopo, Eastern Cape and for farms in North West and Gauteng the spending of the grant is low as illustrated in Figure 7.3.

The results at the farm level indicate that there is underspending of the grant by farmers, since farmers are not spending the total amount of grant received. Underspending of the funds by farmers was acknowledged to be the case by the following scholars: Hall and Albier (2010), Ribe and Viquez (2003) and Delavellede (2006). These scholars acknowledged that underspending of the grants is attributed to the fact that farmers are not in farming full-time and have limited knowledge about programmes that give them funding.

The underspending by farmers was also acknowledged by Mbata (1991), Cordon and Wodon (2001) and Setianto et al., (2014). Underspending on farm activities are a result of priority shifts, as farmers spend agricultural grants in areas they themselves consider important and beneficial to them. Spending at the farm level follows a similar pattern of spending at the provincial level; there is underspending of RECAP funds. There is a problem of underspending and at the farm level farmers are not spending received grants in total.

7.4 Summary

This chapter has covered the study results on budgeting and spending of the RECAP grant at the national, provincial and farm level. The budgeting and spending of RECAP grant is related at national, provincial and farm levels. At national and provincial levels, the budget is administered using the incremental budgeting approach and the budget is adjusted every year by a certain percentage. At the national level there is existence of both underspending and overspending problems. While at the provincial and farm levels the spending of the funds allocated is characterised by the problem of underspending.

CHAPTER 8: RESULTS ON THE RELATIONSHIP BETWEEN SPENDING AND ACHIEVEMENT OF THE PROGRAMME OBJECTIVES

This chapter presents results on the study specific objective number three, which aims to determine the relationship between RECAP spending and the programme’s objectives. The chapter begins with the presentation of the relationship between expenditure and programme objectives at different provinces and concludes with the presentation of the results from the multiple linear regression and the logit model.

This chapter test the hypothesis that there is a positive relationship between RECAP spending and its objectives.

8.1 The relationship between RECAP spending and achievement of the programme objectives at provincial level

This section outlines the relationship between RECAP investment and achievement of RECAP objectives at different provinces.

Table 8.1: Achievements of RECAP per average investment made per farm

	North West	Free State	Gauteng	Eastern Cape	KwaZulu -Natal	Limpopo
Average funds invested per farm (R’000)	4 087	3 883	3 750	2 133	2 037	1 976
Average employment created per farm	10.6	4.9	21.5	8.3	35.4	9
Average amount of crops produced per farm (tons)	2 932.5	90 794.14	552.9	24 475.4	233 027.4	14 216.9
Average number of livestock produced per farm	3 777 678.9	10 218.95	692.2	494.1	91.7	3 410.5
Average amount of crops consumed (tons)	0	12.0	0	0.6	0.25	3.1
Average number of livestock consumed	37.6	10.0	12.1	1.9	0	4.2

	North West	Free State	Gauteng	Eastern Cape	KwaZulu -Natal	Limpopo
Number of markets accessed per farm	1	1	0	1	1	1

Data source: Business Enterprises (2014)

Table 8.1 shows that RECAP investment has led to the production of both crops and livestock, creation of employment, access to markets and consumption of both crops and livestock by farmers. Provinces received different amounts of the grant per farm, the province that received highest average grant per farm is North West with R4.0 million, followed by Free State with R3.9 million, Gauteng with R3.8 million, Eastern Cape with R2.1 million, KwaZulu-Natal and Limpopo with R2.0 million, respectively.

Even though North West received the highest average grant per farm, it is not the highest creator of employment. This could be because more projects are in livestock production, which is less employment. Instead KwaZulu-Natal is, with every R2.0 million invested per farm, there is creation of 35.4 average employment and this is the highest employment created with RECAP grant. Following KwaZulu-Natal is Gauteng, for every R3.8 million invested per farm there is a creation of average employment of 21.5, in North West for every R4.0 million invested per farm there is creation of 10.6 average employment. In Limpopo for every R2.0 million invested per farm there is creation of 9 average employment, in the Eastern Cape for every R2.1 million invested per farm there is creation of 8.3 average employment and in the Free State for every R3.9 million invested per farm there is creation of 4.9 average employment. Despite Free State and North West receiving the highest average grant per project, they are not creating more jobs compared to other provinces which have received low grant per project.

In terms of crops produced per investment made per farm, the investment has yielded results. In KwaZulu-Natal for every R2.0 million invested per farm the province is yielding average crop production of 233,027.4 tons, followed by Free State with 90,794.14 tons for every R3.9 million invested per farm, Eastern Cape with 24,475.4 tons for every R2.1 invested per farm, Limpopo with 14,216.9 tons for every R2.0 million invested per farm, North West with 2,932.5 tons for every R4.0 invested per farm and Gauteng with 55.9 tons for every R3.8 million invested per farm. Despite Limpopo and KwaZulu-Natal being the bottom two provinces in terms of average grant invested per farm, have more average amount of crops produced per farm, compared to the provinces which have received higher average grants per farm.

There is also production of livestock by RECAP beneficiaries in different provinces, with the North West having the highest average number of livestock produced. For every R4.0 million invested per farm the province is producing an average livestock number of 3.8 million. Following the North West is the Free State with 10,218.95 livestock production for every R3.9 million invested per farm, Limpopo with an average livestock production of 3,410.5 for every R2.0 million invested per farm, Gauteng with an average livestock production of 692.2 for every R3.8 million invested per farm, Eastern Cape with an average livestock production of 494.1 for every R2.1 million invested per farm and KwaZulu-Natal with an average livestock production of 91.7 for every R2.0 million invested per farm. Despite Limpopo being the province with the lowest average grant invested per farm, the province has more average number of livestock produced compared to other provinces which have received high average grants per farm. Thus, the North West and Free State provinces have performed better in terms of the average number of livestock produced, being first and second respectively.

Most RECAP beneficiaries in respective provinces consumes both livestock and crops, although not all RECAP beneficiaries consume own produce. There are beneficiaries in certain provinces, who do not consume own farm produce. This is the case in KwaZulu-Natal, with no consumption of livestock and in North West and Gauteng with no consumption of crops. Nevertheless, the other provinces have experienced consumption improvements on both numbers of livestock and tons of crops.

Regarding consumption of crops, the Free State is the province with the largest amount of crops consumed for every investment made per farm in the province. There is consumption of 12.0 tons, followed by Limpopo with 3.1 tons for every investment made per farm, Eastern Cape with 0.6 tons and KwaZulu-Natal with 0.25 tons for every investment made per farm. Limpopo has a higher amount of crops consumed, despite being the province with the lowest average grant invested per farm. On the other hand, the consumption of livestock is high in the North West with a 37.6 average, followed by Gauteng with a 12.1 average, Free State with a 10.0 average, Limpopo with a 4.2 average and Eastern Cape with a 1.9 average per investment made per farm.

There is also an improvement of market access by RECAP beneficiaries in their respective provinces. Almost all the assessed RECAP beneficiaries have experienced market access through RECAP assistance; however, there is not even a single farmer in the Gauteng province who has been assisted by RECAP to access market. All farmers in other provinces are accessing at least one form of marketing channel.

The results of the study indicate that there is progress from different provinces to achieve RECAP objectives. However, the achievements are low compared to the amount of grants invested into the programme. Provinces which have invested more funds per farm have shown sluggish progress in

achieving the objectives of RECAP, namely North West and Free State compared to provinces which have received few funds per farm, namely Limpopo and KwaZulu-Natal. Limpopo and KwaZulu-Natal received few funds per farm; however, in terms of the progress these two provinces have recorded higher progress in achieving the objectives of the programme.

The higher progress in Limpopo is attributed to the fact that RECAP beneficiaries are producing mainly vegetables, including tomatoes, spinach, beetroot and other crops and the most produced livestock is chicken (broilers). These produces require less time to be market ready. There is progress in the province even though the spending of the grant is low compared to other provinces, and the spending of the grant in Limpopo is diverse. Farmers in Limpopo are spending their grants to engage in different farming activities and acquire assets such as tractors, water tanks, irrigation equipment and others agricultural assets.

The progress in KwaZulu-Natal is also attributed to the fact that RECAP beneficiaries in the province are mainly producing crops such as beans, potatoes, cabbage, sugar cane and others crops. Like Limpopo province, KwaZulu-Natal's spending of the grant is diverse. Farmers are spending the grants on different agricultural activities and assets such as seedlings, replanting, livestock, equipment, tractors, buildings and others agricultural products. This is the only province with better spending on inputs, seedlings, replanting on the farms, purchasing of livestock and others.

The slow progress in the two provinces which have received the highest average grant per farm, North West and Free State, can be attributed to the fact that spending by these two provinces is concentrated on agricultural assets such as farm equipment, fencing, electricity, tractors, buildings and other farm equipment. The spending concentration is also seen in Gauteng, where farmers are spending most of their grants to acquire assets such as houses and equipment. Eastern Cape

spending is diverse, but low, and farmers are acquiring assets such as vehicles, dams, houses and other.

8.2 Results from the multiple linear regression

This section contains the results from multiple linear regressions done to determine the relationship between RECAP expenditure and the achievement of the programme objectives (employment, production and food security). The qualitative analysis from section 8.1 indicates that there is employment creation, farm production, consumption and market access by RECAP beneficiaries. Therefore, multiple linear regression analysis was applied to quantitatively analyse the relationship between RECAP investment and achievement of RECAP objectives. The analysis was done to determine if the quantitative analysis confirms the qualitative analysis.

Before regressing the estimated regression models, multicollinearity among independent variables was tested and the correlation matrices are presented in Appendices 2, 3 and 4. Multicollinearity is considered a problem when there is large correlation coefficient among independent variables, even though there is no absolute number that can be cited. From the regressed models strong correlation exists between farming experience and project years in determining food security which is 0.85 as indicated in Appendix 4. Since only two variables have strong correlation with each other one of them must be dropped from the regression model. Therefore, farming experience was dropped from the food security regression model.

8.2.1 The relationship between RECAP investment and employment creation

The relationship between RECAP investment and employment creation was determined using a linear regression model. In the regression model RECAP investment is measured in Rand and employment is measured in the number of people employed by RECAP beneficiaries. The regression model used to determine the relationship between the two variables is estimated below.

$$\text{Employment} = \beta_0 + \beta_1 \text{RINVEST} + \beta_2 \text{FSIZE} + \beta_3 \text{ETYPE} + \beta_4 \text{FINCOME} + \beta_5 \text{FPROD} + \beta_6 \text{FEXPR} + \beta_7 \text{NBENEF} + \varepsilon \dots\dots\dots(1)$$

Table 8.2: Regression results for employment creation

Variable	Coefficient	Standard error	t-statistics	P-value
RECAP investment	0.01	0.02	1.51	0.09*
Farm size	1.28	0.56	1.63	0.00***
Enterprise type	-0.07	5.65	-0.55	0.58
Farm income	0.01	0.09	0.97	0.04**
Farm production	6.95	48.70	1.25	0.06*
Farming experience	21.04	89.73	0.23	0.82
Number of beneficiaries	-31.63	64.01	-0.49	0.44

R-squared= 61%

Adjusted R-squared = 53%

*statistically significant at the 10% level

**statistically significant at the 5% level

***statistically significant at the 1% level

The estimated model does make statistical sense because its adjusted R-squared is 53%, meaning 53% of the variation in employment creation by RECAP beneficiaries is explained by the explanatory variables used in the model. Independent variables which are significant in determining employment creation are RECAP investment, farm size, farm income and farm

production. RECAP investment is significant at 10% ($P < 0.1$), farm size is significant at 1% ($P < 0.01$), farm income is significant at 5% ($P < 0.05$) and farm production is significant at 10% ($P < 0.1$).

Variables that are not significant in explaining employment creation are enterprise type, farming experience and number of beneficiaries since their P-value are statistically insignificant. The effect of each employment determinant is explained below.

RECAP investment – has a positive and statistically significant relationship with employment creation by RECAP beneficiaries at 10% level of significance. This implies that, *ceteris paribus*, a one Rand increase of RECAP funds invested at farm level will increase the number of people employed by 0.01 person. The results mean that more investment of RECAP funds at farm level will lead to the attainment of employment creation by beneficiaries. The finding is consistent with a prior expectation of the study.

Farm size – has a positive significant relationship with employment creation by RECAP beneficiaries. The relationship is significant at 1% ($P < 0.01$); this implies that *ceteris paribus* a one hectare increase of a farm area under cultivation will increase the number of people employed by 1.28 person. The study results are consistent with Abrah (2015), who found that expansion of the land size under cultivation is possible with increased matching labour force. The finding of the study is in line with the prior expectation of the study.

Farm income – has a positive and statistically significant relationship with employment creation by RECAP beneficiaries. The relationship is significant at 5% ($P < 0.05$); this implies that a one Rand increase of income generated by farmers increase the number of people employed by 0.01

person. This finding is in line with a prior expectation of the study. Farmers who are generating income are likely to employ more people to work in the farm.

Farm production - has a positive relationship with employment creation and the relationship is statistically significant at 10%, this implies that *ceteris paribus* one unit change of farm produce increases the number of people employed by 6.95 person. The findings are consistent with the prior expectation of the study. The study finding confirms Mhlaba and Brey (2014), who found a positive relationship between farm production and employment. Emerging farmers are the biggest creator of farm employment because they use labour-intensive methods of production.

The results above show a positive and statistically significant relationship between RECAP investment and the achievement of employment. Therefore, when RECAP investment increases it will increase employment creation by RECAP beneficiaries. Therefore, the tested hypothesis of the study which states that there is a positive relationship between RECAP investment and achievement of employment creation is accepted.

8.2.2 The relationship between RECAP investment and farm production

The relationship between RECAP investment and farm production was determined using a linear regression model. In the regression model RECAP investment is the amount of money in Rand used on the farm and farm production is the amount of farm produce for beneficiaries. The regression model used to determine the relationship between the two variables is estimated below:

$$\mathbf{Production} = \beta_0 + \beta_1RINVEST + \beta_2INPUT + \beta_3TRAIN + \beta_4FEXPR + \beta_5FASSETS + \beta_6LACCESS + \beta_7FSIZE + \mathcal{E} \dots\dots\dots(2)$$

Table 8.3: Regression results for farm production

Variable	Coefficient	Standard error	t-statistics	P-value
RECAP investment	-0.03	0.01	-0.24	0.82
Farm size	-11.21	54.13	-0.21	0.64
Training	-26.75	39.99	-0.07	0.29
Farming experience	3.59	66.10	0.54	0.03**
Farm assets	0.02	0.01	0.61	0.06*
Access to loan	4.6	5.37	0.87	0.03**
Use of inputs	1.50	4.88	1.81	0.09*

R-squared = 84%

Adjusted R-squared = 51%

*statistically significant at the 10% level

**statistically significant at the 5% level

***statistically significant at the 1% level

The estimated model indicates that 51% of variation in farm production by RECAP beneficiaries is explained by the independent variables because the adjusted R-squared is 51%. Not all independent variables in the model are significant in determining farm production. The following variables are statistically significant in determining farm production: farming experience ($P < 0.05$), access to loans ($P < 0.05$) farm assets ($P < 0.1$), use of inputs ($P < 0.1$), while the following variables are insignificant in determining farm production: the list includes RECAP investment, farm size and training of farmers where the P-values are insignificant. The relationship of each variable with farm production is explained below.

Farming experience - has a positive relationship with farm production and the relationship is statistically significant at 5% ($P < 0.05$) meaning *ceteris paribus*, a year increase of farmers' experience is associated with 3.59 increase of farm production. The result is in line with a prior

expectation of the study and the finding diverts from Olujenyo (Undated) who found a negative relationship between farming experience and farm production.

Farm assets - has a positive relationship with farm production and the relationship is significant at 10% ($P < 0.1$); this implies that *ceteris paribus* a one Rand increase in the value of the farm assets is associated with 0.02 increase of farm production. The result is in line with the prior expectation of the study and confirms findings by Wittman (2009), Fan and Rao (2003), Mellor et al., (2009) and Abrah (2015); these studies acknowledged that access to infrastructure, equipment and other farming assets is associated with higher farm production.

Access to loans - has a positive and significant relationship with farm production and the relationship is significant at 5% ($P < 0.05$) this implies that *ceteris paribus*, access to loans by farmers is associated with 4.6 increase in farm production. The results are in line with the prior expectation of the study. The finding diverts from Mdlalose (2016) and Abrah (2015), these scholars have found a negative relationship between access to loan and farm production.

Use of inputs - has a positive and significant relationship with farm production. The relationship is significant at 10%, which implies that *ceteris paribus* application of improved inputs (fertilisers or seedlings) by farmers is associated with 1.50 increase of farm production. The finding is in line with the prior expectation of the study and confirms Abrah (2015), who found a positive relationship between use of inputs and farm production.

The results above show that the relationship between RECAP investment and achievement of farm production is negative and statistically insignificant. This implies that the more money invested at project level decreases farm production. The results divert from a prior expectation of the study

and under normal circumstances increased investment is associated with increased farm production. The results can be attributed to the fact that RECAP beneficiaries were not producing before they received a RECAP grant. Therefore, the tested hypothesis of the study which states that there is a positive relationship between RECAP investment and farm production is rejected.

8.2.3 The relationship between RECAP investment and food security

The relationship between RECAP investment and food security was determined using a linear regression model. In the regression model RECAP investment is the amount of money in Rand used in the farm and food security is the amount of farm produce consumed by beneficiaries. The regression model used to determine the relationship between the two variables is estimated below:

$$\text{Food security} = \beta_0 + \beta_1\text{RINVEST} + \beta_2\text{FEXPR} + \beta_3\text{FSIZE} + \beta_4\text{ETYPE} + \beta_5\text{FINCOME} + \beta_6\text{NBENEF} + \beta_7\text{TRAIN} + \mathcal{E} \dots\dots\dots(3)$$

Table 8.4: The regression results for food security

Variable	Coefficient	Standard error	t-statistics	P-value
RECAP investment	-0.09	0.01	-0.91	0.03**
Farm size	0.33	0.27	1.22	0.73
Enterprise type	-42.09	22.42	-0.11	0.91
Farm income	0.06	0.04	0.14	0.08*
Number of beneficiaries	-3.4	38.89	0.39	0.07*
Training	13.70	26.3	0.52	0.08*

R-squared = 94%
Adjusted R-squared = 57%
*statistically significant at the 10% level
**statistically significant at the 5% level
***statistically significant at the 1% level

The estimated model indicates that 57% of variation in RECAP beneficiaries' food security is explained by the independent variables, since the adjusted R-squared is 57%. And the variables that have significant P-values in determining food security are the following: RECAP investment (P<0.05), farm income (P<0.1), number of beneficiaries (P<0.1) and training (P<0.1). Variables that are not significant in determining food security are the following: farming experience, farm size, enterprise type. The effect of each food security determinant is explained below.

RECAP investment – has a negative relationship with food security and the relationship is significant at 5%, which implies that *ceteris paribus*, a one Rand increase of RECAP investment at farm level is associated with 0.09 decrease in food security. The results diverge from a prior expectation of the study. Under normal circumstances investment is expected to have a positive and statistically significant relationship with food security. The scholar cannot explain the motive behind these results.

Farm income – has a positive and statistically significant relationship with food security and the relationship is statistically significant at 10%. The relationship implies that *ceteris paribus*, one Rand increase in the income of the farm increases food security for RECAP beneficiaries by 0.06. The results are in line with a prior expectation of the study, that the more income generated by farmers the better will be their ability to afford food for their families. The result is consistent with the findings by Osei et al., (2013) and Ndobu (2013), who found that farm income has a strong relationship with food security.

Number of beneficiaries – has a negative and statistically significant relationship with food security and the relationship is significant at 10%, which implies that *ceteris paribus* an addition of one member into the project decreases food security by 3.4. The result is in line with the prior expectation of the study and is consistent with the findings by Mafora (2014) and Mabuza (2016)

and Hall (2004); these studies found that as the number of beneficiaries increases the income and consumption of the project beneficiaries decreases.

Training – has a positive relationship with food security of RECAP beneficiaries, and the relationship is statistically significant at 10%. The results imply that *ceteris paribus*, training of RECAP beneficiaries with farming skills is associated with a 13.07 increase in food security. The result is in line with the prior expectation of the study, that equipping farmers with farming skills such as technical skills and methods of production increase their farm production and more farm production is associated with increased farm income, which farmers can use for both production and consumption. The finding confirms Mafora (2014) that trained farmers have higher chances of being food secured as opposed to not trained farmers. Mabuza (2016), also acknowledged a statistically significant relationship between skills transfer and food security of RECAP beneficiaries.

The above results indicate that there is a negative and statistically significant relationship between RECAP investment and the achievement of food security. Thus, as RECAP grant investment increases it decreases food security of RECAP beneficiaries. The results divert from the prior expectation of the study. Therefore, the tested hypothesis which stated that there is a positive relationship between investment and achievement of food security is rejected.

8.3 The results from the logistic regression

This section contains the results from the logistic regression, done to determine the relationship between RECAP spending and the achievement of RECAP objective (market access). Before the logistic regression was estimated, multicollinearity among independent variables was tested and

the correlation matrix is presented in appendix 5. There was no multicollinearity between the independent variable used to explain market access.

The logistic regression has a Chi-square value of 15.81 which is statistically significant ($P < 0.05$); this means that the independent variables explain market access relatively fine. The Pseudo R-square value is 0.55, meaning 55% of variation in the independent variables is explained. The model correctly predicted about 37.1% and 62.9% of whether RECAP beneficiaries have market access or do not have market access; the overall prediction of the model is 89%.

8.3.1 The relationship between RECAP investment and market access

The relationship between RECAP investment and market access was determined using a logistic regression model. In the logit model RECAP investment is the amount of money in Rand invested in the farms and market access is a binary variable containing farmers who have access to market and farmers who do not have market access to sell their farm produce.

The logit model used to determine the relationship between the two variables is estimated below:

$$\text{Log} \left(\frac{P}{1-P} \right) = \alpha + \beta_1 * X \dots\dots\dots(1)$$

$$\text{logit} (y) = \alpha + b_1x_1 + b_2x_2 + b_3x_3 + \dots\dots + \varepsilon \dots\dots\dots(2)$$

Table 8.5: Regression results for market access

Dependent variable: market access (1 = market access and 0 = no market access)

Variable	Coefficient	Standard error	P-value	Odds ratio
RECAP investment	0.11	7.94	0.05*	1.12
Farm size	1.09	0.00	0.75	0.99
Farming experience	3.04	0.65	0.02**	1.00
Farm production	-6.81	1.48	0.38	0.99
Access to loan	0.76	0.23	0.06*	2.68
Farm assets	0.07	2.20	0.09*	1.07
Training	0.85	2.28	0.04**	2.33

Pseudo R-squared = 55%

*statistically significant at the 10% level

**statistically significant at the 5% level

***statistically significant at the 1% level

The logistic regression model was estimated using STATA version 15. Variables that are significant in explaining markets access are RECAP investment ($P < 0.1$), farming experience ($P < 0.05$), access to loan ($P < 0.1$), farm assets ($P < 0.1$) and training ($P < 0.05$). Variables that are not significant are farm size and farm production. The effect of each independent variable is explained below:

RECAP investment – has a positive relationship with market access and the relationship is significant at 10%, meaning that a one Rand increase of RECAP investment at farm level increases the likelihood of farmers’ access to market by 1.12 times. The results are in line with the prior expectation of the study.

Farming experience – has a positive and significant relationship with market access; the relationship is significant at 5% and the odds ratio is 1.00, meaning there is a 50/50 chance that

experience gained over time by RECAP beneficiaries will have a positive impact on market access, or no impact at all, with a year increase of farming experience. The results diverge from the prior expectation of the study. The results contrast with Apind (2015) and Sebatta et al., (2014), these studies have found that farming experience increases the likelihood of participating in the market. Farming experience is important because experienced farmers have a better understanding of the market needs.

Access to loan – has a positive and significant relationship with market access and the relationship is significant at 10%, meaning access to loan increases the likelihood of farmers’ accessing the market by 2.68 times. The results are in line with the prior expectation of the study and confirm Apind (2015), who found that access to loan has a positive and significant relationship with market access.

Farm assets – has a positive and significant relationship with market access and the relationship is significant at 10%, meaning a one Rand increase in farm assets increases the likelihood of accessing market by 1.07 times. The results are in line with the prior expectation of the study, that farmers having better access to farming assets such as irrigation systems, farm buildings, fencing, and other farm assets will have better access to market. The results are consistent with Wittman (2009) and Fan and Rao (2003) and Mellor et al., (2009) that access to farming assets assists farmers to produce more and enter both production and input markets.

Training – has a positive and significant relationship with market access and the relationship is significant at 5%, meaning equipping farmers with farming skills increases the likelihood of accessing market by 2.33 times. The results are in line with the prior expectation of the study, that if farmers are trained in areas such as farm management, production, bookkeeping and others, they improve their farming skills, such as marketing.

The above logistics regression results indicate that the relationship between RECAP investment and achievement of market access is positive and statistically significant, meaning a one Rand increase of RECAP investment increases the probability of RECAP beneficiaries' access to market. The results are in line with the prior expectation of the study. Therefore, the study hypothesis which states that there is a positive relationship between RECAP investment and achievement of market access is accepted.

The regression results indicate that RECAP investment has a positive relationship with employment and market access. This implies that one Rand increase of RECAP funds invested at farm level will result in more employment created and better market access. Despite a positive relationship between RECAP investment, employment creation, and market access, there is a negative relationship between RECAP investment and farm production, and food security. The negative relationship implies that a one Rand increase of RECAP investments at farm level is associated with a decrease in farm production and food security.

The progress on employment and market access, does not imply that investment made by the government on RECAP has achieved the intended objectives of the programme since not all objectives of the programme have been achieved. The study findings acknowledges Sooryamoorthy (2005) and Korzaan (2009), objectives are partly achieved due to many factors such as the gap between planning and implementation. The same can be said about RECAP. The fact that farmers are not spending their grant in line with budget, as indicated in Chapters 6 and 7 of the study has resulted in partly achievement of the programme's objectives. This achievement of RECAP is attributed to the fact that beneficiaries are insufficiently committed to the programme. As indicated in Chapter 6, farmers are spending more of their grant on less important agricultural

activities. According to Sainsbury et al., (2000) and Tear et al., (2005), the objectives are reached in a programme when beneficiaries commit to the objectives and adhere to the required outcome of the programme. There is existence of both success and failure in the programme. Therefore, the overall hypothesis of the study which states that there is a positive relationship between the level of investment in RECAP and achievement of its objectives is rejected.

8.4 Summary

The chapter has presented the achievements of the RECAP programme relative to its expenditure. The qualitative analysis of the study indicated that progress is being made towards achieving the objectives of the programme. Farmers are creating jobs, producing both crops and livestock, consuming both crops and livestock and accessing different marketing channels using RECAP grant. The progress has been assessed in all provinces. Provinces that have received the largest grants per farm are not better performing provinces whereas provinces that have received the smallest grants per farm are better performing provinces.

The quantitative analysis (multiple linear regression and logistic regression) confirms that there is progress in achieving employment and market access and there is no progress in achieving food security and production. Even though the qualitative analysis indicates progress on all RECAP objectives, the overall progress made by the programme is low compared to the investment made in the programme and more work needs to be done so that objectives of the programme are successfully achieved. The slow progress in achieving the objectives of RECAP is attributed to the poor spending of the grant by farmers. Farmers are not spending all the funds received.

CHAPTER 9: SUMMARY, CONCLUSION AND RECOMMENDATIONS

9.1 Major findings of the study

9.1.1 Determining the level of RECAP spending at national, provincial and farm level

The first specific objective of this study was to determine the level of RECAP spending, according to purpose, at the national, provincial and farm levels. The results of the study showed that at the national level authorities are only responsible for distributing funds to provinces to support farming activities at the farm level. The funds from the national level are distributed with the provision that funds only apply to expenditure on agriculture-related activities.

The expenditure results showed that the grant is being spent on agricultural activities at farm level such as infrastructure, farm buildings, farming inputs, tractors, equipment and other assets and non-assets. However, the level of spending is low compared to the amount of funds received by farmers. Farmers are spending less than what they have received and their actual spending is more on activities that required fewer funds and less on activities that required more funds.

9.1.2 Budgeting and spending at the national, provincial and farm level

The second specific objective of the study was to assess budgeting and spending of RECAP grant at national, provincial and farm level since the programme's inception. The results of the study showed that the budgeting process and spending levels of RECAP grants are similar at all levels. At both the national and provincial levels the budgeting process is administered using a sound

budgeting method called incremental budgeting approach, which allows yearly adjustment of a budget by a certain percentage to cover future projected expenditure.

Spending of funds at the national level is characterised by the problem of underspending and overspending; in 2012/13 the budget was underspent by R 10.8 million while in 2013/14 the budget was overspent by R 31.2 million. While the spending of the grant at the provincial and farm levels is characterised by the problem of underspending. Provinces together with their respective farmers are not spending the total amount of grant received.

9.1.3 Relationship between grant spending and objectives achievement

The third specific objective of the study determined the relationship between RECAP spending and achievement of the programme's objectives. The results of the study indicated that progress is being made in terms of achieving the programme's objectives. There is progress on employment creation, farm production (both crops and livestock), food consumption (both livestock and crops), and farmers accessing different types of marketing channels.

Even though progress is being made in achieving RECAP objectives, the achievements are low compared to the amount of money invested in the programme. Provinces which have received high average grant investment per farm are not showing progress in achieving the objectives of the programme, namely, North West and Free State, while provinces with low average grant invested per farm are showing progress in achieving the objectives of the programme, namely Limpopo and KwaZulu-Natal. Limpopo and KwaZulu-Natal have shown progress in achieving almost all the objectives of the programme and the achievements of Limpopo and KwaZulu-Natal are attributed to the fact that spending in these two provinces is versatile and these two provinces are spending

their grants to acquire both agricultural assets and non-assets, compared to North West and Free State who are concentrating their grants mainly on agricultural assets.

Additionally, the multiple linear regression results indicate that, the relationship between RECAP investment and the achievement of RECAP objectives is positive and statistically significant between employment and it is negative and statistically significant between RECAP investment; food security and farm production. And the logistic regression indicates that there is a positive relationship between RECAP investment and market access.

9.2 Conclusions and recommendations

9.2.1 Conclusions

The overall objective of the study was to determine whether government spending on RECAP can be justified based on the programmes' objectives. The results of the study show that spending of the grant has made some progress towards achieving the programme objectives, much of the progress is seen on employment and market access. And unsatisfactory progress is seen on farm production and food security.

Based on the results the study concludes that:

- *RECAP beneficiaries are spending their grants according to the purpose of the programme.* Beneficiaries of the programme are using the funds to finance agriculture related activities. However, the expenditure is low compared to the amount of money received. There is a need for farmers to increase their spending levels and allocate more funds to more important activities.

- *RECAP is applying good budgeting practice which is called incremental budgeting method.* The government is administering the budget of the programme using incremental budgeting method. The budget of the programme increases every year by a certain percentage and the increase is not based on the performance of the programme. Even though the budget of the programme increases every year, the achievement of the programme is not satisfactory. There is a need for a new budgeting method which will link the budget with the outcome of the programme for better performance of the programme.
- *Farms who are receiving more funds are achieving less and farms who are receiving few funds are achieving more.* Better performing farms are receiving few funds and least performing farms are receiving more funds. Better performing farms are spending their grants on diversified activities while least performing farms are concentrating their funds on few activities. Therefore, farms that are receiving more funds need to be assisted to diversify their grant on various activities. The effectiveness of spending is on the type of activities purchased not the sum of money used/received.

9.2.2 Policy recommendations

The study has done financial analysis of RECAP on six provinces. Even though the study did not cover all the provinces of the country it has several policy implications for the programme that can be generalised across the whole country.

The policy implications are as follows:

- **Monitoring spending levels** – the spending levels with the grant is low compared to the allocated funds. Farmers are underspending their grants and activities that are purchased with the grant are not assisting farmers to reach the objectives of the programme. The government should monitor the spending levels of farmers and activities that are purchased with the grant. The monitoring of the grant spending should be done every year before farmers receive the next batch of their grants. Farmers spending should be used to determine the next batch of the grant to farmers. Underspending farmers should receive less money and good spending farmers should be given more money.
- **Using outcome based budgeting method** – the government is using incremental budgeting method which adjusts the budget of the programme yearly by applying percentage change on the yearly budget. The government should change the method of budgeting to outcome budgeting methods. Outcome budgeting method will allow the government to link allocated funds with the outcome of the programme. This budgeting method allows easy verification of budget effectiveness based on the outcome of the programme. The outcome based budgeting method will allow the government to fund the project based on the performance. The government will be able to either increase or decrease the budget of the programme based on the outcome.
- **More funds should be given to better performing farms/ provinces** – farmers who are receiving few funds are performing better compared to farmers receiving more funds. The government should invest more funds on the better performing farms and invest less on the

least performing farms. Thus, to motivate less performing farms. The government should assist least performing farms to diversify their grants during spending to purchase both farming assets and non-assets. The spending diversification should be done by dividing the grant during allocation to allow certain percentage of the grant to purchase assets and certain percentage to purchase non-assets.

- **Monitor provinces receiving more funds** – provinces receiving more funds are not performing better because are concentrating their grant funds on few activities. Provinces receiving more funds should be monitored and assisted to spend grant received according to the purpose of the programme. The spending levels of the provinces receiving more fund must be monitored to induce achievement of the programme objectives.

9.2.3 Recommendations for future studies

The overall objective of the study was to assess whether government investment on RECAP can be justified on the basis of the programme's objectives. The study did the assessment on budgeting and spending of the grant at the national, provincial and farm levels, and at the farm level the scholar examined goods and services that farmers have purchased with the grant money. During the assessment, the study experienced data unavailability of detailed expenditure at the farm level, most of the assessed farms did not have a detailed data of their expenditure. Some farms have zero spending information. The assessment might have led to different results if there was a detailed spending level from each farm assessed. Therefore, the study recommends future studies to gather more data on farm level expenditures.

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APPENDICES

Appendix 1: Details of budget distributed and expenditure at the national level.

	2009/10		2010/11			2011/2012			2012/13				2013/14			
Province	Budget Allocation 2009/10 (R)	Hou sehold Grants 2009/10 (R)	Budget Allocation 2010/11 (R)	PL AS 2010/11 (R)	Hou sehold Grants 2010/11 (R)	Budget Allocation 2011/12 (R)	PL AS 2011/12 (R)	Hou sehold Grants 2011/12 (R)	Budget Allocation 2012/13 (R)	PLA S expenditure 2012/13 (R)	HH expenditure 2012/13 (R)	Animal & Veld Management expenditure 2012/13 (R)	Budget Allocation (R)	PLA S expenditure 2013/14 (R)	Hou sehold expenditure 2013/14 (R)	Animal & Veld Management expenditure 2013/14 (R)
Eastern Cape	364 697 50	353 411 2	264280 00	131 540 00	682 764 3	700 780 00	117 719 04	555 508 92	147 088 000	7118 2261	6816 1125	1016 6817	196 706 000	6433 0933	6134 6190	8351 5504
Free State	352 375 00	321 754 5	323470 48	520 860 00	678 345 6	753 280 00	372 192 46	298 678 68	163 354 000	7869 1391	5694 0909	1966 9614	112 166 000	5797 5493	3262 1891	1276 8807
Gauteng	965 300 0	427 466	207671 41	749 900 0	230 082 6	317 640 00	168 315 45	383 292 5	103 288 000	6799 9558	2242 5573	1094 080	821 000 00	5182 9597	2660 4897	5466 014
Kwa Zulu-Natal	101 580 250	216 347 8	913365 17	230 360 00	266 533 60	104 857 000	366 216 67	579 702 38	188 326 000	5186 8000	5277 8458	3320 2110	170 926 000	4263 0461	1119 0865 6	1150 2309 9
Limpopo	472 960 00	229 408 0	702378 50	469 100 0	610 502 83	382 090 00	111 635 01	290 271 52	109 812 000	5292 7000	8710 2584	1720 2188	947 350 00	3401 1278	4524 9272	0
Mpumalanga	423 660 00	685 608 4	839122 44	963 100 0	258 466 77	993 900 00	563 717 38	601 628 82	228 672 000	1115 7494 6	1155 9737 5	2277 2920	126 239 000	7971 0579	2186 3235	1234 9221
North Western Cape	120 980 00	713 362	100901 04	121 740 00	212 697 6	477 170 00	317 651 94	152 318 30	852 540 00	2220 7743	5435 0387	2711 727	742 030 00	3113 4721	2773 3507	8792 97
North West	199 925 00	532 154 8	669371 98	368 140 00	204 266 22	127 236 000	788 777 4	138 315 829	966 200 00	5729 4587	3619 0176	1363 5398	129 517 000	4957 2809	5234 7541	8766 478
Western Cape	436 397 50	589 339 3	330790 68	167 000 0	217 692 72	411 760 00	264 462 97	437 936 9	393 800 00	2155 3000	8511 53	8770 43	640 143 52	3317 5615	1156 8194	7444 483

Appendix 2: Correlation matrix for employment

	RECAP investment	Farm size	Enterprise type	Farm income	Market access	Farming experience	Number of beneficiaries
RECAP investment	1						
Farm size	0.07	1					
Enterprise type	0.10	0.27*	1				
Farm income	0.47**	-0.13	-0.11	1			
Market access	0.15	-0.19*	0.26**	0.17	1		
Farming experience	-0.14	-0.21*	-0.22*	-0.14	0.11	1	
Number of beneficiaries	0.21*	0.12	-0.06	-0.03	-0.15	0.05	1

*significant at 10%

**significant at 5%

Appendix 3: Correlation matrix for farm production

	RECAP investment	Input use	Training	Farming experience	Farm assets	Access to loan	Enterprise type
Recap investment	1						
Input use	0.12	1					
Training	-0.07	0.08	1				
Farming experience	-0.14	0.22*	-0.13	1			
Farm assets	0.07	0.05	0.22**	0.25**	1		
Access to loan	0.19	0.28**	-0.05	0.06	0.18*	1	
Enterprise type	0.11	-0.48**	-0.11	-0.20*	0.02	-0.10	1

*significant at 10%

**significant at 5%

Appendix 4: Correlation matrix for food security

	Recap investment	Farming experience	Farm size	Project years	Enterprise type	Farm income	Number of beneficiaries	Training
RECAP investment	1							
Farming experience	-0.14	1						
Farm size	0.08	0.22**	1					
Project years	0.07	0.85**	-0.04	1				
Enterprise type	0.11	-0.20*	0.27*	-0.20	1			
Farm income	0.47**	-0.14	-0.13	-0.13	-0.11	1		
Number of beneficiaries	0.21*	0.06	0.12	0.09	-0.06	-0.04	1	
Training	-0.07	-0.13	-0.11	-0.19	-0.11	0.16	-0.03	1

*significant at 10%

**significant at 5%

Appendix 5: Correlation matrix for market access

	RECAP investment	Farm size	Farming experience	Farm production	Access to loan	Farm assets	Training
RECAP investment	1						
Farm size	0.08	1					
Farming experience	-0.14	0.22**	1				
Farm production	-0.13	-0.07	-0.01	1			
Access to loan	0.19	0.02	0.06	0.13	1		
Farm assets	0.07	-0.09	0.25**	0.29**	0.18	1	
Training	-0.07	-0.11	-0.13	0.11	-0.05	0.22**	1

*significant at 10%

**significant at 5%