EVALUATION OF EXTENSION SUPPORT WITHIN COMPREHENSIVE AGRICULTURAL SUPPORT PROGRAM IN THE TSHWANE METROPOLITAN MUNICIPALITY

BY

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DECLARATION

I declare that “EVALUATION OF EXTENSION SUPPORT WITHIN THE COMPREHENSIVE AGRICULTURAL SUPPORT PROGRAM IN THE TSHWANE METROPOLITAN MUNICIPALITY” is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete reference and that this work has not been submitted before for any degree at any other institution.

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ABSTRACT

The study was undertaken to understand the beneficiary and non–beneficiary evaluation of the CASP-Extension programme and how it can be used to improve future programme delivery. This study was conducted in the City of Tshwane Metropolitan Municipality between October 2014 and February 2015. In this study a survey design was used. The study used both qualitative and quantitative methods. Data for this study were gathered through semi–structured questionnaires. The respondents of this study included sixty farmers made up of LRAD farmers receiving CASP-Extension and those not receiving CASP-Extension. The farmers were chosen by systematic sampling. Independent t-test and Chi-Squared tests were applied to analyse the data using Statistical Package for Social Sciences (SPSS). The results revealed that receiving CASP-Extension support does not contribute to yield increase over non-recipients. Regarding participation in CASP-Extension, recipients of CASP-Extension support indicated receiving at one visit by Extension agent per month which is slightly less than what the literature suggests. The image of CASP-Extension as perceived by Non-CASP-Extension recipients is a poor one compared with a good image painted by CASP-Extension recipients. This notwithstanding, most Non-CASP-Extension recipients have the ambition to receive CASP-Extension support. CASP-Extension could improve its image amongst Non-CASP-Extension recipients by addressing the areas of dissatisfaction indicated by respondents in the study.

KEY CONCEPTS

Comprehensive Agricultural Support Programme; Evaluation; Land Redistribution of Agricultural Development; Extension

LIST OF ACRONYMS

CASP	Comprehensive Agricultural Support Programme
CBA	Cost Benefit Analysis
CoT	City of Tshwane
CPA	Community Property Association
DAFF	Department of Agriculture, Forestry & Fisheries
ERP	Extension Recovery Plan
FAO	Food And Agriculture Organization
GDP	Gross Domestic Product
ICT	Information and Communication Technology
LRAD	Land Redistribution for Agricultural Development
M&E	Monitoring and Evaluation
NAADS	National Agricultural Advisory Service
PLAS	Proactive Land Acquisition Strategy
SPSS	Statistical Package for Social Sciences
ULREC	University of Limpopo Research Ethics Committee

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CHAPTER 1
INTRODUCTION AND BACKGROUND

1.1 Introduction

Under the South African apartheid government, legal impediments such as the 1913 and 1936 Land Acts (Brand, Christodoulou, van Rooyen and Vink, 1992) prevented the black farmers from obtaining enough farm land and benefit from the specialized service institutions including public extension services (van Rooyen and van Zyl, 1990).

Among the post-1994 government reforms in the South African economy was the introduction of the land reform programme implemented through various initiatives such as the Land Redistribution for Agricultural Development (LRAD). The government strategy to provide support services and to facilitate agricultural development of LRAD beneficiaries and other farmers is the Comprehensive Agricultural Support Programme (CASP) (DoA 2005). This study focuses on the provision of public extension services to LRAD farmers within CASP (hereafter referred to as CASP-Extension).

Public agricultural extension globally, however, is widely seen to be ineffective and not meeting the needs of users, especially smallholder producers as seen from their perspective (Rivera, 1991). In South Africa, public extension has also been under the spotlight for many reasons. Some of the criticisms include the lack of relevance of extension information for farmers' needs, limited public extension support and advice for land redistribution beneficiaries (NSSO 2005; and Umhlaba Rural Services, 2007). Problems of accountability for investments in extension services have also been highlighted (Feder, Willet & Zijp, 1991).

This study was undertaken to investigate whether funding for CASP-Extension was yielding results for smallholder producers. The main question addressed was about the relevance of public extension service for the management needs of land reform beneficiaries.

1.2 Problem Statement

Globally, there is often very little information available on the performance of extension, considering the investments made in this area (Birkhaeuser, Evenson & Feder, 1991; Davis, 2009). One area in which the South African government is investing a lot of money for post- settlement farmer support in land reform projects is through CASP Extension. The expenditures aim among others, to improve the skills of extension agents and therefore, help to improve farmers' production in an effort to achieve household food security. It also has the objective to improve the infrastructural base of smallholder agricultural production.

According to DAFF CASP report (2012), CASP started with a budget of R200m in the first year of 2004/5, rising the following year to R250m. The budget increased to R300m in 2006/07, after which it continued to rise. Moreover, the funding of Government's Extension Recovery Plan (ERP) which is coordinated through CASP office, since its introduction in 2007 has seen a lot of cash injection to revitalize the public extension service (DAFF 2009). Public extension services, however, continue to be seen as ineffective with respective to helping to improve smallholders' management capabilities as well as their production.

Possible explanations for the ineffectiveness of the public extension service to respond to the needs of land reform beneficiaries may include inadequate contact between farmers and the service providers; inappropriate or poor-quality information could also be a key hindrance to farmers' use of extension services. The multiplicity of causes warrants the need to assess the relevance of CASP-Extension support to help achieve LRAD farmers' production goals and to identify possible causes where the support is found to be irrelevant. Furthermore, investigating how farmers perceive extension support is an essential measure of the usefulness of the services rendered (Israel, 1982). This type of performance measure can give insights into possible areas for improvement by government.

1.3 Aim of the Study

The purpose of the study was to understand the beneficiary evaluation of CASP-Extension program and how it can be used to improve future programme delivery.

1.4 Objectives of the Study

i. To assess the contribution of CASP-Extension to individual or group change in terms of farmers' yields.
ii. To determine farmers' perception of CASP-Extension regarding its educational content and attitude of Extension agents to solving farmers' farm management problems.
iii. To assess farmers' participation in CASP-Extension regarding access to extension services and intensity of contacts.

1.5 Research Questions

The study attempts to answer the following questions:

i. How does CASP-Extension contribute to individual or group change in terms of farmers' yield?
ii. How do farmers perceive public extension services regarding its educational content and attitude of Extension agents to solving farmers' farm management problems?
iii. What is the participation of farmers' in CASP-Extension in relation to access to extension and intensity of contacts?

1.6 Definition of Terms

Public agricultural extension is defined as an extension service that is financed by the state and delivered by the staff of a public sector agency such as the Department of Agriculture, (Rivera & Gustafson, 1991).

Comprehensive Agricultural Support Programme CASP is a framework developed to complement LRAD and is a core programme managed by the DAFF, (DAFF 2009). Its aim is to improve the quality of post-settlement support in agricultural projects and is available to all emergent farmers.

Extension Recovery Plan is the programme aimed at the revitalization of agricultural extension and advisory services which comprises of 5 pillars, i.e., Visibility and accountability, Professionalism and improve image, Recruitment of extension officers, Reskilling and reorientation of extension and Provision of information and communication technology DAFF (2011).

Participation was defined in this study to indicate farmers' access to Extension services and the intensity of contacts.

1.7 Significance of the Study

The information generated from this study will be useful to stakeholders and policymakers, as it discusses perceptions and realities of the farming community with regard to improving future extension and advisory support to meet their needs. What the farming community thinks about the value of CASP extension for their farming businesses will help shape the educational content of such interventions in the future.

1.8 Outline of the Dissertation

This dissertation is organised into five chapters. The first chapter gives the background information that led to the study, problem statement, aim of the study, objectives of the study, research questions and the significance of the study. Chapter two contains a critical review of the relevant literature on CASP and CASP-Extension, agriculture extension evaluation including the challenges faced in extension evaluation, forms of evaluation to assess methods that are appropriate and useful for this study.

Furthermore, the literature review indicated the important gaps in the evaluation of the CASP programme which needed attention, hence the evaluation of CASP-Extension in this study. The appropriate methodology adopted to achieve the research objectives is discussed in Chapter three. Chapter four discusses the results of the study and lastly, the study summary, findings regarding the research questions and recommendations from the study are presented in Chapter five.

CHAPTER 2
LITERATURE REVIEW

2.1. Introduction

The review of prior research and thought relevant to this study was focussed first, on assessment of CASP-Extension/ERP by government agencies as well as other private bodies or individuals. The time period of the review was the last ten years since the inception of CASP. This review was to determine if there were any gaps with regard to advancing our knowledge about the effectiveness of CASP-Extension in meeting LRAD farmers' production needs. Second, there was a critical examination of evaluation approaches used in agricultural extension to find a suitable conceptual framework that will help to achieve the purpose and accommodate the objectives of this study.

2.2. Government and Individual Review of CASP/ERP

Government progress reports or reviews on the performance of CASP/ERP do not provide any indication of studies on the effectiveness of CASP Extension in meeting LRAD farmers' production needs. The focus, however, of these reports is mainly on implementation issues such as, budget allocation for provinces and the progress achieved per ERP pillar. Other areas of progress assessment include training and capacity building of extension personnel, recruitment of extension personnel, provision of ICT equipment etc. (DAFF 2011, 2009; Public Service Commission, 2011).

2.3. CASP Description

In 2003 the Department of Agriculture and nine Provincial Departments of Agriculture supported by the National Treasury and Provincial Treasury conducted a fiscal review of the agricultural sector, DOA (2003). The purpose of the review was to identify the cost drivers and the spending pressures within the agricultural sector. Through this Intergovernmental Fiscal Review Process (IFRP), assessment of the agricultural budget and key deliverables were identified as well as some of the constraints that hindered service delivery. On further analysis, the IFRP made a key observation - that there was insufficient provision made for farmer support within the agriculture budget. In

addressing this shortfall within the current budget, a number of strategies were identified. This included the Comprehensive Agriculture Support Programme (CASP), which was prioritized by the joint committee for implementation during 2004. To give effect to this decision, the committee identified the cost drivers and pressure points currently experienced within the budget and to identify outputs to support a framework for a comprehensive support programme. This exercise resulted with the adoption of the Comprehensive Agriculture Support Programme.

Some recent scholarly work related to farmers' perception of public extension support in South Africa include Agholor (2012), Chabalala (2008), Lebert et al., (2007) and Umhlaba Rural Services (2007). The focus of the studies by Lebert et al., and Umhlaba Rural Services' works again was more on CASP implementation issues such as procurement and tender systems, range of services offered and programme targeting etc. Chabalala's study on the success factors of LRAD projects in Limpopo Province was based on farmer variables and not on the Extension service provider.

This work and those mentioned, although useful, do not advance our knowledge about the effectiveness of CASP-Extension in meeting the needs of users from the users' perspective; this knowledge gap still remains. This study attempted to fill that gap. The quality of public extension service delivery study by Agholor in the Eastern Cape, though not on LRAD projects, provided indication of farmers' perception of the service delivered. This notwithstanding, situations differ and what appears to be a problem in the Eastern Cape may not be a problem in Gauteng Province. For example, Benin et al., (2011) found a positive relationship between NAADS programme participation and length of the programme implementation in one area of Uganda but found a negative relationship in another.

It is therefore, apparent that literature gives general patterns, reasons or causes why situations exist; these causes may not be relevant or applicable in each and every situation. There is therefore, a need to identify the specific underlying causes of the effectiveness of CASP Extension or lack thereof, in meeting farmers' needs in the

Tshwane municipality of Gauteng Province. This will ensure a meaningful and purposeful intervention.

2.4. What Is Evaluation and Why Evaluation?

Evaluation of agricultural extension programs implies the systematic collection of information about activities, characteristics and outcomes of a program to make judgements about the program, improve its effectiveness, and/or inform decisions about future programming (Dart, Petheram & Straw, 1998). Reflection on objectives, users and uses of evaluation should be the first important step in designing an evaluation approach for extension projects/programmes (Deshler, 1997). Conventionally, evaluations were conducted at the end of an intervention (ex post) in order to generate evidence to support claims about its overall achievements (results) which were mainly directed towards a stronger client/ user focus with a broader set of evaluation objectives, including learning, transparency and capacity development.

This shift from a focus purely on results to include an evaluation of process (in the sense of understanding what is happening in the course and context of a programme or intervention), has also tended to increase the involvement of internal evaluators (OECD, 2010).

The current resurgence of interest in evaluation and impact assessment in general, is linked in part to the international financial crisis, the need for expenditure cuts and a renewed emphasis on value for money. It is consistent with the emphasis on measuring progress and development effectiveness articulated in the Paris declaration (OECD/ DAC Working Party on Aid Effectiveness, 2008).

It is generally accepted that extension evaluation is one of the key factors enhancing the effectiveness and efficiency of extension work (Düvel, 1998). Particular problems of monitoring and evaluation (M&E) of agricultural extension projects have been documented (Martin et al., 2011). The problems relate to cause-and-effect attribution of impact due to diverse external factors (e.g., rural credit institutions, input supply

systems, product marketing systems, macro-economic policies), which are outside of direct project control; the lack of reliable data and lack of awareness and managerial demand for M&E data etc.

2.5. Forms of Evaluation

Various attempts have been made to classify evaluation *per se,* some by categorising forms of evaluation by purpose (Owen, 1993), others by methodology (Stake, 1973), and others by the position of the major audience (Worthen, Sanders & Fitzpatrick, 1997) or the focus/approach.

Within the category of impact evaluation in agricultural extension, Dart, Petheram and Straw (1998) found several approaches or models. The term 'model' is used with wide variability and considerable ambiguity in evaluation practice and literature. Generally, it refers to particular conceptions, approaches, methods and even loose theories for thinking about and/or conducting evaluations (Smith, 1994). It is used to signify conceptual ideas based on particular paradigms of how an evaluation should be conducted. An approach on the other hand, refers to the overall orientation towards the evaluation, and includes methods, purposes and values (Smith, 1994).

2.5.1. Goal–Based Evaluation

Tyler (1967) was amongst the first to develop and use Goal-based evaluation. In this approach, goals are taken as given, and decisions about the success of a programme are deduced from whether the programme has met its goals. According to Owen (1993), the main tasks in planning a goal-based evaluation are, namely: to determine the 'real' goals of the programme and decide how to determine whether the programme has led to the attainment of its goals.

2.5.2. Needs–Based Impact Evaluation

The term Needs-based evaluation refers to evaluation where the orientation of the evaluation is directed towards the needs of society or the stakeholders rather than a

judgement of whether the given goals were reached (Dart, Petheram & Straw, 1998). The choice between a 'Needs-based' approach to evaluation and a 'Goal-based' approach should be made with regard to the underlying purpose of the evaluation. Patton (1997) suggests that to be an effective evaluator one needs to be able to evaluate with or without goals. Even though there is no benchmark information of the goals of CASP-Extension, it is possible to use this evaluation approach in this study.

2.5.3. Comparative Economic Impact Evaluation

Cost-Benefit Analysis (CBA) is a procedure for comparing alternative courses of action (or no action) by reference to the net social benefits that they produce. A net social benefit refers to the difference between social benefits and social costs. CBA is a method for organizing information to aid decisions about the allocation of financial resources (Dart, Petheram & Straw, 1998, citing Department of Finance, 1991).

Criticisms against this approach by agriculturalists are that unrealistic assumptions are often used in estimating costs and returns, and failure of the analyst to take account of important issues. Conducting a CBA can be very enlightening for extension workers, and CBA can be a valuable and powerful analytical tool in many forms of evaluation of extension projects (Dart, Petheram & Straw, 1998). These advantages, notwithstanding, it could not be used for impact evaluation in this study because of lack of relevant data.

2.5.4. Evaluation for Illumination

This approach explores both the intended and unintended outcomes of programme interventions. The aim here is to understand how the participants perceived the impact of the various project interventions (Dart, Petheram & Straw, 1998). According to the Martin et al., (2011), citing Duignan (2009), typology of evaluation purposes, summative evaluation assesses change/effects brought about by the programme, intended or unintended, positive or negative. This contrasts with impact evaluation which measures the extent to which planned and observed changes in outcomes and longer term impacts can be attributed to an intervention.

This approach has similar objectives as the Need-based approach and is appropriate for this study. Furthermore, this approach relates to the Bennett's hierarchy (1975) that depicts the outcomes which are desired in programme delivery. The Bennett framework was therefore used to operationalize the evaluation of CASP extension regarding the perceptions of CASP extension beneficiaries of the services rendered to them and the benefits they derived from the services.

2.5.5. Expert Model

This approach relies on expert judgement (Eisner, 1983); documentation is prepared in advance of experts' visits. The experts then review, analyse documents and make judgements using their own judgement perspectives or those set as standards by the outside organizations or stakeholders. Typically, this type of evaluation brings in a team of experts from FAO or extension systems from several countries to make judgements and comparisons regarding strengths and its limitations.

2.5.6. Goal-Free Model

According to Patton (1997), this approach assumes that outside evaluators do not know, or need to know, what the programme has intended to accomplish, but that it is the task of the evaluators to uncover what is actually happening relative to farmers' interests regardless of stated goals and intentions. The focus point is to identify environmental and farming conditions and then to compare these needs with what people are actually experiencing as a result of the extension programme. The gap is then viewed as a starting point for making changes in the programme. An example is an evaluation that describes conditions of indigenous farming groups cultivating fragile hillside soils and comparing these conditions with access to and appropriate content of knowledge from existing extension services.

This approach relies heavily on open-ended interviewing and observation by persons who do not have a vested interest in the programme (Scriven, 1972). This approach has been criticized on the grounds that it is the evaluator who decides the needs of society (Patton, 1997). In reality, goal-free evaluation, in its strict sense, is rarely

practised in programme evaluation. For example, an extension system may have adequately met its objectives of increasing production of maize among large landholders, but at the same time it may have neglected to question its lack of commitment to small landholders or tenant farmers.

If an attainment of objectives evaluation is anticipated, programmes are often tempted to set goals quite low so that outcomes will be met easily, thus appearing to be successful while ignoring major challenges. This model also has a 'black box' limitation in that it tends to ignore the extension process, thereby failing to provide explanations for outcomes (Provus, 1971). These issues did not make it possible for the researcher to adopt this evaluation approach.

2.5.7. Management Decision Model

The purpose of this model is to provide relevant information as management tool to decision makers. This approach assumes that the success of a programme can be determined by measuring a programme's outcomes against its own goals and objectives. It assumes that evaluation should be geared to decisions during programme initiation and operation to make results more relevant at each particular stage.

Participation of stakeholders is central to the process because evaluation should serve their decisions. Sometimes cost effectives and operations monitoring are included (Stufflebeam, 1971). One limitation of this model is the tendency for the decisions of the major stakeholders to be viewed as more important than those of various types of farmers, especially women in agriculture who may not benefit directly from such an evaluation unless care is taken. This approach could not be used for evaluation for lack of baseline data and the fact that the limited time for the study precluded the involvement of stakeholders of the various farming units in the important stages of the evaluation process.

2.5.8. Naturalistic Model

This model assumes that a programme is a natural experiment and that the purpose of evaluation is to understand how the programme is operating in its natural environment.

There is an assumption that programmes are negotiated realities among the significant stakeholders and that evaluation serves this value-laden negotiation (Cronbach, 1981). Data should be collected and analysed from multiple perspectives.

The outcome of the evaluation is dialogue concerning disagreements about objectives, expectations, problems, opportunities, policies, procedures, and suggested changes in methods or activities. Many positive collaborative changes can be made through this model of evaluation if conflict resolution skills are combined with evaluation. Another purpose of this model is to diagnose or to identify the causes for certain behaviour on the part of some farmers, agency staff, or other development actors (Murphy & Marchant, 1988).

2.5.9. Experimental Model

The purpose of this approach is to determine whether changes in programme outcomes (learning accomplishments) were due to the contributions of the programme and not just to life's experiences or from other influences (Goldstein, 1986). This model asks the question, "Were differences in sustainable agriculture practice attributable to the programme?" This approach requires a well-structured experimental design to establish cause and effect of the extension programme and therefore, not achievable in this study.

2.5.10. Participatory Evaluation Model

The purpose of this model is for extension educators and farmers themselves to initiate a critical reflection process focussed on their own activities. This is done through identifying a persistent major situation such as extension's neglect of women in agriculture; subject it to critical reflection, underlying assumptions, habits of mind, and cause and effect expectations; and then after creating new assumptions, change practices and validate or invalidate the results.

The model assumes a democratic participatory process along with autonomy on the part of educators and learners at the local level (Brunner & Guzman, 1989; Greene,

1988). This is a form of what is usually called "participatory action research." This approach, however, also requires time to engage participants. In view of the short space of time for this research, it was deemed inappropriate to use.

The approach to the evaluation of CASP extension used in this study tried to avoid these complications highlighted earlier and therefore addressed the evaluation issue from the perspective of users of the service. The review of approaches or models to the evaluation of extension projects was therefore made against this backdrop.

The Impact evaluation for illumination approach unlike the other approaches explores how the participants perceived the project intervention and its impact (Dart, Petheram & Straw, 1998). Impact evaluations are interested in analysing attribution; there has to be a means of comparing the actual changes brought about by the programme with the situation if the program had not taken place (the counterfactual). Purcell (1984), in his worldwide review of agricultural programs, recommended that, due to the extreme difficulty of linking cause and effect to extension projects/programmes, it is probably more appropriate to (i) concentrate M&E on measuring the change in adoption of ideas promoted by extension agents in specific areas of influence (KASA); (ii) understand the reasons for significant non–adoption, and (iii) question the intended farmer clientele on how they perceive the extension services offered. In other words, it would be geared to improving effectiveness and efficiency of extension and directly asking intended clients about the impact it is having.

The purpose of summative evaluations however, is to assess change/effects brought about by a programme, intended or unintended, positive or negative. Monitoring and Evaluation (M&E) for program management based on Owen (1993) form 2, is a summative evaluation. M&E for program management is conventionally associated with input–output monitoring which would be represented by levels 1 to 3 of Bennett's Hierarchy (Bennett, 1975).

Monitoring and Evaluation (M&E) for program management relates to the Bennett's Hierarchy (1975). Bennett's Hierarchy presents a framework and a practical approach to evaluation that allows for assessment of service-users' perceptions. The Bennett's Hierarchy (Table 2.1) was, therefore, used as a conceptual framework in the questionnaire design to guide the assessment of farmers' perceptions of CASP Extension programme activities (objective level 4 of framework); participation in CASP Extension programme activities (objective level 3 of framework), changes in farmers' knowledge, skills, attitudes, aspirations (objective level 5); as well as the consequences of the CASP Extension services for farmers (objective level 6 of framework).

Table 2.1: Hierarchy of Evidence for Program Evaluation

Levels	Description
7	End results in the form of outcomes, effects and benefits to the community or society
6	Behavioural changes in the target group: Direct evidence Indirect evidence, product quality – as evidence of change in behaviour)
5	Changes in knowledge, attitudes, skills or aspirations
4	The farmer's opinion about extension activities
3	Farmer participation in extension activities (participation monitoring)
2	Activities, this includes meetings, sessions, workshops or events.
1	Programming of the extension activities (inputs monitoring)

Source: Bennett (1975)

2.4. Conclusion

From the reviewed literature, it is clear that there are important gaps in the evaluation of the CASP programme which needed attention, hence the evaluation of CASP extension in this study. This chapter has argued that extension evaluation is very critical; most government reports and scholarly reports reviewed had focussed mainly on the implementation as well as budget expenditure but less on the evaluation of extension. Reviewed literature has highlighted a need to identify the specific underlying causes of the effectiveness of CASP Extension or lack thereof, in meeting farmers' needs in the

Tshwane municipality of Gauteng Province to ensure a meaningful and purposeful intervention.

Evaluation of agricultural extension programs in this context implies the process of determining the worth or significance of an activity, policy or program to make judgements about it and, improve its effectiveness. Bennett's Hierarchy framework was adopted in this study as it allows for the assessment of service-users' perceptions in this context, the farmers. The research methodology is presented and discussed in the next chapter.

CHAPTER 3
RESEARCH METHODOLOGY

3.1. Introduction

In this chapter, the research methodology used in the study is described. The geographical area where the study was conducted, the research design method, sampling method, data collection method as well as data analysis methods are described. These procedures are used to acquire empirical evidence and analyse it for purposes of answering the research questions.

3.2. Research Design

A cross-sectional survey method was used in this study. The survey method is one of the most important areas of measurement in applied social research. Scheuren (2004) define survey as a research method for collecting information from a selected group of people using standardized questionnaires or interviews. According to Wyse (2012), surveys are relatively inexpensive, and useful in describing the characteristics of a large population. Surveys can be administered in many modes, including: online surveys, email surveys, social media surveys, paper surveys, mobile surveys, telephone surveys, and face-to-face interview surveys.

The survey method is suitable because it is fast and it is possible to collect information from a large number of people in a short period of time. The anonymity of surveys allows respondents to answer with more candid and valid answers. The particular type of survey method used in this study involved direct, personal communication with the study subjects. Even though more expensive compared with other survey methods, personal interviews are a way to get in–depth and comprehensive information. Also , there is no or very little concern regarding participants dropping out during the course of the study in this case the problem of response rate is eliminated (Wyse, 2012). The study used both qualitative and quantitative methods to collect the kind of information needed to answer the study research questions.

3.2.1. Description of the study area

The study was conducted at the City of Tshwane Metropolitan Municipality. It is the largest metropolitan municipality in South Africa, comprising of an area of 6 368km with an estimated population of just over 2, 5 million (Stats SA, 2011). CoT is located within the Gauteng Province, is bordered by Limpopo to the north, Mpumalanga to the east, the Ekurhuleni and City of Johannesburg Metropolitan Municipalities to the south and North West to the west.

The City of Tshwane is the capital of South Africa and is the largest municipality, as measured by land mass. Tshwane is amongst the six largest metropolitan municipalities in South Africa and the second largest in Gauteng, as measured by Gross Domestic Product (GDP) (Stats' SA 2011). The Tshwane region covers 6 368km² of Gauteng's 19 055km² and houses approximately 2, 9 million residents. Tshwane consists of seven regions with 105 wards and 210 councillors. The city has a vibrant and diverse economy, which enables it to contribute at least 26, 8% of the Gauteng Province's GDP and 9, 4% of the GDP of the national economy.

Google map (2014)

Figure 3.1: Area Map of the Research Site

Tshwane is located in the summer rainfall region of eastern South Africa, and has an annual average rainfall of about 670 mm this is according to COT (2014). Rainfall peaks during summer (December to February), whilst the winters (June to August) are very dry onset of the rainy season usually occurs in October, and cessation usually occurs in April. According to COT (2014), summers are warm, with an average temperature of about 22°c, whilst the winters are mild with an average temperature of about 12°c. Most winter days are characterized by sunny days, clear skies and cold nights. Minimum temperatures may occasionally drop to below freezing point during winter, and frost occasionally occurs over the region. This usually happens after a cold front has penetrated deep into the southern African interior. According to Washington and Todd (1999), about 80% of the summer rainfall over Tshwane occurs from tropical-temperate cloud bands, and in particular the thunderstorms located within the cloud bands

3.2.2. Population of the study

It comprises LRAD farmers who receive CASP-Extension and those who do not, in the Tshwane Municipality. The small number of LRAD farmers in the municipality, therefore, required all of them were included in the study.

3.2.3. Sampling method

The validity of the study findings dictated that attention be paid to sampling issues (Shavelson, 1988). According to Cherry (2014), a sample is defined as a subset of a population that is used to represent the entire group as a whole. Non-CASP Extension farmers were selected by systematic sampling. A sample of size n = (30) was selected from a population (N= 60) of non-CASP members. In the study area there were about thirty LRAD farmers (N = 30) who had benefitted from CASP and all of them were included in the study.

3.2.4. Data collection instrument

The instruments used to gather the data from respondents were questionnaires. Oppenheim (1992) defines a questionnaire as a means of eliciting the feelings, beliefs,

experiences, perceptions, or attitudes of some sample of individuals and as a data collecting instrument; it could be structured, semi-structured or unstructured. The questionnaires approach was decided upon due to its main benefits, one of which is, namely: large amount of information can be collected in a short period of time. It is also practical and quick to administer. Apart from main benefits listed above there are some weaknesses as respondents might be forgetful as some of the questions may go as far back as 5 years ago. There is no way to tell if the respondents are telling the truth or not.

Semi-structured questionnaires were prepared guided by the Bennett Framework (1975). The Bennett framework provides for the essential factors in the analysis of respondents' perceptions of CASP–Extension, participation in CASP–Extension, changes in respondents' knowledge, skills, attitudes, aspirations; the consequences of CASP–Extension support for respondents in terms of crop yields. It was therefore used as a basis of the questionnaire development. For this reason, the items in the questionnaire can be regarded as a valid measurement of this type of evaluation and therefore, the measuring instrument can be said to have a high content validity.

The questionnaires were prepared in English, Sepedi and Ndebele with the help of people who speak those languages fluently. The questionnaires consisted of sections A, B, C, D and E. Section A was aimed at gaining information on demographic data, such as age, level of education, land ownership, farming experience and size of their land. Section B was aimed at gaining information on enterprise, such as type of enterprise, business structure and average yield. Section C was aimed at gaining information on individual change, such as individual self–reliance. Section D was aimed at gaining information on group change, such as group farming, constitution usages and self-reliance as a group. Section E was aimed at exploring attitudes and perceptions regarding CASP-Extension.

- **Reliability of data collection instrument**

The survey instrument was pre–tested on the 30th October 2014 on a group of farmers to check for clarity of questions and to minimize the length of the interview time in order to improve reliability. Polit et al., (2001: 467) define pilot study as a small scale version or trial run, done in preparation for the major study. Because of the few number of LRAD farmers in the municipality, three LRAD and three Non–CASP farmers were asked to participate in the pre–testing of the instrument.

Robson (1993), in Saunders, Philip and Thornhill (2000), indicates that errors such as subject bias, observer error and observer bias pose a serious threat to reliability of data. Any effort at eliminating or reducing these sources of error could help improve reliability. However, like all human endeavour, it appears that a measuring instrument can never be 100 percent reliable because it may not be possible to completely eliminate threats to reliability. The researcher could improve reliability by minimizing the above sources of error (Cooper & Schindler, 2001). One of the major precautions taken in this study, therefore, was to minimize threats to reliability as much as possible by employing the following strategies

- ***Minimizing subject (interviewee) response bias***

  There was the likelihood that respondents might perceive the interview as intrusive; so, even though they might be willing to participate, subjects might be unwilling to reveal what they considered sensitive information. With this in mind, the questionnaire items were structured on the key issues of the concept of study.

- ***Minimizing respondent error due to fatigue***

  Long questionnaires could make respondents tired and so give inaccurate responses. This was overcome by reducing the length of the questionnaire to an hour after the pre–test.

- ***Minimizing interviewer error in this study***

  This could occur when more than one person conducts the interviews. In such cases there is the potential for different approaches to elicit responses. According to Saunders et al. (2000), if more than one interviewer is involved

then introducing a high degree of structure to the interview schedule will lessen this threat. This threat could be reduced when one interviewer conducts interviews as was done in this survey, so that there will not be different interpretations to the qualitative questions in the study questionnaire if respondents needed such clarifications.

- ***Minimizing errors of respondent response due to misinterpretation of the survey questionnaire.***

  This was overcome through the pre–test of the questionnaire. Furthermore, the reliability of the measuring instrument, i.e., the questionnaire, was improved by ensuring that the conditions under which the questionnaire was administered were uniform, e.g., using rooms/halls with very little noise, pre–questionnaire administration briefing and clarification with different language of interviewees concerns because the interviewer spoke the three languages.

- ***Improving response rate***

  The validity of survey results is also severely compromised if there is a significant level of non–response (Kitchenham & Pfleeger, 2002). The researcher sought to reduce the non-response by interviewing the respondents to ensure that all 60 respondents provide response to all questionnaire items.

Finally, to increase external validity of the study results, survey data were collected from both LRAD farmers receiving CASP–Extension and non–CASP farmers.

- **Validity of data collection instrument**

Macleod (2007) defines validity as the degree to which a research study measures what it intends to measure. Content and face validity are among some of the validity measures for survey instruments. There is a controversy surrounding the use of face validity as a scientific definition of validity (Gravetta and Forzano, 2003). For this reason content validity was used in this study to assess the validity of the data collection instrument. Content validity is defined as the extent to which the instrument provides

adequate coverage of the concept. According to Cooper and Schindler (2001), if the instrument contains a representative sample of the universe of the subject of interest then content validity is good. Flowing from this review, the levels of the Bennett framework relevant to the study objectives provided guidance to the questionnaire item construction for the evaluation of CASP–Extension, and therefore ensured the content validity of the questionnaires.

3.2.5. Data Collection Method

The methods used for data collection was mainly interviews and self–administered questionnaire. According to Oppenheim (1992), personal interview is a direct face–to–face attempt to obtain reliable and valid measures in the form of verbal responses from one or more respondents. Personal interview survey enables the interviewer to gather more and deeper information from the respondents. One of the advantages of this method is to enable the interviewer to observe the attitudes and behaviour of the respondents. High response rate can also be realized with this method as was the case in this study.

Questionnaires were personally distributed to the respondents to complete; this process took a period of three months in the months of November, December and January 2015. For farmers who could not read or write the researcher took it upon himself to help them in reading and writing their answers.

Development and testing of the data collection instrument

- **Definition of variables and their measurement**

3.2.5.1. Data collected

The survey data included the following:

i. Individual change

- Changes in farmer's knowledge and skills in certain aspects of farm management as a result of the educational content of CASP-Extension.

- Changes in farmer's confidence to profitably manage his/her farming enterprise.
- Changes in farmer's yields.

ii. Organizational change
   - Changes in group operations and management, e.g., does the farmer group have a constitution? Do they use it to manage group affairs? Changes in LRAD project groups becoming more self-reliant.
   - Changes in farmer's knowledge and skills in certain aspects of farm management as a result of the educational content of CASP-Extension.
   - Changes in farmers' yields.

iii. Farmers' reactions (beneficiaries and non-beneficiaries) to the extension services provided (attitude measurement).
   - Overall satisfaction with the content of extension services provided.
   - Farmers' views on the quality and skills of extension agents who provide services to them.
   - Farmers' views on the appropriateness of the technology recommended by extension services for their situation.
   - Intensity of CASP Extension contacts. This is farmers' level of access to CASP - Extension because of socio-economic factors such as farmers' farm size, type of farming enterprise, project type (individual or group).

iv. Views of non-CASP beneficiaries on how CASP-Extension is benefiting its beneficiaries and whether they would like to receive CASP-Extension as well.

3.2.6. Ethical Considerations Related to Data Collection

The researcher informed the respondents about the procedure and risk involved in the study and the consent of the participants were considered. The researcher followed the necessary procedure to make sure that the clearance application forms, consent forms and all accompanying documents were legally obtained from the University of Limpopo Research Ethics Committee (ULREC) before embarking on the study. The participants were assured of their rights to participate or not participate in the study. In case of confidentiality the participants were assured that the information they provide will be kept strictly confidential. To protect their privacy, the responses to the interview

questions will only be identified with a code number. Farmers were given a consent forms with all the information pertaining to the study.

3.2.7. Data analysis

All qualitative completed questionnaires items were post–coded and data converted into quantitative data. To facilitate computer analysis, data editing and data cleaning were done. Post–coding of open–ended questions was by means of content analysis. Data capturing was done for all completed questionnaires. Data were entered into the computer and cleaning of data at this point was by checking computer print–outs of each symbol contained in a particular column(s) and the frequency with which it occurred for discrepancies.

The quantitative data collected were then organized and summarized in the form of tables, charts or graphs. Chi–Square test for independence was used to test differences in farmer's perception (beneficiaries and non-beneficiaries of CASP-Extension) of the educational content of CASP-Extension as well as their attitudes of CASP-Extension service. It was also used to test how CASP-Extension performs differently among enterprise arrangements, project types and farm sizes in terms of number of visits (intensity of contacts) undertaken by extension practitioners.

Independent t-test was used to compare the actual difference between CASP-Extension beneficiaries and non–CASP-Extension farmers in relation to yield. An independent samples t-test is used when you want to compare the means of a normally distributed interval dependent variable for two independent groups, in this case CASP-Extension support recipients and non–recipients.

The Levene's test was employed to assess whether the data meet the homogeneity assumption; the latter is not necessarily an important problem in t–tests (Elliot n.d.). This is based on the fact that the t–test is robust and the test results are not much affected by moderate to large, that is, over 25 cases as in this study. Statistical Package for Social Sciences (SPSS) was the statistical software used to analyse the collected data.

Table 3.1: Measurement and description of variables

Variable	Description	Method of analysis	Unit of analysis
Age	Age of respondent	Descriptive	Dummy
Formal education	Education level of respondent	Descriptive	Dummy
Land ownership	Type of land ownership	Descriptive	Dummy
Farming experience	Number of years of farming	Descriptive	Dummy
Land size	Land size cultivated	Descriptive	
Business structure	Type of farm business structure	Descriptive	Dummy
Farming enterprise	Type of farming enterprise	Descriptive	Dummy
Yield	Amount of produce harvested	Descriptive and independent t – test	Ton/ ha
Yield	Change in produce harvested	Descriptive	Dummy
Profit	Change in farm profit	Descriptive	Dummy
Self - confidence	Respondents' self – confidence to profitably manage farm.	Descriptive	Dummy
Constitution	Ownership of group constitution	Descriptive	Dummy
Use of constitution	Use of constitution to manage farm	Descriptive	Dummy
Attitudes/ perceptions	Respondents' attitudes and perceptions on various aspects of CASP – Extension support.	Descriptive and Chi–Square test	Dummy

3.3. Conclusion

This chapter provided a description of the methodology used to this study. It began with the research design and describes the study site. It also described the sampling method used, as well as the instrument for data collection. Ethical considerations related to data collection are also described. Finally, the analysis of data is described and the statistical method employed. The research results are presented and discussed next.

CHAPTER 4
DISCUSSION OF FINDINGS

4.1. Introduction

This study aimed at understanding the beneficiary evaluation of CASP-Extension programme and how such understanding can be used to improve future programme delivery. In this chapter, the research results are presented in relation to the study objectives, the wider literature on the study topic as well as the significance of the findings. The discussion presented in section 4.2 relates to the 'how' of intervention in the respondents' production system as opposed to the 'what' is to be done in the intervention. This approach is taken against the backdrop that past research on the influence of the farmer and the farm variables on the adoption of farm innovations show inconclusive results, Annor-Frempong (2013), (Knowles & Bradshaw, 2007). In other words, these variables cannot always be relied upon to explain the adoption of farm innovations.

4.2. Demographic Data

Düvel (1975) contends that the initial pre-occupation of agricultural extension research with the causal relationships between independent variables such as education, age, farm size, etc., and adoption behaviour is outmoded. This is because these variables have only an indirect influence through the critical decision-making variables such as needs and perception. The personal and environmental variables, however, provide the extension researcher with a better insight into, and an understanding of farmers' actions and reactions. This view resonates with Knowles & Bradshaw (2007) who indicate inconsistent results regarding adoption and the independent research variables that relate to the farmer and the farm.

The demographic information of respondents presented here include age, years of farming experience, level of education, farm size, land ownership and business structures.

- **Age of respondents**

The findings about the age of respondents (Figure 4.1) show that most respondents (70%) were 40 years and above and over 20% were below 40. Our study finding compares to Annor-Frempong (2013) who found that the majority of farmers interviewed in both South Africa and Lesotho were over 40 years of age.

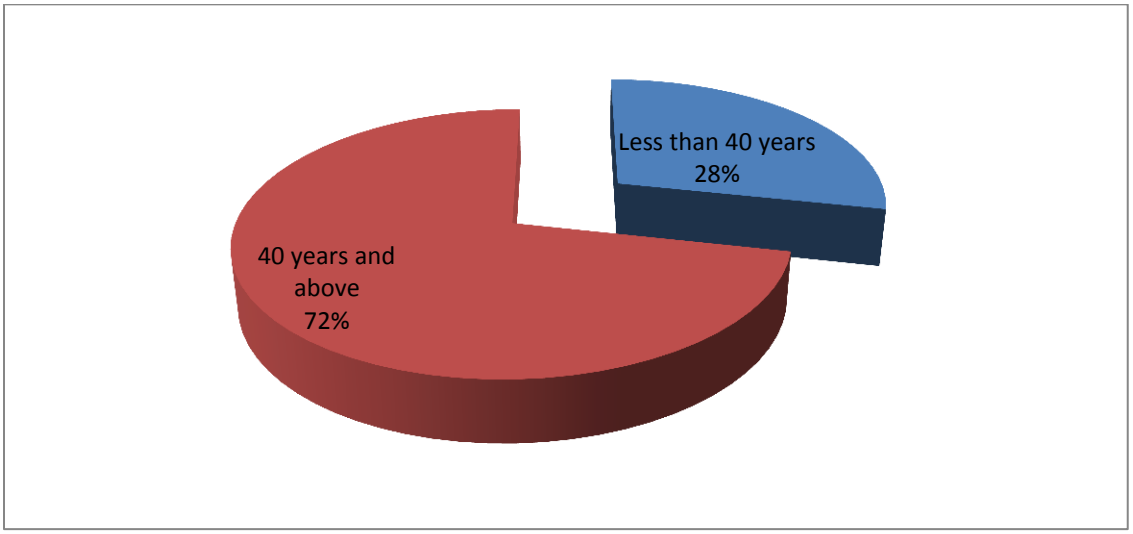

Figure 4.1: Distribution of Respondents on Age of Farmers

The implication of this finding is that the Department of Agriculture, Forestry and Fisheries should come up with policies that would attract young people into this sector because the majority of farmers are getting older. This will help reduce unemployment among the youth in South Africa, which was estimated at 36.1% according to the latest (Stats SA, 2014) report on national and provincial labour market trends among the youth.

- **Education level of respondents**

The level of education of respondents (Figure 4.2) indicates that most respondents (81.7%) had secondary education and above. Annor-Frempong (2013) made a similar finding that all respondents interviewed in both South Africa and Lesotho could read and write. Farmers' ability to read and write bodes well for extension communication with this type of respondents. This human capital potential can be exploited by extension agents to provide more farm management information to respondents through literature

such as news stories, leaflets, etc. This will help increase the contact between extension agents and farmers. Increased contact with extension invariably leads to more exposure to new farming technologies and increased adoption and therefore, increased productivity, all things being equal.

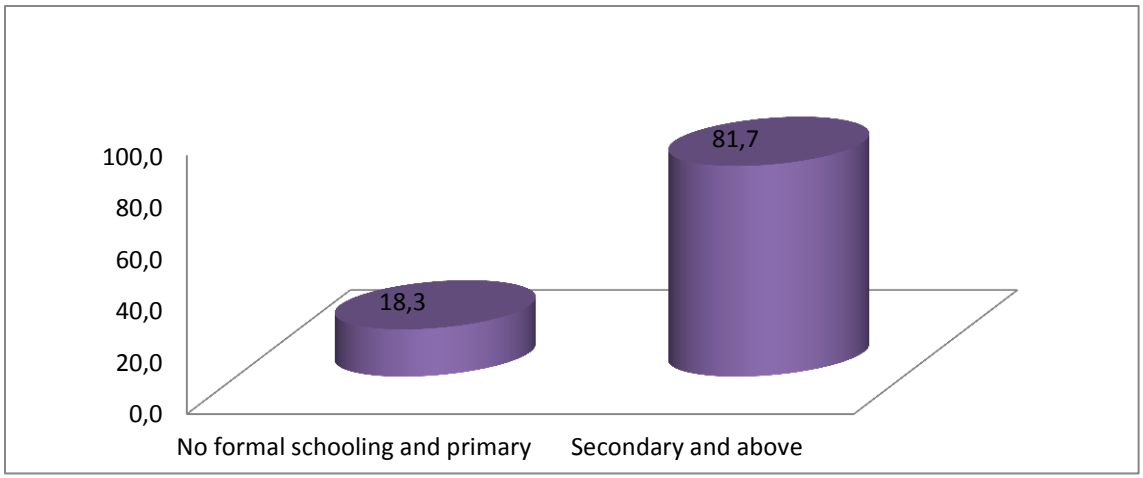

Figure 4.2: Distribution of Respondents According to Level of Education

- **Respondents' land ownership**

The vast majority of respondents (88.3%) have title deeds to the land on which they farm which was acquired through government's land redistribution programme or private means (Figure 4.3). This resonates with Moloi (2013) findings that 71% of the farmers own land privately or through government's land redistribution programme. This has positive implications for investment in the land which increases farmers' productivity. Farmers with insecure or short-term land rights are unlikely to invest their full effort, to make long-term improvements attached to the land (including services), or to exchange it with others who may be able to make better use of it, thereby, reducing productivity and possibly hindering emergence of a vibrant non-farm economy(Deininger, n.d).

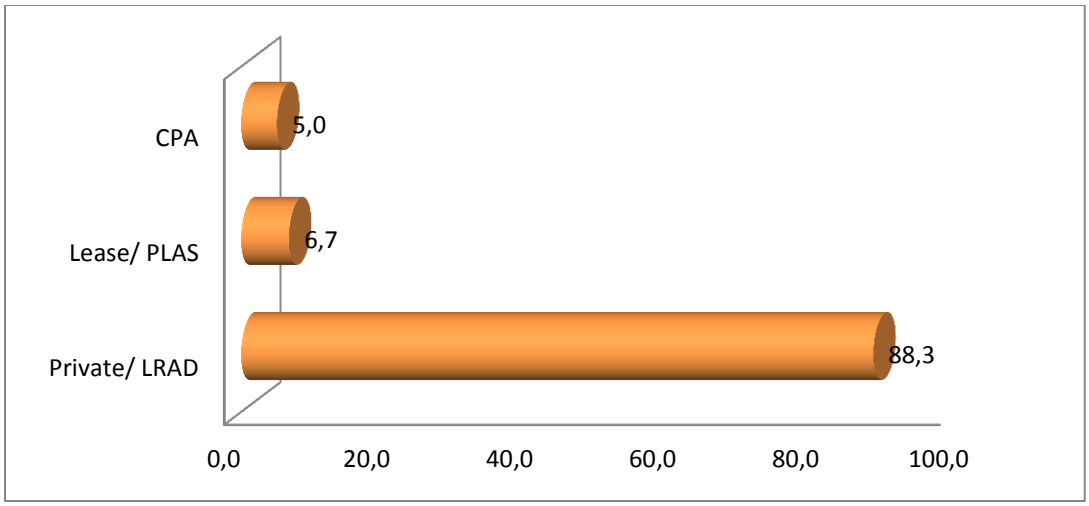

Figure 4.3: Distribution of Respondents According to Land Ownership

- **Respondents' farming experience**

According to Figure 4.4, most respondents (60%) had less than 10 years farming experience. In 2012 Afful made a similar finding that most farmers (74%) in the Free State had between 1-5 years of farming experience. These findings, however, contrast Annor-Frempong (2013) who indicated that most farmers in South Africa and Lesotho had over 10 years farming experience. This information seems to contradict what respondents reported about their ages where most were older. It is therefore, expected that most respondents would have more years of farming experience. This might be due to the fact the scale used in the questionnaire which provided a crude dichotomy of over and less than 40 years could not discriminate between older and younger farmers. This notwithstanding, the finding suggests that extension agents need to provide more farm management support to these less experienced farmers to increase their competency as capable farm managers which might lead to improved farm production (Berger and Berger, 2004).

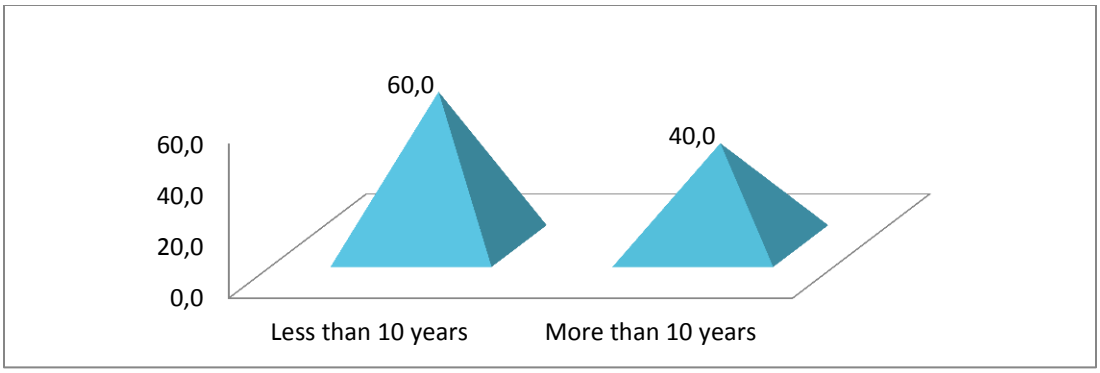

Figure 4.4: Distribution of Respondents According to Farming Experience

- **Farm size of respondents**

The distribution of respondents with regard to farm size (Figure 4.5) shows that almost equal proportions had more or less 100 ha; a slight majority (51.7%) had a 100 or more hectares of farm land for production. These findings, however, contrast Moloi (2013) who indicated that most emerging farmers in South Africa have small farm sizes. This piece of information suggests that extension visits to respondents should be fairly distributed since the perception has been that agents tend to visit owners of large farm sizes more than those with smaller farm sizes (Betz 2009; Elifadhili, 2013). This perception, however, does not always hold true. It is reported that farmers with relatively larger farm holdings than the average holdings in Samoa do not seek advice from advisory officers (FAO, 2005). They consider the extension officers to be too theoretical and lack practical experience.

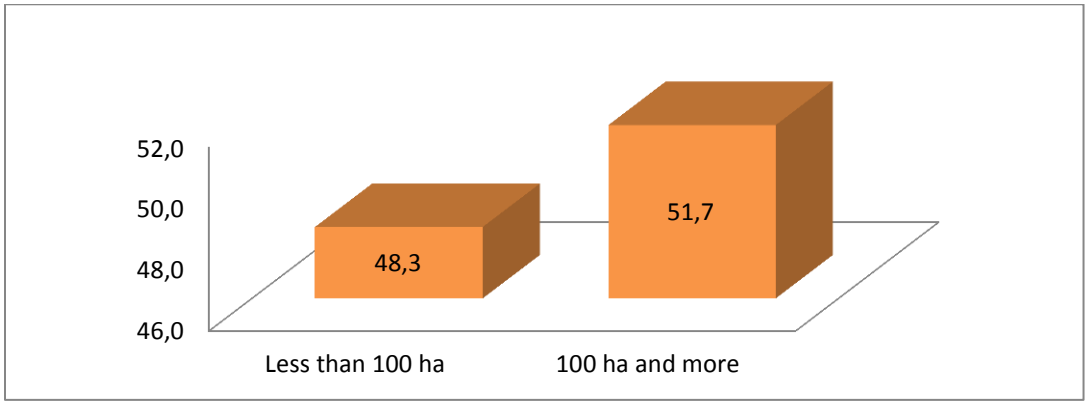

Figure 4.5: Distribution of Respondents According to Farm Sizes

- **Business structure**

Findings (Figure 4.6) about the structure of respondents farming business show that most respondents (63.3%) engaged in family farming. Individual farming and partnership were not popular arrangements as farming businesses. This shows that more and more farmers prefer to do business with people close to them like family members. This type of farm business structure is gaining international attention. The 2014 International Year of Family Farming (IYFF) had aims to raise the profile of family farming and smallholder farming by focusing world attention on its significant role in eradicating hunger and poverty, providing food security and nutrition, improving livelihoods, managing natural resources, protecting the environment and achieving sustainable development, in particular, in rural areas (FAO, 2014). Family farming is becoming the centrepiece of worldwide attention and action. Small-scale farming has become a central issue in policy debates at national, regional and global levels, and the importance of family farms is captured in the following remark by the Secretary of IFAD:

'We have helped the world to understand the scope of family farming, with 500 million family farms employing and supporting upwards of 2.5 million people'
(IFAD 2014)

Agricultural Extension services therefore, need to pay attention and provide support to family farms. Notwithstanding some of the challenges, family businesses might have positive benefits which include amongst others less bureaucracy, built-in trust factor with established relationships as well as clearly defined roles which might help improve production.

Partnerships are a less favoured business structure. Findings by Afful (2012) in the Free State province showed that very few farmers were involved in partnerships of land acquired through LRAD. Some of the difficulties associated with partnerships include, unclear roles and responsibilities, high liability meaning that if the business becomes indebted members' assets might be attached. There is the added challenge of less commitment by some partners in the partnership business structure even though such members still want to share in the business profits. This often causes conflicts which lead to lower productivity.

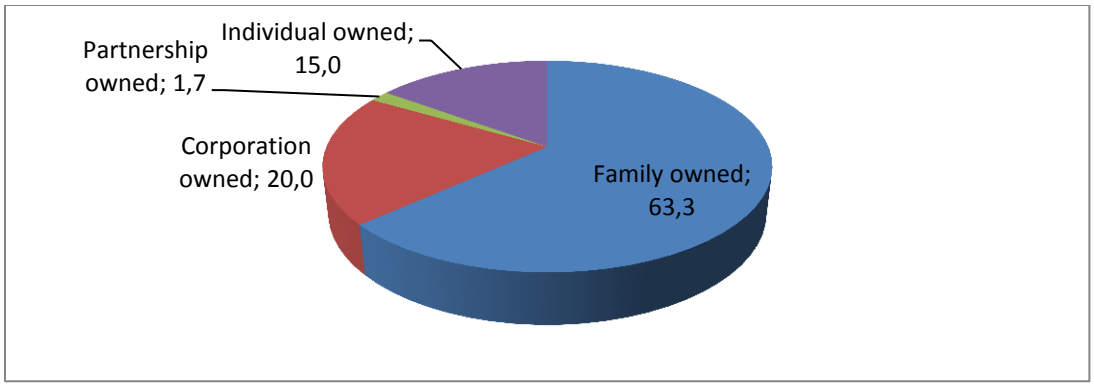

Figure 4.6: Distribution of Respondents According to Business Structure

- **Respondents' farming enterprise**

Respondents' various types of farming enterprise were categorised generally as maize production and others. Findings on these enterprise activities (Figure 4.7) show that about 42% of all survey respondents were engaged in maize production of which slightly over 50% were CASP-Extension recipients. The rest were involved in piggery, poultry, cattle, small stock, vegetables, aquaculture, etc. Extension agents should, therefore, provide more and more maize production technology to support CASP-Extension farmers since maize production is popular among these farmers to achieve food security.

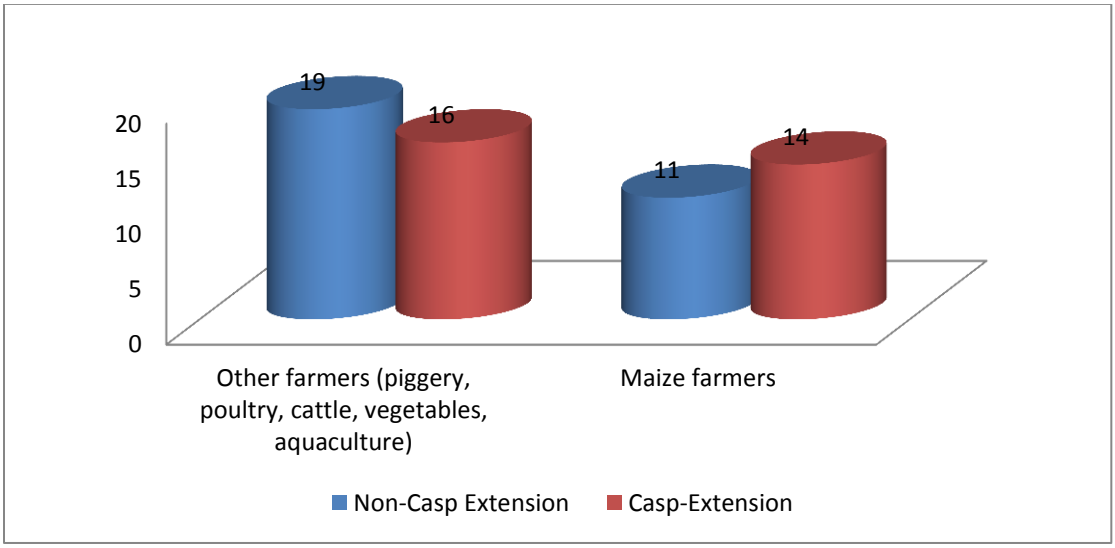

Figure 4.7: Distribution of Respondents According to Farming Enterprise

4.3. Farmers' Participation in CASP- Extension

From the local extension office an assessment of farmers' participation in CASP–Extension was made with regard to extension visits and farmer training sessions attended that were organized by the local extension officer. This assessment was to give indication of whether extension officers were providing services to individual or group farmers, particular kind of farming enterprises and whether distance from extension office was a discriminating factor.

- **Farming enterprise and participation in CASP–Extension**

Among some of the criticisms against the public extension service is the discriminatory manner in which services are provided to farmers (Afful, 2012). One way in which this was tested was by extension officers' visits to the two major groups of farming enterprise investigated. Respondents were required to answer on a Likert scale of 1 (strongly disagree) to 5 (strongly agree) whether or not they were with the statement that the extension officer visited their farms at least once a month to provide farm-management support in the year before the survey. The results (Table 4.1) indicate that almost all respondents in both groups of farming enterprise said the extension officers visited their farms as indicated in the question. This assertion was subjected to a Chi–Square test for independence (with Yates Continuity Correction for a 2x2 table). The results show there were no differences in opinion of maize and non–maize producers regarding extension visits at 5% level (2–tailed test).

Table 4.1: Distribution of respondents' views on extension visits according to farming enterprise, (N = 30)

Opinion	Non – maize farmers	%	Maize farmers	%	Total	%
Disagree	0	0	2	14	2	7
Agree	16	100	12	86	28	93
Total	**16**	**100**	**14**	**100**	**30**	**100**

$X^2 = .691$ $p = .406$ $df = 1$

- **Farm distance from Extension office and participation in CASP– Extension**

Another way in which delivery of extension support to respondents was assessed was with respect to extension farm visits and distance of farm from the local extension office.

The same methodology for the assessment was used as indicated for farming enterprise and participation in CASP-Extension. The results (Table 4.2) indicate that 93% of the respondents in the survey said the extension officers visited their farms as indicated in the question. The view of the respondents was subjected to a Chi–Square test for independence (with Yates Continuity Correction for 2x2 table). The results show there were no differences in opinion of farmers located more than or less than 30km from the local extension office regarding extension visits at 5% level (2-tailed test).

Table 4.2: Distribution of respondents' views on extension visits according to distance to the farms, (N = 30)

Opinion	Less than 30 km from extension office	%	30 km or more from extension office	%	Total	%
Disagree	0	0	2	30	2	7
Agree	7	100	21	70	28	93
Total	**7**	**100**	**23**	**100**	**30**	**100**

$X^2 = .000$ p = 1.000 df = 1

- **Group and individual producers and participation in CASP-Extension**

The third way in which delivery of extension support to respondents was assessed was with respect to extension farm visits and whether respondents operated as groups or individual producers. A similar approach was used here for the assessment as was indicated for farming enterprise and participation in CASP–Extension. The results (Table 4.3) are similar to the two previous assessments. All respondents strongly agreed there were visits of at least once a month. A Chi–Square test for independence (with Yates Continuity Correct for a 2x2 table) indicated no differences in visits between group and individual producers at 5% level (2–tailed test).

Table 4.3: Distribution of respondents on extension visits for both individual and group farmers, (N = 30)

Opinion	LRAD group farmers	%	LRAD individual farmers	%	Total	%
Disagree	0	0	2	8	2	7
Agree	6	100	22	92	28	93
Total	**6**	**100**	**24**	**100**	**30**	**100**

$X^2 = .000$ p = 1.000 df = 1

- **Issues about training organized by the local extension officer and attended by respondents**

Farm-management training sessions organized by extension personnel provide producers avenues through which they acquire knowledge and skills to be applied on their own farms and by which they grow intellectually. Respondents answered various questions on farm-management training sessions organized by the local extension officer in the last 1-5 years of the survey. The results (Table 4.4) revealed that all farmers attended some farm management training offered by the local extension officer. This suggests that the extension support to farmers' crop-production system is taking place.

Table 4.4: Distribution of respondents' training attended according to individual and group producers, (N = 30)

Opinion	CASP group farmers	%	CASP individual farmers	%	Total	%
Yes	6	100	24	100	30	100
No	0	0	0	0	0	0
Total	**6**	**100**	**24**	**100**	**30**	**100**

- **CASP-Extension support recipients' satisfaction with overall quality of the support**

Respondents' satisfaction with the overall quality of the extension training programmes for their crop production system is presented in Table 4.5. Overall, most respondents were satisfied (76.7%) with the training received. A Chi–Square test of independence (with Yates Continuity Correction for 2x2 table) showed no association between type of enterprise and satisfaction with training attended at 5% level (2-sided test).

Table 4.5: Distribution of respondents on satisfaction of training attended according to CASP-Enterprise, (N = 30)

Opinion	Non-maize farmers	%	Maize farmers	%	Total	%
Disagree	3.7	31.3	3.3	14.3	7	23.3
Agree	12.3	68.8	10.7	85.7	23	76.7
Total	**16**	**100**	**14**	**100**	**30**	**100**

$X^2 = .440$ p = .507 df = 1

All respondents who had attended some CASP-Extension training indicated the training was worth their time (Table 4.6). This suggests they received farm management and skills which was useful for the farming business.

Table 4.6: Distribution of respondents on whether the training attended was worth their time, (N = 30)

Opinion	Frequency	%
Yes, it was worth my time	30	100
No, it did not	0	0
Total	**30**	**100**

Further probing into the training respondents received from CASP-Extension indicated that all respondents said that the knowledge and skills received could be applied on their farm (Table 4.7).

Table 4.7: Distribution of respondents on the applicability of information and skills gained from training attended, (N = 30)

Opinion	Frequency	%
Yes, it was applicable	30	100
No, it wasn't applicable	0	0
Total	**30**	**100**

Similar to the other issues surrounding CASP-Extension training, all respondents indicated their expectations for attending the training sessions were met (Table 4.8). This again suggests the CASP-Extension was contributing to building respondents' capacity to be self-reliant in successfully managing their farming businesses.

Table 4.8: Distribution of respondents on whether training attended met their expectations, (N = 30)

Opinion	Frequency	%
Yes, expectations of the training was met	30	100
No, it wasn't met	0	0
Total	**30**	**100**

- Reasons for dissatisfaction with CASP-Extension support.

Even though respondents said that CASP-Extension was useful and applicable, respondents nevertheless, registered some dissatisfaction with the training provided. These are grouped under three main themes (Table 4.9).

Table 4.9: Respondents reasons for dissatisfaction with CASP-Extension training support, (N = 5)

Reasons	No	%
Training	1	20
Resource and production inputs	3	60
Study group	1	20
Total	**5**	**100**

One farmer (20%, n=5) indicated that the reasons for dissatisfaction of training were that the training was not practical and training provided was not linked to infrastructure provided. Most respondents (60%, n=5) were not satisfied with the provision of resources and production inputs. They indicated that they do not have water, which is one of the basic farming needs. Farmers also bemoaned that the fact that the production inputs from the Department of Agriculture sometimes late, which affects the planting time and therefore, production.

With regard to the study group, one farmer (20%,n=5) was not satisfied with the timing of the study group meetings which sometimes happens very early in the morning while farmers are busy with other farming activities. The farmer also indicated that farmers should be grouped according to their educational levels as in most cases extension officers use English in their sessions, whereas the majority of farmers do not understand the language.

Farmers' Perception about the Quality of CASP-Extension Programmes

The correlation between perception and adoption behaviour (Koch, 1985) prompted an investigation into CASP farmers' perception of the quality of its programme's educational content. The quality of the extension programme provided to farmers depends of the knowledge of the agents. Respondents' views of extension officers' knowledge of their work regarding farm-management support for farmers were assessed and the results are presented in Table 4.10. Most respondents who own more or less than 100 ha of farm land believed extension officers were knowledgeable. A Chi–Square test for independence (with Yates Continuity Correct for a 2x2 table) indicated no differences in opinion between farm sizes at 5% level (2 tailed tests).

Table 4.10: Distribution of respondents on extension officers' farm-management knowledge according to farm size, (N = 60)

Opinion	Less than 100 ha	%	100 ha and more	%	Total	%
Disagree	5.3	17.2	5.7	19.4	11	18.3
Agree	23.7	82.8	25.3	80.6	49	81.7
Total	**29**	**100**	**31**	**100**	**60**	**100**

$X^2 = .000$ p = 1.000 df = 1

Respondents' attitudes towards the general quality of farm-management support

These attitudes were assessed on various dimensions. On each dimension respondents were required to answer on a Likert scale of 1 (strongly disagree) to 5 (strongly agree) whether or not they agreed with the statement. The various dimensions assessed include:

- **Extension officers never attend to farmers' request for farm-management assistance**

The views of both Extension–support recipients and non–recipients on extension officers' attendance to farmers' requests for farm-management support (Table 4.11) shows most Non–CASP recipients compared with the recipients said extension officers never attend to farmers' request for farm-management support. A Chi–Square test for independence (with Yates Continuity Correction for 2x2 table) indicated a difference in

opinion on extension officers' non–attendance to request for support between service type at 5% level (2–tailed test)

Table 4.11: Respondents' views on extension officers' non–attendance to farmers' request for farm-management support according to service type, (N = 60)

Opinion	Service Type					
	Non–CASP Extension		CASP Extension		Total	
	n	%	n	%	N	%
Disagree	5	16.7	21	70	26	43.3
Agree	25	83.3	9	30	34	56.7
Total	**30**	**100**	**30**	**100**	**60**	**100**

$X^2 = 15.271$ p = .000 df = 1

Respondents' views on extension officers' non–attendance to farmers' farm-management requests according to CASP enterprise are presented in Table 4.12. Most respondents from both enterprises (70%) have a positive attitude towards extension officers' attendance to farmers' requests for farm-management support. A Chi–Square test for independence (with Yates Continuity Correction for 2x2 table) indicated no differences in opinion on extension officers' non–attendance to request for support between CASP–Enterprise at 5% level (2–tailed test).

Table 4.12: Distribution of respondents on extension officers' non-attendance to farmers' requests according to CASP-Enterprise, (N = 30)

Opinion	Non – maize farmers	%	Maize farmers	%	Total	%
Disagree	9	55.3	12	85.7	21	70
Agree	7	43.8	2	14.3	9	30
Total	**16**	**100**	**14**	**100**	**30**	**100**

$X^2 = .965$ p = 1.000 df = 1

Respondents' views on this matter based on the farm distance from the local extension office are presented in Table 4.13. Contrary to expectations, most farmers whose farms were located more than or less than 30km from the local extension office had a positive attitude towards CASP-Extension on this matter. The Chi–Square test for

independence (with Yates Continuity Correction for a 2x2 table) similarly produced no association between farm distances at 5% level (2-tailed test).

Table 4.13: Distribution of respondents on extension officers' non-attendance to farmers' requests according to farm distance from extension office, (N = 30)

Opinion	Less than 30 km	%	30 km and more	%	Total	%
Disagree	4.2	85.7	13.8	52.2	18	60
Agree	2.8	14.3	9.2	47.8	12	40
Total	**7**	**100**	**23**	**100**	**30**	**100**

X^2 = + 1.312 p = .252 df = 1

- **Agents consideration of clients knowledge and experience**

Introducing participatory approaches is seen as a way to increase coverage and obtain commitment from the farmers and making extension programs more relevant (Düvel, 1998). To ensure sustainability and widespread adoption of recommended innovations, the current approach to extension work requires that agents work with farmers to arrive at solutions for their problems. This understanding prompted questioning respondents about agents' consideration of farmers' knowledge. The views of CASP-Extension recipients and non-recipients on extension officers' consideration of farmers' knowledge and experience in making farm-management recommendations are presented in Table 4.14. Non-CASP recipients (70%) more than CASP recipients 33% did not agree with the claim officers consider farmers' knowledge and experience in recommending solutions for farmers' farm-management problems. The Chi–Square test for independence (with Yates Continuity Correction for a 2x2 table) produced an association between service types at 5% level (2–tailed test).

Table 4.14: Distribution of respondents on extension officers' consideration of farmers' knowledge according to service type, (N = 60)

Opinion	Service Type					
	Non–CASP Extension		CASP Extension		Total	
	N	%	n	%	N	%
Disagree	21	70	10	33.3	31	51.7
Agree	9	30	20	66.7	29	48.3
Total	**30**	**100**	**30**	**100**	**60**	**100**

X^2 = 6.674 p = .004 df = 1

Contribution of CASP-Extension to Farmers' Cropping Enterprise

The ultimate problem (need/goal) in agricultural production is an efficiency issue (e.g., profitability) or some facet of efficiency (e.g., yield per hectare, calving %) which can be traced to some aspect of behaviour, e.g., non–adoption of recommended practices or inefficient/improper application of recommended practices (Düvel, 1987). It is against this backdrop that an investigation was made into the contribution of CASP–Extension to the crop yield of recipients of CASP support. The effect of CASP–Extension on farmers' production (yield/ ha) was assessed by a comparison between crop yields obtained by CASP–Extension recipients and those who did not, in the year preceding the study.

- **Overall rating of average production (ton/ha) in the last 5 years of receiving CASP–Extension**

The ratings for overall production for both non-CASP recipients and CASP recipients were assessed in terms of production increasing, decreasing or no change at all. To assess the influence of CASP-Extension on recipients' production, their yields in the last five years of receiving CASP-Extension support were compared with non-recipients for the same period. Most respondents in both service types (59%) indicated yield increases (Table 4.15). The Chi-Square test for independence (with Yates Continuity Correction for 2x2 table) showed a significant difference in yields between the two groups. Most Non-CASP-Extension recipients (28%) compared to a relatively smaller percentage of recipients (17%) reported no change or a decrease in yield.

Table 4.15: Distribution of respondents' rating of overall average production according to service type, (N = 59)

Opinion	Service Type					
	Non–CASP Extension		CASP Extension		Total	
	N	%	N	%	N	%
Increasing	15	51.7	20	66.7	35	59.3
No change	8	27.6	5	16.7	13	22
Decreasing	6	20.7	5	16.7	11	18.6
	29	100	30	100	59	100

$X^2 = 6.674$ p = .004 df = 1

- **Individual and group change**

Individual and group change in farmers' cropping enterprise was assessed in terms of producers' (individual and group farmers) self-reliance to profitably manage their farming enterprises since receiving CASP-Extension. The picture is almost identical in both situations where about half of the individual-farmer respondents said they were confident to profitably manage their farming enterprises since receiving CASP-Extension (Figure 4.8). This scenario suggests that extension officers need to do more to get most farmers to be able to be independent and not to perpetually depend on extension officers.

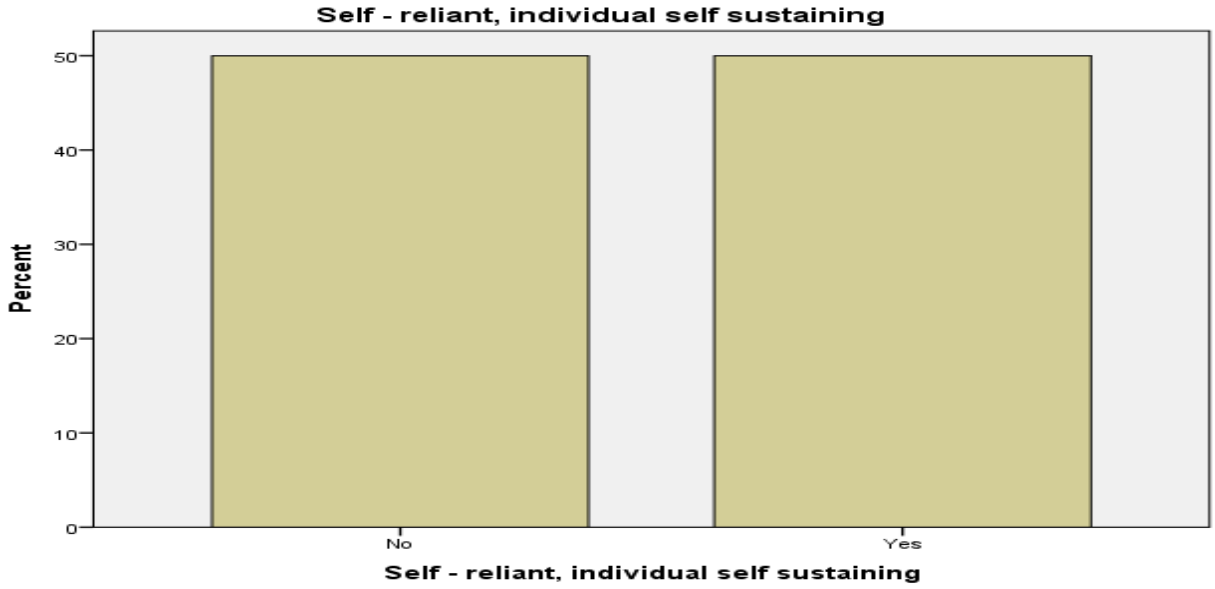

Figure 4.8: Percentage of Individual Producers Who Are Self-Reliant and Can Profitably Manage Their Farms since Receiving CASP-Extension

In case of group producers (N = 7), the situation is bit different (Figure 4.9) with well over 57% of respondents indicating that they cannot sustain their businesses without government interventions. This scenario leads to dependency syndrome. CASP-Extension therefore needs to work more using programmed extension in which farmer participation in extension programmes is the norm so that farmers learn the principles of collaboration which have the advantage helping them to approach challenges they face with a united voice and a pay-off in terms of cost savings.

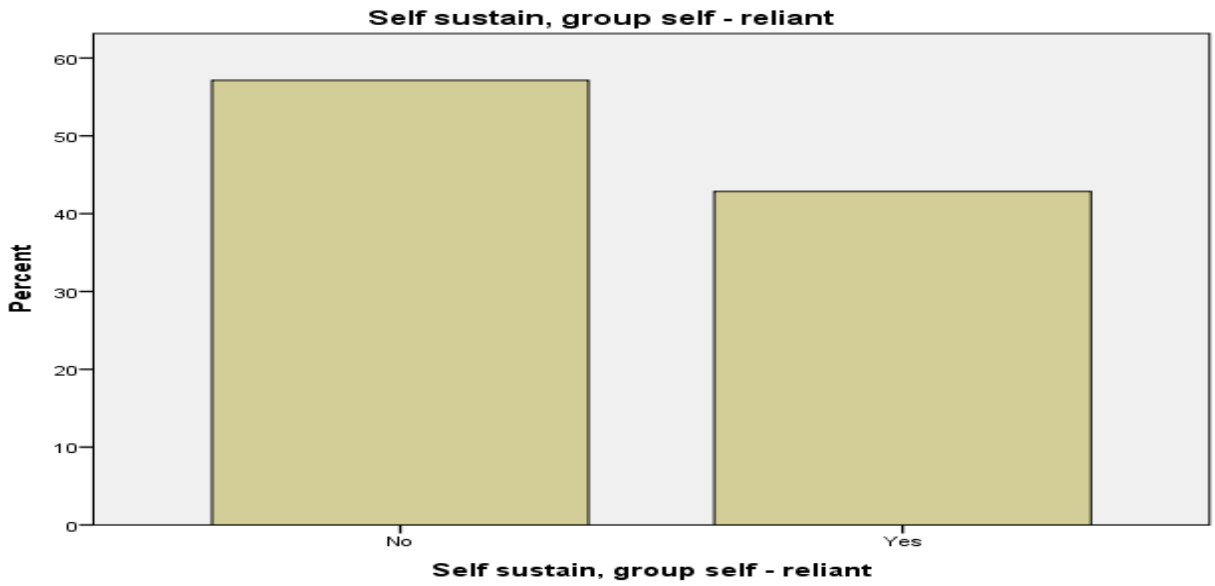

Figure 4.9: Percentage of Group Producers Who Are Self-Reliant and Can Profitably Manage Their Farms since Receiving CASP-Extension

- Group constitution matters

Farmers' organizations/groups function better when the entire group is organized as a cohesive unit in order to achieve its collective objectives. Having group rules, systems and structures embodied in a constitution improves group' s cohesiveness and better performance (Hartford, 1971; Forsyth, 1990; Nwanzia, 2014 citing Normal et al., 1989). Our study findings indicate that most group producers (85.7%; n = 7) had one form of constitution and all indicated that they used their constitution to manage their farms (Figure 4.10). These suggest that the groups' surveys are organized; this is expected to positively influence their production. Nwanzia (2014) found that farmer groups in Kenya that had received extension training including group management, such as ownership of a group constitution, had a higher productivity in terms of advocating more government agricultural services compared with those which had no such training. Extension agents of the Gauteng Provincial Department of Agriculture should continue to provide more training to these groups to further enhance their productivity. The reason cited by the only group that did not have a constitution was lack of knowledge on constitution matters.

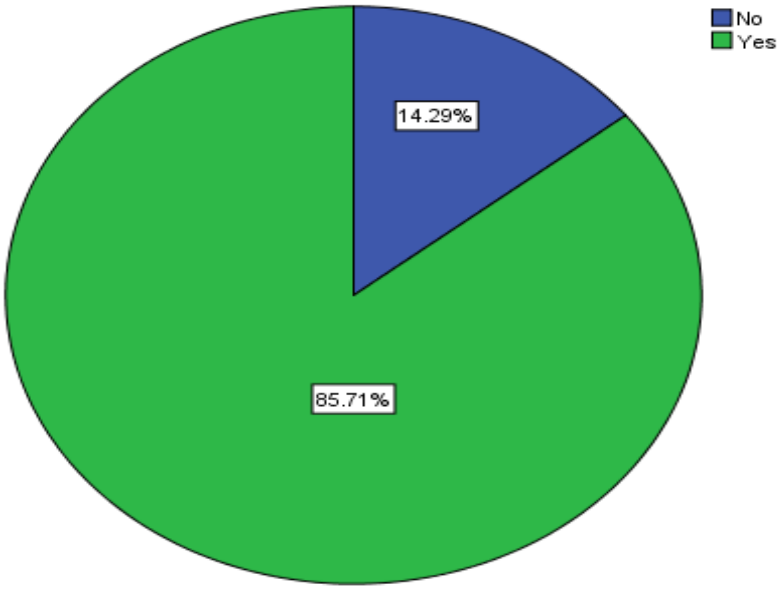

Figure 4.10: Percentage of Group Producers Who Use or Not Use Constitution

- Challenges concerning self-reliance to profitably manage farm since receiving CASP-Extension support.

The three main reasons given by respondents on this matter were, namely, group membership challenges; operating at small-scale hence unable to generate volumes of output; and lack of record-keeping, hence cannot track profits and expenditures.

- Producers' mean yield

The mean maize yields obtained by respondents in the year before the survey were assessed and the results show that contrary to expectations, the mean yield for non-CASP recipients was 0.276 more than that of CASP-Extension recipients (Table 4.16). These might be attributed to the type of cultivars used, fertilizers used and time of planting. With regard to CASP-Extension recipients, the reasons might be planting late as it was the case where farmers have to wait for production inputs from the Gauteng Department of Agriculture which were delivered late.

The differences in yield were subjected to independent t–test for statistical significance. The analysis indicated that the assumption of homogeneity of variance for the data of

the two groups was satisfied (Levene's test; p = .906). The test revealed that the null hypothesis of no difference in the yields of LRAD farmers receiving CASP–Extension support and those not receiving such support is probably true (p = .482; 2–tailed test). This conclusion regarding 'no significant' yield differences for the two groups was supported by the fact that the 95% confidence band of the CASP and non–CASP difference includes 0 (-.179 to 1.873). The magnitude of the differences in the means 0.276 was very small (eta squared = .022) (Pallant, 2007, citing Cohen, 1988).

Table 4.16: Results of respondents' mean maize yields according to service type (N = 25)

Average maize production in tons/ ha	N	Mean	Standard Deviation	Standard Error
Non – CASP	11	3.654	.762	.229
CASP	14	3.378	1.087	.290

Non CASP-Extension support recipients' other views on CASP-Extension support

- **CASP-Extension support helps to increase farmers' yields/ or profits**

Farmers' awareness of the advantage of CASP-Extension support in helping to improve producers' yields or profits could be a positive force in attracting Non-CASP recipients to want to make use of the service. This view is consistent with Düvel's (1975) concept of relative advantages of innovations and their influence on adoption.

The respondents' opinions on CASP-Extension support in helping to improve producers to increase yields/profits (Table 4.17) provide some indications that most Non-CASP producers (60%) had a positive attitude about the contribution of CASP-Extension support regarding producers' yields/ or profits increases.

Table 4.17: Non-CASP Extension respondents' views on CASP-Extension support for farmers' yield/profits

Opinion	N	%
Strongly disagree	2	6.7
Disagree	3	10
No opinion	7	23.3
Agree	11	36.7
Strongly agree	7	23.3
Total	**30**	**100**

Producers' Intentions to Receive CASP-Extension Support

To understand Non-CASP Extension recipients' behaviour with regard to wanting to receive CASP-Extension in future, their attitudes and beliefs about CASP-Extension were assessed and reported in the previous sections. This was done consistent with Azjen and Fishbein (1980). As expected, most respondents (90%) who were not receiving CASP-Extension support said that they would like to receive such support in future (Figure 4.11). This indicates that producers see the farm-management support advantages of the service.

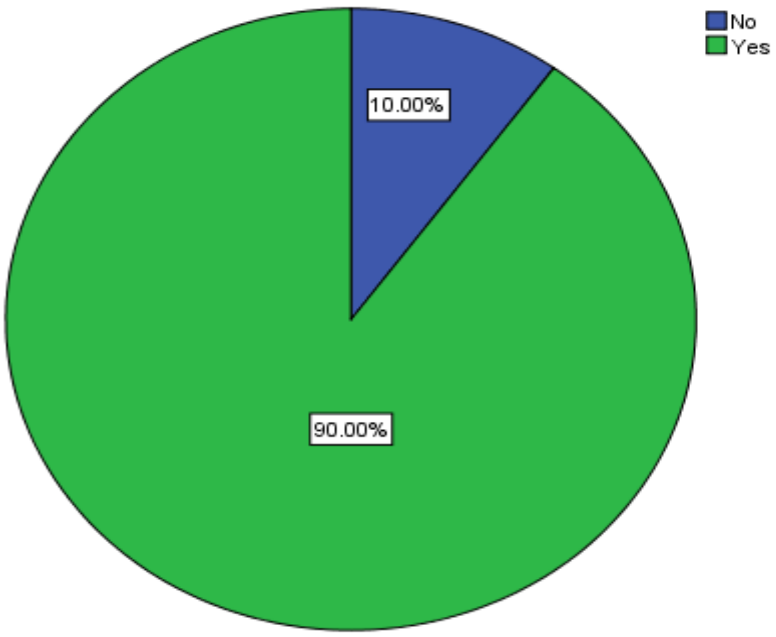

Figure 4.11: Respondents' Intentions to Receive CASP-Extension Support

- **Recommendation of CASP–Extension support to other producers**

Most respondents (93.3%), both CASP and Non-CASP-Extension support recipients (Table 4.18) said they would recommend the services to other farmers. The Chi–Square test for independence (with Yates Continuity Correction for 2x2 table) produced no association between service types at 5% level (2–tailed test).

Table 4.18: Distribution of respondents' views on recommendation of CASP–Extension support to other producers

Opinion	Service Type					
	Non – CASP Extension		CASP Extension		Total	
	n	%	n	%	n	%
No	3	10	1	3.5	4	6.7
Yes	27	90	29	96.7	56	93.3
Total	**30**	**100**	**30**	**100**	**60**	**100**

$X^2 = .268$ p = .301 df= 1

- **Suggestions by respondents to improve CASP–Extension support**

Respondents' suggestions on how to improve CASP-Extension support are grouped under two main themes (Table 4.19). These are extension farm management support and government support or intervention. This question was posed to both Non-CASP recipients and CASP recipients. At least 35 respondents out of 60 gave suggestions on how CASP-Extension can be improved.

Table 4.19: Respondents' suggestions on how to improve CASP-Extension support

Themes	No	%
Extension farm-management support	23	65.7
Government support or intervention	12	34.3
TOTAL	**35**	**100**

- Extension farm-management support

The following suggestions were made by respondents:

1. Visit farms regularly and support should be consistent.
2. Extension officers should keep promises made to farmers.
3. Provide information on government programmes.

4. Listen to farmers' needs.
5. Study groups should suit farmers (time; similar educational level).
6. Address farmers in their own language to improve communication with farmers.
7. Training should be practical and linked to production activities.
8. Recognize farmers; knowledge and expertise.
9. Extension officers should sit in farmers' meetings to hear what farmers' challenges are.
10. Provide information or training on financial management, marketing management, hydroponics and animal health.

- Government support or intervention

The following suggestions were made by respondents:

1. Government should provide support to farmers irrespective of race.
2. Address land issues and theft on farms.
3. Target youth to venture into agriculture.
4. Provide resources to the farmers.

4.4. Conclusion

A major finding of this study is that CASP-Extension support for recipients' production was poor as it did not translate into any yield increases over Non-CASP recipients. This finding raises some issues pertaining to the extension support provided by GDARD; it is either farmers are not adopting new technologies or extension officers are not versed with the farmers' needs.

Furthermore, farmer's perception (beneficiaries and non-beneficiaries of CASP extension) of the educational content of CASP extension support as well as their attitudes of CASP extension service differed. CASP-Extension recipients had a favourable view of agents and the educational content of CASP-Extension contrary to those of Non-Recipients. Most Non-CASP Extension recipients believed agents ought to

consider farmers' knowledge in recommending solutions to farmers' farm management problems. All respondents, whether by CASP enterprise, farm distance from extension office or group or individual producers indicated participating in CASP-Extension; they received at least one visit per month and attended some farm management training sessions which have contributed to improving their self-confidence, albeit of just about half of recipients to profitably manage their farming enterprises. Extension agents therefore, need to work hard to increase these numbers.

Finally, important suggestions by respondents on how to improve CASP-Extension support to farmers lie in the areas of government resource inputs into their production as well as farm management by the Extension agents.

CHAPTER 5
SUMMARY, RECOMMENDATIONS, CONCLUSION

5.1. Introduction

Extension support is generally known to make useful contribution to farmers' productivity and their own intellectual development as they learn to solve farm management problems. Agricultural extension is known to be a key element for enabling farmers to obtain information and technologies that can improve their livelihoods (Purcell & Anderson, 1997). The forward and backward linkages of a productive agricultural sector to the general economy as a whole are widely acknowledged. For these reasons, governments and international organisations generally spend lots of money to support extension organisations worldwide; individual country expenditure may vary though, depending on local circumstances. The primary beneficiary of such extension support is the producer. Questions such as improvement in producers' yields and profits, farm-management knowledge and skills become important especially in an era where governments and organisation have to account for monies disbursed.

According to Purcell and Anderson (1997), a key component of any proposal related to international agricultural development contains a section on evaluation. This helps to justify the expenditure on extension services, especially public extension. Agricultural extension projects deal a lot with educational programs (creating awareness, knowledge and skill development and understanding of problems and/or issues). These are difficult to measure compared with those that have cost-benefit analysis. The challenges associated with cause-effect attribution, especially, for evaluating agricultural extension educational and development programmes, led to the investigation approaching the evaluation of CASP-Extension from the users' perspective; how CASP-Extension has helped users to achieve their production goals and become self-reliant in managing their farming enterprises.

Considering the financial injections made by the South African government into the CASP programme since 2004, the main objective of this study was to understand the beneficiary evaluation of CASP-Extension and how such understanding can be used to improve future programme delivery. The use of the Bennett Hierarchy of programme objectives helped to achieve this aim.

For research to be purposeful, its conclusions should be oriented towards answering the research questions. The conclusions reached from the study are outlined. The remainder of the chapter presents the summary, limitations and recommendations of the study.

5.2. Summary of the Study Findings

The aim of the summative evaluation of CASP-Extension presented in this study was to understand the beneficiary evaluation of CASP extension program and how it can be used to improve future programme delivery. In view of the substantial amount of funding that has gone into CASP-Extension/ERP, it is expected that this should translate into improvement in producers crop yields at the farm level over that of non-recipients.

The evidence from our findings shows the contrary. This calls into question the effectiveness and therefore, the relevance of CASP-Extension in meeting producers' needs. These findings, however, fly in the face of respondents' good assessment of, and positive attitudes towards the farm-management support provided by CASP-Extension. What is, however, encouraging is the positive view held by non-recipients of CASP-Extension support insofar as improvement in producers' productivity is concerned; most of them have aspirations to receive CASP-Extension support. Despite some negative perceptions held by Non-CASP recipients, both CASP and Non-CASP recipients indicated they would recommend CASP-Extension to other producers; this bodes well for the future of CASP-Extension. In light of the specific objectives of this study, the following conclusions were reached.

5.3. Conclusions

One of the objectives of the study was to assess the contribution of CASP-Extension to individual or group change in terms of farmers' yields and self-confidence to manage their farms profitably. The analysis shows that for the respondents in this study, receiving CASP-Extension support does not contribute to yield increase over non-recipients ($p = .482$). This finding is contrary to the general expectation of the positive influence of extension support for producers' yields. The implication of this finding is that there is a problem with the delivery of the support. This could be that the providers of the extension support at the farm level are not providing the appropriate support needed by producers and/or there are logistic challenges that make it difficult for the extension agents to provide the support needed.

Even though a slight majority of individual producers indicated increased self-confidence to profitable manage the farm enterprises, the story is different for group producers. Overall, agricultural extension's philosophy of helping farmers to help themselves does not seem to be the case for these farmers. Extension support is not making a difference in this regard. It is, however, encouraging that most groups indicated having a constitution which is used to manage their farms since receiving CASP-Extension. This shows some form of better organisation.

The second objective of the study was to determine farmers' perception of CASP-Extension regarding its educational content and attitude to solving farmers' farm-management problems. The research conclusions with regard to this objective are summarized as follows:

- Both maize and other crop producers believe that agents attend to farmers' farm-management requests ($p = 1.000$). This positive view of agents improves their trustworthiness.
- Most Non-CASP recipients compared with recipients believe agents do not attend to farmers' farm-management requests ($p = .000$). This implies extension agents do not have a good image insofar as attending to producers' farm-management requests is concerned.

- Producers who are located less than 30 km from the local extension office and those located more than 30 km away agree that extension agents attend to producers' farm-management requests irrespective of the distance (p = .252). This view improves the image, and thus the credibility of the extension agent.
- Most Non-CASP recipients believe that agents do not consider farmers' knowledge and experience before recommending solutions to their farm-management problems (p = .004). This negative perception of agents can serve as a barrier to more producers who might want to receive CASP-Extension.
- Both maize and other farmer groups are satisfied with the educational value of training attended (p = .507). This is further indicated by the fact that their expectations for attending the training sections were met. This implies producers believe they acquire knowledge and skills that are useful for managing their farms.

The third objective of the study was to assess farmers' participation in CASP extension regarding access to extension services and intensity of contacts. All respondents, whether by CASP enterprise, farm distance from extension office or group or individual producers indicated receiving at least one visit per month. Similar positive sentiments were expressed by respondents concerning quality of CASP training received. There is, however, indication in the literature that across livestock and crop enterprises, farmers wish to meet their extension agents at least two times in a month (Budak et al., 2010; and Gautam 2000). Afful (2012) found that producers agreed that visits from the public extension officers improve their production efficiency (yields, profit) and management practices. Logistic handicap in terms of fewer number of agents' visits to producers, therefore, precludes farmers from being exposed to farm-management technology which has the potential to help improve their production.

Most maize and non-maize producers who attended training sessions organised by the local extension agent found sessions useful. This positive assessment of training provided by the extension service is expected to contribute towards improved productivity.

5.4. Limitations of the Study

Even though the study adopted a quasi-experimental design by including recipients and non-recipients of CASP-Extension in the data analysis, systematic pre-existing differences between the two groups might bias the findings.

Another limiting aspect was that LRAD group participants of the study were mainly chairpersons of the groups, as such, other members of the groups did not fully participate. It could be argued that, due to their positions in the group, they might have greater influences in the group responses, which might represent a limitation.

5.5. Recommendations

In the light of the findings of this study, the researcher makes the following recommendations to improve future service delivery and CASP-Extension evaluation studies:

5.5.1. Training sessions provided by extension agents should be more practical and study group formation should consider the educational level of group members. These should help in improving producers' crop yields and self-confidence to profitably manage their farms.

5.5.2. Resource and production input limitations should receive high priority. Water scarcity was indicated by respondents to be a serious limitation which poses serious threat to agricultural production. The government's supply of production inputs to farmers should be coordinated and provided before the planting season begins to avoid late supply of inputs. Addressing these limitations should help in improving farmers' yields.

5.5.3. The negative perceptions regarding agents' non-attendance to farmers' farm management requests as well as agents' non-consideration of farmers' knowledge and skills in providing solutions is a serious hindrance to participatory approaches that extension agents are supposed to use and farmer involvement.

5.5.4. Smallholder farmers generally receive extension services via farm visits. There is a need for increased number of visits to at least two per month to ensure farmers' meaningful participation in CASP-Extension.

Future studies that use regression analysis might overcome the bias in the findings arising from systematic pre-existing differences between the two groups involved in the study.

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ANNEXURES

ANNEXURE1: QUESTIONNAIRE FOR CASP BENEFICIARIES

CASP BENEFICIARIES

PLEASE ANSWER THE FOLLOWING QUESTIONS

SECTION A: BACKGROUND INFORMATION

1. How old are you (years)? [tick that which applies to you]

18 – 28 years old	1
29 – 39 years old	2
40 – 50 years old	3
51 – 61 years old	4
62 and above	5

2. What is your highest formal educational qualification? [tick that which applies to you]

No formal education	1
Primary education	2
Secondary education	3
Tertiary education	4

3. Land ownership[1] [tick that which applies to you]

Private	1
PLAS	2
LRAD	3
CPA	4
Lease	5
Other	6

4. How long (years) have you been farming? [tick that which applies to you]

Less than 1	1
1 – 5	2
6 – 10	3
11 - 15	4
16 and above	5

5. What is the size of your farm land? _____

[1] Private land means: belonging to some particular person; PLAS means: Proactive Land Acquisition Strategy (leasing land from government); CPA means: Community Property Association; LRAD means: Land Redistribution for Agricultural Development.

SECTION B: ENTERPRISE INFORMATION

6. What is the business structure of your farm?[2] [tick that which applies to you]

Family owned	1
Corporation owned	2
Partnership owned	3
Individual owned	4
Other	5

7. What is your primary enterprise? [tick that which applies to you]

Grain crops [maize, Sunflower, Sorghum, etc.]	1
Cattle [beef, dairy]	2
Poultry [broilers, layers]	3
Pig	4
Vegetables [cabbages, tomatoes, spinach, etc.]	5
Small stock [sheep, goats]	6
Other	7

8. What was your gross farming income earned from your enterprise in the last year?

_____

9. What has been your average yield/production of your primary enterprise in the last 5 years of receiving CASP extension support?

_____

_____

10. Rate your overall average production in the last 5 years of receiving CASP extension support, (tick that which applies to you).

Increasing	Remained the same	Decreasing
1	2	3

[2] Corporation means: an association of individuals, created by law. Partnerships means: a type of business organization in which two or more individuals pool money, skills and other resources and share profit and loss.

SECTION C: INDIVIDUAL CHANGE (INDIVIDUAL FARMERS)

11. State how your farming objectives have changed or not changed since receiving CASP extension support? _____

12. State how your farm profitability have changed or not changed since receiving CASP extension support? _____

13. Are you self–reliant now to profitably manage your farm since receiving CASP extension support?

Yes	No
1	2

SECTION D: GROUP CHANGE (GROUP FARMERS)

14. State how your farmer group's objectives have changed or not changed since receiving extension support?

_____

15. State how your group's profitability has changed or not changed since receiving farm-management support? _____

16. Does your farmer group currently have a constitution?

Yes	No
1	2

17. Does your group use the constitution to manage the farm issues?

Yes	No
1	2

18. If No, give reasons.

_____
_____

19. Are you self–reliant now as a farmer group to profitably manage your farm since receiving CASP extension support?

Yes	No
1	2

20. If No, give reasons.

_____
_____

SECTION E: ATTITUDES & PERCEPTIONS

This section explores attitudes and perceptions regarding agricultural extension. To what extent do you agree with each of the following statements about farm management support provided by CASP extension? Please indicate your answer using the following 5–point scale where:

1. = Strongly disagree
2. = Disagree
3. = Neutral
4. = Agree
5. = Strongly agree

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21	Extension officers never attend to farmer's request for farm-management help.	1	2	3	4	5
22	Extension officers always take a long time to respond to farmer's management request.	1	2	3	4	5
23	Extension officers always respond quickly to farmers' management requests.	1	2	3	4	5
24	Extension officers know their work regarding farm-management assistance to farmers.	1	2	3	4	5
25	Extension officers answer farmers' management questions completely.	1	2	3	4	5
26	Extension officer visited my farm or farmer group at least once a month to provide farm-management support.	1	2	3	4	5
27	Extension officers consider my farm-management knowledge and experience before recommending solutions for my farm-management problems.	1	2	3	4	5
28	Extension officers keep promises to attend to farmers' management requests.	1	2	3	4	5
29	Extension support provided by other organizations is better than those provided by GDARD.	1	2	3	4	5

30. Did you attend farmer-training sessions organized by your local extension officer in the last 1–5 years?

Yes	No
1	2

31. To what extent is attending the farmer-training sessions offered by GDARD worth your time?

Not at all	Slightly	Moderately	Very	Extremely
1	2	3	4	5

32. To what extent do you think you can apply the information provided by your local extension officer (GDARD)?

Not at all	Slightly	Moderately	Very	Extremely
1	2	3	4	5

33. How well did GDARD extension services meet your expectations in the farmer-training sessions?

Far below	Below	Met expectations	Above	Far above
1	2	3	4	5

34. Are you satisfied with the farmer extension support provided by GDARD?

Yes	No
1	2
If yes go to Q 37	

35. If No, state why.

---

36. How can the farmer extension support provided by GDARD be improved to meet your farm-management needs?

_____

37. Will you recommend the extension services provided by GDARD to other farmers?

Yes	No
1	2

Thank you for your co–operation in completing this questionnaire

APPENDIX 2: QUESTIONNAIRE FOR NON–CASP FARMERS

NON-CASP[1] BENEFICIARIES

PLEASE ANSWER THE FOLLOWING QUESTIONS

SECTION A: BACKGROUND INFORMATION

21. How old are you (years)? [tick that which applies to you]

18 – 35 years old	1
36 – 45 years old	2
46 – 55 years old	3
56 – 65 years old	4
66 years and above	5

22. What is your highest formal educational qualification? [tick that which applies to you]

No formal education	1
Primary education	2
Secondary education	3
Tertiary education	4

23. Land ownership[2] [tick that which applies to you]

Private	1
PLAS	2
LRAD	3
CPA	4
Lease	5
Other	6

24. How long (years) have you been farming? [tick that which applies to you]

Less than 1	1
1 – 5	2
6 – 10	3
11 - 15 years	4
16 years and above	5

[1] CASP means Comprehensive Agricultural Support Programme

[2] Private land means: belonging to some particular person; PLAS means: Proactive Land Acquisition Strategy (leasing land from government); CPA means: Community Property Association; LRAD means: Land Redistribution for Agricultural Development.

SECTION B: ENTERPRISE INFORMATION

25. What is the size of your farm? _____

26. What is the business structure of your farm?[3] [tick that which applies to you]

Family owned	1
Corporation owned	2
Partnership owned	3
Individual owned	4
Other	5

27. What is your primary enterprise? [tick only one which applies to you]

Grain crops [maize, Sunflower, Sorghum, etc.]	1
Cattle [beef, dairy]	2
Poultry [broilers, layers]	3
Pig	4
Vegetables [cabbages, tomatoes, spinach, etc.]	5
Small stock [sheep, goats]	6
Other	7

28. What has been your average yield of your primary enterprise in the last 1- 5 years? E.g. **[3 tons/ ha of maize] or in case of dairy [500 000 liters of milk per year] or in case of beef cattle [50 weaners per annum], etc.**

29. Rate your production in the last two years**,** [tick that which applies to you]

Increasing	Remained the same	Decreasing
1	2	3

30. If production remained the same or decreased; do you think if you received extension support your production would have increased?

No	Not sure	Yes
1	2	3

[3] Corporation means: an association of individuals, created by law. Partnerships means: a type of business organization in which two or more individuals pool money, skills and other resources and share profit and loss.

SECTION E: ATTITUDES & PERCEPTIONS

This section explores attitudes and perceptions regarding agricultural extension. I know you do not receive farm-management support from the Gauteng Department of Agriculture & Rural Development (GDARD) extension services; however, your opinion is sought on the following statements about the farm-management support provided by the CASP extension. Please indicate your opinion using the following 5–point scale, where:

1 = Strongly disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly agree

		Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
11	Extension officers never attend to request by farmers who are not CASP beneficiaries.	1	2	3	4	5
12	Overall my farm profit ® per ton is more than that of CASP extension beneficiaries.	1	2	3	4	5
13	Overall my yield (kg) or number of bags harvested per ha or morgen is more than that of CASP extension beneficiaries.	1	2	3	4	5
14	The farm-management support provided by local extension officer helps to increase farmers yield and/ or profits.	1	2	3	4	5
15	Extension officers never attend to farmers' request for farm-management help.	1	2	3	4	5
16	Extension officers always take a long time to respond to farmers' farm-management request.	1	2	3	4	5
17	Extension officers know their work regarding farm-management assistance for farmers.	1	2	3	4	5
18	Extension officers answer farmers' farm-management	1	2	3	4	5

	questions completely.					
19	Extension officers visit farmers at least once a month to provide farm-management support.	1	2	3	4	5
20	Extension officers consider farmers' farm-management knowledge and experience before recommending solutions for their farm-management problems.	1	2	3	4	5
21	Extension officers keep promises to attend to farmers' farm-management requests.	1	2	3	4	5
22	Extension support provided by other organizations is better than those provided by GDARD.	1	2	3	4	5
23	The educational materials and content provided by extension officers are relevant to farmer's work	1	2	3	4	5

24. Would you like to receive farm-management support provided by GDARD?

Yes	No
1	2

25. Finally, what would you like to say about farm-management support for farmers provided by GDARD?

_____
_____
_____
_____

Thank you for your co–operation in completing this questionnaire

APPENDIX 3: LETTER TO FARMERS

Letter to the Vice-President of Agri. Gauteng

Mnr. W. Basson
Agri – Gauteng Vice - President
Inkwazi Kantoor Park
Block A, Embankment Straat 1249
CENTURION

02 April 2014

Study Investigator
Mafsikaneng N.A.

Re: Research Study: Evaluation of Extension Support within the Comprehensive Agricultural Support Program in the Tshwane Metropolitan Municipality

Dear Mr. Basson

I am currently undertaking a research study as part of my final year in the Master's Degree in Agricultural Extension at the University of Limpopo. This study aims to answer the following research questions:

1. How does extension contribute to individual or group change in terms of yield and farmer's objectives?
2. How farmers perceive public extension?
3. How extension beneficiaries perform differently amongst different enterprise arrangements?

The aim of the impact evaluation in this study is to understand the **beneficiaries and non–beneficiaries'** evaluation of the CASP extension program and how it can be used to improve future program delivery. I am hoping to conduct this study within the City of Tshwane Municipality and seek your permission to gain access to your farmers, for them to respond to the questionnaire that I have developed, which will be mailed to your members. Noting that the majority of your farmers are not CASP beneficiaries, this study seeks to understand their perspectives and opinions regarding post–settlement support in relation to extension support.

Any information gathered during this study, which is identifiable to farmers, will remain fully confidential and anonymity will be maintained throughout the study. Coding will be used to distinguish information that will be used solely for this study. A letter of invitation will be issued to all farmers that your office will be providing, along with a Consent Form.

Thank you for taking the time to read this letter. I would be grateful for your permission to carry out this study with your members. Should you have any queries please feel free to contact me on 078 702 6142 or email Anton.Maswikaneng@gauteng.gov.za.

I look forward to hearing from you.

Yours sincerely,

Mafsikaneng Anton
02 May 2014

APPENDIX 4: CONSENT FORM

Consent Form

I _____have read and understood the letter of invitation to take part in the research study: *Evaluation of Extension Support within the Comprehensive Agricultural Support Programme in the Tshwane Metropolitan Municipality.*

I have received adequate information regarding the nature of the study and understood what will be requested of me. I am aware of my right to withdraw at any point during the study without penalty.

I hereby consent to participate in this research study.

Participant Signature: _____Date: _____

Researcher Signature: _____Date: _____