A COMPARISON OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS PERCEPTION AND KNOWLEDGE OF PARTICIPATION IN AGRICULTURAL PROJECTS IN THE NORTH WEST PROVINCE, SOUTH AFRICA

by

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DECLARATION

I, Mona Ben Matiwane, declare that the thesis, which I hereby submit for the degree PhD in Extension at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

SIGNATURE: ……

DATE: .....

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ABSTRACT

A COMPARISON OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS PERCEPTION AND KNOWLEDGE OF PARTICIPATION IN AGRICULTURAL PROJECTS IN THE NORTH WEST PROVINCE, SOUTH AFRICA

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The study examined the perception and knowledge of project participants and extension officers about participation in agricultural projects. Specific objectives of the study are (1) to determine the degree of participation, format of participation, production knowledge, and participants' needs, as perceived by project participants and extension officers, and (2) to identify and develop measures for participation essential for future policy development in the North West Province. A questionnaire was designed to collect data, in which structured and unstructured questions were used. To ensure a good flow of ideas, the questionnaire was divided into distinct sections. Data was captured and analysed by the Department of Statistics of the University of Pretoria. The data was collected by means of personal interviews with a total of 129 project participants and 75 extension officers.

Participation is conceptualised as the sharing of power in programme development, coordination, decision-making, cooperation and accountability. The major findings were as follows. (1) Project participants initiated, and volunteered to participate in, projects, and owned and planned them. (2) The major decisions were made and accountability was retained by the project participants. (3) Project participants were consulted during needs assessments and during project development. (4) In terms of support, the community and the

extension officers supported the project participants in many ways, such as where the community allowed them to do farming on communal land and DARD provided infrastructure and training. (5) Project participants did not have knowledge at the start of their project, but had acquired knowledge by the time of interviews and there was a clear indication of a need for structured training at the project level. (6) They operated mostly as a cooperative and there were more men than women participating, in the age groups of 50 – 59 and 60 – 69 years. (7) The majority of project participants had grade 7 – 9 education and most were unemployed.

Findings also showed that there was genuine participation in most projects. It is very important for the Department of Agriculture and Rural Development in the North West Province to embrace an extension service that recognises and encourages participatory approach that is need-based, and that relies on need assessments for the purpose of: (a) identifying communities' or farmers' needs, (b) identifying developmental priorities, and (c) promoting participation of communities in the development process.

Promotion of farmer participation is always essential for ownership, accountability, improved effectiveness and empowerment of farmers, therefore, the Department of Agriculture and Rural Development should be committed to a purposeful, priority-focused participatory approach.

Extension should move towards a direction of ensuring that projects or programmes are owned by intended beneficiaries who are involved in all aspects of their development. This requires of the extension officers, competent facilitation, including the necessary motivational support and a systematic and stepwise involvement of programme/project members in the different phases of the process of project development and execution.

Active participation and involvement of farmers and other stakeholders, including local government officials and non-governmental organisations, has been critical to the success, cost-effectiveness, and sustainability of projects, often to the benefit of the project beneficiaries. Community participation should include representatives from all socioeconomic backgrounds, to ensure acceptable and appropriate project design.

The principle of participation within the Department of Agriculture and Rural Development should be widely embraced and the extension officers should fully support this principle, which effectively is a return to the original philosophy of extension, namely "helping people to help themselves". In spite of the general agreement regarding the principle of participation in

development of projects in the North West Province, the extent of participation namely: (a) the degree of participation, (b) the function of participation in terms of information giving (c) the extent to which multi-membership should be pursued, (d) the extent of coordination, cooperation and linkages, (e) and the notion of self-determination, self-reliance, self-responsibility and self-help is essential. Commitment to this principle of participation in projects as an expression of self-determination implies that the involvement of farmers or project participants should be extended to the ultimate of empowerment and ownership of the development process in all endeavours of project implementation. This means full jurisdiction over all development, including application of the projects, decision making, project accountability and its management.

Participation is not an end in itself, but a means to an end, which needs to be emphasised, especially when dealing with either community or farmers projects because it is always associated with greater effectiveness and efficiency. The reasoning behind this is that, people adjust to change most rapidly when they initiate, identify and solve problems that directly affect their welfare. Furthermore, deliberate and continual involvement contributes to understanding and commitment. The involvement and support of local people in efforts to define problems and incorporate local initiatives and ideas in the design and implementation process are prerequisites for success, and the findings of the study clearly provided specific guidelines to ensure participation of farmers in projects.

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LIST OF ABBREVIATIONS

ADB:	Asian Development Bank
ABET:	Adult Basic Education and Training
APM:	Association of Project Management
CASP:	Comprehensive Agricultural Support Programme
CPM:	Critical Path Method
DAFF:	Department of Agriculture, Forestry and Fisheries
DARD:	Department of Agriculture and Rural Development
EO:	Extension Officer
ERP:	Extension Recovery Plan
FAO:	Food and Agricultural Organisation
FSP:	Farmer support programme
GDP:	Gross Domestic Product
IDT:	Independent Development Trust
IT:	Information Technology
LADC:	Local Agricultural Development Centre
LDC:	Less Developed Countries
NWDARD:	North West Department of Agriculture and Rural Development
NWILARP:	North West Province Integrated Land and Agrarian Reform Process
NWP:	North West Province
PERT:	Programme Evaluation and Review Technique
PLRO:	Provincial Land Reform Office
PRA:	Participatory Rural Appraisal
SASAE:	South African Society for Agricultural Extension
SDI:	Soil Degradation Index
SMME:	Small, medium and micro enterprises
SOE:	State-owned enterprises
SPSS:	Statistical Package for the Social Sciences
STSS:	Scientific Technical Support Services
UK:	United Kingdom
USA:	United States of America

CHAPTER 1:
INTRODUCTION AND PROBLEM STATEMENT

1.1 INTRODUCTION

Community participation has been a challenge for South African Government policy, since the advent of democracy in 1994 (Everatt & Gwagwa, 2005:2). In a case study carried out by the Food and Agricultural Organisation (FAO) in South Africa, it was identified that there is a high proportion of dysfunctional land reform projects, which are associated with internal conflict, loss of interest among beneficiaries and beneficiaries' defection, deterioration of farm infrastructure, limited production and marketing, poor business plans, low levels of experience, and financial problems (FAO, 2009). The study made the following recommendations for best practices to be applied in land reform and the establishment of new farmers in respect of:

- Beneficiary selection;
- Enterprise selection;
- Transfer planning; and
- Post-transfer service and support.

Participation appears to be the crucial ingredient that explains the difference between the many failed programmes and the few successful ones (De Graaf, 1986:17-26). Programmes tend to function well when there is a strong and clear partnership between communities, stakeholders and local municipalities. Ghimire (2009) also indicated that there is a need for a strong partnership between extension staff and farmers in setting up the aims and type of participation in agricultural development projects. Participation of stakeholders in the design, operation, and maintenance of infrastructure projects is now, more or less, accepted in the international circles. Some of the benefits of participation include increased productivity, reduced conflicts and increased involvement of the poor (Renfro, 2004:1-5). Active participation of farmers or project participants and other role players is critical to the success and sustainability of projects, often to the benefit of the rural poor. According to De Graaf (1986:17-26), the experience of the Asian Development Bank (ADB) has shown that active participation and involvement of farmers and other stakeholders, including local government

officials and non-governmental organisations, has been critical to the success, cost-effectiveness, and sustainability of projects, often to the benefit of the rural poor.

There are many obstacles facing the selection of effective, poverty-focused rural projects. Projects and programmes for rural development are again and again captured by rural elites for their own advantage, when credit goes to those who least need it (Chambers, 1978:209-219). What is needed for successful projects is a high degree of fit between programme design, beneficiary needs, and the capacities of the assisting institutions. For example, individual projects can effectively achieve specific targets, if well designed and managed, although the cumulative effects of promoting development in a project model has led to some troubling side effects, such as duplication of efforts, “brain drain” from public administration, proliferation of semi-autonomous organisational units, loosely attached to public-sector entities (Brinkerhoff, 1992:483-503).

The project level is normally the focal point of government’s action, which takes the form of specific targets for results, timetables, activities, resource input requirements, and other elements which can be monitored and evaluated. Agriculture, according to Hames (1982), is the only reliable source of food. In many countries, it is the largest single employer, and is the main or only source of livelihood for over 50% of the population. According to Feder, Willett and Zijp (1999:1-28), farm families make up 80% or more of the population.

To ensure a thriving agricultural economy, appropriate intervention is critical for reducing poverty, enabling food security, and managing natural resources in a sustainable fashion.

Agricultural extension is one of the most important vehicles for intervention, in as far as food security is concerned, but according to Feder *et al*. (1999:1-28), many observers are concerned that extension is not doing enough, not doing it well, and is not always relevant in developing countries: bureaucratic inefficiency and poor programme design and implementation have led to poor performance and incoherent links with client farmers and the research sectors.

The project approach to development assistance driven by extension has been attacked for its inability to make results self-sustaining. This has been attributed to a short time horizon, an inability to pick up recurrent costs, and a tendency to either by-pass or fragment local institutions which therefore neglects the need for local capacity building (Honadle & Rosengard, 1983:299-305). Agricultural projects are widely employed to better the

agricultural situation in rural areas. These projects have varied characteristics (Botha & Lombard, 1991:36).

According to Verma (1998:41-51), the expectation in this situation is that extension education programmes will bring about educational changes in the individual, socioeconomic benefits for families, and desirable environmental consequences for committees, as well as cost-benefit analysis which will show the returns of tax-supported investments to justify support for these programmes. The significant question for programme developers and evaluators is whether a programme has the intended impact, or whether the observed impact is attributable to the programme, and in what way. Verma further noted that programme funding and national policy should, therefore, indicate whether the objective is to have an extension system that can be run independently of donor assistance or one that will need continued support. If the objective is to have an extension system that is sustainable without donor assistance, resources such as information, human capital, investment capital, funds for operating costs, and facilities for education and administration must be considered when designing extension strategies. Sustainability of any project or programme requires a continuing political commitment to extension. This means that extension must generate benefit that is perceived as valuable to politicians holding the purse strings, or it must maintain strong clientele support, or both. Second, the extension system must be well organised and managed. This means that the farmer- extension linkages must be strong. A sustainable extension system must be able to adjust to the evolving needs of its clientele over time, because in the public sector it faces increasing accountability demands to justify the allocation of funds and demonstrate that effective, need-based programmes are in place. To do that, according to Wambura (1995:37-44), participation in extension should focus on joint decision making with regard to problems analysis, solution planning, activities implementation and evaluation of results, because external stakeholders want to know what difference extension education programmes make in the lives of people for whom they are intended.

More demanding and discerning stakeholders, especially funders, government agencies, and legislative bodies at local, state and federal level, want to know the specific outcome of programmes (Wambura, 1995:37-44). For example, in the United States of America (USA), the federal extension system and a number of state extension systems prepare performance-based budgets and report progress and impact on their programmes against predetermined goals. In South Africa, the Department of Agriculture, Forestry and Fisheries (DAFF) meets nine Provinces quarterly at national level, and the Department of Agriculture and Rural Development (DARD) in the North West Province meets its four districts monthly to review

budget performance. According to Schwartz and Kampen (1992:18-19), two important objectives for all extension systems are increased effectiveness and sustainability.

Effectiveness refers to the extension system's ability to achieve specific goals. A sustainable extension system must be self-generating in terms of funding, programming, staffing, and clientele support to allow it to function at a constant level of activity. Düvel (2003) pointed out, in his search for an appropriate extension approach for South Africa that the variety of needs-levels of development and available resources in South Africa are such that a very focused or one-sided understanding and approach cannot be afforded. A mix that meets situation specific needs and circumstances should be allowed. Many of the project planning and control techniques currently in use, for example the Critical Path Method (CPM) and the Programme Evaluation and Review Technique (PERT), were developed to address the needs of large, complex capital projects. Since then, these applications, which are often client motivated, have become more pervasive. Project Management as a specialised management technique to plan and control projects under a strong single point of responsibility should always be used, and ultimately be the responsibility of senior management, whose decision should be based on informative data (Burke, 2003) that will assist in the selection of the project for future investment that will be crucial for the long-term survival of a project, and if a wrong project is selected, it may precipitate project failure.

The situation regarding projects in South Africa appears to be good in terms of support from government conditional grants, even though there have been some indications of unsatisfactory expenditure in some years. At the inception of the Comprehensive Agricultural Support Programme (CASP), grant funds for the 2004/2005 financial year in an amount of R200 m were allocated to projects by the Department of Agriculture, Forestry and Fisheries (DAFF), benefiting 46 500 beneficiaries in 510 projects. It should be mentioned that during that financial year, 61.5% of the total allocation was spent. The CASP grant funds includes: (a) funds for projects, (b) funds for Agricultural Training Institutes/Colleges and (c) funds for flood disaster. The amount since then increased substantially to R1 535 b in the 2012/2013 financial year, an increase of 77%. The total budget from 2004/2005 to 2012/2013 is R5 840 b (DAFF, 2013). There are other grant funds, such as Land Care, Provincial Equitable Share, Illima/Letsema, but CASP has funded most of the projects which were selected for the study. The reconnaissance survey for this study commenced in 2006 and during that financial year (2006/2007) an amount of R33 594 m from CASP was allocated to the North West Province and it increased to R168 563 m in the 2012/2013 financial year, an increase of 20% in six financial years (DARD, 2013).

This study will focus on the perception and knowledge of project participants and extension officers concerning participation in agricultural development projects. Projects participants who are beneficiaries, and extension officers who support projects, will be the respondents across all four districts of the Province. The study will compare the perceptions of the two categories respondents in relation to all variables. The project beneficiaries will remain the most important respondents because they are the direct beneficiaries of the projects and they are a focal point of government development.

1.2 PROBLEM STATEMENT

In a study by Kirsten and Machete (2005), as stated by FAO (2001:19-21) in the North West Province, the findings were as follows:

- 38% of the audited projects were dysfunctional as a result of internal conflict or lost interest and abandoning of the project;
- 10% of the projects were essentially residential and no agricultural production was taking place;
- Farm infrastructure had deteriorated or had been vandalized on 49% of projects; and
- 49% of the projects recorded production and marketing of a commodity, while at 29% of projects no production had occurred since land had been transferred.
- Other important findings were:
    - Inadequate business plans;
    - Insufficient access to advisory services;
    - Limited experience in commercial farming and financial management; and
    - Low income from crop production.

A case study analysis carried out by the Food and Agriculture Organization of the United Nations has identified the following concerns:

- Lack of beneficiary participation and empowerment;

- Beneficiary role loosely relegated to labour; and
- The planning of the farm (business plan) needs to be done collaboratively with the beneficiaries (FAO, 2009:ix).

The background information provided is an indication that the rate at which projects are failing in the North West Province demonstrates the possibility that there is:

(i) no effective needs-based programmes;

(ii) poor participation and involvement of all role players, in the sense of accountability;

(iii) participation is not structured in such a way that it changes the nature and direction of development intervention that will lead to a type of development which is more respectful of poor people's position and interest,

(iv) no processes of participation that can understand the contextual barriers which perpetuate people's isolation or lack of involvement in development;

(v) Extension staff directed farmer participation in the programme mainly to generate the data for programme reporting, while farmer participate mainly for incentive offered; and

(vi) promote the concept of participation and less to no practice.

According to Ghimire (2009), a clearer and more concrete interpretation of the methodology of promoting participation is needed, together with strong interaction and coordination between extension staff and farmers in setting the aims and the type of participation in agricultural development.

Failure seems inevitable if a participatory approach in community development projects does not manifest itself in the responsible involvement of the participating groups, institutions or stakeholders and personnel of the Department from the beginning, and in every phase of the project. The involvement of the people concerned in a more precise definition of their needs, in the resources as they perceive them and their control, and in the choice regarding their own development, seem to be lesser priorities to the project planners and decision makers of the Province. It seems as if the implementers of projects do not pay attention to a project's details and its environment, or that there is a lack of fit between the project designers, the

needs of projects participants and the assisting directorates of the Department of Agriculture and Rural Development, in the North West Province.

The participation and involvement of farmers and other stakeholders seems to be compromised as they are either not involved, or only involved in a small degree, in project identification, design, implementation, decision making, benefit sharing and evaluation. Indications are that the success, cost-effectiveness and sustainability of projects will not be realised as long as there is a lack of understanding, approval, and participation by local people in all aspects of the project cycle. Participation and involvement in projects seems to be the ingredients that explain the difference between the many failed projects and the few successful ones, and without these in the North West Province, the success of any measure is in doubt.

1.3 OBJECTIVES

In general, the objective of the study is to compare the perception and knowledge of project participants and extension officers concerning participation in agricultural projects.

The specific objectives of the study intend:

1. To determine and compare the degree of participation of project participants in projects as perceived by project participants and extension officers
2. To determine and compare the production knowledge of the project participants in projects as perceived by project participants and extension officers
3. To determine and compare the format of participation of project participants in projects as perceived by project participants and extension officers.
4. To determine and compare the project participants' needs in projects as perceived by project participants and extension officers
5. To identify and develop measures of participation essential for future policy development in the North West Province.

1.4 HYPOTHESIS

Against the problem background, the objectives of the study and the literature review in Chapter 2, the following research hypotheses emerge:

H0: The perceptions and knowledge of project participants and extension officers regarding participation are not comparable

H1: There is a relationship between the perceptions and knowledge of project participants and extension officers regarding participation in projects.

H2: There is a relationship between the perceptions and knowledge of project participants and extension officers regarding production knowledge of projects.

H3: There is a relationship between the perceptions and knowledge of project participants and extension officers regarding the needs of project participants.

1.5 THE SIGNIFICANCE OF THE STUDY

Apart from the aforementioned factors, this study was motivated by the concerns that:

a) Participation of farmers and other stakeholders seems to be compromised and indications are that the success, cost-effectiveness and sustainability of projects will not be realised as long as there is a lack of understanding, approval, and participation in all aspects of the project cycle by local people. Success and sustainability will largely be wishful thinking.

b) Participation as a key principle in an extension approach seems not to be focusing on joint decision making with regard to project problems analysis, solution planning, activities implementation and evaluation of results

c) The existing planning procedures for the projects are not based on the understanding of the critical ingredients of participation, namely: planning, implementation, decision making, accountability and project evaluation.

d) Extension staff seems to be directing farmer participation in the programme mainly to generate the data for programme reporting.

e) Participation seems to be limited to needs identification.

f) There is less involvement of the people concerned in a more precise definition of their needs, the resources as they perceive them and their control, and their choice regarding their own development.

g) There is little or no perceived need for strong interaction and coordination between extension officers and farmers on setting the aims and type of participation in agricultural development projects.

This study should also provide a:

(a) clearer and more concrete interpretation of the methodology for promoting participation,

(b) useful guide for policy formulation since there is no research published on the investigation of participation in projects in the North West Province,

(c) platform for the identification of future research priorities, and

(d) proposal of a model or framework for promoting and supporting the practical implementation of participation in projects.

1.6 OUTLINE OF THE STUDY

The study has been structured in such a way that it ensures that the concepts in this document flow logically from one section to the next to maximise the reader's comprehension of the various topics.

Section 1 is contained in Chapter 1, which sets out the introduction and problem statement of the research study. It introduces the reader to the research topic, which focuses on participation. The perception of project participants and extension officers concerning participation in projects will be investigated. Projects are a part of the overall development strategy and a broader planning process and as such, they must fit appropriately within departmental plans in terms of financial and administrative resources.

This section also deals with the problem background. The problem to be researched is captured to allow the reader to link the hypotheses and objectives of the study. A problem conceptualisation structure was developed, based on the problem statement.

Section 2 is set out in Chapter 2 and deals with the literature review. Any argument raised in this study will be related to the literature cited. There is a direct relationship between the

problem statement, hypothesis, objectives, questionnaire and literature cited in this research study.

Section 3 is contained in Chapter 3 which sets out the research methodology that was followed. It describes the research area, research design, study population and sampling procedure, instrumentation and data collection, interview procedure, data analysis, measurement of study variables, and the limitations of the study.

Section 4 is set out in Chapter 4 which provides an overview and also presents the background of the North West Province in terms of its socioeconomic features and the status of agriculture, land and climate. This overview provides the broader context within which the projects operate.

Section 5 deals with the actual facts which were ascertained during interviews through questionnaires, and are covered in Chapters 5, 6 and 7.

Section 6 sets out a summary and conclusion in Chapter 8.

Section 7 proposes recommendations in Chapter 9 and makes recommendations based on analyses of the factors of participation raised during the study.

Section 8 sets out a list of literature cited in the study.

Section 9 deals with all the attachments used in the study, set out as an appendix or annexure.

CHAPTER 2:
LITERATURE REVIEW
PARTICIPATION IN PROJECTS

2.1 INTRODUCTION

In the literature review, I have concentrated on aspects of participation, needs, projects and their description. These projects, as stated many years back by Woods (1981: 3-25), embody the goals of most governments for rural development to: (a) benefit the people in the rural areas, and (b) contribute to the overall development of a country. However, Alonge (2002:1-4) highlighted the most important fact that many of these rural agricultural communities in the less developed countries (LDCs) are isolated and enjoy little, if any, access to formal government institutions and social amenities.

Traditional institutions, such as indigenous cooperation groups, peace pact systems, household systems, elders and political leadership, constitute important forms of social, economic, cultural and political organisations that knit members together into units for mutually-beneficial collective action. Traditional institutions often set up a reward–sanction mechanism that assists people to act in cooperation with one another, and so embody important forms of social capital that are so critical for survival. Very often, projects are designed at national level, based on considerations such as political priorities, technical concerns, and macro-economic targets. These national-level considerations by project designers can actually be in conflict with the factors that effect change in the behaviour of villagers, which affect the success of rural development projects (Woods, 1981:3-25).

2.2 PARTICIPATION

2.2.1 Definition of participation

The definition of “participation”, as stated by Atkinson (1999:337-342), is a matter of considerable disagreement among development scholars and practitioners. The term “participation” has been used: (a) to mean active participation in political decision making; (b) in situations where the people involved have significant control over the decisions concerning the organisation to which they belong; (c) by some development economists in defining participation by the poor in terms of the equitable sharing of the benefits of projects; (d) as an instrument to enhance the efficiency of projects or as the co-production of services; (e) by

some who regard participation as an end in itself and (f) by others who see it as a means to achieve other goals. These diverse perspectives truly reflect the differences in the objectives for which participation might be advocated by different groups.

Bartholomew and Bourdon (2002:29-31) have pointed out that participation and involvement of greater numbers of people in the decision-making process will determine their acceptance or rejection of the developmental effort. Greater participation will, in turn, affect the sustainability of international extension programmes and international extension itself. On the other hand, Düvel (2001:44-51) indicated that the use and implementation of the participation and involvement of communities is to be embraced and should be further extended and intensified. It should include not only participation as a means towards improvement of extension delivery, but also an ultimate goal finding expression in the philosophy of "help towards self-help" and towards self-sufficiency, self-determination and self-responsibility and for taking ownership of the development process. The path towards full participation can be lengthy and might have to be adapted, depending on situation-specific circumstances, and a less participatory approach might be the most appropriate. While different authors have highlighted different views about participation, Hart, Burgess and Hart, (2005) listed the principles of project participation that have been identified as follows:

(i) Local identification – the problem or required intervention is identified in the community by local residents;

(ii) Local conceptualisation – local people are involved in setting the project agenda and goal in the generation, recording and analysis of data;

(iii) Local control – local people are involved in the management of the project and gradually assume control of the process and the use of the outcomes;

(iv) Shared ownership – there is joint or shared ownership;

(v) Equity; and

(vi) Empowerment – the process strengthens people's awareness of their own abilities and resources.

Ewang and Mtshali (1998:160-163) and Renfro (2004:1-5) have listed forms of participation in development programmes and projects as follows:

(i) Passive participation;

(ii) Participation in information giving;

(iii) Participation by consultation;

(iv) Participation for material incentive;

(v) Functional participation;

(vi) Interaction participation; and

(vii) Self-mobilisation.

There are a number of substantive arguments for and against "participation" as an essential ingredient in sustainable projects. Ewang and Mtshali (1998:100-108) further listed potential risks and costs implicit in greater people's participation, as argued by planners, as follows:

(i) Project start-up delayed by negotiations with people;

(ii) Increases in staff required to support participation;

(iii) The possibility that, when consulted, people might oppose a project;

(iv) Unpredictable participatory methodologies; and

(v) Over-involvement of less-experienced people.

Kroma and Jun-Li Wang (2002:204-211), in their study conducted on partnership and participation of research in extension in Central Ghana, discovered that where farmers have the opportunity to participate in an active, rather than a passive, process in which their own powers of observation and analysis are clearly valued, this appears to constitute an important underlying motivation to allow them to participate in the innovation process. A 1988 World Bank study, cited by Ewang and Mtshali (1998:100-108), suggested that government might prefer rural people to participate only in project implementation, since their involvement in project identification and assessment might give rise to increased expectations. Participation processes in rural development projects are important and critical for a project and lead towards:

(i) Efficiency;

(ii) Effectiveness;

(iii) Self-reliance;

(iv) Coverage; and

(v) Sustainability.

The most frequent and powerful social obstacle to the participation of rural people in development projects is a mentality of dependence, which is deeply and historically ingrained in their lives. The lack of leadership and organisational skills, and consequently inexperience in running projects or organisations, leave most rural people incapable of responding to the demand of participation. This state of affairs has always been reinforced in many instances by handouts and actions which have not encouraged rural people to take initiatives, resulting in their marginalisation (Ewang & Mtshali, 1998:100-108).

2.2.2 The importance of participation in development programmes

The most meaningful and sustainable development objective and process is the product of intensive interaction between development agents and the community, and is based on community decision (Düvel, 1995:38-43). For the community to effectively participate in, and accept self-responsibility for, the development process (accepting ownership), it has to be empowered, and this has implications for the institutional structure. This agrees with the notion of De Graaf (1986:17-26) that participation is the essential first, intermediate and last step in all approaches towards real development. It includes the involvement of the people concerned in the more precise definition of their needs, the resources as they perceive and control them, their choice regarding their own “development”, and the change of their environment. Renfro (2004:1-5) reinforced the above statements by saying that participation is more effective when there is a good and clear partnership between stakeholders and the government.

Participation appears to be the crucial ingredient that explains the difference between the many failed programmes and the few successful ones (De Graaf, 1986:17-26). This observation is particularly true if we look at development as an on-going process, not just the immediate results of some programme as long as it happens, but the lasting improvement of people’s capability to improve their own lives. Participants who are affected directly by the strategy would like to have access to decision-making concerning the: (a) inception, (b) selection of priorities, (c) choice of means, (d) implementation of the programme and (e) monitoring and evaluation. De Graaf (1986:17-26) mentions the following reasons as to why participation is crucial:

(i) People will only commit their own resources (such as labour, land, energy, information, and social relationships) if they have the impression that the activity to which they are contributing a considerable extent is theirs, i.e. controlled by them.

(ii) Development programmes that are centrally planned, or planned without real participation of the people concerned, will be based upon very fragmented information, guesses and assumptions. Only local people know the unique details of their physical environment and the intricacies of their own social relationships.

(iii) Participation increases the control level over a programme.

(iv) Participation counters the existing pattern of paternalism and helps to fight the new patterns of patronage that we can see in so many developing countries. The choice concerning resources distribution, which has to be present in a development programme of any size, obviously creates very tempting opportunities for the abuse of power and the rise of new dependencies.

(v) Participation in decision-making about resources allocation will help to redistribute benefit horizontally and socially. In this way, it helps to fight the usually highly-skewed patterns of change and resource distribution that we see in developing societies.

(vi) Participation allows the expression of a number of social, political and humanitarian values that will give development the credibility and lasting attraction that is needed to overcome many painful experiences. In other words, participation can help to solve the conflicts that will naturally exist in a situation where resources are so much scarcer than the needs.

(vii) Meaningful participation in programme implementation forces any programme to be flexible, relatively small-scale, and tailored to the locally existing capacity to deal with it.

(viii) When people participate, they will acquire, practice and improve a number of social and organisational skills which has a kind of “spill-over” effect into other areas beneficial for helping participants. Planning, deciding and organising activities teach people skills and attitudes. It also creates social networks which are extremely useful in any kind of change or problem situation in life, and not merely the specific project situations where the skills were initially developed.

(ix) This brings to the fore the most central aspect of development (and the aspect that is most often absent), namely that of self-sustaining development.

(x) Participation offers an easy test of policy makers on the relevance of the programme they want to implement.

2.2.3 Community participation

Community participation is essential in project development and Atkinson (1999:337-342), views it as a process that serves one or more of the following objectives: (a) as an instrument of empowerment, whereby project or development activity is then a means of empowering people so that they are able to initiate actions on their own and thus influence the processes and outcomes of development; (b) may serve a more limited objective of building beneficiary capacity in relation to a project, whereby beneficiaries may share in the management tasks of the project by taking on operational responsibility for a segment of it themselves; (c) may contribute to increased project effectiveness; (d) may foster the desire to share the costs of the project with the people it serves; and (e) may improve project efficiency.

Atkinson (1999:337-342) further noted that community participation might be used to promote agreement, cooperation and interaction among beneficiaries and between them and the implementing agency of the project so that delays are reduced, a smoother flow of project services is achieved, and overall costs are minimised.

Recent research suggests that an important step towards advancing the understanding of how increased participation at the community level can translate into poverty reduction and welfare improvement is to better conceptualise and operationalise how routine relations between people collectively shape or change patterns of institutional and social interactions in ways that influence project outcomes (Cleaver, 2005; Dasgupa & Beard, 2007, cited by Heinrich & Lopez, 2009:1554-1568). Community participation may vary in the intensity with which it is sought in a particular project or at a particular stage of the project. The nature of the project and the characteristics of beneficiaries will determine, to a large extent, how actively and completely the latter can practice community participation.

Atkinson (1999:337-342) refers to community participation as a process and not a product, in the sense of sharing project benefits. For example, acquisition of economic assets through a project (e.g. land, house, etc.) does augment the power and freedom of poor people. In the

context of a development project, beneficiaries, as individuals, maybe allowed to participate in many ways. Their needs and preferences can often be ascertained through individual interviews and they can be made to share in project costs individually, through a government order.

It is useful to distinguish between four levels of intensity in community participation, although different levels of community participation may co-exist in the same project, namely:

(i) Information sharing – Project designers and managers may share information with beneficiaries in order to facilitate collective or individual action.

(ii) Consultation – When beneficiaries are not only informed, but consulted on key issues at some or all stages in a project cycle, and when the level of intensity of community participation rises. There is an opportunity here for beneficiaries to interact and provide feedback to the project agency which the latter could take into account in the design and implementation stages. If farmers are consulted on extension practices and arrangements, project outcomes are likely to be better than if they were merely informed (Atkinson, 1999:337-342; Mwangi, 1998).

(iii) Decision making – A still higher level of intensity may be said to occur when beneficiaries have a decision-making role in matters of project design and implementation. Decisions may be made exclusively by beneficiaries, or jointly with others, on specific issues or aspects relating to a project.

(iv) Initiating action – When beneficiaries are able to take the initiative in terms of actions/decisions pertaining to a project, the intensity of community participation may be said to have reached its peak. Initiative implies a proactive capacity and the confidence to get going on one's own.

Atkinson (1999:337-342) further indicated that where complex technologies and their adaptation dominate the design of a project, there may be less scope for the active participation of beneficiaries in design, for example, than in a case where the technology is less complex and easier for ordinary people to comprehend and interact with. It is equally important to share information on design with beneficiaries in such cases, though decisions on design may be made, or at least dominated, by other actors. Information sharing on design is clearly a less intense form of community participation than decision making on design.

2.2.3.1 Ownership and responsibility

A special study carried out by the Asian Development Bank, as noted by Renfro (2004:1-5), found that improved ownership and responsibility by the relevant stakeholders and beneficiaries resulted in higher productivity and reduced conflicts. Düvel (1995:38-43), citing Kelsey and Hearne (1963), put emphasis on empowering community members so that they can effectively participate in and accept self-responsibility for the development process (accepting ownership), and this has implications for an institutional structure.

2.2.4 Participation of extension

2.2.4.1 The role of extension

The role of the extension worker, as stated by Terblanche (2005:171-175, citing Beal, Bohlen and Randabaugh, 1969:99-100 and Lombard, 2003:173), notes that, when one talks about the role of extension workers in the community in improving service delivery, the following aspects come forward:

(i) What does the community expect from the extension worker (Terblanche (2005:171-175, citing Beal, Bohlen &Randabaugh, 1969:99-100).

(ii) What does the situation in the community dictate to the extension worker (Terblanche, 2005:171-175, citing Lombard, 2003:173).

Various roles are defined and discussed in the literature today (Lombard, 2003:173-196, cited by Terblanche, 2005:171-175), including the following:

• Guide or broker	• Public relations
• Enabler or facilitator	• Educator
• Expert	• Mediator
• Planner	• Mentor
• Organiser	• Advocator
• Coordinator	• Activist
• Encourager	

2.2.4.2 Technology transfer

Regarding technology transfer, Mwangi (1998) has indicated that to be successful in technology transfer, extension personnel must understand farmers' learning needs, problems, priorities, and opportunities, as well as the psychological, process, semantic, physical, and economic barriers to adoption. Terblanche (2008:70) listed principles for an effective extension service as follows:

(i) The interrelationship between agricultural development and human development;

(ii) Development being needs based;

(iii) Participation being essential for all role players; and

(iv) Any intervention programme being focused on behaviour change.

2.2.4.3 Principles underlying an effective extension approach

Terblanche (2008:70), citing Düvel (2002) and the Department of Agriculture (2005), highlighted the following principles underlying an effective extension approach:

- Participation (empowerment, ownership, inclusively);
- Needs based (balance between felt and unfelt needs);
- Evaluation/accountability;
- Programmed (goal driven);
- Institutional mobilisation and organisation;
- Sustainability;
- Behaviour change focus;
- Priority approach;
- Technical support;
- Equality; and

- Coordination/constructive involvement of all role players (forming of linkages).

On the other hand, Mwangi (1998) has listed some principles that might be used to facilitate the delivery of technology to farmers by an extension system and its eventual adoption by farmers, as follows:

- Consultation;
- Building mutual trust;
- Using appropriate terminology to teach farmers;
- Establishing rapport with stakeholders;
- Being sensitive to farmers' needs, constraints and opportunities;
- Having good technical preparation and self-confidence;
- Being a good listener.

Terblanche (2008:44-49) listed some concepts necessary to improve agricultural extension, namely: technical competency (the extension agent must be competent in at least one field of agriculture):

- Communication skills (verbal, non-verbal, written and mass communication);
- Group communication skills (group dynamics and leadership);
- Extension management (programme planning, management functions, ethics, monitoring and evaluation).

2.2.4.4 Extension programmes

Despite the potentials of a new era of support for national extension programmes, a number of serious issues within the domain of extension practice remain to be addressed. While often masked under the new titles and phrases of the current development discourse, the challenges faced today reflect many of the perennial problems that have plagued

development efforts over the past 50 years. Simpson and Owens (2002:405-409) highlighted the challenges and these include, but are by no means limited to:

(a) becoming truly responsive to local conditions and concerns;
(b) facilitating constructive inter-organisational collaboration;
(c) fostering greater local self-reliance through individual capacity-building and local institutional development;
(d) addressing financial insecurity and low educational levels of extension staff; and
(e) the specific interests of engaging indigenous knowledge, farmer inventiveness and farmer-to-farmer communication. In the case of African agricultural extension, attention has increasingly turned towards a loosely defined collection of 'participatory' approaches, none of which has asserted themselves in any form of operational dominance.

An ideal or universal programme development model or approach does not exist. Different options are available, and choices depend upon a great number of variables. It is necessary, according to Swanson, Bentzand Safronko (1997) and Sparrius (2000:267-293), for example, to have clear definitions as to:

a) who plans (the institutional scene);

b) for whom (the potential beneficiaries);

c) who takes the initiative;

d) what the goals are;

e) what the means are;

f) what the time frame is;

g) what the socio-political environment is;

h) source of funding; and

i) project's scope.

2.2.4.5 Accountability of extension

Howell (1986), as cited by Feder *et al*. (1999:1-28), identified three aspects of accountability, namely:

(i) Extension performance in terms of its effectiveness, impact and a benefit/cost ratio in providing required services and appropriate information;

(ii) Accountability of dispersed, relatively unsupervised field staff to supervisors; and

(iii) Public sector staff accountability to farmers.

The third accountability problem arises especially in the public sector environment of a "top-down," supply-driven extension hierarchy in which agents feel accountable to their ministry supervisors, rather than to farmers. Hercus (1991), as cited by Feder *et al*.(1999:1-28), found that agricultural extension services in New Zealand accounted to government for money spent on activities, and not on results(outputs or efficiencies).

The extension service is often the most widely-distributed branch of government at the grass roots level in the rural sector, therefore, there is a temptation to load it with more and more functions, such as accountability.

Feder and Slade (1993:537-540) noted that in many countries, the agricultural field service has been given a range of additional functions as governments increased their role in the rural economy. In rural extension, the dissemination of agricultural knowledge is part of wider government involvement in changing rural attitudes and promoting community self-reliance.

2.2.4.6 Participatory monitoring and evaluation

Participatory monitoring and evaluation play a crucial role in project development. Ewang and Mtshali (1998:100-108) indicated that when participatory monitoring and evaluation (PME) is implemented, it will give, throughout the life of the project, the following:

(i) key indicators, which will monitor activities/objectives on a constituent basis;

(ii) tools with which the community can monitor;

(iii) a planned period for formally analysing and discussing the information that has been gathered through monitoring; and

(iv) information to guide the project, which will indicate whether the project should change, reorganises or remains on the same course.

It has been noted that a project participants cannot compete for available limited funding and enter into lengthy negotiations with funding institutions if some key information about the project cannot be answered (IDT, 2003).

All projects will be appraised in terms of the following criteria:

- all basic information about the project is captured;
- the project is of strategic value;
- the project will contribute towards solving a priority challenge;
- the project is technically sound and can work;
- the project is viable;
- the project is not threatening the environment;
- the project can be managed and operated successfully after implementation; and
- the project is financially feasible.

Every project needs to be evaluated, once it is completed and operational, or in use (IDT, 2003). It is an essential phase if mistakes of the past are to be avoided and if it is important to learn from experiences gained and to feed the knowledge database. The feedback "loop" into the identification and design of new projects begins once a project is selected for evaluation. An outside team that was not involved with the project before should preferably conduct an evaluation.

Project evaluation is a research-based process of examining the success of a project in relation to its purpose (IDT, 2003). Project evaluation is usually carried out by an external person/organisation, for reasons of impartiality or technical expertise after the project has

been implemented. Project evaluation may assist in determining major problems encountered throughout the project life cycle, and provide learning lessons for future projects. Projects are evaluated against objectively verifiable indicators, time, quality, resources (financial, material, and human) and information. The statement raised by DTI (2003) is supported by Eaton and Sheperd (2001) when they indicated that, once a project is underway, an assessment should to be made to assess how it is performing against the objectives and time targets and to deal with problems and change as requested. During this stage, regular progress reports, organising team meetings, and identifying milestones that will measure progress will be requested.

Regenesys School of Public Management (2002) has also pointed out that using a research process to evaluate projects helps to ensure that those projects are evaluated in a systematic way, as shown in Figure 2.1 below.

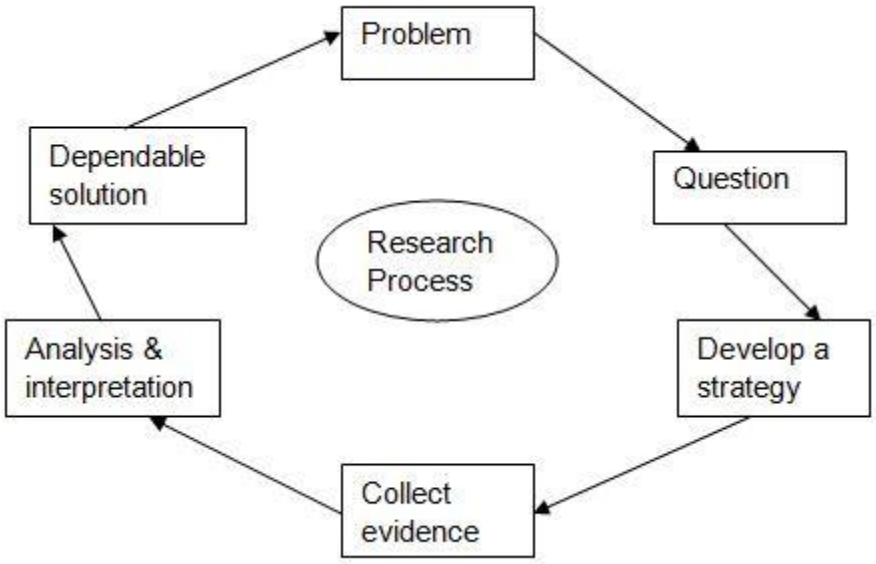

Figure 2.1: A systematic way of evaluating a project (Regenesys, 2002)

Oakley (1986:89-99) argued that the evaluation of a project should be based upon measurement and the establishment of performance criteria which can be quantified. He cited Haque's 1997 model for the evaluation of social development projects, namely:

(i) Economic base: which is understood to be of economic benefit, distribution equity, collective accumulation and horizontal accumulation. Both expand the size of

local participation and multiplicity in other areas, and develop social and institutional linkages with other similar self-reliant efforts;

(ii) Attitudinal criteria: which is a sense of solidarity, democratic values, a spirit of co-operation, a collective spirit and collective self-reliance; and

(iii) Self-administration and momentum: which can be categorised as: (a) experience in economic and social administration; (b) generation of internal cadres (the "spread agents" who will be responsible for mobilising the group for different economic and administrative tasks); and (c) indigenous momentum in material, institutional, psychological and leadership terms to develop the self-reliant basis of the project. Monitoring of social development projects should be based upon the continual collection, recording and observing of phenomena associated with the above indicators (Oakley, 1986:89-99).

Apart from project evaluation, monitoring should take place, and according to the Regenesys School of Public Management (2002), project monitoring is an internal process required during project implementation to ensure success. Project monitoring is essentially about measuring actual progress against the project plan or indicators and detecting variance and taking corrective action (Figure 2.2 below). It is mainly concerned with the following project elements:

- Measurement of physical and financial resources;
- Time management;
- Information management;
- Quality control;
- Human resource performance; and
- Achievement of project objectives.

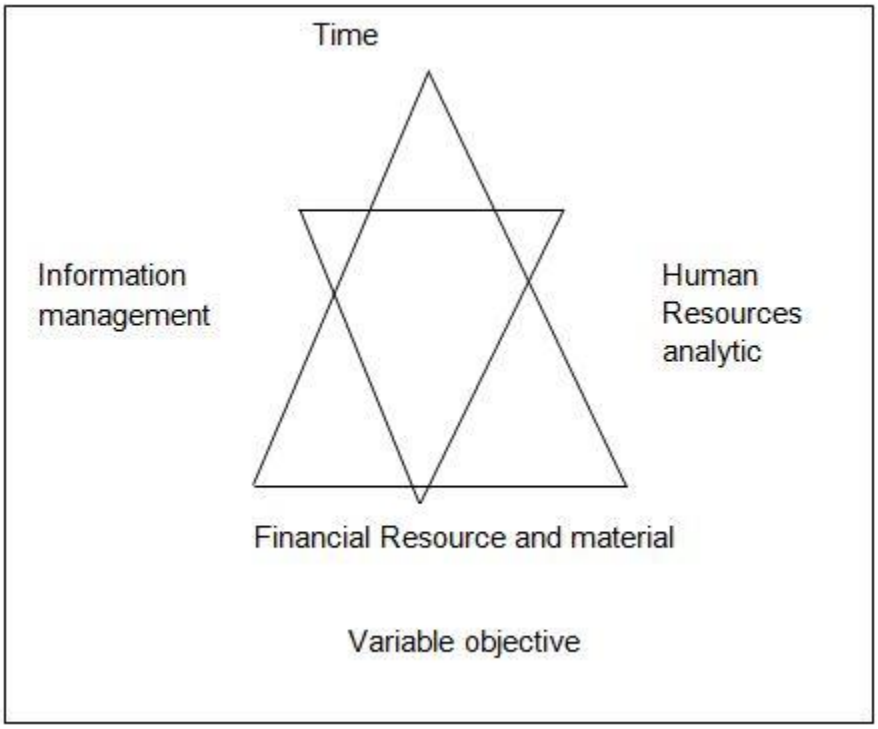

Figure 2.2: Monitoring elements (Regenesys, 2002)

Project monitoring is an integral process of the project management cycle and, as such, it utilises various project planning and control tools, such as:

- Bar-charts; and
- Project documents and reports – work plans, project specifications, networks, schedules, progress reports, budget and cash-flow statements, quality plant, etc.

2.2.5 Stakeholder participation

A stakeholder is someone with a real or perceived interest in the project or its outcome (Batchelor, 2010; Sparrius, 2000). People will not meekly ask permission to become project stakeholders, they will just do it. Nobody grants rights to stakeholders, as these are inherent in a democratic society. Sparrius (2000) also pointed out that each project has its own unique set of stakeholders and these may include internal or external individuals and organisations. They may be actively involved in the project and include those whose interests will be affected by the project: customers, sponsors, owner, beneficiaries, financiers, suppliers and contractors.

Stakeholder management starts with stakeholder engagement. Engaging stakeholders in the project's decision-making process allows them to become part of it (Anon., 2002b; Sparrius, 2000). Batchelor (2010) indicated the fact that project deliberation should be open to an influence by stakeholder concern. Stakeholder engagement is commonly known as public participation and includes:

- Informing the public of the project.
- Obtaining the public's consent for the project.
- Allowing the public to make decision, for example, by selecting a solution from a range of alternatives, and
- Inviting the public to initiate projects.

If stakeholders are not involved from the beginning of the project, they may sabotage the implementation of the project or they may not support it. However, too much stakeholder participation may also become frustrating, time wasting and destructive. Therefore, project managers must identify their key stakeholders and plan how to manage them successfully. The successful management of stakeholder participation includes (Anon., 2002b):

- Identification of all internal and external stakeholders
- Prioritisation of key stakeholders
- Analysis of their needs, interests and power base
- Deciding on a tactic to involve them constructively.

3.1.1.1 Greater Stakeholder Participation

Some of the benefits of increased stakeholder participation include (Anon., 1996):

- Greater relevance as the sustainability of development assistance to its beneficiaries.
- Greater interest, commitment and ownership of projects and policies on the part of stakeholders.
- Greater efficiency and understanding and better planning.
- Strengthened capacity, improved information flow and greater equity.

2.2.6 Group dynamics factors associated with greater participation

Group dynamics factors (forces) used by Terblanche and Düvel (2000) to measure efficiency were the following: (a) internal dynamic factors (physical and psychological atmosphere, group participation, communication pattern, role identification, standard of norms, cohesive, group size, technique, objectives, valuation procedure), (b) external dynamic forces (multiple group membership, mother organization).

2.2.7 Group Cohesiveness and Performance

Group cohesiveness refers to the degree of attraction people feel towards the group and their motivation to remain members. It is an important factor in a group's success. Cohesiveness is the glue or esprit de corps that holds the group together and ensures that its members fulfil their obligations. Most of the factors having a greater impact on group cohesiveness do reflect the individual's identity within the group and beliefs about how group membership will fulfil personal needs. Factors that influence group cohesiveness (Bembridge, 1993; Van Den Ban & Hawkins, 2002) include:

1) Member similarity: homogenous groups become cohesive more easily than heterogeneous groups. People in homogenous group have similar backgrounds and values, so they find it easier to agree on group objectives, the means to fulfil those objectives and the rules applied to maintain group behaviour. This in turn leads to greater trust and less dysfunctional conflict within the group. Some will argue that heterogeneous groups are better equipped than the homogenous groups in completing complex tasks or solving problems requiring creative/innovative solutions.

2) Group size: small groups tend to be more cohesive than larger groups because it is easier for a few people to agree on goals and coordinate work activities. This does not mean that the smaller groups are the most cohesive, because not having enough members prevents the group from accomplishing its objectives. Continued failure may undermine cohesiveness as members begin to question the team's ability to satisfy their needs. Thus, group cohesiveness is potentially greatest when groups are as small as possible, yet large enough to accomplish the required tasks.

3) Member interaction: groups tend to be more cohesive when members interact with each other fairly regularly. This normally occurs when team members perform highly interdependent tasks and work in the same physical area. The effect of physical

proximity on group cohesiveness raises questions about how to maximise cohesiveness in 'virtual' groups. The lack of face-to-face interaction makes it difficult for group members to feel a common bond, even when they work effectively over the internet. Research suggests that members of virtual groups establish a greater social connection when they have some opportunity to meet face-to-face. The ability to 'put a face' to remote colleagues seems to strengthen the individual's emotional bond to the group.

4) Group success: cohesiveness increases with the group's level of success. Individuals are more likely to attach their social identity to successful groups than to those with a string of failures. Moreover, group members are more likely to believe the group will continue to be successful, thereby fulfilling their personal goals. Group leaders can increase the degree of cohesiveness by regularly communicating and celebrating the group successes.

5) External competition and challenges: group cohesiveness increases when members face external competition or a valued objective that is challenging. This might include a threat from an external competitor or friendly competition from other groups. These conditions tend to increase cohesiveness because members value the group's ability to overcome the threat of competition if they cannot solve the problem individually. They also value their membership as a form of social support.

6) Severity of initiation: research has shown that the greater the difficulty people overcome to become a member of a group, the more cohesive certain groups will be. To understand this, consider how highly cohesive certain groups may be that you have worked hard to join. Was it particularly difficult to "make the cut" on your sports team? The rigorous requirements for gaining entry into elite groups, such as the most prestigious medical schools and military training schools, may well be responsible for the high degree of camaraderie found in groups. Having "passed the test" tends to keep individuals together and separates them from those who are unwilling or unable to "pay the price" of admission.

2.2.8 Participation of rural people

A World Bank (1988) study suggested that government might prefer rural people to participate only in project implementation, since their involvement in project identification and assessment might give rise to increased expectations (Ewang & Mtshali, 1998).

Participation processes in rural development projects are important and critical for a project, namely: (i) efficiency, (ii) effectiveness, (iii) self-reliance, (iv) coverage and (v) sustainability. The most frequent and powerful social obstacle to the participation of rural people in development project is a mentality of dependence, which is deeply and historically ingrained in their lives.

The lack of leadership and organisational skills, and consequently in experience in running projects or organisations, leaves most rural people incapable of responding to the demands of participation. This state of affairs has always been reinforced in many instances by handouts and actions that have not encouraged rural people to take initiatives, resulting in marginalisation (Ewang & Mtshali, 1998).

Participation is the essential first, last and intermediate step in all approaches towards real development, the involvement of the people concerned in the more precise definition of their needs, the resources as they perceive and control them, their choice regarding their own "development" and the change of their environment (de Graaf, 1986).

2.3 PROJECTS AND PROGRAMMES

2.3.1 Definition of a project

Different authors have defined or described a project as follows:

a) In the early 1980s it was defined by Gittinger (1982) as an investment activity in which financial resources are expended to create capital assets that produce benefits over an extended period of time. He further said that in some projects, costs are incurred for production expenses or maintenance from which benefits can normally be expended quickly, and by

b) Honadle and Rosengard (1983:299-305) as discrete activities, aimed at specific objectives with earmarked budgets and limited frames They further noted that projects are also targeted to specific geographic areas and aimed at a particular beneficiary group. Within a project, participation should be encouraged for all role players to ensure its success.

c) From 2000, eighteen years later, it was defined as follows:

Burke (2003:2-4, 48-59) gave examples and features of what may be called a project as follows:

- The transition period during which a change occurs;
- Designing and constructing a house;
- Designing and testing a new prototype (car);
- The launch of a new product;
- Implementing a new system, which could be an information and control system, or a new organisational structure; and
- Improving productivity within a target period.

Having identified the main components of a project, Burke (2003:2-4, 48-59) defined a project as: “A group of activities that have to be performed in a logical sequence to meet present objectives outlined by the client”.

d) Sparrius (2000:267-293) defined it as a unique and complex process consisting of interrelated tasks performed by various contributors to create a specific result within a well-defined schedule and a limited budget. This definition explicitly identifies the three constraints of a project: object, schedule and budget.

e) Ali, Brookson, Bruce, Eaton, Heller, Johns, Langdon and Sleight (2001:658) have defined it as a series of activities designed to achieve a specific outcome within a set budget and timescale.

f) The Independent Development Trust (IDT) has defined a project as a temporary endeavour undertaken to create a unique product or service (IDT, 2003).

g) A project is a series of activities designed to achieve a specific objective within a specified period (Bruce & Langdon, 2007:76). The authors also identified the following features as essential elements of a project:

(i) A life cycle;

(ii) A start and finish date;

(iii) A budget;

(iv) Activities that are essentially unique and non-repetitive;

(v) Consumption of resources, which may be from different departments and need coordination;

(vi) A single point of responsibility; and

(vii) Team roles and relationships that are subject to change and need to be developed defined and established.

h) According to Batchelor (2010:12-13), the United Kingdom Association of Project Management (APM) defines a project as a unique, transient endeavour undertaken to achieve a desired outcome. In other words, a project has a defined beginning, middle and end, and a stated purpose.

2.3.2 Defining project objectives

According to Burke (2003) and Bruce and Langdon (2007), the project objectives quantify what the project must achieve to meet the client's needs or provide a solution to the problem, and must be set at start of the project. The project objectives can be structured by using the main headings from both the work breakdown structure (WBS) and the organisation breakdown structure (OBS):

(i) Viability: - a statement confirming the viability of the project should be included.

(ii) Scope: - The scope of work outlines what the project will make or deliver. This may be qualified using the following headings:

- Drawing register
- Parts list
- Specification
- WBS work package
- Method statement

(iii) Time: - the planning and timing using:

- Network diagram
- Schedule bar chart
- Key date bar chart
- Procurement schedule

(iv) Resources: - the manpower resources would be linked to the schedule bar chart:

- Manpower forecast
- Resource availability
- Resource smoothing

(v) Cost: - The financial model would use:

- Activity budget
- Cash flow statement
- Profit and loss account

(vi) Quality: - The quality management approach would be quantified by:

- Project quality plan
- Quality control plan

(vii) Project Management: - The project management objectives would outline how the project office would operate:-

- Project team members
- Project management system
- Document control
- Configuration control
- Information database and filing system
- Project producers and work instructions

(viii) Contract: - The contract document is usually based on the company's standard terms and conditions of contract, together with special contract developed for the field of the project:

- Standard terms and conditions of contract
- Tender document
- Special conditions.

It is advisable to request the client to approve the project objectives to ensure that the brief has been interpreted correctly.

2.3.3 The project cycle

Different authors have presented a project cycle differently, but it has been noted that in their presentations, a project has a beginning, middle periods and an end. Some examples of a project cycle from different authors are:

(a) Gittinger (1982) has presented a project cycle as follows:

(i) Identification;

(ii) Preparation and analysis;

(iii) Appraisal;

(iv) Implementation; and

(v) Evaluation.

(b) Hart (2001:100-112) presented the project cycle as shown in Figure 2.3 below.

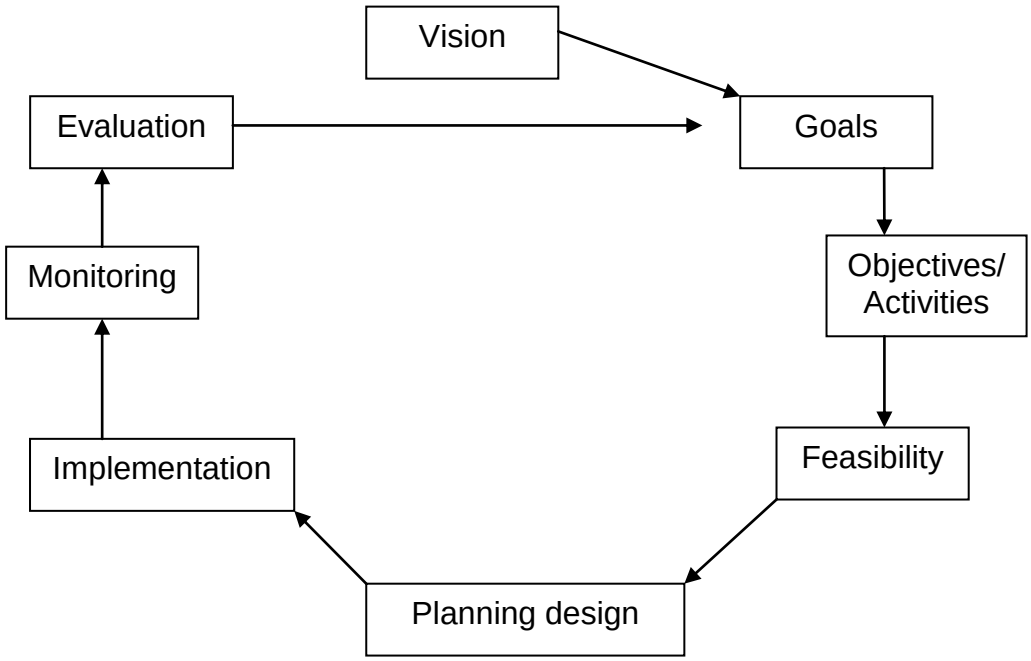

Figure 2.3: Phases of the live cycle of the project (Hart, 2001:100-112)

(c) The project life cycle, according to Sparrius (2000:267-293), is fundamentally important to project management, dominates the selection and implementation of the overall project strategy of the project, and consists of the following four generic phases of the project life cycle:

(i) Concept;

(ii) Definition;

(iii) Execution or implementation; and

(iv) Close-out.

(d) Batchelor (2010:77-85) has listed the stages of a life cycle of a project as follows:

(i) Aspire – this stage focuses on the creation of shared vision for the project;

(ii) Plan – this stage looks in detail at identifying what needs to be done;

(iii) Implement – this stage can be divided into monitoring and evaluation; and

(iv) Measure – determine the success of the project and communicate the results.

2.3.4 Phases of the project

Sparrius (2000:267-293) identified four phases of a project life cycle and issues to be resolved in each phase, as summarised in Table 2.1 below.

Table 2.1: Phase of a project and issues to be resolved

Concept phase (Issues to be resolved)	**Definition Phase**	**Implementation Phase**	**Close-out phase**
*Clarity customer requirements as defined in the project brief	*Develop the work breakdown structure for the implementation phase	*Contract out or contract into, perform each task of the implementation phase, work break down structure	*Acceptance, test all deliverables
*Identify all stakeholders and their expectations	*Determine which contractor will perform each task and obtain cost and schedule estimates	*Monitor and control project performance, and	*Transfer the life cycle management responsibility to the owner
*Define key performance indicators to quantitatively measure project performance and completion	*Develop a detailed plan for the implementation phase and a preliminary plan for the rest of the life cycle, and	* Launch corrective action whenever needed	* Close project accounts
*Generate and evaluate alternative solutions	*Prepare a provisional baseline for the next decision-making milestone meeting		*Reassign the project team and
*Determine the best solution and assess its risk			*Conduct a project post mortem

Concept phase (Issues to be resolved)	Definition Phase	Implementation Phase	Close-out phase
*Develop a detailed plan for the definition phase and a preliminary plan for the rest of the life cycle *Prepare a provisional baseline for the decision-making milestone meeting.			

(Source: Sparrius, 2000:267-293**)**

Small-scale farmers, according to Steele (2002:38-39), need advice in many different disciplinary areas, including social dimensions and interdisciplinary problem-solving. Different industries traditionally use different descriptions for very similar project phases. For example, Sparrius (2000:267-293) has indicated that in construction, the phases are as follows:

(i) Feasibility;

(ii) Preliminary design;

(iii) Detailed design, construction; and

(iv) Commissioning.

The Independent Development Trust (IDT) has structured a project cycle according to the following project phases (IDT, 2003):

Phase 1: Project identification/ registration.

A project is identified by name, description, objectives, locality, start date, completion date, etc. If the intention is to promote institutional co-operation and integration of projects, and avoid duplication in project implementation, it is essential that there is standardisation, in a

way that these projects are registered and information captured. At this stage, the project may be merely an idea that the department has, as no preparation might have been done yet.

Milestone: The registrations of a project in the project register.
Reference: Guidelines on Project Registration.

Phase 2: Project preparation.

This phase must provide adequate information for the project to be assessed and to be compared with other projects to be prioritised. The basic information that is captured is not enough to tell whether the project will be successful or not. Most projects must be prepared and planned in further detail before they are ready for consideration and appraisal.

Milestones: Project business plan.
References: Project Preparation Guidelines.

Phase 3: Project appraisal and prioritization.

Key information about projects should be available for projects to compete for funding. Criteria for appraisal to be developed to assist prioritisation of project.

Milestones: Project prioritisation.
References: Guidelines on the Appraisal and Prioritisation of Projects

Phase 4: Project pipeline – Projects that are approved enter the pipeline.

These projects are technically ready for implementation but remain in the pipeline in priority order until funding becomes ready.

Milestones: Does not have a milestone, and rather refers to the status of the project.
References: Project Pipeline Guideline.

Phase 5: Project negotiations.

The outcome of the negotiation is usually concluded in a written agreement to satisfy all parties that financial conditions and criteria have been met.

Milestones: Funding agreement signed
References: Project Funding Negotiations Guidelines

Phase 6: On hold.

Projects on hold will be those projects where funding is provided and committed for years two and three. The projects are, therefore, approved for implementation but will only enter implementation in a future financial year.

Milestones: Does not have milestone, but rather indicates the status of a project.
References: Projects on Hold – Guideline.

Phase 7: Project implementation planning.

This is a stage during which detailed implementation planning and design of projects are done.

Milestones: (a) Project implementation plan; and
(b) Design approval.
References: Programme Management Guideline.

Phase 8: Project implementation.

This is the stage at which the project is ready for implementation and where funds have been secured and released. The classical elements of project management, such as financial management, product management, personnel management, etc., feature most prominently during this phase.

Milestones: Project fully operational and the completion report accepted.
References: Programme Management Guidelines.

Phase 9: Project operations.

This phase deals with the “operational plan” of the facility or project and ensures that the facility is utilised in a sustainable and productive manner, creating the changes.

Milestones: The operation of the project is the on-going phase.
References: No particular document that will guide this phase, the planning must, however, be included in the project Business Plan.

Phase 10: Project evaluation.

This is an essential phase, if the mistakes of the past are to be avoided and where it is important to learn from experiences gained, and it feeds the knowledge back into the planning cycle or knowledge database.

Milestone: Evaluation report.

References: Evaluation Guidelines.

2.3.5 Types of projects

Projects may be divided into (Anon., 2010):

(i) Individual projects – short in duration, assigned to an individual;

(ii) Group projects – assigned to an organisation unit;

(iii) Special projects – assigned to a primary function, makes use of other individuals or units; and

(iv) Matrix projects – assigned to a large number of units and controls vast resources.

Burke (2003:48-59) has described two types of project section used to represent a project's structure, namely:

(a) Numeric Model – This is usually financially based and quantifies the project in terms of either percentage return on investment, or time to repay the investment.

(b) Non-numeric model – looks at a much wider picture of the project, considering items from market share to environmental issues. It looks at the feasibility of ideas of senior people or managers of projects, repair and maintenance of projects. This model seeks to improve competitiveness, marketability and expansion of the products of the projects.

Burke (2003:2-4, 48-59) further noted that models should be evaluated by how well they meet company goals and objectives, and that the purpose of models is to aid decision making. According to Oakley (1986:89-99), it should be made between economic types of rural development projects which tend to be quantitative. Social Projects have five indicators by which they might be qualified: (i) activities, (ii) action, (iii) change in group behaviour, (iv) nature of intervention, and (v) relationship with other groups. They are directed towards preparing and allowing rural people to participate more fully in development so that they become an inevitable part of the process. In most cases, they have been initiated by non-government or other local voluntary organisations.

Botha and Lombard (1991:36) indicated that agricultural projects have varied characteristics, but can broadly be grouped into four approaches:

(i) Humanitarian approach – beneficiary communities usually receive handouts without any further support. The reciprocal benefits of humanitarian projects are short term, not self-sustaining and lack impact on most indicators of development.

(ii) Development institutions (such as Agricultural Development Co-operations) – these run agricultural projects to generate income for themselves. Institutions hope that some benefits will trickle through to participants and the local rural communities.

(iii) Commercial agricultural projects – these offer one or several possibilities to participants, including the orientation of project members to the world of capitalism. They enjoy decision making, if not restricted by project outlay, project leader's financial control measures, etc. Teaching and training develop them to become fully-fledged commercial project farmers on commercial projects, although the project members normally retain decision-making responsibilities.

(iv) Farmer Support Programme (FSP) – This is the fourth approach, which will probably gain in popularity because of an increasing decline in funding and the pressure of humanistic development theory. In a typical FSP situation, goods and services are brought within the reach of the rural population.

(v) Poor (subsistence) farmers approach – this is where they are organised into small "cooperatives" and other forms of infrastructure in the rural communities.

(vi) The PROPEL Management Approach.

The PROPEL Management Approach (University of Pretoria, 2010) is a new approach for the successful management of projects. This approach ensures participation and involvement of all stakeholders in agricultural projects. The PROPEL (People, Requirements, Objectives, Planning, Execution, and Learning) approach is divided into four phases and six specific actions, as described below.

Phase 1:The conceptual or consideration phase.

1. People

- Owner, stakeholder, third parties

- Project leader, team members, participants
- User (involve to ensure quality and buy in)

2. Requirements

- Execute a feasibility study: scope, deliverables, specifications
- Expectations/needs/constraints

3. Objectives

- Format: results must be clear, specific and measurable. Specific means the people involved desired change and time frames
- Completion criteria

Phase 2: The planning phase

4. The plan

- Work breakdown structure
- Estimates
- Schedule (milestone, check points, critical path analysis, resources, user training, and involvement)
- Plans (financial, communication, manpower, resources)
- Risk and contingency, change and conflict
- Presentation to stake holders, get commitment and check

Phase 3: Implementation phase

5. Execution

- Start/initiate the project (is the team ready?)
- Performance management and motivation
- Manage the change and requests
- Manage progress (milestone, check, anticipate, re-plan, monitor and evaluate)
- Quality assurance (measure, contingency management)
- Communication at all times (meetings, feedback)
- Manage expectations

Phase 4: Monitoring and evaluation

6. Learning and termination

- Status report review, learn from experience
- Check delivery, measure, review standards and procedures

- Recognise performance, realise benefits

2.3.6 Project success

2.3.6.1 Defining project success

The expressions of different authors are:

a) Project success means satisfying the customer's requirements on specification, on schedule, and on budget (Sparrius, 2000:267-293). A successful project satisfies the expectations of all its stakeholders.

b) A project is generally deemed successful if it meets pre-determined targets set by clients, performs the job it was intended to do, or solves an identified problem within the predetermined time, cost and quality constraints. To meet these targets, the project manager uses project management systems to effectively plan and control the project (Burke, 2003:2-4, 48-59).

c) According to Bruce and Langdon (2007:76), the essential ingredients for success in project management include defined and agreed-upon goals, a committed team, and a viable and flexible plan of action. To achieve the goals, it should be ensured that these essentials are in place.

d) Project success can be defined as the achievement of project purpose within the allocated time, budget and defined quality and performance standards or goals (Shenbur *et al*., 1997; and Atkinson, 1999:337-342), so as to:

   (i) Satisfy stakeholder groups;

   (ii) Meet requirements;

   (iii) Meet quality expectations/requirements;

   (iv) Deliver within cost;

   (v) Deliver within deadline;

   (vi) Deliver sustained and actual benefits; and

   (vii) Provide the team with professional satisfaction and learning.

e) To achieve the desired outcome, according to Ali *et al*. (2001:658), a project must have the following essentials to be successful:

(i) Defined and approved goals;

(ii) A committed team;

(iii) A viable plan of action that can be altered to accommodate change;

(iv) The capacity to learn to accept the inevitability of change;

(v) An outlook to hope for the best, but always plan for the worst;

(vi) The capacity for planning and communicating for a project to run smoothly, for which the resources must be available at the time they are needed;

(vii) The capacity to revise and enhance the project at least several times; and

(viii) The capacity to be prepared to change plans in a flexible and responsive way.

2.3.6.2 Project management process

The project management process should identify all stakeholders, determine their objectives and expectations, and incorporate these into the project plan as far as it is reasonably possible to do. The identification of stakeholders and their expectation should be one of the major activities during the project's concept phase (Sparrius, 2000:267-293).

Ali et al. (2001:658) have listed the following questions that one can ask himself or herself:

(i) Could I respond to a customer's demand by initiating a project?

(ii) Whom should I approach to get the project under way?

(iii) Am I confident that the key people will lend their support to make this project successful? and

(iv) Do the overall aims of the project seem achievable?

2.3.6.3 Development programmes

It is well known, within and outside the agricultural extension field, that planning and implementing successful international development programmes is often difficult and complex. International extension programmes that are labelled “successful” are often not sustainable and/or emancipatory. Recognising the challenges of long-term programme success, extension is in the process of going through a critical change, where it is beginning to question how well it actually achieves its goal of serving people (Bartholomew & Bourdon, 2002).Varying success rates between the different types of projects have given rise to the conclusion that a series of multi-dimensional contributing factors are involved Lombard (1992) and Bembridge (1989:156) as cited by Lombard and Botha (1995:65-77).

The extension workers, researchers, and local farmers should cooperate in extension work, especially in the planning, implementation and evaluation of the extension programme, in order to develop the extension service (Cho, 2002:75-79).

2.3.6.4 Measuring project success

Project success is probably the most frequently discussed topic in the field of project management, yet it is the least agreed upon (Shenbur, Levy & Dvir, 1997:1-11). Various authors, such as Jiang, Klein and Balloun (1996:49-53), have expressed their opinions about success factors and their views of measuring success in projects, as follows:

(i) Clearly defined goals (including the general project philosophy or general mission of the project, as well as commitment to those goals on the part of the team members);

(ii) Competent project manager (the importance of selection of skilled project leader);

(iii) Top Management Support (top or divisional management support for the project that has been conveyed to all concerned parties);

(iv) Competent project team members (the importance of selecting and, if necessary, training project team members);

(v) Sufficient resource allocation (these are resources in the form of money, personnel, logistics, etc.);

(vi) Adequate communication channels (sufficient information is available on the project objectives, status, changes, organisational coordination, clients' needs, etc.);

(vii) Control Mechanisms (programmes are in place to deal with initial plans and schedules);

(viii) Feedback capabilities (All parties concerned with the project are able to review project status, make suggestions and corrections through formal feedback channels or review meetings);

(ix) Responsiveness to client (all potential users of the project are consulted and kept up-to-date on project status, and further, clients receive assistance after the project has been successfully implemented);

(x) Client consultation (the project team members share solicited input from all potential clients of the project and project team members understand the needs of those who will use the systems);

(xi) Technical tasks (the technology that is being implemented works well and experts, consultants, or other experienced project managers outside the project team have reviewed and critiqued the basic approach);

(xii) Client Acceptance (potential clients have been contacted about the usefulness of the project and adequate advanced preparation has been done to best determine how to sell the project to the clients); and

(xiii) Trouble-shooting (project team members spend a part of each day looking for problems that have surfaced or are about to surface and project team members are encouraged to take quick action on problems on their own initiative).

There are many ways to measure success and failure, but there is no strict dividing line between the two. Baker (1997:25-28) concludes, "Like everything else, the definition of project failure is in a state of flux." O'Brochta (2002) has indicated that "the big problem with assessing project success is that it is not precise. Without a dependable understanding of what constitutes success, the project is placed in the untenable position of being judged against differing criteria, and invariably becomes one more failure statistic reported by research firms such as Standish, Gartner, Forrester, and others."

Different people assess project success differently and at different times. According to Shenbur *et al*. (1997:1-11), project success can be assessed along at least four distinct dimensions:

(i) Project efficiency;

(ii) Impact on the customer;

(iii) Direct and business success; and

(iv) Preparing for the future.

The exact content of each dimension and its relative importance may change with time.

2.3.6.5 Factors found in successful projects

Elenbass (2000) has indicated that projects are about communication, communication, and communication. The author emphasised the fact that a lack of communication is very costly to a company. A company may still succeed, but without good internal and external communication, the cost of success will be much higher than is necessary. Another consequence is that success often takes much longer than necessary to achieve. Sometimes success never arrives.

Factors found in successful projects have been described as:

(i) User involvement;

(ii) Executive management support;

(iii) Clear statement of requirements;

(iv) Proper planning; and

(v) Realistic expectations (Anon., 1994).

2.3.7 Project failure

2.3.7.1 Farmers and community constraints

Botha (1995:27-30) has described problems experienced by small farmers, as summarised in Table 2.2 below. It shows, among other factors listed, that inadequate participation or

collective action, top-down planning, and insufficient support causes more problems for farmers which may lead to project failure.

Table 2.2: Problems experienced by small farmers in South Africa

Problems	Description
1 In adequate participation	The project cycle does not allow significant levels of participation from participants or the community
2. Top-down planning	Planning is done without proper consent of the participants and therefore they do not perceive the project farms and many of the activities as their own
3. Perception of optimal farm size	Planners believe that there is an optimal farm size and do not link it to the abilities of specific participants, and accordingly decide on the size of the plot
4. Perception of adequate levels of farm income	Planners believe that participants should earn specific levels of remuneration from farming activities, accordingly decided on the size of plots
5. Project Management, monitoring and control	Project participants are controlled rather than facilitated
6. Participants selection	Political involvement often plays a big and sometimes dominant role in project participants and selection
7. Lack of proper mechanism to exit scheme	Once a participant is established on a project, it is very difficult to exit the scheme, because of lack of appropriate mechanism
8. Choice of farming model	The type of model, viz. farmer settlement or farmer service support programme, is often decided on without considering all the factors
9. Rights to farm the land	Participants often get the right to occupy land, but not ownership
10. Deficient support service	The support services to participants often are inadequate, sub-standard and un-coordinated
11. Inadequate collective action	Collectivistic farming models were not very successful, since the ownership issue agitated against collective responsibility

(Source:Botha, 1995:27-30)

Düvel (1995:38-43) has pointed out that a problem facing many traditional communities is the chaotic confusion arising from unplanned and uncoordinated efforts. A large number of development agents and organisations are anxious to become involved in development. This

results in tremendous duplication and eventually a largely reduced development impact. In the third world, many development projects are initiated and driven by outside or visiting donor organisations. Although their contribution must be appreciated, their focus of involvement is often unnatural so that their withdrawal after apparent short-term success results in collapse. Burke (2003:2-4, 48-59) highlighted complexities of projects that might lead towards failure as follows:

(i) The speed of the project (fast tracking), giving rise to multi-faceted decision making within a dynamic environment;

(ii) The number of different departments and sub-contractors that need co-ordination;

(iii) The limited availability of key resources;

(iv) The high level of innovation;

(v) More sophisticated communications; and

(vi) High volumes of data (information overload).

According to Botha (1995:27-30), effective planning and control of projects require a panoramic view, logical thinking, and a feel for detail, good communication skills and a commitment to meet challenges to make it happen.

2.3.7.2 Projects constraints

Project constraints, according to Burke (2003:2-4, 48-59), can be viewed as the internal or external restrictions which may affect the achievable scope of the project. These anticipated limitations can be quantified under three sub-headings:

a) **Internal project constraints**:

The internal project constraints relate directly to the scope of the project and basic questions that need to be asked about the product are the following:

- Can the product be made?
- Does the company have the technology? If not, can the technology be acquired through a technology transfer? If so, with whom?

- Should we start the project now with the present technology or wait until new and better technology is available?
- Is the new technology component greater that 10%? (Practitioners recommend the scope of innovation be kept below 10%, so as not to compound the risk and uncertainty).
- At what point in the development should a design freeze be made?
- Can the resources be trained up to the required level of ability, or should outsiders be employed to meet the forecasted skill requirement?
- Will the multi-project resource analysis consider the effect other projects have on the supply of internal resources?
- Are there any special design requirements?
- Are special machines and equipment required? If yes, can these be sub-contracted out or procured?
- Are there special transport requirements? Can the product be transported to where it is required or does it need to be made piecemeal and assembled on site?
- Will any new management systems introduced be compatible with existing systems they interface with?
- Can the project be completed within the budget?
- What is the quality assurance requirement?
- Is the project office set up? Has the manager been appointed, the project team selected, the office space allocated and is the equipment and information system available?
- Can the project meet the clients' completion date and any intermediate key dates?
- Can the company accept the time penalties?
- Is the project risk and uncertainty acceptable?

- Can the company accept the terms and conditions outlined in the contract document?

b) Internal corporate constraints

The project company itself can impose further quasi-constraints on the project. Corporate policy and strategy usually relates to long-term issues which indirectly (and unintentionally) may impose limitations on the project (Burke, 2003:2-4, 48-59). He further mentioned the following factors which may be constraints:

- Financial objectives – The selection criteria may be based on a financial feasibility study quantified according to the payback period, return on investment, net present value (NPV), internal rate of return (IRR) and cost-benefit analysis.

- Estimating –Owing to downturns in the economy, the company's main priority may be to keep the workforce intact. The lower the bid is, the greater the probability is of being awarded the next contract.

- Partner – The company may wish to take on a partner who may have previous experience in the project and also to spread the risk.

- Industrial relations – Industrial unrest is often caused by conflict over pay and working conditions. The project manager may have little power to influence these conditions.

- Customer service – The company's culture may determine the level of customer service required and this may influence how frequently the client is entertained and the amount of scope flexibility.

- Training – The project may become a training ground for new recruits, in which case the learning curve will be an expense to the project.

- Exports – The company may influence the estimate in an effort to acquire exports to enter new markets or take advantage of export incentives. Where these company objectives are in conflict with project objectives, the company objectives usually take preference. This often leads to increased project costs which must be included in the budget.

Major causes of project failure have been categorised as follows by Regenesys School of Public Management, 2002:

- Lack of political/top management commitment, support, and leadership;
- Poor project planning and design, idealism;
- Lack of skills, knowledge and experience;
- Bureaucracy/organisational structure/red tape/inflexibility;
- Inefficient and obsolete management systems in respect of:
    - Finance – budget not linked with activities, centralised, slow, not supportive of new projects;
    - Human Resource – poor reward/incentive systems, poor performance management;
    - Information and communication;
- Lack of participation and involvement of key internal and external stakeholders; and
- Organisational culture, commitment, passion for work culture.

c) **External constraints**

External constraints are imposed by parties outside the company and the project's sphere of influence (Burke, 2003:2-4, 48-59). These constraints, for the most part, will be negotiable and include:

- National and international laws and regulations;
- Material and component delivery lead times;
- Limited number of sub-contractors who can also do work;
- Logistic constraints, availability of transportation;
- Availability of foreign currency and currency fluctuation;

- Market forces, supply and demand curve;
- Environmental issues, government legislation and pressure group activities.
- Climatic conditions, rain, wind and heat; and
- Political unrest.

The above list is not comprehensive, but acts as a checklist which ensures that all the necessary questions are asked, which in turn should reduce the level of risk and uncertainty.

External project failure according to Regenesys School of Public Management, 2002 are:

- Economy (inflation, etc.);
- Political factors (instability, new elections, etc.);
- Natural disaster;
- Difficult stakeholders - unions, community;
- Policy changes;
- Lack of local knowledge and understanding community; and
- Dependency on external funding (donor interference).

Every project faces constraints, such as limits on time or money. Occasionally, such constraints may even render the project unfeasible. According to Eaton and Sheperd (2001), the team members should understand the constraints in advance, and be confident that they are able to work within them.

2.3.7.3 Symptoms of project failure

The symptoms and other causes of project failure have been listed by different authors as follows:

(a) The following reasons have been noted by one source (Anon., 2002):

(i) Lack of project plan and business case update;

(ii) Lack of stakeholder communication;

(iii) No external involvement in quality assurance;

(iv) Excessive hard work;

(v) High staff turnover;

(vi) Aggressive and defensive behaviour; and

(vii) No fun – enjoyment for the team, which contributes to team building.

(b) Some other causes of project failure have been noted:

(i) Field (1997:54-56) has indicated that "projects fail too often because the project scope was not fully appreciated."

(ii) Leicht (1999) indicated that high user expectations could actually be the cause of project failure.

(iii) Projects fail because of poor alignment between departments and business users. Managers too often act as "process cops and report compilers and lose sight of what they're supposed to be doing to make sure projects are running effectively" (Hoffman, 2003).

(iv) According to Hodgson (2002), "projects fail – that's the fact of life. Too many fail because the average project is like an iceberg – 9/10ths of it lays hidden from view."

(v) "On average, about 70% of all IT-related projects fail to meet their objectives." In this case, Lewis includes not only projects that were abandoned (failed), but also those that were defectively completed owing to cost overruns, time overruns, or did not provide all of the functionality that was originally promised (Lewis, 2003).

(vi) According to Kirksey (1990:35), again and again, projects have run into serious trouble, despite hard work by dedicated staff. They are developed late, fail to work as planned, and cost millions – even hundreds of millions – more than expected.

(c) The following aspects have also been noted as reasons for project failure (IDT, 2003):

(i) Unclear, over-arching corporate objectives;

(ii) Non-alignment with corporate objectives;

(iii) Lack of a project management culture;

(iv) Missing or invalid business case;

(v) Inadequate attention to quality;

(vi) Too many concurrent projects, resulting in many scare resources;

(vii) Lack of project governance; and

(viii) Inadequate financing or functional authority.

2.3.7.4 Indicators of project failure

(a) The top five failure indicators found in “challenged” projects were (Kirksey, 1990:35):

(i) Lack of user input;

(ii) Incomplete requirements and specifications;

(iii) Changing requirements and specifications;

(iv) Lack of executive support; and

(v) Technical incompetence.

(b) The list of the top factors found in “failed” projects, were (Kirksey, 1990:35):

(i) Incomplete requirements;

(ii) Lack of user involvement;

(iii) Lack of resources;

(iv) Unrealistic expectations;

(v) Lace of executive support;

(vi) Changing requirements and specifications;

(vii) Lack of planning;

(viii) Didn't need it any longer;

(ix) Lack of IT management; and

(x) Technical illiteracy.

2.4 FARMERS OR CLIENT NEEDS ASSESSMENT

2.4.1 Defining client's needs

All community development projects are built around needs. The starting point of any project is a need (Swanepoel & de Beer, 2006:173). The need should be concrete and definable, otherwise a project can never be well planned. People know their needs, but a project cannot address all or most of the people's needs at the same time. A project can only tackle one need at a time.

The starting point for a project is usually to address a problem or a need, which may be internal or external to the company (Burke, 2003:2-4, 48-59). The following list, which was developed by Burke (2003:2-4, 48-59), clarifies and defines the motivation for the project:

- The project must carry out a certain function at a predefined rate;
- The project must operate in a specific environment;
- The project must have a working life of a set number of years;
- The project's budget must not be exceeded;
- The project must meet certain specifications and standards;
- The product must meet achievable reliability requirements; and
- The end product must be marketable and profitable.

2.4.2 Participatory need assessment

In a study carried out by Düvel (2002:81-85) on a comparative evaluation of some participatory needs assessment methods in extension, he revealed that:

- Need appraisals, particularly with wide participation, do not provide a broad basis of consensus and are, consequently, not always a sound basis of departure for development programmes; and
- Needs are time-specific, which emphasises the importance of remaining sensitive to changing needs as situations change.

Needs can be changed, perhaps manipulated, making it a potentially valuable tool in the creation of consensus, which is often the precondition for successful community programmes.

According to Swanepoel and de Beer (2006:37), in the past projects were built around interests or hobbies. A large number of these never came to fruition. People are not going to rally together around needs that have been identified by some expert and that they find difficult to give concrete form to. Therefore, needs identification is a prerequisite for action; it is the first step to be taken before a project commences. This needs identification exercise is a participatory process because it is the people who must identify the need before they will organise themselves to do something about the need. People must be the owners of their situation. They must realise that they have a certain need and they must decide that they are going to do something about it.

They must take ownership of the action, as well as the need. It is important to realise that needs identification can give rise to expectations (Swanepoel & de Beer, 2006:37).

It is always important that people forming an action group should feel the identified need to be their own. The community development worker should be careful not to impose needs on people or to organise people for what they regard as a good cause. People will not easily be moved to action if they do not feel a need, irrespective of the reality and urgency of that need. For this reason, the felt need must receive preference, even if the community development worker feels otherwise about the needs. It is necessary for the community development worker to work through the felt need in order to bring the action group to the real need (Swanepoel & de Beer, 2006:174-175).

Different groups of people may be concerned about different needs, or they may have different perceptions about the same needs. If different people have different needs, grouping becomes necessary so that they address different needs. The only limitation is the capacity of the community development worker to facilitate many projects. It is always important that a project be focused on a single need, especially if the action group and the community development workers are unsure of themselves or have a base of skills or other capacities and capabilities. There is nothing wrong with admitting that there are several needs in order to identify them. The needs must then be ranked in order of priority according to urgency or do-ability, or whatever other criteria is chosen, so that they can be tackled at a time (Swanepoel & de Beer 2006:173).

Alfred and Odefadehan (2007:65-71) have indicated that the information needs of extension officers have been found to include technical, commercial, social, legal and general information. Training, supervision, management, conferences/seminars, and research reports were among the most expressed by the extension workers as information needs for extension activities.

Needs assessment appears to inform decision-making in relation to four main questions:

(i) Whether to intervene;

(ii) The nature and scale of the intervention;

(iii) Prioritisation and allocation of resources; and

(iv) Programme design and planning. Formal needs assessments may also aim to force a decision by others, to influence the nature of others' decisions, or to verify or justify decisions already taken (Darcy & Hofmann, 2003).

The results of formal assessments, involving systematic data collection and analysis, derive their validity from the methods used and the way they are applied, rather than from the judgment of the individual (Darcy & Hofmann, 2003). In practice, questions about validity and accuracy often surround the results of such assessments; error and bias are hard to exclude, and confidence intervals for the data produced may be wide. Additionally, the interpretation of the results and the conclusions based on them may be highly subjective according to the observer, their frame of reference and the other information available. Good assessment practice is about having enough relevant information on which to base sound analyses and

judgments about response. What constitutes 'enough' may depend on the context and the level of risk that people face.

2.4.3 Consultation during needs assessment

Consultation with, and the involvement of, potential beneficiaries in the assessment process is inconsistent and sometimes absent (Atkinson, 1999:337-342). An assessment of people's capacity to cope should state the risks to which they are most susceptible, and should differentiate more clearly the levels of risk faced, as a basis for determining appropriately prioritised and targeted responses.

Any assessment must also consider the question of state and local capacity and responsibility (Darcy & Hofmann, 2003). The extent of the need for supplementary or substitute services from the international humanitarian system will depend in part on the capacity and willingness of the controlling authorities to provide for the needs of the affected population. An awareness of the primary responsibility of those authorities for people's welfare, and the extent to which it is fulfilled, should inform every needs assessment.

2.4.4 Training needs of extension officers

Formal and non-formal educational approaches, according to Steele (2002:38-39), must be tailored to prepare extension workers with social skills to complement their competence in relevant technical knowledge and skills. Technical assistance can be defined as "any activity that enhances human and institutional capabilities through the transfer, adaptation, and use of knowledge, skills, and technology" (Wallace, 1990:26, cited by Carlson,(2002:61-63).Empowerment needs to be the *guiding principle* of development. It is not just economic development, but rather development in all of its conceptions as it relates to human beings. As a guiding principle, empowerment and development are defined by the expansion of freedom. Expansion of freedom is "both the primary end and the principle means of development" and "the removal of substantial unfreedoms is *constitutive* of development" (Sen, 1999: xii, cited by Bartholomew & Bourdon (2002:29-31).

2.4.5 Training needs of farmers

Communication processes among farmers need to be active so that the farmers can search for and select their own new technologies and practices. Helping people at all levels to communicate effectively empowers them to recognise important issues and find common

ground for action, and builds a sense of identity and participation in order to implement decisions (López & Bruening, 2002).

Gebede (1992), cited by Burger (1995), identified, inter alia, the following training needs of an emerging farmer:

(i) Communication training to enable the farmer to be equipped for the assimilation of new innovations;

(ii) Technical training appropriate to the technical fields pertaining to his or her business activities; and

(iii) Financial Management training in budgeting, production costs, marketing and the determination of gross margins.

2.5 CONCLUSION

The reviewed literature dealt with aspects of participation, the role players, such as project beneficiaries, community, and stakeholders, and the success and failures of projects. The literature relates well with questionnaire and almost all questions have direct links with the literature. There are lesson learnt from the literature and therefore conclusions can be drawn regarding:

(a) Operational definitions that I can settle, which should define project operations in the North West Province, are:

- Participation: – Different authors define participation differently, but I have settled for: active involvement in decision-making and control over decisions to embrace the expression in the philosophy of help towards self-help, self-sufficiency, determination and self-responsibility.
- Beneficiaries: - Someone who is a direct beneficiary of the project.
- Stakeholders: - A stakeholder is someone with real interest in the project or its outcome and will not ask permission to be a project stakeholder.
- Failure: - A project that cannot achieve its scope, goals, budget, schedule, is not viable and not meet customer requirements.
- Success: - A project is generally deemed successful if meets the following requirements: (a) it has pre-determined agreed-upon goals, schedule, and budget

(b) it is viable, (c) it has a flexible plan and a committed team, and (d) it satisfies the expectation of all its beneficiaries and stakeholder groups.

- Project: - The North West government invests much more money over years to establish projects in order to improve the livelihood of its people, and against this background, a project is: an investment activity (which has time frames, objectives, a budget, a life cycle, team roles and relationships) that creates capital assets to benefit intended beneficiaries.

(b) Elements of participation that I would like to see in a project in the North West Province are:

- Active participation of beneficiaries.
- Involvement of stakeholders and the community.
- Extension officers to provide technical guidance.
- Involvement of beneficiaries in decision-making.
- Consultation with beneficiaries in all aspects of project development.
- Beneficiaries are allowed to initiate development.
- Information should reach beneficiaries in time.
- Beneficiaries to assist in planning their project.

CHAPTER 3:
RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter describes the research methodology that was followed in this study. It outlines the description of the research area where the study was conducted, research design, study population and sampling, instrumentation and data collection, interview procedure, data analysis, reliability and validity, measurement of the study variables, and limitations of the study.

3.2 DESCRIPTION OF THE RESEARCH AREA

3.2.1 Reasons for choosing North West Province

The North West Province was the choice of the research area. The researcher is employed in the North West Province as a Director of Bojanala District and also as a Provincial Extension Recovery Plan (ERP) Coordinator, and perceived a need to investigate the perceptions of project participants and extension officers in all varieties of projects in the Province.

3.2.2 Description of the Province

North West Province occupies a total area of 116 320 km² (9,5% of the total area of South Africa) which makes it the sixth largest Province. It is situated on the north-western side of South Africa and its capital is called Mahikeng (formerly Mafikeng). It has four districts namely, Ngaka Modiri Molema, Dr Kenneth Kaunda, Dr Ruth Segomotsi Mompati, and Bojanala District, as well as twenty local municipalities. It is considered to have the most uniform terrain of all the Provinces, with an altitude ranging from 920 to1782 metres above sea level. Approximately 85% of the total surface area is classified as agricultural land, with 34% of the agricultural land classified as potentially arable and 66% as grazing land. According to Anon. (2010), the distribution of land reform projects in the districts is as follows: Bojanala, 58; Dr Kenneth Kaunda, 57; Ngaka Modiri Molema, 101; and Dr Ruth Segomotsi Mompati, 126. The Province has a dualistic agricultural economy, which comprises a well-developed commercial sector and a predominantly subsistence sector, and the study was done on the latter.

3.2.3 The population

The total population of North West Province is 3 669 349, distributed in four districts and twenty local municipalities, in 116 320 square kilometres. Its population density is ranked number seven in South Africa. The farming profile constitutes 30% farm workers, 63% sub-commercial farmers, 3% new entrant farmers and 4% commercial farmers (Visser, Marfo, Maclaren, Ramatlape & Chadi, 2002; Anon., 2008).

3.3 SIGNIFICANCE OF THE STUDY

This study seeks to look for solutions for promoting the concept and practice of people's participation in rural development activities, and to go beyond recommending strategies or programmes or models that can be used to support the practical implementation of participation in projects. It should not be seen to be limited to needs identification, but it should go beyond that. The existing planning procedures for the projects are not based on the understanding of the critical ingredients of participation, namely implementation, decision making, project ownership, accountability and project evaluation. This study should also provide (i) a clearer and more concrete interpretation of the methodology of promoting participation, (ii) a useful guide for policy formulation, (iii) a platform for the identification of future research priorities, (iv) and the formulation of an extension approach to project or programmes.

3.4 RESEARCH DESIGN

3.4.1 Gathering statistical information

Provincial statistical figures for projects were extracted from Provincial office and district reports. Local Agricultural Development Centres (LADC) were visited to establish the location, types and sizes of projects. A list of project participants and extension officers participating in projects was received from both the districts and LADCs. Head office was consulted to verify the number of projects established and the amount of money spent on them. National provided statistics about all grant funds approved, and the money allocated to North West Province per grant fund. Technical information, such as the potential of the areas, land use, soil types and livestock breeds, was obtained from the Scientific Technical Support Services (STSS) in Potchefstroom.

3.4.2 Problem conceptualisation framework

Problem conceptualisation is a hypothetical construct providing a scientific basis for a purposeful, systematic probing into the causes of a problem (Düvel,1995). The initial step was to formulate a problem as concisely as possible. The second step was to break it down in terms of the cause and this was made as systematic and specific as possible. To achieve this, a question was posed, "what does this entail or compose", and what is the cause or are the causes. The purpose of this is to ensure that the problem is specified and subdivided into its more specific facets. Only when these questions can no longer be asked meaningfully, are the causes examined. Every possible answer or cause should then again be specified according to the question, and what it comprises, before further causes of the aforementioned causes are listed. This framework assisted in the development of the research questions and is attached towards the end of the document.

3.4.3 The questionnaire design

The questionnaire was designed according to the problem conceptualisation framework method as formulated by Düvel (1995:38-43).

Questions were very specific to minimise misunderstanding between enumerator and respondent. Structured and unstructured questions were used. Unstructured questions were used in areas where answers were expected to be variable. To ensure the flow of thinking, the questionnaire was divided into several distinct sections of the sub-hypotheses, namely:

1. A description of socio-economic aspects of project participants and extension officer respondents

1.1 The location of the project.

1.2 Age distribution of the project respondents.

1.3 Marital status of the respondents.

1.4 Gender of the respondents.

1.5 Family size of the respondents.

1.6 Educational qualification of the respondents.

1.7 Non-farming and other farming-related income of the respondents.

1.8 Income of respondents.

1.9 The types of programme..

1.10 The size of the projects.

1.11 Value adding in projects.

1.12 Project status.

1.13 The legally registered and non-registered projects.

1.14 Project accessibility.

2. The perception and knowledge of project participants and extension officers concerning participation in projects

2.1 Project planning.

2.2 The market.

2.3 Production of the project.

2.4 Selection of project participants.

2.5 Participatory approach.

2.6 Community support.

2.7 Degree of involvement of project participants.

2.8 Additional commitment of project participants.

2.9 The extension support system.

3. The perception of project participants and extension officers concerning the beneficiaries' needs in projects

3.1 Need as an intervening variable.

3.2 Training as an intervening variable.

3.3 The importance of needs assessment.

3.4 Production knowledge.

3.4.4 Type of questions

A combination of structured (closed) and unstructured (open-ended) questions were used. Unstructured questions were used to obtain both the perceptions and feelings of the farmers, and enabled farmers to express themselves adequately during the interview.

3.4.5 Literature review

A literature review of books, journals, magazines, Google search results, and notes from the university was carried out. A detailed literature review was done on projects, beneficiaries' needs, and participation, as well as on factors of socio-economic aspects of the projects. A combination of recent and older literature was examined. The older literature was used to show where some concepts had originated or how some concepts had been viewed in those days. The conclusion drawn and lesson learnt are highlighted at the end of the literature review. Working definitions of some concepts emerge from the literature review. Apart from the literature review, face to face meetings with various people involved in agricultural projects were carried out. People consulted were private consultants, project managers, extension officers, lecturers and professors.

3.4.6 Seeking approval from the Department of Agriculture and Rural Development (DARD)

The Chief Director of DARD responsible for districts was consulted about the intentions of the study and his opinion about the study was also sought. He made inputs and also approved the study, which resulted in slight changes to the questionnaire. Approval was based on supporting the study by allowing the researcher to do it during working hours, and making extension officers available as and when they were needed.

3.4.7 Survey

Before the survey could be carried out, the questionnaire was tested and changes were made to those questions which were not clear. A reconnaissance survey was done in all

districts to check the status of projects before the actual commencement of an in-depth survey. Field staff were consulted on various aspects of the survey. The respondents of the study were project participants and extension officers.

3.5 STUDY POPULATION AND SAMPLING PROCEDURE

3.5.1 Study population

A total of 544 projects were submitted by districts, ranging from household to commercial projects, and 134 were selected for survey. The 25% covered diverse projects established in different locations, from groups to individuals, from communal structures to private land, and from dormant to fully-fledged functional projects. Also included were projects funded by CASP, Land Care, Equitable Share or Settlement Support, and projects established at different authority levels, some with an open market in townships, and some with pre-arranged markets. Most of the projects sampled were from the Bojanala District owing to the active participation of extension officers there. Moretele and Rustenburg had more projects than any other local offices of Bojanala because of the many agricultural activities taking place within these local municipalities.

3.5.2 Sampling procedure

Stratified random sampling was used. Projects were classified and listed according to different commodities. Since the plan was to select 25% of projects in the Province, projects for survey were listed and selected at an interval of four across all project classifications.

3.6 INSTRUMENTATION AND DATA COLLECTION

3.6.1 Instrumentation

The questionnaire was the only tool that was used to collect relevant data from all projects. It was tested before proceeding with the data collection. Testing was done as follows: agricultural extension officers and project participants were selected at random and were given the questionnaire to fill in. Those project participants who could not read and write were assisted by extension officers, and a meeting was arranged to discuss the questionnaire, after which changes were made where necessary. Agricultural Extension Officers were trained in a one-day workshop on how to fill in the questionnaire and how they should assist those who cannot read and write. Each district had a coordinator who ensured that the questionnaires were properly filled in. There was also a Provincial coordinator in the office of the researcher who also ensured that the questionnaires were properly filled in.

3.6.2 Data collection

The data that was collected from the projects through the questionnaire and was validated at LDC level by the district coordinator and the relevant extension officers. The Provincial coordinator also validated all questionnaires with the district coordinator to ensure a high degree of correctness, after which they were submitted to the researcher for capturing. Data was captured in a spread sheet and was submitted to a statistician for further refinement and analysis.

3.7 INTERVIEW PROCEDURE

In an effort to limit the “I don’t know”, “I’m not sure” and “That’s too private” responses, the importance of the respondent’s information was emphasised during the discussions. The flow of discussion was structured in such a way that the interview became interesting. Personal or sensitive questions, such as those relating to income, were asked towards the end of the interview. The extension officer respondents were thoroughly trained about how the questions should be responded to. They were further introduced to questions that they were supposed to answer as respondents, but being more relevant to the farmers, they were briefed about how to respond to them. The procedure of interview was structured as follows:

(i) Explanation of the purpose of study;

(ii) Point out up-front certain questions which might be sensitive;

(iii) Indicate number of farmer and extension officer respondents that were interviewed; and

(iv) At the end, thank the farmer for his or her participation.

3.8 DATA ANALYSIS

Data were entered into the Statistical Package for the Social Sciences (SPSS), version 19.0, and frequencies were run for each survey item by the Department of Statistics at the University of Pretoria. The frequencies reported in the results section vary depending on the number of responses for any item that were provided. For each variable, a cross-tabulation was done to compare the perceptions of extension officer respondents and project participants. Statistical tests performed assisted in determining the degree of significance in difference between the two respondents.

The following statistical tests were done:

(i) Pearson Chi-Square test;

(ii) t-test for Equality of Means;

(iii) Levene's Test for Equality of Variances; and

(iv) Fisher's Exact Test.

3.9 RELIABILITY AND VALIDITY OF DATA

In an effort to increase the reliability and validity of the data, the administering of the questionnaire was done at LDC through the assistance of district coordinator, and at district level with the assistance of an officer in the researcher's office. This officer was tasked to visit all districts to check the correctness of all the questionnaires. Furthermore, the data capture operator was also tasked to check the information before capturing. From the fact that the interview was conducted by extension officers, the farmer respondents were more relaxed and could talk in more detail about sensitive issues, such as their incomes and also their incomes generated outside the project.

3.10 MEASUREMENT OF THE STUDY VARIABLES

Variables identified for the study were classified under the following main headings set out in Chapters 5, 6 and 7:

(a) Socio-economic aspects of the projects (V1-29)

(b) Beneficiaries' needs (V30 – 128)

(c) Participation in projects (V129 – 142).

Each and every variable was used in the study and this contributed in providing useful information, as captured in the study. To measure each variable, a scale was developed for each and every question. Unstructured questions did not have scales and the researcher required respondents to provide their own opinions.

3.11 LIMITATIONS OF THE STUDY

Although the study was supported fully by the Department, there were limitations, namely:

- The initial intention of the study was to sample 35% of the projects in the whole Province. Owing to lack of support from some senior managers during project submission to the researcher, the number of projects for the research was scaled down to 25%.
- Documents, including project lists, from various districts did not arrive in time, and as such management had to intervene, and some lists were submitted with an incorrect format and this caused a delay in commencing with the survey.
- Some projects which could have been part of the survey were not considered because of lack of information from districts.

CHAPTER 4:
NORTH WEST PROVINCE OF SOUTH AFRICA: AN OVERVIEW

4.1 INTRODUCTION

This chapter gives an overview and the background of the North West Province in terms of its socio-economic features, status of agriculture, municipalities, land and climate. This overview provides the broader context within which the projects operate and project participants and their agricultural activities operate.

4.2 GEOGRAPHICAL LOCATION AND SIZE

The NWP, the sixth largest of South Africa's provinces, occupies a total area of 116 320 km² (9,5% of the total area of South Africa). It is geographically situated between 25 and 28 degrees south of the equator and 22 and 28 degrees longitude east of the Greenwich meridian, and has the third lowest population density in South Africa. Almost 23% of the population lives in the formal urban areas, which offer better work opportunities than the rural areas. These areas are concentrated in the Ngaka Modiri Molema, Dr Kenneth Kaunda and Bojanala Districts. Similar to major centres in the country, towns such as Klerksdorp, Rustenburg and Potchefstroom have substantially gained lower-income migrants over the last 5 years. Based on the concept of mobility transition, and the tendency of less-educated people to largely engage in stepwise and chain migration, it seems logical that local urban centres have attracted local migrants. However, because of mining activities, especially in Klerksdorp and Rustenburg, migrants from as far as Lesotho, Zimbabwe, and other provinces within South Africa are also present. These migrants are mainly accommodated in informal settlements (Tladi, Baloyi & Marfo, 2002).

Most of the rural communities are found in the Dr Ruth Segomotsi Mompati District, followed by the Ngaka Modiri Molema, Bojanala and Dr Kenneth Kaunda Districts. Rural villages in the west and north are small and scattered, and the majority of which are located in the former Bophuthatswana homeland areas. Most of these communal areas are also over-crowded, giving rise to squatter settlements. The historically white rural areas are dominated by commercial farms with a few, large villages and formal towns (Anon., 2008).

4.3 TOPOGRAPHY

The NWP is considered to have the most uniform terrain of all the provinces, with an altitude ranging from 920 to 1 782 metres above sea level. Ngaka Modiri Molema and Dr Ruth Segomotsi Mompati districts are characterised by flat or gently undulating plains. Dunes associated with the arid environment of the Kalahari occur in the farthest part of Dr Ruth Segomotsi Mompati District.

The Bojanala District, including a portion of Ngaka Modiri Molema (east and north-east of Zeerust), is of a more variable topography, giving rise to the Magaliesberg mountain range formation. Another prominent feature in Bojanala is the Pilanesberg, which consists of a formation of concentric hills or ring-dykes, the remnants of an ancient volcano (Anon., 2008).

The province is situated on the north-western side of South Africa and its capital is called Mahikeng (formerly Mafikeng), shown in Figure 4.1 below.

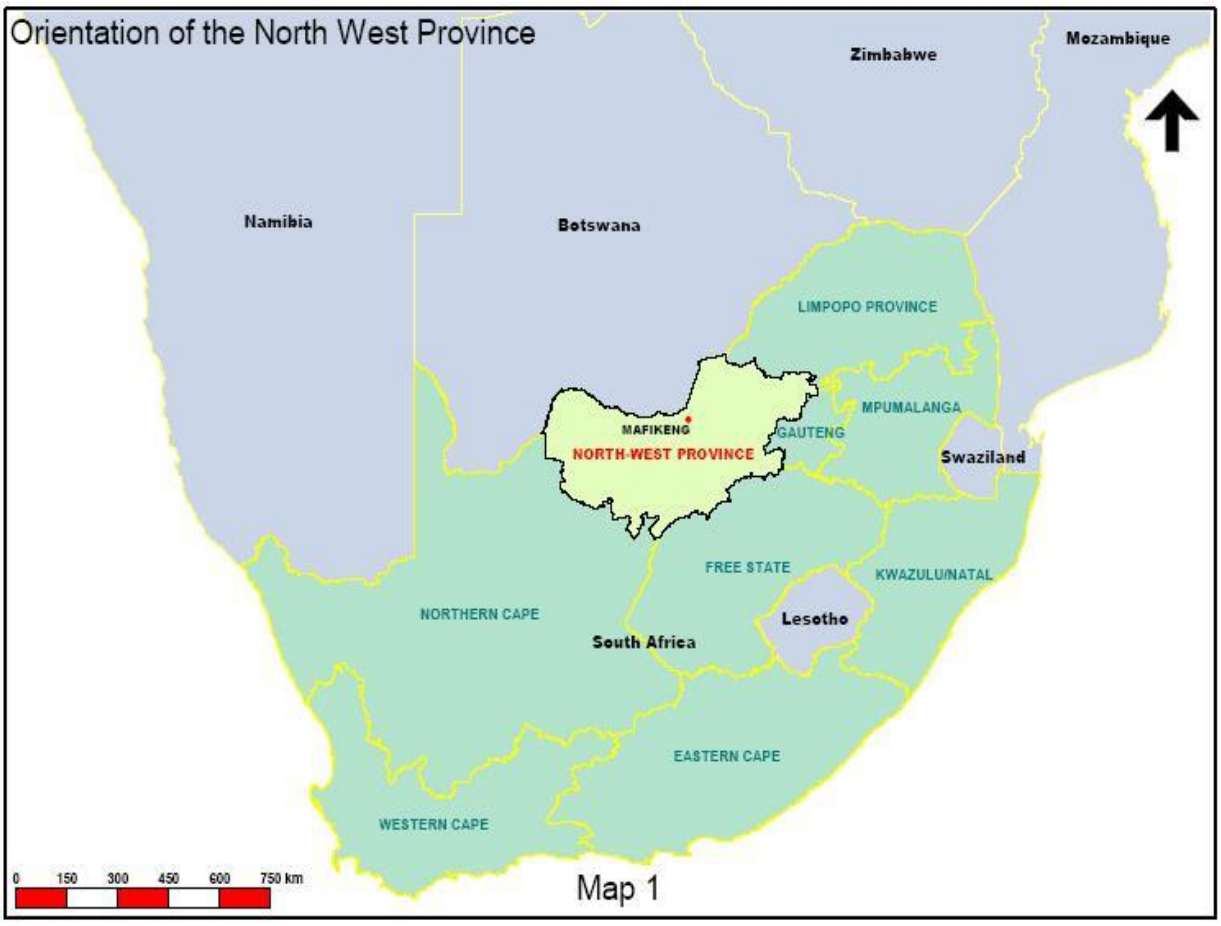

Figure 4.1: Location of North West Province in South Africa

(Sources: Anon., 2008; Anon., 2009a; Anon., 2009b, and de Villiers & Mangold, 2002)

The Province boarders several districts of Botswana and the following provinces in South Africa: Limpopo on the north-east, Free State on the south-east, Gauteng on the east, and Northern Cape on the south-west (Anon., 2009a:1-5; Anon., 2009b).

4.4 HISTORY

The NWP was established on the 27th April 1994 and includes some parts of the former Transvaal Province, Cape Province and Bophuthatswana homeland. Some parts of the Province were cut out as a result of a cross-border review exercise and also as a result of violence, as happened in Merafong City Local Municipality. Merafong was then transferred to Gauteng Province. The Province has inherited two Universities, one being the North West University, which is located in Mmabatho and was formerly called the University of Bophuthatswana, founded in 1979. The second one is the Potchefstroom University of Christian Higher Education, founded in 1869, which became a constituent College of the University of South Africa in 1921 and an independent university in 1951 (Anon., 2009a). These universities have now merged to form the North West University. Colleges of agriculture, education, primary schools, and high schools were also inherited by the Province from the Transvaal Administration and the homeland of Bophuthatswana. Salient features of the Province are shown in Table 4.1 below.

Table 4.1: Salient features of the North West Province

Established	**27 April 1994**
Capital	Mafikeng
Districts	• Bojanala Platinum • Ngaka Modiri Molema • Dr Ruth Segomotsi Mompati • Dr Kenneth Kaunda
Government type	Parliamentary System
Area Rank	6th in South Africa
Highest Elevation	1 805 m
Population Density Rank	7th in South Africa
Population	3 669 349
Area (km)	116 320 square kilometres
Rainfall	400 – 700 mm

(Sources: Anon., 2009a; Anon., 2009b)

4.5 MUNICIPALITIES OF THE NORTH WEST PROVINCE

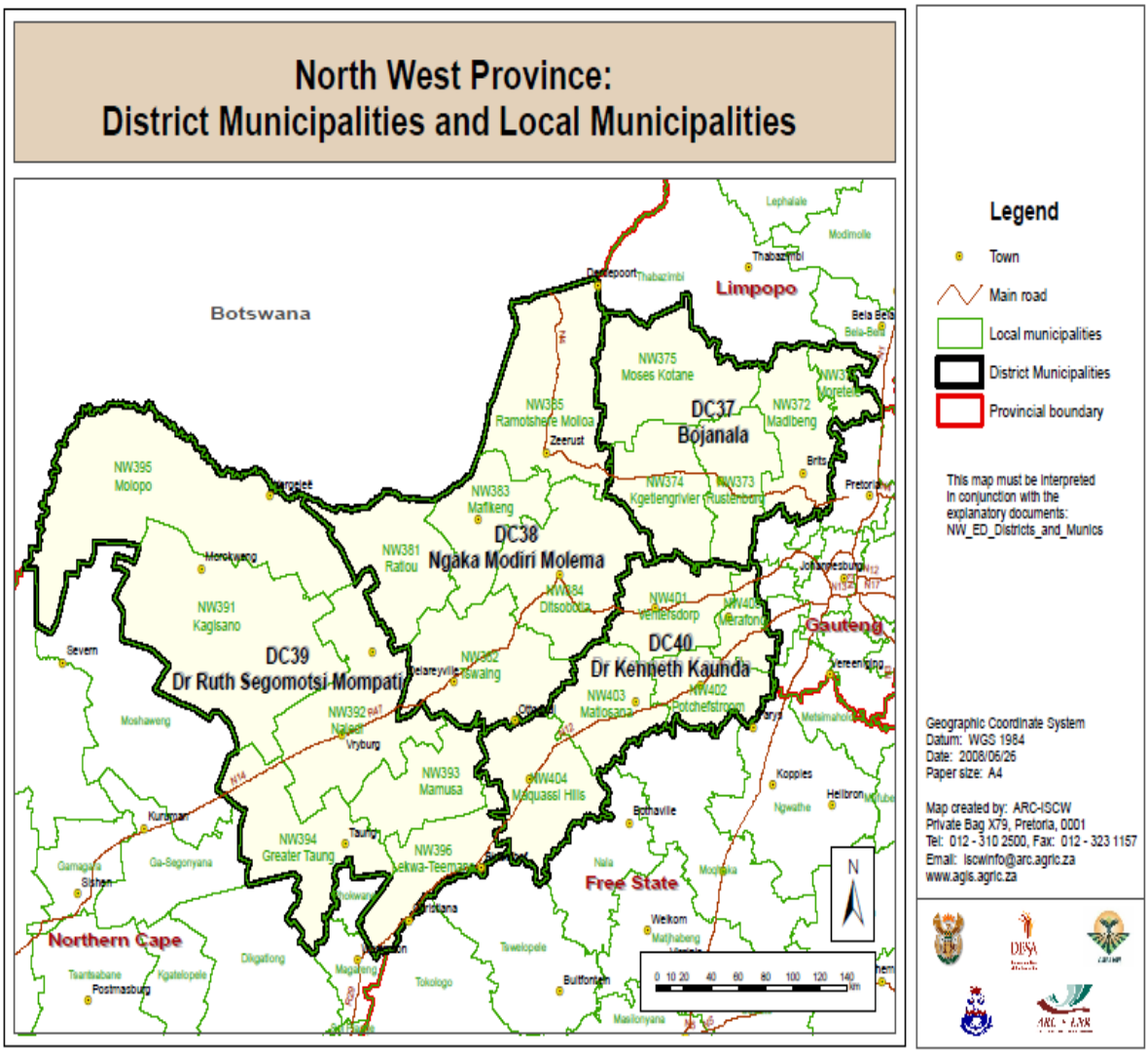

Figure 4.2: District and local municipalities of the North West Province

(Source: ARC-ISCW, 2008)

The Province has 4 district municipalities and 20 local municipalities. Table 4.2 below and Figure 4.2 above show the four districts and their local municipalities.

Table 4.2: Four Districts and their local Municipalities

District Municipalities	Bojanala Platinum	Dr Kenneth Kaunda	Ngaka Modiri Molema	Dr Ruth Segomotsi Mompati
Local Municipalities	• Moretele • Madibeng • Kgetleng-river • Rustenburg • Moses Kotane	• Ventersdorp • Tlokwe • Matlosana • Maquassi Hills	• Ratlou • Tswaing • Mafikeng • Ditsobotla • Ramotshere Moiloa	• Kagisano • Naledi • Mamusa • Greater Taung • Molopo • Lekwa-Teemane

(Sources: Anon., 2009c; Anon., 2009a)

4.6 SOCIO-ECONOMIC FEATURES

4.6.1 Mining

Known as the Platinum Province, mining is the mainstay of the North West's economy and it is one of the largest producers of platinum and related metals worldwide (Anon., 2009a; Anon., 2008). The Province is actually the largest contributor to South Africa's mining sector, supplying 64% of the country's platinum production, 46% of all granite and 25% of all gold mined. Mining accounts for 31% of the Province's GDP and uses 24% of the labour pool, which translates to over 64 000 jobs.

4.6.2 Community services

Community services, including government, comprise the second largest sector, contributing 16.3% to GDP and accounting for 18.4% of employment. Finance and business services rank third, with 14% of GDP and nearly 5% of employment, followed by Trade at 10% of GDP and 20% Gross Domestic Product of employment.

4.6.3 Manufacturing

Another strong growth sector is manufacturing, which currently contributes 5.6% of the Gross Domestic Product (GDP) and employs 7.6% of the Province's workforce. The North West boasts a sophisticated manufacturing base that includes a number of international corporations and offers many investment opportunities.

4.6.4 Agriculture

Another area with huge investment potential is agriculture. The region is one of South Africa's major maize farming areas, producing one third of the country's total maize crop. This sector contributes 3.4% to the regional GDP and accounts for over 8% of total employment.

4.6.5 Tourism

The Province also has a robust tourism industry, primarily driven by the world-famous Sun City complex and related events at resorts, such as the Two Million Dollar Golf Challenge.

4.6.6 Enterprises

The economy, with the exception of the mines, is characterised by small, medium and micro enterprises (SMMEs). Given the sensitivity of the Province's economy to world mineral prices, the North West Province plans to reduce its dependence on the mining sector, with an increased diversification to tourism, mineral beneficiation and non-mining related manufacturing industries, evident in the recent 4.5% year-on-year growth in this sector (Anon., 2009a).

4.7 STATUS OF AGRICULTURE

4.7.1 Introduction

The NWP is considered to be an important producer of the South African food basket. The Province produces a third of South Africa's maize, as well as other crops, such as sunflower oil, groundnuts, fruit, cotton and wheat. Agriculture in the wetter, eastern parts of the Province (Rustenburg and Brits areas) largely comprises livestock and crop farming with a variety of crops, including, citrus, wheat, peppers, cotton and sunflowers being cultivated.

General agricultural practices in the semi-arid areas of the Ngaka Modiri Molema and Dr Ruth Segomotsi Mompati districts of the Province include livestock and game farming. Some of the largest cattle herds in the world are found near Vryburg, located approximately 160 km southwest of the provincial capital, Mafikeng (Anon., 2008; Masigo & Matshego, 2002:1-10). The second largest irrigation scheme in the southern hemisphere, generally referred to as the Vaal-Harts Irrigation Scheme, is located along the Crocodile, Vaal and Harts rivers. The irrigation scheme covers an area measuring 43,700 hectares (ha) in extent. The game farming industry has become a major economic force within the Province. A large number of stock farmers have converted their stock farming enterprises to game farming, although a number of farmers continue to farm game and livestock on the same properties.

4.7.2 Farming profile

(i) Farmers

The farming profile in the North West Province constitutes the following: 30% farm workers, 63% sub-commercial farmers, 3% new-entrant farmers, and 4% commercial farmers. At present, despite the relatively small percentage of commercial farmers, this client group produces in excess of 80% of the agricultural produce in the Province in terms of produce that is traded (Visser, Marfo, Maclaren, Ramatlape & Chadi, 2002; Anon., 2008).

(ii) Classification of land

Of the total surface area of NWP, approximately 85% (10 million ha) is classified as agricultural land, with 34% of the agricultural land classified as potentially arable and 66% as grazing land . However, much of the Province consists of affected dry lands (30%), which are characterised by low annual rainfalls and high evaporation rates. These areas are sensitive and highly susceptible to erosion. As a result, irrigation schemes are utilised for both arable land and established pastures (Anon., 2010).

(iii) Agricultural activities

According to Visser *et al*. (2002), the agricultural activities in the eastern, higher rainfall area parts of the Province are mainly livestock and cropping, while extensive livestock and wildlife farming occurs in the drier, western areas. Total field crops occupy about 2, 06 million ha; horticultural crops about 67 879 ha; grazing land about 2, 97 million ha, and mixed farming, about 1, 2 million ha. Of the total arable land in the Province, less than 3% is under irrigation

(NDA, 2001 cited by Visser *et al*., 2002). There are three major irrigation schemes located on the Crocodile, Vaal and Harts Rivers, respectively.

4.7.3 Climate

Climatic conditions in the Province vary significantly from west to east. The far western parts of the province are arid. The central parts of the Province are dominated by typically semi-arid conditions, with the eastern region being predominantly temperate (Anon., 2010).

The rainfall pattern is highly variable, both spatially and temporally, and largely mirrors the prevailing climatic conditions of the Province. On average, the western region receives less than 300 mm per annum, the central region around 550 mm per annum, while the eastern and south-eastern region receive over 600 mm per annum (de Villiers & Mangold, 2002).

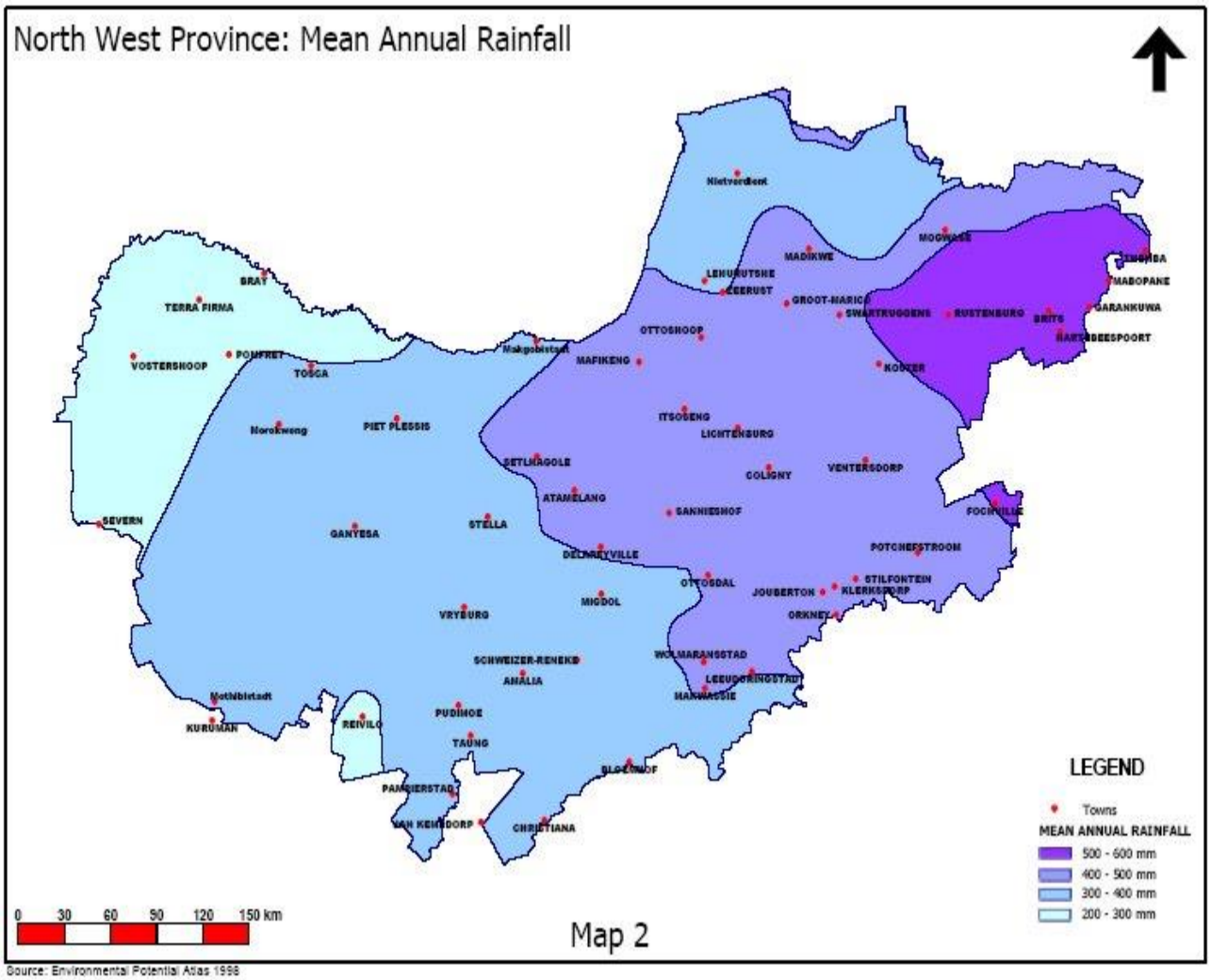

Figure 4.3: Rainfall of the North West Province (Source: de Villiers & Mangold, 2002

In the Table 4.3 below, the temperature, precipitation and humidity levels are indicated.

Table 4.3: Temperature, precipitation and humidity levels for select weather stations in the North West Province

STATIONS	MEAN TEMPERATURES (ºC)		PRECIPITATION (mm)			MEAN RELATIVE HUMIDITY (%)	
	JAN	JUL	MEAN	HIGH	LOW	JAN	JUNE
VRYBURG	32,6	-0,6	_	_	_	_	_
CHRISTIANA	32,3	3,0	_	_	_	_	_
MAFIKENG	30,4	3,0	553	868	265	65	35
POTCHEFSTROOM	29,1	0,3	625	980	365	71	36
VENTERSDORP	28,6	-1,3	_	_	_	_	_
LICHTENBURG	28,1	1,9	602	965	380	_	_
ZEERUST	30,8	-0,8	600	1002	390	69	36
RUSTENBURG	30,6	1,8	685	1067	370	70	40
BRITS	30,3	1,3	621	886	338	71	36
MARICO	31,2	3,5	657	1062	299	_	_
LINLEYSPOORT	29,6	4,1	677	1097	247	_	_
SAULSPOORT	31,2	3,2	659	947	367	63	36

(Source: South African Weather Bureau, cited by de Villiers & Mangold, 2002)

The mean maximum and minimum temperatures from different weather stations were between 27, 6 and 32,7^{0}c (maximum) in January, and between 1.3 and 4.1^{0}c (minimum) in July. As far as precipitation is concerned, it is noticeable that the mean precipitation, between Lichtenburg (602 mm) and Rustenburg (685 mm), is in excess of 600 mm.

A third sub-region is distinguished, comprising the area located primarily on the Bushveld Complex (Anon, 2010). This area is at a lower altitude than both the previous sub-regions, and the climatic stations which can be used to describe its climatic conditions are those situated at Rustenburg, Brits, Lindleyspoort and Saulspoort. This region differs from the previous two regions, mainly with regard to its temperature regime. The maximum monthly temperature is similar to that of the Bankeveld, but its average daily minimum is markedly higher. Lindleyspoort has an average minimum daily temperature during the coldest month of 4,1ºC. The lowest ever recorded minimum temperatures of Rustenburg, Brits and Lindleyspoort are between -3, 3ºC and -6, 1ºC.

4.7.4 Land cover

The broad patterns of geology, soil types and climate are the major governing factors in the distribution of the Province's vegetation types. The following description of the vegetation patterns are based on the Low and Rebelo map (1998), referred to by de Villiers and Mangold (2002). However, between 50% and 60% of the natural vegetation types in the Province have been transformed through anthropogenic activities. Approximately 71, 5% of the Province falls within the Savannah Biome, with the following major vegetation types (percentage cover shown in parentheses):

- Kalahari Plains Thorn Bushveld (32, 93%);
- Mixed Bushveld, (16%) forming the main tree and shrub components;
- Kalahari Plateau Bushveld (9,46%);
- Kimberley Thorn Bushveld (7%);
- Clay Thorn Bushveld (6,01%);
- A very small portion (0.2%) of the Kalahari Mountain Bushveld; and
- The Grassveld Biome covers approximately 28,5% of the province, with the following major vegetation types:
    - Dry Sandy Grassveld (19,5%), where grasses are the dominant vegetation type.
    - Rocky Highveld Grassland (9%), with one of the most interesting varieties of grasses, forbs and trees.
    - The last and smallest of all veld types (0,1%) occurring in the Province is the 47 km portion of the Moist Cool Highveld Grassland.

4.7.5 Land use patterns

According to Meyer, Kellner, Viljoen (2002), understanding a land use pattern provides an important context for understanding land degradation.

Land use is also an important determinant of soil degradation. Soil degradation in the Province is primarily associated with the use of land for crop production, livestock production (veld) and settlements, based on the average soil degradation index (SDI) for the land use

types (Table 4.4 below). It is clear that the total soil degradation in the communal areas of the province exceeds that in the commercial areas. Increasing populations of people and their animals necessitates more intensive land use and higher production in some parts of the Province. The economic marginalisation of farmers has also forced them to utilise unsuitable natural resources, in risky climatic areas, in order to produce food (DEAT, 1999, cited by Meyer *et al*., 2002). Figure 4.4 below gives a clear indication of land use in the Province.

Table 4.4: The Soil Degradation Index value for different types of land use and mean values for commercial and communal areas for the index of soil degradation calculated as the severity plus the rate multiplied by the percentage area of each land use type

Land use type	**Soil Degradation index for each land use type and the total for each district**					
	Cropland	**Veld**	**Conserv.**	**Settlement**	**Other**	**Total**
Communal	34.1	136.1	2.5	62.1	2.7	237.5
Commercial	50.9	28.2	0.5	8.1	1.9	89.6
Average	**43.6**	**72.5**	**1.3**	**29.0**	**2.2**	**148.5**

(Source: Garland *et al*., 1999 cited by Meyer *et al*., 2002)

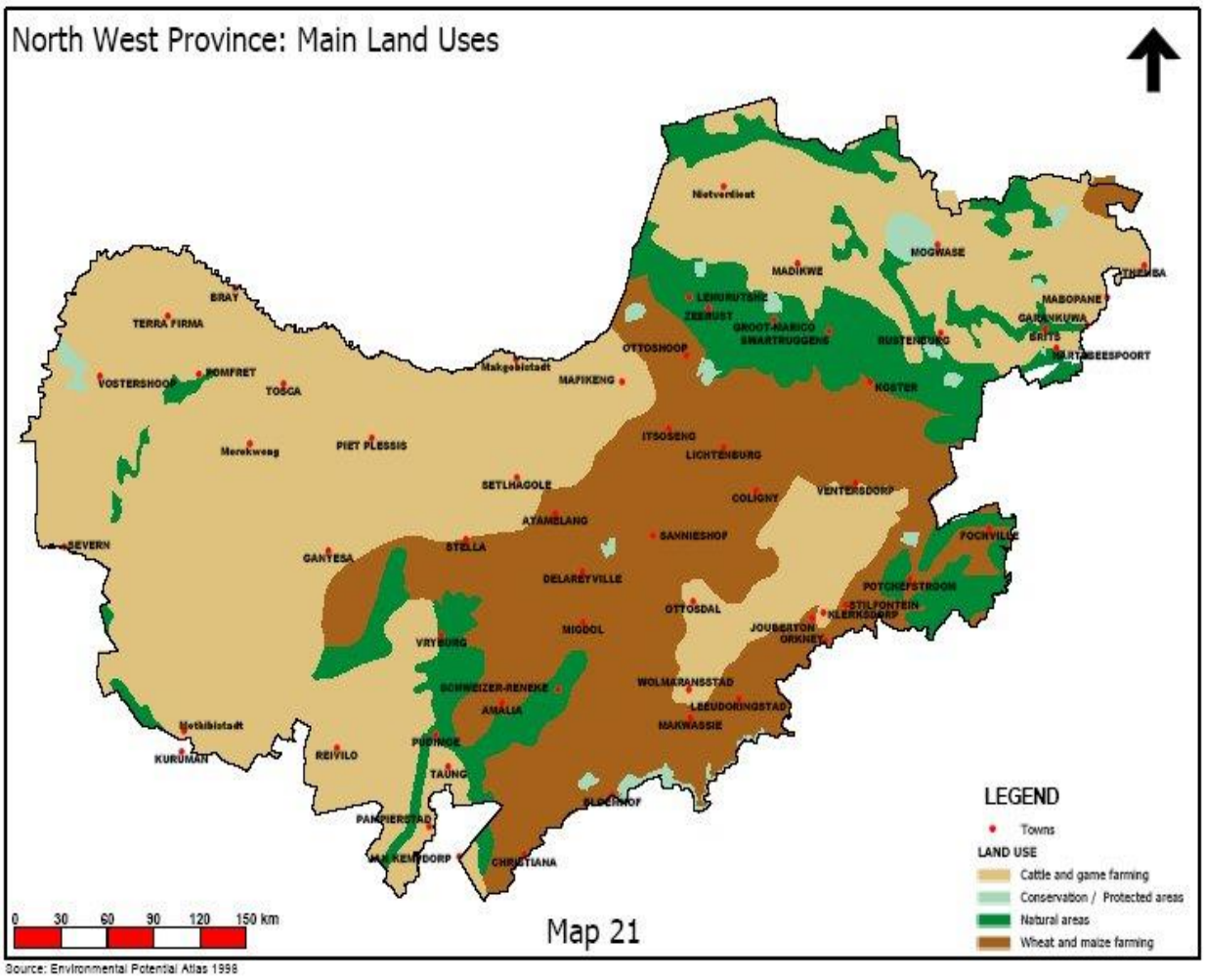

Figure 4.4: Land use in the North West Province (Sources: Meyer *et al*., 2002; Tladi *et al*., 2002)

The following factors have an influence on land degradation:

(i) Cropping

In crop farming, changes in land use intensity include an increasing reliance on the use of irrigation, fertilisers, pesticides and herbicides, and, more recently, genetically-engineered crops (DEAT, 1999 cited by Meyer *et al*., 2002). Most magisterial districts in the Province have shown an increase in land use intensity for croplands over the last ten years (Hoffman & Todd, 1999, cited by Anon., 2008).

(ii) Livestock production

In livestock farming, changes in land use intensity have led to stocking rates above recommended levels, resulting in overgrazing.

A total of 54% of land in the Province is used for grazing livestock. However, the shrinking of grazing lands was almost two times greater in communal magisterial districts when compared to commercial districts, while the expansion of other land uses (mining) was five times greater in commercial districts when compared to communal magisterial districts (Hoffman & Todd, 1999, cited by Anon., 2008).

(iii) Other land uses

Although land use intensity has increased, the size of the areas used for cropping and grazing in the Province has decreased over the last 10 years and the land used for settlements and other uses, for example mining, has increased.

4.7.6 Land ownership

The Province has a dualistic agricultural economy, which comprises a well-developed commercial sector (in the former South African areas) and a predominantly subsistence sector in the former Bophuthatswana homeland (Keyter, 1990, as cited by Visser *et al*., 2002).

The main objective of subsistence farming is to provide for household consumption, and it includes smaller and medium-scale agriculture, based upon diversified production and family labour. Of the total area of farmland in the Province, 33% lies in the former homelands (developing agriculture) with 67% being used for commercial agricultural enterprises. In the former homelands, 29% of the land is arable (71% grazing land) with the figures in commercial agriculture being 35% arable and 65% grazing land (Figure 4.5 below). Excluding the former homelands, there are approximately 7 600 commercial farming units in the Province. The number of small-scale farmers in the former homelands amounts to approximately 147 000 (Anon., 2008; Anon., 2010).

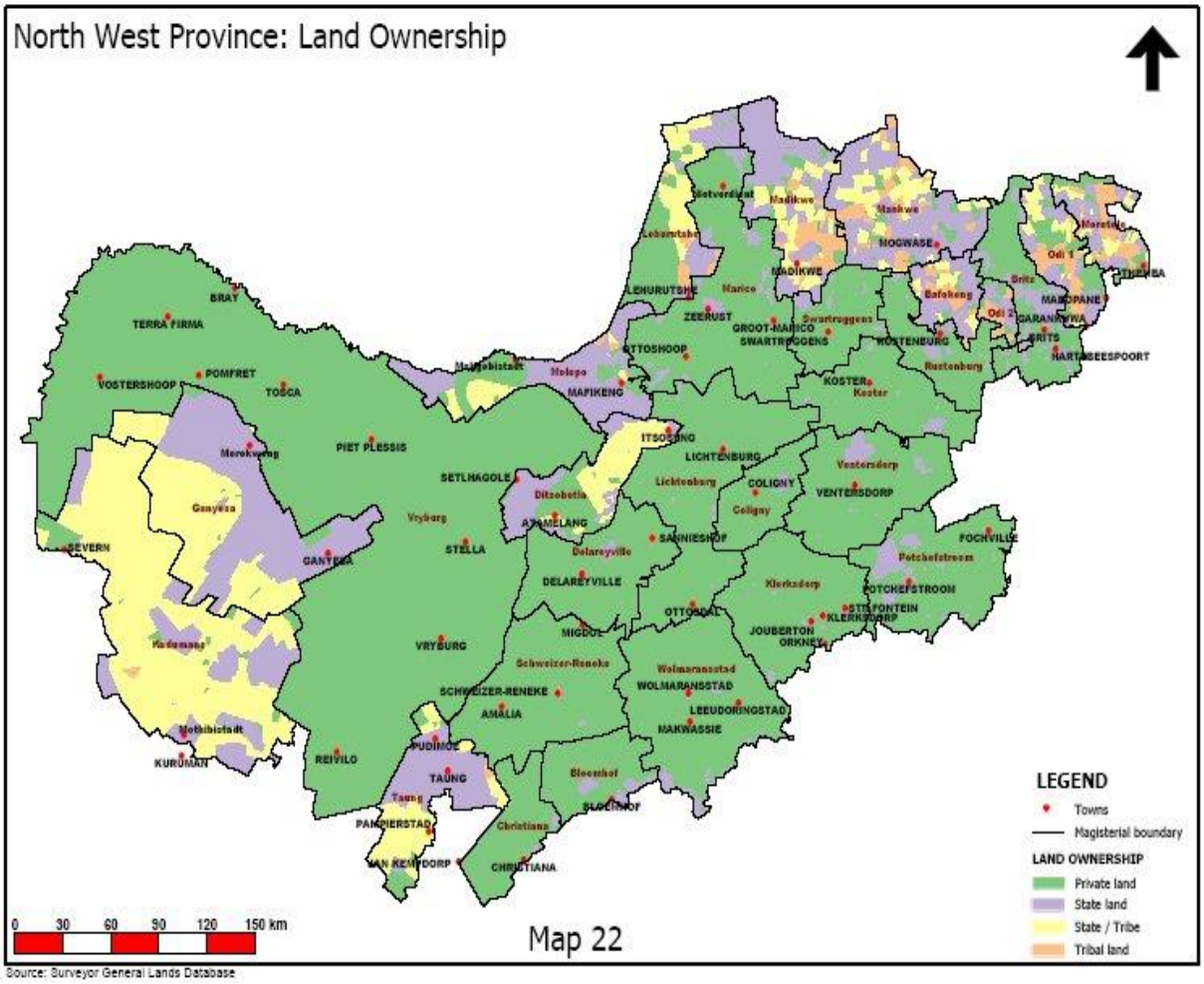

Figure 4.5: Land ownership in the North West Province (Source: Tladi *et al*., 2002)

4.7.7 Soil types

Large areas of yellow shifting sands occur in the north-western region of the Province, while a plinthic catena of yellowish-brown sandy loam is characteristic of the Dr Kenneth Kaunda and Bojanala Districts. The Ngaka Modiri Molema District has areas covered by red or brown non-shifting sands with rock. This region also has weakly developed lime soils associated with dolomite limestone formations. The south-western region also has areas characterised by undifferentiated rock and lithosols. Lithosols are shallow soils containing coarse fragments and solid rock at depths less than 30 cm.

The north-eastern portion of the Province has been shown to have lithosols of arenaceous sediments. The southern and central regions have black and red clays, as well as ferrisiallitic soils of sands, loams and clays. The drier, western region is characterised by red and yellow

arenosols, while the south-west has calcareous sands and loams and erinaceous lithosols (Meyer *et al*., 2002).

4.7.8 Soil potential

Soil potential for cultivation is affected by a number of factors, including climate (rainfall, evaporation rates), landscape morphology (hill slope gradients), depth of soils and composition of soils (relative percentages of clay, loam and sand) (Figure 4.6 below). Soil potential plays a significant role in determining whether land is arable or not and what types of crops can be grown.

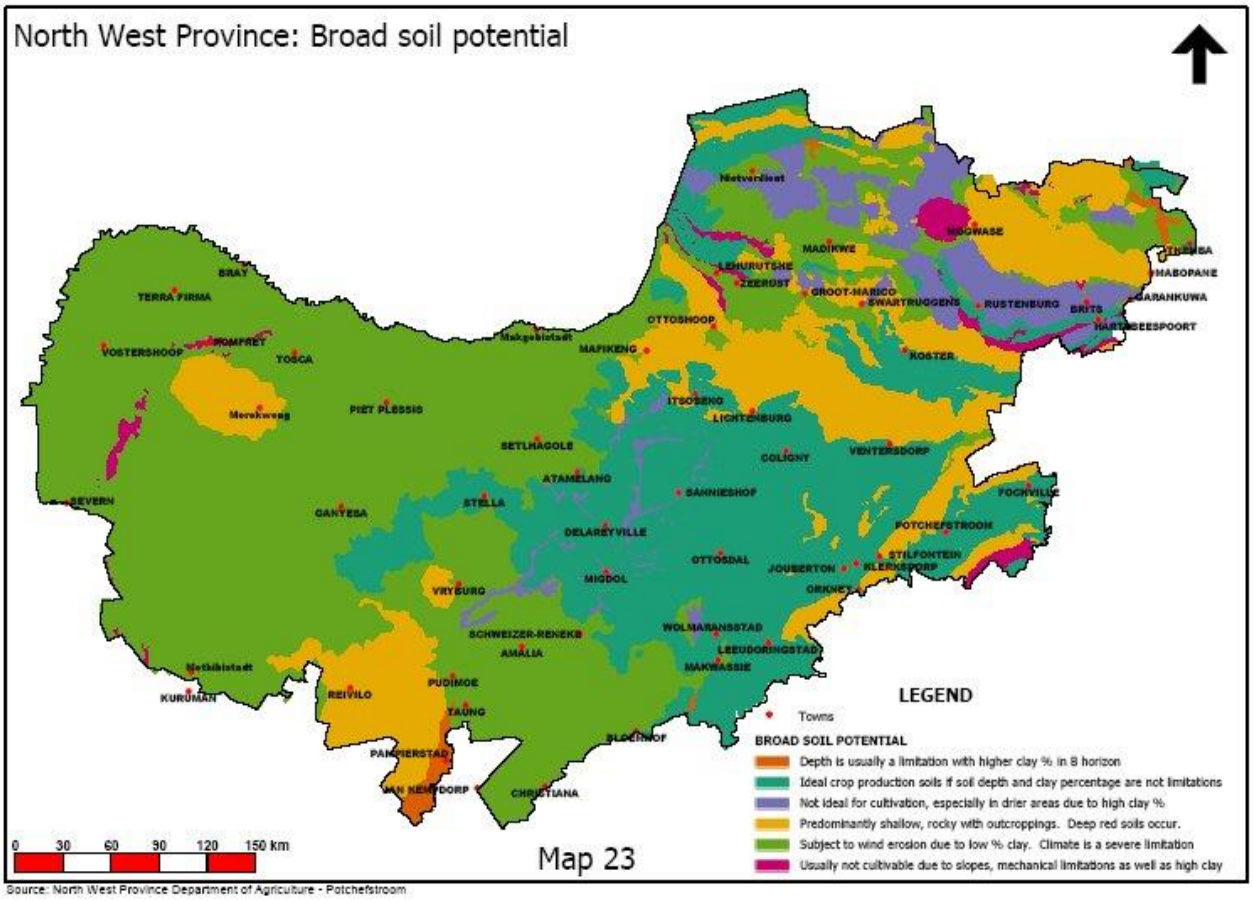

Figure 4.6: Broad soil potential of the North West Province (Source: Visser *et al*., 2002)

4.7.9 Water for agricultural purposes

4.7.9.1 Irrigation

The Province mainly relies on the Crocodile, Vaal, and Harts rivers for irrigation. Other small irrigation schemes include Manyeding, Bodibe and Tlhaping-Tlharo. Irrigation is limited to

certain areas adjoining river systems (Brits, Rustenburg, Taung, and Molopo), as well as isolated areas where irrigation from ground water sources is practiced (e.g. Ventersdorp area, Ottosdal area and Vryburg/Louwna area). These areas are used for mixed-crop farming, which includes tobacco, paprika, citrus, wheat, pepper, cotton and sunflowers (Visser *et al*., 2002).

In the heavily irrigated areas of the Province, including the Taung irrigation scheme, and in the commercial agricultural centres of Brits, Ventersdorp, Rustenburg, Lichtenburg, Potchefstroom and Coligny, about 30% of the soils of these irrigated lands have salinity problems (Meyer *et al*., 2002). This is ascribed to the acidifying effect of nitrogen fertilisers (Bloem & Botha, 1996, as cited by Meyer *et al*., 2002).

4.7.9.2 Sources of water

Water is one of the most critical and limiting natural resources. The four sources of water available in the Province are surface water, groundwater, imported water and re-usable effluent.

- **Surface water –** this comprises rivers, dams, pans, wetlands and dolomite eyes fed by underground springs. Apart from the highly variable precipitation from year to year, one of the most important factors affecting surface water in the Province is the highly variable but low actual runoff. Runoff, as a percentage of precipitation, ranges from less than 1% in the west to approximately 7% in the eastern parts of the Province. Average runoff for the Province is 6%, which is below the average of 9% for Southern Africa (Schulze, 1997).

- **Rivers** – being a predominantly dry Province, it has very few perennial rivers. Of the six major drainage basins in South Africa, the Limpopo, Orange and the Vaal partly fall within the boundaries of the Province. With the exception of the Vaal River, the highly variable runoff from the non-perennial water sources prohibits direct utilization by runoff-river abstraction on a large scale from major rivers in the Province.

- **Catchments** – The Limpopo River headwaters flow in a general northerly direction before diverting eastward, forming the border between South Africa and Botswana. The entire catchment of the Groot Marico River, which is one of the major headwater tributaries of the Limpopo, is located within the Province. The sources of the Ngotwane River, as well as the catchments of a number of other tributaries of the

Limpopo river system, lie within the boundaries of the Province, namely the Elands and Hex Rivers, which join the Crocodile.

Other rivers of the Limpopo River system that lie within the Province are the Magalies, Olifants, Moretele and Tolwane Rivers.

The Vaal River, which forms the southern boundary of the Province with the Free State, rises on the western slopes of the northern sector of the Drakensberg range in Mpumalanga, and flows about 900 km westwards across the interior plateau (Including Gauteng and the North West Province). It joins the Orange River near Douglas in the Northern Cape. Apart from the Molopo River, it is the only west-flowing river system in the North West Province and is known for its exceptional flood plains, wetland systems, dolomite eyes and natural riverine vegetation in the lower reaches. Major tributaries of the Vaal River, which have entire catchments within the North West Province, are the Harts, Dry Harts, Schoonspruit, Makwassiespruit and Bamboesspruit Rivers. The Mooi River, another major Vaal River system tributary, has its headwaters in the North West Province, but is joined by a number of tributaries flowing from Gauteng.

The Molopo River, which rises from the Molopo Eye near Mafikeng, flows westwards to form the northern border of the North West Province with Botswana. The Molopo River was once a tributary of the Orange River system, but being blocked by high dunes, it no longer reaches the Orange River (Midgley, Pitman & Middleton, 1994). It is currently non-perennial as its water is heavily abstracted at source. This river has a number of tributaries which fall within the Province, namely the Ramatlabamaspruit, Setlagolespruit, Ganyesaspruit and Pepanespruit, all of which are non-perennial. The Mathlaawaringspruit, a tributary of the Kuruman River, is the most south-westerly drainage line in the Province.

- **Impoundments** – excluding farm dams, the North West Province has thirty-seven large dams, ranging in yields from 0,41 m^3 per year (Feloana Dam) to 1 264,40 m^3 per year (Bloemhof Dam).

- **Groundwater** – although the North West Province has few surface water resources, it has a large reservoir of subterranean water in the form of fractured aquifers and dolomitic compartments. According to Nel *et al.* (1995), as cited by Anon. (2008),

groundwater regions in the North West Province can be divided into the following areas: (i) Ghaap plateau Dolomites, and (ii) Coetzersdam-Louwna.

- **Granite** – Gneiss region, (iii) Vryburg Basin, (iv) Kalahari Basin: Penrith-Radnor, (v) Western Transvaal Dolomite, (vi) other groundwater reserves. Although groundwater recharge varies from around 3 to 95 mm per year, the average for the Province is less than 10 mm per year, the lowest in South Africa (Schulze, 1997).

4.7.9.3 Land reform projects

The total land reform targets for both restitution and redistribution stands at 294 000 ha, as at March 2007. From 1994 to 2007, the North West Provincial Government transferred 216 000 ha of land under various land reform programmes (i.e. housing, tenure upgrades and farm settlement) (Anon., 2008). The land reform process has benefited over 10 000 households. Table 4.5 below indicates the distribution of land reform projects in the Province.

The North West Province Integrated Land and Agrarian Reform Process (NWILARP) provides an innovative framework for delivery and collaboration on land reform and agricultural support to accelerate the rate and sustainability of transformation through aligned and joint action between the North West Department of Agriculture and Rural Development (NWDARD), the Provincial Land Reform Office (PLRO), the Land Commission, and other involved stakeholders. NWILARP further intends to support initiatives that will have the maximum impact on: (1) the eradication of poverty, (2) job creation, and (3) economic growth, with specific focus on vulnerable groups, such as women and youth. The importance of cooperative governance, integration and coordination between the NWDARD, PLRO, Land Commission, Municipalities, agricultural state-owned enterprises (SOEs) and sector partners is highly emphasised in the roll out of the NWILARP.

One of the critical core features of the NWILARP is the added pro-active and integrated approach during implementation to fast-track land and agrarian reform. Focus areas have been defined for the North West Province (NWP), based on existing surveys and studies on opportunities, agricultural comparative advantages, and the needs of the target populations to be served.

These focus areas include:

- Livestock production and beneficiation;

- Dry land field crop production;
- Irrigation field crop production;
- Vegetable production;
- Dairy production, and
- Aquaculture/fish farming.

Each project within the NWILARP framework will be coherently planned and supported over a five-year incubation period, with the objective of achieving sustainability over this period. This support will be articulated in individual business plans which will be utilised for monitoring progress (Anon., 2008).

The annual provisional land acquisition targets for NWILARP over the following two years were 142 107 ha during 2008/09 and 284 214 ha for 2009/10, respectively. The total extent of land to have been transferred by 2010 was estimated at 426 321 ha. The Province envisaged placing, on average, 500 farmers per year, each possessing an average 500 ha for livestock production, 150 ha each for dry land crop production and 30 ha each for crop production under irrigation.

Table 4.5: Distribution of Land reform projects in districts and different Local Municipalities

Districts	Distribution of Land reform projects in local municipalities	
	Local municipality	Number of Projects
1. Bojanala	1. Kgetleng River	15
	2. Rustenburg	6
	3. Moses Kotane	1
	4. Madibeng	35
	5. Moretele	1
	Sub-total	58
2. Dr Kenneth Kaunda	1. Maquassi Hills	9
	2. Matlosana	17
	3. Tlokwe	19
	4. Ventersdorp	12
	Sub-total	57
3. Ngaka Modiri Molema	1. Ditsobotla	35
	2. Mahikeng	12
	3. Ramotshere Moiloa	22
	4. Ratlou	7
	5. Tswaing	25
	Sub-total	101
4. Dr Ruth Segomotsi Mompati	1. Greater Taung	6
	2. Kagisano	52
	3. Lekwa-teemane	3
	4. Mamusa	13
	5. Molopo	23
	6. Naledi	29
	Sub-total	126
	Grand –total	342

(Source: Anon., 2010)

4.7.10 Land Tenure

Settlement policies have created a patchwork of communal areas within a matrix comprising predominantly commercial areas. The location of communal areas in the North West Province is shown in Figure 4.7 below.

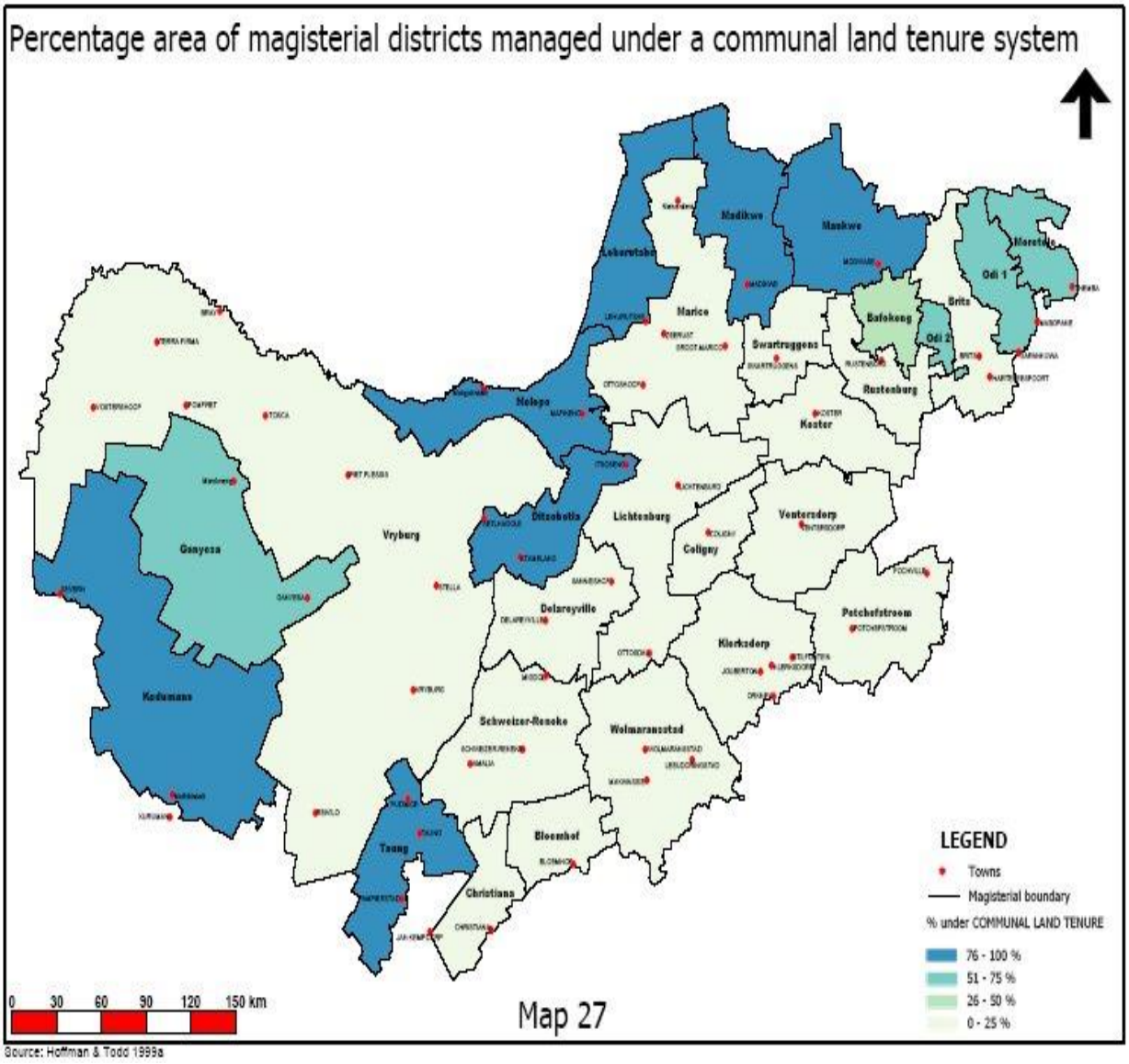

Figure 4.7: Magisterial Districts managed under Communal Land Tenure System (Source: Meyer *et al*., 2002)

The former states (homelands) and self-governing territories were largely managed under communal land tenure systems, even though numerous commercial ventures may currently be underway within these areas (Hoffman & Todd 1999, as cited by Meyer *et al*., 2002). As a

result, individuals in the communal areas generally have few rights to own and sell land, especially large parcels of rural land.

The commercial and communal areas in the North West Province are fairly similar in terms of biophysical and climatic attributes. The huge differences between communal and commercial areas in the Province only really emerge when land use, human population, labour and employment, and economic production indicators are considered. Although these latter differences can also be attributed to other factors, this is perceived as largely being the result of government policies and laws (Hoffman & Todd 1999, as cited by Meyer *et al*., 2002).

CHAPTER 5:
A DESCRIPTION AND COMPARISON OF SOCIO-ECONOMIC ASPECTS OF PROJECT PARTICIPANTS AND EXTENSION OFFICER RESPONDENTS

5.1 INTRODUCTION

This chapter deals with the perceptions of project participants and extension officers regarding the background information of project beneficiaries in relation to certain important independent variables in agricultural projects, such as location, age, marital status, gender, family size, education, profession, employment status and non-farming income.

5.2 LOCATION OF THE PROJECTS IN LOCAL AND DISTRICT OFFICES OF THE NORTH WEST PROVINCE

Agricultural projects in the North West Province are located at local and district authority levels, which varies in terms of project needs. Burke (2003:2-4, 48-59) stated that the location as a need is to be considered when listing viability checks for logistical requirements of the project operation through existing roads and paths and also how the product will affect the environment.

5.2.1 Location of the projects in Local Agricultural Development Centres of the North West Province

Projects are located in different Local Agricultural Development Centres (LADCs) which are aligned to municipal boundaries and which vary in size and economic activities. Table 5.1 below shows the distribution of projects in different LADCs.

Table 5.1: The location of the projects in the different Local Agricultural Development Centres as indicated by project participants and extension officer respondents

The Local Agricultural Development Centres (LADC) of the North West Province		Respondent categories		Total
		Project Participants	Extension officers	
1. Madibeng West	(n)	4	4	8
	(%)	3.1%	5.3%	3.9%
2. Madibeng East	(n)	11	3	14
	(%)	8.5%	4.0%	6.9%
3. Moses Kotane West	(n)	6	5	11
	(%)	4.7%	6.7%	5.4%
4. Moretele	(n)	26	23	49
	(%)	20.2%	30.7%	24.0%
5. Rustenburg/Kgetleng	(n)	16	19	35
	(%)	12.4%	25.3%	17.2%
6. Maquassi Hills	(n)	1	0	1
	(%)	.8%	.0%	.5%
7. Mafikeng	(n)	16	6	22
	(%)	12.4%	8.0%	10.8%
8. Naledi	(n)	1	0	1
	(%)	.8%	.0%	.5%
9. Driefontein	(n)	1	0	1
	(%)	.8%	.0%	.5%
10. Moses Kotane East	(n)	24	8	32
	(%)	18.6%	10.7%	15.7%
11. Matlosana	(n)	4	3	7
	(%)	3.1%	4.0%	3.4%
12. Taung South	(n)	8	2	10
	(%)	6.2%	2.7%	4.9%
13. Taung North	(n)	10	2	12
	(%)	7.8%	2.7%	5.9%
14. Lehurutshe	(n)	1	0	1
	(%)	.8%	.0%	.5%
Total	(N)	129	75	204
	(%)	100.0%	100.0%	100.0%

According to project participants, the local development centre with the highest percentage of project participants was Moretele (20%), followed by Moses Kotane East (19 %), and the lowest was Lehurutshe, Driehoek, Naledi and Maquassi Hills (1 %). The extension officers (EOs) reported that the LADC with the highest percentage of extension officers was Moretele (31 %), followed by Rustenburg/Kgetleng (25 %), while the lowest percentage was at Lehurutshe, Driefontein, Naledi, and Maquassi Hills (1 %). The total percentage across both respondent categories indicated that the LADC with the highest number of projects was Moretele (24 %), followed by Rustenburg/Kgetleng (17 %) and Moses Kotane East (16 %).

5.2.2 Location of the projects in four districts of the North West Province

Table 5.2 below indicates the location of projects in the four districts.

Table 5.2: A distribution of projects in four districts of the North West Province according to both respondent categories

The four districts of the North West Province		Respondent categories		Total
		Project Participants	Extension officers	
1. Bojanala	(n)	87	62	149
	(%)	67.4%	82.7%	73.0%
2. Kenneth Kaunda	(n)	5	3	8
	(%)	3.9%	4.0%	3.9%
3. Ngaka Modiri Molema	(n)	18	6	24
	(%)	14.0	8.0%	11.8%
4. Dr RS Mompati	(n)	19	4	23
	(%)	14.7%	5.3%	11.3%
Total	(N)	129	75	204
	(%)	100.0%	100.0%	100.0%

The majority of project participants (67 %) and extension officer respondents (83 %) indicated that they were from the Bojanala District, while only 4 % of project participants and extension officer respondents indicated that they were from the Kenneth Kaunda District.

5.2.3 Location of the projects in Local Municipalities of the North West Province

Table 5.3 below indicates the location of the projects in 12 of the 20 local municipalities. The local municipality with the highest percentage, according project participants, was Moses Kotane (23 %), whereas according to extension officers, it is Moretele (30 %). Maquassi Hills and Naledi had the lowest percentage, according to both respondent categories. It is also necessary to acknowledge that 20 % of the project respondents also indicated Moretele as an important local municipality, while 24% of extension officers indicated Rustenburg as an important local municipality.

Table 5.3: Projects distribution in some local municipalities of the North West Province according to both respondent categories

Projects distribution in some local municipalities of the North West Province		Respondent categories		Total
		Project Participants	Extension officers	
1. Madibeng	(n)	15	7	22
	(%)	11.7%	9.3	10.8%
2. Moses Kotane	(n)	30	13	43
	(%)	23.3%	17.4%	21.1%
3. Moretele	(n)	26	23	49
	(%)	20.2%	30.7%	24.0%
4. Rustenburg	(n)	14	18	32
	(%)	10.9%	24.0%	15.7%
5. Maquassi hills	(n)	1	0	1
	(%)	.8%	.0%	.5%
6. Mafikeng	(n)	16	6	22
	(%)	12.4%	8.0%	10.8%
7. Ramotshere Moiloa	(n)	2	0	2
	(%)	1.6%	.0%	1.0%
8. Matlosana	(n)	4	3	7
	(%)	3.1%	4.0%	3.4%
9. Kgetleng River	(n)	2	1	3
	(%)	1.6%	1.3%	1.5%
10. Greater Taung	(n)	13	3	16
	(%)	10.1%	4.0%	7.8%
11. Lekwa Teemane	(n)	5	1	6
	(%)	3.9%	1.3%	2.9%
12. Naledi	(n)	1	0	1
	(%)	.8%	.0%	.5%
Total	(N)	129	75	204
	(%)	100.0%	100.0%	100.0%

A conclusion drawn from Table 5.3 is that most projects are located in Moretele (24 %), Moses Kotane (21 %) and Rustenburg (16 %), which are part of the Bojanala District. Some of the reasons for many projects being located in the local municipalities of Bojanala might be the potential of the area, as reflected in Figure 4.6 above. It has the potential to accommodate many different types of commodities because of its soil types. The rainfall (500–600mm per annum) as shown in Figure 4.3 above is also higher, as compared with other districts, and it has a fair distribution of land ownership (Figure 4.5 above), which gives farmers a fair chance for exercising their choice regarding location of their project.

5.3 AGE DISTRIBUTION OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS

Age is a very crucial factor and it plays a major role in project or programme development, and can have a positive or a negative impact on projects. Alfred and Odefadehan (2007) have found that a large percentage of extension workers were within a productive age range of less than 45. These extension officers were regarded as likely to be full of vigour and strength to carry out their responsibilities of transferring technology to the farmers. Table 5.4 below shows that 43% of extension officer respondents fall in the age group of 40-49 years, while only 21% of the project participants fall within this age category. According to the Chi-Square analysis, this difference is highly significant (x^2 = *38.4; p= < 0.0001).* In the 50-59 age group, the differences was not significant. In the age group 60-69, there is a highly significant (x^2 = *38.4; p= < 0.0001)* difference in favour of the project participants (26%), against the extension officer respondents (1%). In the age group of 49 and younger, there are 69 % of extension officers against 35 % project participants (a significant difference). The opposite however, occurs in the age group of 50 and older: 65 % of the project participants against 31% of the extension officer respondents fall within this age category.

This is an indication that the farmer (project participants) respondents are significantly older than the extension officers are. This might imply that extension officers will have more vigour to do their work, than have the farmers who are at a retirement age of more than 60 years. The calculation of group average age of project participants (6891.5/127=54.3≈54 years) and extension officer respondents (3476.5/77=45.1≈45 years) was done and indicated a clear 9 years difference between the two categories. Table 5.4 below shows the age distribution of both respondents' categories.

Table 5.4: Age group distribution across both respondent categories

Age group distribution categories			Respondent categories		Total
			Project Participants	Extension officers	
1.	<30 years	(n)	1	0	1
		(%)	.8%	.0%	.5%
2.	30-39 years	(n)	16	20	36
		(%)	12.6%	26.0%	17.6%
3.	40-49 years	(n)	27	33	60
		(%)	21.3%	42.9%	29.4%
4.	50-59 years	(n)	37	23	60
		(%)	29.1%	29.9%	29.4%
5.	60-69 years	(n)	33	1	34
		(%)	26.0%	1.3%	16.7%
6.	>70 years	(n)	13	0	13
		(%)	10.2%	.0%	6.4%
Total		(N)	127	77	204
		(%)	100.0%	100.0%	100.0%

x^2 = 38.4; p= < 0.0001

5.4 MARITAL STATUS OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS

Alfred and Odefadehan (2007:65-71) pointed out that marital status could have an influence on respondents' responsibility. If this statement is correct, it would mean that the majority of respondent categories according to Table 5.5 below will be regarded as responsible and this is an important finding regarding their roles in projects. The majority of project participants (71 %) and extension officers (82 %) are married, while only a few are negatively affected, being divorced or a widow or widower. Only 16 % of project participants and 7 % of extension officers are single. According to Pearson Chi-Square exact sig. (2-sided) (*x^2 = 6.509; p= 0.162),* there is no statistically significant difference between the two respondent categories and marital status.

Table 5.5: Marital status of the two respondent categories

Marital status categories			Respondent categories		Total
			Project participants	Extension officers	
1.	Married	(n)	91	63	154
		(%)	71.1%	81.8%	75.1%
2.	Single	(n)	21	5	26
		(%)	16.4%	6.5%	12.7%
3.	Divorced				
		(n)	8	6	14
		(%)	6.3%	7.8%	6.8%
4.	Widow	(n)	6	1	7
		(%)	4.7%	1.3%	3.4%
5.	Widower				
		(n)	2	2	4
		(%)	1.6%	2.6%	2.0%
Total		(N)	128	77	205
		(%)	100.0%	100.0%	100.0%

$x^2 = 6.509; p= 0.162$

5.5 GENDER OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS

The majority of project participants (62 %) and extension officer respondents (75 %) are males, while 38 % of project participants and 25 % of extension officer respondents are females. The total percentages across both respondent categories revealed that 67 % were male and 33 % female, which shows that there were more men participating in agricultural projects than women. The Chi-Square test ($x^2 = 4.015; p= 0.048$) revealed that there is a statistical difference at 5 % significant level between the two respondent categories.

Table 5.6: Gender according to both respondent categories

Gender categories			Respondent categories		Total
			Project Participants	Extension officers	
1.	Male	(n)	79	58	137
		(%)	61.7%	75.3%	66.8%
2.	Female	(n)	49	19	68
		(%)	38.3%	24.7%	33.2%
Total		(N)	128	77	205
		(%)	100.0%	100.0%	100.0%

x^2 = 4.015; p= 0.048

5.6 FAMILY SIZE OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS

As shown in Table 5.7 below, 64 % of project participants and 49 % of the extension officer respondents (in total 59 %) indicated a family size between 3 and 6 members. The second highest (29 % in total) of the two respondent categories had a family size of less than 3 and the difference between project participant respondents (20 %) and extension officer respondents (45 %) is significant. Another significant difference is seen in the family size more than or equal to seven (≥7) between the two respondent categories. The exact sig. (2-sided) Pearson Chi-Square test (*x^2 = 20.501; p= < 0.0001)* revealed that there is a statistically significant difference at 5 % significant level between the two respondent categories regarding family size. A calculation of group average family size of project participants (526.5 / 128 = 4.1 ≈4) and extension officer respondents (235.5/71=3.3≈3) was done and indicated a difference of one between the two categories.

Table 5.7: Family size according to both respondent categories

Family size categories			Respondent categories		Total
			Project Participants	Extension officers	
1.	<3	(n)	25	32	57
		(%)	19.5%	45.1%	28.6%
2.	3-6	(n)	82	35	117
		(%)	64.1%	49.3%	58.8%
3.	⩾ 7	(n)	21	4	25
		(%)	16.4%	5.6%	12.6%
Total		(N)	128	71	199
		(%)	100.0%	100.0%	100.0%

$x^2 = 20.501; p =< 0.0001$

5.7 EDUCATIONAL QUALIFICATIONS OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS

The educational qualifications of the two respondent categories are indicated in Table 5.8 below. The majority of project participants (30.4%) have completed a school qualification between grade 7 to 9 and 4.8% indicated that they did not receive any education, although it is also pleasing to notice that there are some project participants who have obtained a diploma or degree (8%) and even an honours or masters qualification (4%). The majority of extension officer respondents (90%) are in possession of a diploma or degree and 4% have honours or masters qualifications. Alfred and Odefadehan (2007) in their study of the analysis of information needs of agricultural extension workers in the south west of Nigeria, they recorded that the highest percentage (67%) were in possession of a degree or its equivalent, and they mentioned that a higher education could assist with the understating of what information is required for them to be effective. According to the Pearson Chi-Square test (x^2 = *138.476; p = < 0.0001*), there is a highly significant difference between the level of education of the project participants and the extension officer respondents, namely 93% of the extension officer respondents are in possession of diploma/degree/honours/masters qualifications, against only 12% of project participants. This implies, as stated by Odefadehan (2007), that extension officer respondents should be in a position to understand what information is required for them to be effective in the service they render to farmers.

The educational qualifications and/or human capacity development of project participants need urgent attention.

Table 5.8: Qualifications of the two respondent categories

Qualification categories			Respondent categories		Total
			Projects Participants	Extension officers	
1.	No education	(n)	6	0	6
		(%)	4.8%	.0%	3.0%
2.	Grade 1-6	(n)	31	0	31
		(%)	24.8%	.0%	15.3%
3.	Grade 7-9	(n)	38	0	38
		(%)	30.4%	.0%	18.8%
4.	Grade 10-12	(n)	35	5	40
		(%)	28.0%	6.5%	19.8%
5.	Diploma/Degree	(n)	10	69	79
		(%)	8.0%	89.6%	39.1%
6.	Hons/Masters	(n)	5	3	8
		(%)	4.0%	3.9%	4.0%
Total		(N)	125	77	202
		(%)	100.0%	100.0%	100.0%

$x^2 = 138.476; p = < 0.0001$

5.8 PROFESSION OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS

According to the findings, and as expected, the majority of project participants (70 %) indicated their profession as “Farmers” and 99 % of extension officer respondents indicated their profession as “extension officers”. An interesting finding is that 30 % of the project participants do have other professions and might therefore not be available full-time on the project.

5.9 EMPLOYMENT STATUS OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS

The majority of project participants (39 %) were not employed and the second-highest percentages were self-employed (36 %), while only 11 % were permanently employed. About 11% of project participants indicated that they are involved in other means of employment. This implies that some project participants did not only rely on their projects for survival and they had other means of augmenting the income they get from the projects. A scenario of diversification highlighted by Paul (2006) in a study about the role of off-farm employment in poverty reduction in Uganda, revealed that 60 % of households earned off-farm income in 2005. This may imply that rural households have to diversify their income into off-farm employment to decrease income risks in Uganda. Extension officers who participated in the projects were permanently employed (97 %), except for the 3 % of extension officers who were on a learnership programme who regard themselves as not employed.

5.10 NON-FARMING INCOME OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS

Non-farming income refers to the income of project participants which they acquired from sources other than agriculture. The majority of extension officers (76%) who assist or advise project participants earned an income in the form of salary from the DARD (Table 5.9 below). The majority (84%) of project participants earn a non-farm income of less than R5 000.00. What Paul (2006) observed in a study was that those who are engaged in regular salaried jobs tend to have a higher level of education and receive higher income from off-farm employment than all other categories. The exact Sig. (2-sided) Chi-Square test (x^2 = *5.611; p= 0.212)* indicated no statistically significant difference at 5% significant level between the two respondent categories (Table 5.9).

Table 5.9: Non-farming income (Rands) per month, as indicated by project participants and extension officer respondents

Non-farming income (Rands) categories per month			Respondent categories		Total
			Project Participants	Extension Officers	
1.	< 5000	(n)	106	47	153
		(%)	83.5%	75.8%	81.0%
2.	5001-10000	(n)	11	8	19
		(%)	8.7%	12.9%	10.1%
3.	10001-15000	(n)	6	7	13
		(%)	4.7%	11.3%	6.9%
4.	20001-25000	(n)	1	0	1
		(%)	.8%	.0%	.5%
5.	>R25000	(n)	3	0	3
		(%)	2.4%	.0%	1.6%
Total		(N)	127	62	189
		(%)	100.0%	100.0%	100.0%

x^2 = 5.611; p= 0.212

5.11 INCOME AND FINANCIAL ASSISTANCE AS PERCEIVED BY PROJECT PARTICIPANTS AND EXTENSION OFFICERS

5.11.1 The level of project production

(i) According to project participants' perception, the levels of production expected are as follows:

- 13 % low to very low;
- 47 % average;
- 40 % high to very high.

(ii) According to extension officer respondents' perception, the levels of production expected are:

- 21 % low to very low;

- 30 % average;
- 43 % high to very high.

The Chi-Square test results ($x^2 = 6.205;\ \mathrm{p} = 0.161$) did not show any statistical significant difference at 5 % significant level.

5.11.2 Percentage of income expected from the project

Income is crucial to the success or failure of a project. A total of 30% of project participants expected an income from the project of between 61-75%, and 17% expected an income ranging from 31-60%. Extension officers (27%) reported that project participants should expect an income from the project of between 16-30%, and 23% reported that they should expect an income of 46-60%. A small number of project participants (4%) and extension officers (4%) reported that they should expect an income of more than 91%. A total of only 27% of all respondents revealed that they should expect an income of 61-75%. The Chi-Square test results did not show any statistical difference at 5% significant level. For the fact that 46% of all respondents expected that the projects would only provide 45% or less of their total income, this may imply that more than 50% of their income will come from other sources. This will also imply that project participants will have divided attentions, meaning that they might spend some of their time outside the projects.

5.11.3 Frequency of financial assistance to projects

Comparing the findings, the Chi-Square test (x^2= 4.975, P = 0.412) did not show any statistically significant difference at 5% significant level (Table 5.10 below). The highest percentage of project participants (59%) reported that they had been assisted once, while 27% indicated that they had been assisted twice, and only 8.8% reported that they had been assisted four times. Fifty-four per cent of extension officers also confirmed that project participants had been assisted only once, while 39% reported that they had been assisted twice. Only 36% of the extension officers did answer the question, while 64% clearly did not know whether project participants received financial assistance.

Table 5.10: The frequency of financial assistance to projects as perceived by both respondent categories

The frequency of financial assistance to projects		Respondent categories		Total
		Project Participants	Extension officers	
1. Not assisted	(n)	1	1	2
	(%)	.9%	3.8%	1.4%
2. Assisted Once	(n)	67	14	81
	(%)	59.3%	53.8%	58.3%
3. Assisted twice	(n)	30	10	40
	(%)	26.5%	38.5%	28.8%
4. Assisted thrice	(n)	4	1	5
	(%)	3.5%	3.8%	3.6%
5. Assisted four times	(n)	10	0	10
	(%)	8.8%	.0%	7.2%
6. Assisted five times and more	(n)	1	0	1
	(%)	.9%	.0%	.7%
Total	(N)	113	26	139
	(%)	100.0%	100.0%	100.0%

$x^2 = 4.975;\ p = 0.412$

5.12 TYPE OF FUNDED PROGRAMMES ACCORDING TO PROJECT PARTICIPANTS AND EXTENSION OFFICERS

5.12.1 Type of project funding

Community projects in the NWP are funded mainly through the CASP, Land Care and the Provincial Equitable Share Programme. “Other” funding programmes refer to (a) Illima/Letsema, (b) other government departments, such as the Department of Public Works and the Department of Rural Development and Land Reform, (c) the National Department of Agriculture, Forestry and Fisheries (d) local and district municipalities, (e) donors, and the

like. Assistance from these programmes is requested by the community as needs arise to fund projects. According to Table 5.11 below, both respondent categories indicated that 47% of projects were funded by means of the CASP programme, while 37% were funded by other programmes, as mentioned above. Only 10% were funded by the Land Care Programme and 7% by the Equitable Share Programme.

Table 5.11: The funding of projects as perceived by project participants and extension officer respondent

Funding type categories		Respondent categories		Total
		Project Participants	Extension officers	
1. Land care	(n)	15	4	19
	(%)	11.9%	5.4%	9.5%
2. CASP	(n)	61	33	94
	(%)	48.4%	44.6%	47.0%
3. Equitable share	(n)	6	7	13
	(%)	4.8%	9.5%	6.5%
4. Other funding programmes	(n)	44	30	74
	(%)	34.9%	40.5%	37.0%
Total	(N)	126	74	200
	(%)	100.0%	100.0%	100.0%

$x^2 = 4.198; p = 0.245$

According to Table 5.11 above, there were insignificant differences between the two respondent categories with regard to the type of project funding.

5.12.2 Programme type

Agricultural programmes were divided into four main categories, namely crop production, horticulture, livestock, poultry and other programmes. “Other” programmes refer to programmes that are not familiar to small and emerging farmers of the NWP, such as fisheries, ostriches, etc. Grouping of programme type, shown in Table 5.12 below, and sub-programmes, shown in Table 5.13 below, was done according to what farmers produce mostly in the Province. This is in line with the views of Terblanche (2005) that the farmer is

the extension officer's object of concern and therefore the extension officer must work with the people. He also indicated that the extension officer must be skilful in at least one field of technical agriculture, and in that way, the grouping of programmes will be easy and will be in line with the needs of the people that he or she serves. According to the Table 5.12 below, no significant differences occur between the two respondent categories. A total of 41% of all respondents indicated livestock as the essential agricultural activity, while 29% indicated poultry and 18% horticulture. Visser *et. al*. (2002) pointed out that extensive livestock farming occurs in the drier, western areas and some other high rainfall portions in the eastern part of the Province. This means that the Province must provide more livestock resources than other commodities, and these should include livestock specialists or extension officers focusing on livestock.

Table 5.12: The Agricultural programme implemented at the projects according to project participants and extension officer respondents

Programme categories type		Respondent categories		Total
		Project Participants	Extension officers	
1. Crop production	(n)	6	6	12
	(%)	4.7%	7.8%	5.8%
2. Horticulture	(n)	24	12	36
	(%)	18.6%	15.6%	17.5%
3. Livestock	(n)	57	27	84
	(%)	44.2%	35.1%	40.8%
4. Poultry	(n)	35	24	59
	(%)	27.1%	31.2%	28.6%
5. Other programmes	(n)	7	8	15
	(%)	5.4%	10.4%	7.3%
Total	(N)	129	77	206
	(%)	100.0%	100.0%	100.0%

$x^2 = 3.958$; $p = 0.419$

5.12.3 Sub-programme types

According to Table 5.13 below, there was no significant difference (p=0.645) between the two respondent categories regarding the agricultural sub-programmes at 5% significant level. The majority of project participants and extension officers reported that the sub-programme with the highest participation was beef production (29%), followed by broiler production (23%) and vegetable production (18%), with the least being piggery production (3%). Beef production falls within a livestock programme, and this means that specialist or extension officers focusing on livestock must have a very good background in beef. The resources earmarked for livestock should mainly be for beef.

Table 5.13: The Agricultural sub-programmes at project level according to project participants and extension officer respondents

Respondents percentage of sub-programmes		Type of respondents		Total
		Project Participants	Extension officers	
1. Field crops	(n)	6	5	11
	(%)	4.7%	6.5%	5.4%
2. Vegetables	(n)	24	13	37
	(%)	18.8%	16.9%	18.0%
3. Sheep	(n)	6	2	8
	(%)	4.7%	2.6%	3.9%
4. Layers	(n)	10	5	15
	(%)	7.8%	6.5%	7.3%
5. Goats	(n)	4	3	7
	(%)	3.1%	3.9%	3.4%
6. Beef	(n)	41	18	59
	(%)	32.0%	23.4%	28.8%
7. Piggery	(n)	3	3	6
	(%)	2.3%	3.9%	2.9%
8. Broilers	(n)	28	19	47
	(%)	21.9%	24.7%	22.9%
9. Other sub-programmes	(n)	6	9	15
	(%)	4.7%	11.7%	7.3%
Total	(N)	128	77	205
	(%)	100.0%	100.0%	100.0%

$x^2 = 6.153$; $p = 0.645$

5.12.4 Scale of production at project level

According to a Pearson Chi-Square test (Table 5.14), a significant difference (p=0.035) occurred between the two respondent categories, whereby more extension officer respondents (52%) than project participants (41%) indicated a medium level of production. There was significantly less extension officer respondents (10%) than project participants (27%) who indicated that the level of production was very small. The majority of project participants (41%) and extension officers (52%) indicated that the level of production was medium, while 0.8% of project participants and 3% of extension officer respondents indicated that it was very large. The majority of both categories of respondents (45%) indicated that the level of production was only medium (or average), while 25% indicated that the production was small, and only 2% indicated that production was very large. Whatever the scale of production, as indicated by both respondent categories, agricultural practices and the environment will determine the level of food production (Tilman, Cassman, Pamela, Matson, Naylor & Polasky, 2002:671-677). An intervention by extension officers is sought to improve the status of agricultural practices in all projects, and therefore the scale of production.

Table 5.14: The scale of production at project level as perceived by the two respondent categories

The scale of production categories		Respondent categories		Total
		Project Participants	Extension officers	
1. Very small	(n)	35	8	43
	(%)	27.3%	10.4%	21.0%
2. Small	(n)	29	22	51
	(%)	22.7%	28.6%	24.9%
3. Medium	(n)	52	40	92
	(%)	40.6%	51.9%	44.9%
4. Large	(n)	11	5	16
	(%)	8.6%	6.5%	7.8%
5. Very Large	(n)	1	2	3
	(%)	.8%	2.6%	1.5%
Total	(N)	128	77	205
	(%)	100.0%	100.0%	100.0%

$x^2 = 9.994; p = 0.035$

5.12.5 Production value of the project

Table 5.15 below presents the results of the assessment of the annual gross value of the projects' production. The highest number of project participants (35%) and extension officer respondents (40%) reported that the annual gross production value was only medium, whereas 28% of project participants and 33% of extension officer respondents indicated that it was small. Only 6% of both respondent categories indicated that the annual production gross value is large. The annual gross production value needs attention to improve the current status, but according to Hayward and Botha (1995), "human development," by helping individuals to become better informed about alternatives as managers of their own affairs, can improve their current status. Effective extension can also increase agricultural productivity by linking the farmer to the outside world where research, credit, inputs and markets may be alternatives that can improve the current status. The fact is that 56% of both respondent categories indicated a small to a very small annual gross production value and this needs urgent attention. The Fisher's Exact Test indicates no statistically significant

difference at 5% level (p=0.690) between the two respondent categories. The fact that there is no significant difference indicates that they agree on gross production value of the projects.

Table 5.15: Project's annual gross production value according to both respondent categories

Project's production value categories		Respondent categories		Total
		Project Participants	Extension officers	
1. Very small	(n)	36	17	53
	(%)	28.3%	22.4%	26.1%
2. Small	(n)	36	25	61
	(%)	28.3%	32.9%	30.0%
3. Medium	(n)	45	30	75
	(%)	35.4%	39.5%	36.9%
4. Large	(n)	9	3	12
	(%)	7.1%	3.9%	5.9%
5. Very Large	(n)	1	1	2
	(%)	.8%	1.3%	1.0%
Total	(N)	127	76	203
	(%)	100.0%	100.0%	100.0%

Fisher's Exact Test =2.321; p = 0.690

5.12.6 Projects' total yield processed

Respondents were requested to indicate the percentage of the yield that was processed as an indication of value adding. A T-test was done to compare the average percentages of yield processed according to both respondent categories. The higher yields observed in small farms are mainly to be ascribed to a higher factor of inputs and to a more intensive use of land (Cornia, 2002). Table 5.16 below provides the means of the percentage of yield processed across all categories of respondents. According to the T-test (p=0.908), there was no difference between the two respondent categories, indicating that only 12 % on average of the yield has been processed. Value adding is becoming more and more important and special attention should be given to this at the planning stage of the project.

Table 5.16: Project's total yield processed according to both respondent categories

Respondent categories	N	Mean	Std. Deviation	Std. Error Mean
1. Project participants	121	12.2479%	23.70453%	2.15496%
2. Extension officers	72	11.8472%	22.43655%	2.64417%

t =0.116; p=0.908

5.12.7 Project status

The status of the project is an important variable to determine its productivity. Respondent's perceptions of the status of the project are indicated in Table 5.17 below. The majority of project participants (47%) reported that the status of projects is reasonably active, while (33%) of extension officer respondents reported that the projects are active. Only 2% of project participants and 3% of extension officer respondents indicated that project status was very active. An alarming finding is that 29% of both respondent categories indicated that the projects are dormant to semi-dormant. This could be ascribed to the 36% of project participants who are self-employed and the 11% who are permanently employed, as indicted in paragraph 5.9 above, and 84% of those who earn non-farm income (Table 5.9 above). According to the Chi-Square test ($x^2 = 5.922;\ p = 0.205$), there were no statistically significant differences between the two respondent categories. The majority of 40% of both respondent categories indicated that the projects are reasonably active. Since there is no significant difference between the two respondent categories, it means they agree on project status.

Table 5.17: Project status as perceived by both respondent categories

Project status categories			Respondent categories		Total
			Project Participants	Extension officers	
1.	Dormant	(n)	16	12	28
		(%)	12.4%	15.6%	13.6%
2.	Semi-dormant	(n)	16	15	31
		(%)	12.4%	19.5%	15.0%
3.	Reasonably active	(n)	60	23	83
		(%)	46.5%	29.9%	40.3%
4.	Active	(n)	34	25	59
		(%)	26.4%	32.5%	28.6%
5.	Very active	(n)	3	2	5
		(%)	2.3%	2.6%	2.4%
Total		(N)	129	77	206
		(%)	100.0%	100.0%	100.0%

$x^2 = 5.922$; $p = 0.205$

5.12.8 PROJECT DIVISION

The results in Table 5.18 below show that the majority (77 %) of project participants and extension officers reported that the projects were not divided into smaller farmer portions, while 19 % of the project participants and extension officer respondents indicated that projects were divided into smaller farmer portions. According to the Chi-Square test (p=0.040), this difference is significant whereby the majority of projects are treated as not divided according to farmer portions and therefore the project is managed as an entity.

Table 5.18: Project division across both respondent categories

Project division categories			Respondent categories		Total
			Project Participants	Extension officers	
1.	According to farmer's portion	(n)	25	13	38
		(%)	19.8%	17.1%	18.8%
2.	Partially divided according to farmer's portion	(n)	2	7	9
		(%)	1.6%	9.2%	4.5%
3.	Not divided according to farmer's portion	(n)	99	56	155
		(%)	78.6%	73.7%	76.7%
Total		(N)	126	76	202
		(%)	100.0%	100.0%	100.0%

x^2 = 65.19; p = 0.040

5.13 THE LEGAL REGISTRATION OF THE PROJECTS

5.13.1 Types of legal entities

In the NWP some projects are registered as legal entities and others not. According to Table 5.19 below, 43% of project participants reported that their projects were registered as "other" types of legal entities, 27% reported that their projects were not legally registered, and only 16 % reported projects as being registered as agricultural cooperatives. The majority of extension officers (30%) reported that project participant's projects were registered as close corporations, 26% reported that they were not legally registered, and 24.6 % indicated that they were registered as "other" legal entities. The Pearson Chi-Square exact Sig. (2-sided) test reveals a statistically significant difference ($x^2 = 10.124$; p=0.017) whereby significantly more project participants (43%) against only 24% of extension officer respondents indicated that the projects are registered as "other" legal entities. The "other" legal entities were, however, not verified. The fact that 73% of all respondents indicated that projects are registered, denotes the importance of registration as a means to legally bind members together towards a pre-determined goal.

Table 5.19: Types of legal entities according to both categories of respondents

Types of legal entities			Respondent categories		Total
			Project Participants	Extension officers	
1.	Not a legal entity	(n)	34	18	52
		(%)	27.0%	26.1%	26.7%
2.	Close corporation (CC)	(n)	18	21	39
		(%)	14.3%	30.4%	20.0%
3.	Agricultural co-operatives	(n)	20	13	33
		(%)	15.9%	18.8%	16.9%
4.	Other legal entities	(n)	54	17	71
		(%)	42.9%	24.6%	36.4%
Total		(N)	126	69	195
		(%)	100.0%	100.0%	100.0%

($x^2 = 10.124$; p=0.017)

5.14 PROJECT ACCESSIBILITY

5.14.1 Location of the projects in terms of distance

Projects are located either within a village, or at various distances from the village and what dictates this is the type of enterprise which farmers are engaged in. The intention during the survey was to identify the location of each and every project within or outside the borders of the village. The Pearson Chi-Square exact Sig. (2-sided) test did not show any statistically significant difference between the two respondent categories. As shown in Table 5.20 below, the majority of project participants (44%) and extension officer respondents (50 %) reported that projects were located within residential areas, while 32% of project participants and 24% extension officers reported that they were located 3 or more kilometres away from the village. More important, however, is the fact that 46% of all respondents reported that projects were located within the village, whereas 29% reported that they were 3 or more kilometres outside the village borders. The fact that 42% of the respondents indicated that projects are between one and three or more kilometres from the village could have an effect on the management of the farming enterprise.

Table 5.20: The location of the projects in terms of distance from the village according to the project participants and extension officer respondents

Location of the project			Respondent categories		
			Project Participants	Extension officers	Total
1.	Within residential area	(n)	55	35	90
		(%)	44.4%	50.0%	46.4%
2.	<500m outside village borders	(n)	15	8	23
		(%)	12.1%	11.4%	11.9%
3.	1km outside village borders	(n)	4	4	8
		(%)	3.2%	5.7%	4.1%
4	2km outside village borders	(n)	11	6	17
		(%)	8.9%	8.6%	8.8%
5.	3km or more outside village borders	(n)	39	17	56
		(%)	31.5%	24.3%	28.9%
Total		(N)	124	70	194
		(%)	100.0%	100.0%	100.0%

x^2 *= 1.797; p = 0.784*

5.14.2 Location of the project in terms of authority level

Table 5.21 below shows the actual location of projects according to the levels of authority. Establishment of some projects in the Province was location based. A district can establish a large project that represents the interest of the district and the same applies to a local municipality. The results of the survey revealed that 44% of projects participants and 40% of extension officers reported that projects were located at village level, while 35% of project participants and 29% of extension officer respondents revealed that the projects were located at local municipality level, and a very small percentage of all respondents (6%) reported that they were located at a district level. The Chi-Square test revealed that there is no statistical difference at 5% significant level. It is, however, clear that every project does fall under a level of authority.

Table 5.21: The location of the projects in terms of the authority level across both categories of respondents

Levels of authority			Respondent categories		Total
			Project Participants	Extension Officers	
1.	Village	(n)	55	28	83
		(%)	44.4%	40.0%	42.8%
2.	Ward	(n)	22	14	36
		(%)	17.7%	20.0%	18.6%
3.	Local municipality	(n)	43	20	63
		(%)	34.7%	28.6%	32.5%
4.	District	(n)	4	8	12
		(%)	3.2%	11.4%	6.2%
Total		(N)	124	70	194
		(%)	100.0%	100.0%	100.0%

x^2= 5.702; p = 0.128

5.14.3 Land on which projects were established

The majority of the projects in the NWP were established on communal, private, state or municipal land. The results of the survey (Table 5.22) revealed that 45% of project participants and 52% of extension officer respondents (48% of both respondent categories) reported that projects were established on communal land. This finding is important because it confirms were the government money is spent, and secondly in communal land individuals can only own the project but cannot sell the land on which the project is established (Meyer *et. al.* 2002). If project members are not interested in their project they normally abandon it, and that is why there are dormant and collapsed projects in villages. According to both respondent categories, a total of 25% is on a state land and 17% on privately owned land. The Chi-Square test ($x^2 = 2.366$; $p = 0.676$) did not show any statistically significant difference at 5% significant levels.

Table 5.22: The land on which projects were established according to the two respondent categories

The categories of land on which projects were established		Respondent categories		Total
		Project participants	Extension officers	
1. Communal land	(n)	57	38	95
	(%)	45.2%	52.1%	47.7%
2. Private land	(n)	23	10	33
	(%)	18.3%	13.7%	16.6%
3. State land	(n)	33	17	50
	(%)	26.2%	23.3%	25.1%
4. Municipal land	(n)	5	5	10
	(%)	4.0%	6.8%	5.0%
5. Other land categories	(n)	8	3	11
	(%)	6.3%	4.1%	5.5%
Total	(N)	126	73	199
	(%)	100.0%	100.0%	100.0%

$x^2 = 2.366;\ \mathrm{p} = 0.676$

5.15 SUMMARY OF MOST IMPORTANT FINDINGS

The findings of this chapter revealed the following:

(i) Most projects are located in Bojanala district, mainly in the Moretele, Madibeng and Moses Kotane local municipalities. These projects are established within villages in communal lands.

(ii) Most project participants (65 %) are 50 years of age or older, against 31 % of extension officers.

(iii) Regarding gender, only 38 % of project participants and 25 % of extension officer respondents are female.

(iv) The majority of project participants (95 %) can read and write.

(v) Regarding employment, 39 % project participants are employed.

(vi) The average family size of project participants is four (4), and three (3) for extension officers.

(vii) The majority (84 %) project participants earn a non-farm income.

(viii) A total of 60% of project participants and 51% of extension officers perceived an average, and even low to very low, level of production.

(ix) A total of 46% of both respondent categories expected an income of 45% or less of the total income. Project participants still depend heavily on the source of income.

(x) A total of 58% of both respondent categories indicated that project participants were only assisted once.

(xi) According to 84% of respondents, projects are mainly funded by CASP and other funding programmes (but no funding from financial institutions).

(xii) According to 64% of respondents, the scale of production at project level is small, to even very small. Only 9% indicated a large to very large scale of production.

(xiii) A total of 56% of the respondents indicated an annual gross production value of small to very small, and 7% indicated a large to very large annual gross production value.

(xiv) Only 31% of respondents indicated that the project status as active to very active and 29% indicated it as semi-dormant and dormant.

(xv) The majority 48% of respondents indicated that the projects are established on communal land.

(xvi) According to project participants, 20% of projects are registered as close corporations (CC) and 17% as agricultural cooperatives.

(xvii) A total of 73% of project participants indicated that the projects are registered as legal entities.

The summary of these important findings provides information that can be used by planners or extension officers to plan or implement projects.

CHAPTER 6:
THE PERCEPTION OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS ABOUT THE BENEFICIARIES' NEEDS IN PROJECTS

6.1 INTRODUCTION

The development challenges facing extension are far more than can be handled with available resources, be they funds, personnel or time. Düvel (2010:27-36) argues that the overwhelming task, together with the challenge and responsibility for optimum impact (optimum use of public funds), calls for a priority approach, namely a focus on those problems or challenges where the biggest impact or output per unit input can be obtained. He further noted that these priorities could be determined by financial considerations, but also by socio-political considerations.

6.2 NEED AS AN INTERVENING VARIABLE

6.2.1 The projects meeting farmers needs

When projects were established in the NWP by the Department of Agriculture and Rural Development, the main aim was to meet the felt and the unfelt needs of the farmers and also to improve their standard of living. Terblanche (2008:44-49) argues that a development that is focused only on felt needs is to be discouraged, there should be reconciliation between felt needs and unfelt needs. It is important to determine if the project was need-based and to what extent it met farmers' needs. According to Table 6.1 below, only 21% of the project participants and 30% of the extension officer respondents indicated that the needs were mostly met. The fact that 41% of the project participants and 35% of the extension officer respondents indicated that the needs were only slightly met, or even not at all, is an alarming finding and needs to be addressed. Even more alarming is the fact that only 6% of all the respondents indicated that all needs have been met.

The Chi-Square test *($x^2 = 3.939$; p =0.414)* indicated that there was no significant differences between the two respondent categories whereby 39% indicated that the needs were only slightly met or even not met at all. This finding is in line with project participants and extension officers (45 %) indicating in Table 5.14 that their production is only at medium scale, and 46%who indicated it is small and even very small.

Table 6.1: The extent to which the projects met the farmers needs according to both respondent categories

The extent to which the project met farmers needs		Respondents categories		Total
1. Did not meet the needs	(n)	9	2	11
	(%)	7.5%	3.2%	6.0%
2. Slightly met the needs	(n)	40	20	60
	(%)	33.3%	31.7%	32.8%
3. Met the needs	(n)	40	17	57
	(%)	33.3%	27.0%	31.1%
4. Mostly met the needs	(n)	25	19	44
	(%)	20.8%	30.2%	24.0%
5. Met all the needs	(n)	6	5	11
	(%)	5.0%	7.9%	6.0%
Total	(N)	120	63	183
	(%)	100.0%	100.0%	100.0%

$x^2 = 3.939$; *p =0.414*

6.2.2 The "Other" project meeting farmers needs

A variety of projects was listed by all respondents. The highest percentage across both respondent categories indicated the following sequence, according to preference: horticulture (34%), livestock (24%), poultry (20%) and field crops (6%). According to Table 5.16, respondents indicated, however, that the current project consists of livestock (41%), poultry (29%) and horticulture (18%). These differences, although not significant, are an indication that the farmers' needs were not taken into consideration when planning the project. The Pearson Chi-Square exact Sig. (2-sided) test revealed that there was no statistical difference (x^2=30.868, p=0.196) at 5% significant level across both types of respondent categories about other projects meeting farmers' needs.

6.2.3 The content of choice of an extension programme or project to assist farmers

Needs assessments and the choice of projects according to content are, or should be, closely related or intertwined (Düvel, 2010). The content of choice to select an extension programme or project was based on calculated impact, comparative impact, political needs, extension officers' needs and departmental needs. According to Table 6.2 below, the Pearson Chi-Square exact Sig. (2-sided) test (x^2=25.246, p=< 0.0001) revealed that there is a statistically highly significant difference at 5% significant level across both respondent categories, whereby significantly more project participants (26%) than extension officer respondents (14%) indicated that the choice of content was based on calculated impact.

A significant difference also occurs based on departmental needs, again in favour of the project participants (27%) versus 12% of the extension officer respondents. However, significantly more extension officer respondents (56%) than project participants (20%) indicated that the choice of content of extension programme was based on other aspects.

Unfortunately, this "other" content was not further described as to what it exactly means. Terblanche (2005:171-175), when he was dealing with participation and linkage, cited Beal, Bohlen and Randabaugh (1969:99-10) and Lombard (2003:173) to indicate that the extension officer plays an important role in terms of assisting farmers, but before developing a programme, it becomes proper for him or her to raise questions, such as:

(a) To improve service delivery, what does the community expect from the extension worker?

(b) What does the situation in the community dictate?

If these questions are posed before designing an extension programme or project, the extension officer will select a programme or project that is appropriate to the situation where the farmer is. The worrying finding is that 26 % of project participants indicated that content of choice of the extension programme was to address departmental needs.

Table 6.2: The importance of content of choice of extension programme/project as perceived by project participant and extension officer respondents

The content of choice of extension programme/projects categories		Respondent categories		
		Project Participants	Extension officers	Total
1. Calculated impact	(n)	33	8	41
	(%)	26.4%	13.6%	22.3%
2. Comparative impact	(n)	23	8	31
	(%)	18.4%	13.6%	16.8%
3. Extension officers' needs	(n)	7	1	8
	(%)	5.6%	1.7%	4.3%
4. Departmental needs	(n)	33	7	40
	(%)	26.4%	11.9%	21.7%
5. Political needs	(n)	4	2	6
	(%)	3.2%	3.4%	3.3%
6. Other content of choice of extension programme	(n)	25	33	58
	(%)	20.0%	55.9%	31.5%
Total	(N)	125	59	184
	(%)	100.0%	100.0%	100.0%

$x^2 = 25.246$; $p = < 0.0001$

6.3 TRAINING NEEDS OF PROJECT PARTICIPANTS

The norm in the NWP is to train farmers whose grants have been approved before they start producing from their projects. This is done to improve their knowledge and skills with regard to what they intend producing. Normally, 10 % of the total Comprehensive Agricultural Support Programme (CASP) budget approved for the project is used for training project participants. Extension officers are responsible for determining training needs to ensure that project participants receive relevant training. When dealing with issues of training, it is proper to ask the questions raised by Terblanche (2006:134) in his study about the need for a new generation of farmers and agriculturists in South Africa: "is the education and training

situation sufficient to address the need for a new generation of farmers and agriculturists?" He further said that it is important to empower extension workers by means of in-service training programme to improve their agricultural and extension knowledge and skills (at p. 152).

The farmer is central to all extension strategies, which concentrate on adult education, rural and community development and participation (Hayward & Botha, 1995). Training needs were assessed in terms of the number of day's project participants received training, the number of days needed to assist project participants to produce optimally, and the relevance of training in terms of what was to be produced.

6.3.1 Number of days of formal training received by project participants since the initial phase of the project

Formal education in the developing areas is often inadequate (Hayward & Botha, 1995). Mmbengwa, Gundidza, Groenewald, and van Schalkwyk (2009:5-10), citing Pender (2000), pointed out that investment in human capital educational and vocational training by the extension services, with the emphasis on low external inputs technologies and so on, may have great social returns. They further said that agricultural education and training influences agricultural productivity through enhancing farmers' ability to choose the optimum combination of farm inputs and farm outputs by uplifting the farmers' ability to acquire and adapt new technologies.

Table 6.3 below reveals that there is no significant difference (t=0.360, p= 0.720) in the mean number of days training was received, according to project participants (14.30) and extension officers (12.94).

Table 6.3: The mean number of days of formal training received since the initial phase of the project according to project participants and extension officer respondents

Respondent categories		Statistic	Std. Error
Project participants	Mean	14.30	1.894
	Median	5.00	
	Std. Deviation	19.958	
	Minimum	0	
	Maximum	90	
	Range	90	
Extension officers	Mean	12.94	2.269
	Median	10.00	
	Std. Deviation	12.630	
	Minimum	0	
	Maximum	48	
	Range	48	

t = 0.360; p = 0.720

6.3.2 Number of days of formal training needed to assist project participants to produce optimally at the initial phase of the project

Table 6.4 below reveals that there is no significant difference (t=-288, p= 0.772) in the mean number of days needed, according to project participants (25.25) and extension officers (26.71). Both respondent categories indicated a clearly larger number of training days needed for training, than what was received.

Table 6.4 Respondents' mean days needed for formal training to produce optimally at the initial phase of the project

Respondent categories		Statistic	Std. Error
Project participants	Mean	25.25	2.233
	Median	20.00	
	Std. Deviation	23.946	
	Minimum	0	
	Maximum	90	
	Range	90	
Extension officers	Mean	26.71	4.661
	Median	20.00	
	Std. Deviation	24.663	
	Minimum	0	
	Maximum	90	
	Range	90	

t = -288; p = 0.772

6.3.3 Paired t-test for number of days of training received and needed

A t-test was performed and revealed the following:

(a) The project participants:

- Number of formal training days received = 14.30
- Number of formal training needed to produce optimally = 25.25

There is a significant difference in the number of days' training received initially and the number of days' training needed to produce optimally ($p < 0.0001$). Looking at the means for the two variables, it seems that according to the participants, the average number of days training received (14.30 days) differs significantly from the number of days training needed (25.25 days). There is a need for an additional 10.95 mean days of formal training to produce optimally.

(b) The extension officer respondents:

- Number of formal training days received = 12.94
- Number of formal training needed to produce optimally = 26.71

There is a significant difference in the number of days' training received initially and the number of days' training needed to produce optimally (p=0.010). Looking at the means for the two variables, it seems that, according to the EOs, the average number of days training received (12.94 days) differs significantly from the number of days training needed (26.71 days). There is a need for an additional 13.77 mean days of formal training to produce optimally.

(c) For both respondents:

Number of mean days of formal training received:

- Project participants = 14.30
- Extension officer respondents = 12.94

Average number of days of formal training received = 13.62
Number of mean days of formal training needed:

- Project participants = 25.25
- Extension officer respondents = 26.71

Average number of days of formal training needed =25.98

There is a need for 25.98 mean days of formal training to produce optimally, according to both respondent categories.

6.3.4 Relevance of training in terms of what was produced

A strong in-service training section with the necessary subject matter specialist support is vital for creating a dynamic service (Hayward & Botha, 1995). Technical training should be in line with business activities, including financial management. In the NWP, training is done before the commencement of any project, organised by the training division for all approved projects to be financed for a particular financial year. Extension officers always help and support the community to conceptualise and prioritise their problems and needs. According to Terblanche (2005:171-175), the needs of the community that have been indicated should

be identified and addressed, and not imposed on them. The majority of respondents (52 %) indicated that training was very much relevant. Only 3 % of both respondent categories indicted that the training was very much irrelevant. The Chi-Square test performed revealed that there is no statistical difference at 5 % significant level across all categories of respondents. It is clear from the Table 6.5 below that only 8% of all respondents indicated that the training was irrelevant, and even very much irrelevant. Although the majority (52 %) of respondents indicated that the training was very much relevant, they clearly indicated the need for more training days (25.98 mean days).

Table 6.5: The relevance of training in terms of what was produced according to both respondent categories

The relevance of training categories		Respondent categories		Total
		Project Participants	Extension officers	
1.Very much irrelevant	(n)	3	1	4
	(%)	2.5%	3.7%	2.8%
2. Irrelevant	(n)	6	1	7
	(%)	5.1%	3.7%	4.8%
3. Relevant	(n)	18	4	22
	(%)	15.3%	14.8%	15.2%
4. More relevant	(n)	27	9	36
	(%)	22.9%	33.3%	24.8%
5. Very much relevant	(n)	64	12	76
	(%)	54.2%	44.4%	52.4%
Total	(N)	118	27	145
	(%)	100.0%	100.0%	100.0%

x^2 = 1.733; p = 0.876

6.4 NEEDS ASSESSMENT

Good assessment practice is about having enough relevant information on which to base sound analyses and judgments about responses. What constitutes ‘enough’ may depend on the context and the level of risk that people face (Darcy & Hofmann, 2003). Düvel (2010:41-

47) stated that extension needs are important from two points of view: firstly, their relationship with human behaviour, and secondly, with the issue of priority choice. One of the major purposes of needs assessments is to allow for effective behaviour intervention. Project participants and extension officer respondents were requested to indicate their perceptions related to the process of needs assessment of projects according to frequency of consultation during needs assessment, and how needs assessments were carried out.

6.4.1 Frequency of needs assessments

Assessment appears to inform decision-making in relation to four main aspects: whether to intervene; the nature and scale of the intervention; prioritisation and allocation of resources; and programme design and planning (Darcy & Hofmann, 2003). The highest total percentage (48%) of both respondent categories (Table 6.6) reported that it was done on a continual basis, and the second highest percentage (31%), indicated that it was done once a year. There is an indication of a difference (x^2= 7.927; p = 0.092) between project participants' (53%) and extension officers' (39%) opinions (perceptions) regarding the frequency of needs assessment being done on a continual basis. Important, however, is the fact that both respondent categories indicated the necessity for a continual process of needs assessment. The negative aspect is that 31% of all respondents indicated that needs assessment was only done once a year and 12% indicated that no assessment was done. There is a need to improve on the frequency of need assessments so that interventions, prioritisation and allocation of resources might be sought before major problems could emerge.

Table 6.6: The frequency of needs assessment executed at project level according to both respondent categories

The frequency of needs assessment		Respondent categories		Total
		Project participants	Extension officers	
1. No assessment done	(n)	13	10	23
	(%)	10.4%	14.5%	11.9%
2. Once a year	(n)	36	24	60
	(%)	28.8%	34.8%	30.9%
3. Once in 2 years	(n)	4	0	4
	(%)	3.2%	.0%	2.1%
4. Continuously	(n)	66	27	93
	(%)	52.8%	39.1%	47.9%
5. Other categories of need assessment	(n)	6	8	14
	(%)	4.8%	11.6%	7.2%
Total	(N)	125	69	194
	(%)	100.0%	100.0%	100.0%

x^2 = 7.927; p=0.092

6.4.2 Consultation during needs assessment

The success of participation in Uganda depended on “starting where people are and learning from their ways and working with them” (Terblanche, 2005:171-175, citing Semana, 1999:109-108). He further said that consultation during needs assessment helps to establish where people are and what they are doing. Darcy & Hofmann (2003) highlighted the fact that consultation with, and the involvement of, potential beneficiaries in the assessment process is inconsistent and sometimes absent altogether. The question raised during the survey intended to find out if extension officers consulted project participants during the process of needs assessment.

The highest percentage of project participants (73%) reported that they were consulted and only 7% reported that they were not consulted (Table 6.7). However, the highest percentage of extension officers (63%) did not confirm the views of the project participants and reported that "other" forms of consultation were used during the needs assessment process. The above differences are confirmed by the Chi-Square exact Sig. (2-sided) test (x^2= 74.051; p = < 0.0001) indicating a high statistical difference at 5% significant level between the two respondent categories. Unfortunately, the other forms of consultation were not verified in the study. The most positive finding is the fact that only 8% of all respondents indicated that there was no consultation.

Table 6.7: Consultation process during needs assessment as perceived by both respondent categories

The consultation process during needs assessment		Respondent categories		Total
		Project participants	Extension officers	
1. Not consulted	(n)	9	5	14
	(%)	7.1%	8.5%	7.6%
2. Consulted	(n)	92	13	105
	(%)	73.0%	22.0%	56.8%
3. Some farmers were consulted	(n)	6	3	9
	(%)	4.8%	5.1%	4.9%
4. Community was formally consulted	(n)	11	1	12
	(%)	8.7%	1.7%	6.5%
5. Other forms of consultation	(n)	8	37	45
	(%)	6.3%	62.7%	24.3%
Total	(N)	126	59	185
	(%)	100.0%	100.0%	100.0%

x^2= 74.051; p = < 0.0001

6.4.3 Methods used to assess the needs of project participants

The respondents were requested to indicate the method used to determine the needs of project participants. The Pearson Chi-Square test revealed that there is no statistically significant difference at 5% significant level across both categories of respondents (x^2=0.491, p =0.825). A total of 38% of both respondent categories (Table 6.8 below) indicated that the Participatory Rural Appraisal method (PRA) was used, 38% indicated that other means were used to determine the needs of project participants, and 23% indicated that a questionnaire was used. Unfortunately, the other means to determine the needs of project participants were not verified. Most important, however, is the fact that methods were used to determine the needs of project participants.

Table 6.8: The methods used to assess the needs of project participants as perceived by both respondent categories

Methods of needs assessment		Respondent categories		Total
		Project participants	Extension officers	
1. Participatory Rural Appraisal	(n)	49	25	74
	(%)	39.5%	36.2%	38.3%
2. Questionnaire	(n)	27	18	45
	(%)	21.8%	26.1%	23.3%
3. Other means of need assessment	(n)	48	26	74
	(%)	38.7%	37.7%	38.3%
Total	(N)	124	69	193
	(%)	100.0%	100.0%	100.0%

x^2=0.491, p =0.825

6.5 KNOWLEDGE AS AN INTERVENING VARIABLE

6.5.1 Production knowledge

6.5.1.1 Project participants and extension officers' knowledge in successfully managing the projects

A project, like any other business, must be managed properly so that it delivers the intended production. The knowledge of a farmer or project participant, and the extension officer, in successfully managing a project is essential. The scale which was used to assess the knowledge of the respondents ranged from very low to very high knowledge. A total of 41% of project participants (Table 6.9) reported an average knowledge, while 35% indicated a high knowledge in managing projects. Only 15% of project participants and 10 % of extension officers indicated a very high knowledge. The study reveals that 59 % of extension officers indicated a high knowledge and 21 % an average knowledge in managing projects. There is a significant difference ($x^2 = 11.441$, $\mathrm{p} = 0.019$) between project participants (41%) and extension officers (22%) under the category of "average", as well as for high knowledge (project participant's 35% and extension officer respondents 59%). Management of the project is the responsibility of the project participants, with extension officers providing technical and other support.

Table 6.9: Project participants' and extension officer respondents' knowledge in successfully managing projects

The assessment of knowledge categories with regard to successfully managing the projects		Respondent categories		Total
		Project Participants	Extension officers	
1.Very low knowledge	(n)	3	2	5
	(%)	2.5%	2.9%	2.6%
2. Low knowledge	(n)	8	4	12
	(%)	6.6%	5.8%	6.3%
3.Average knowledge	(n)	50	15	65
	(%)	41.0%	21.7%	34.0%
4.High knowledge	(n)	43	41	84
	(%)	35.2%	59.4%	44.0%
5.Very high knowledge	(n)	18	7	25
	(%)	14.8%	10.1%	13.1%
Total	(N)	122	69	191
	(%)	100.0%	100.0%	100.0%

$x^2 = 11.441;\ \mathrm{p} = 0.019$

6.5.1.2 The level of knowledge at the beginning of the project as perceived by project participants and extension officer respondents

The level of knowledge of respondents (Table 6.10) at the beginning of the project varied significantly at 5% significant level according to the Pearson Chi-Square test (x^2=39.475; p=< 0.0001). A total of 34% of project participants and 24 % of extension officers indicated a low knowledge level, while 38% of extension officers and only 11%of project participants indicated a high knowledge level at the beginning of the project. The fact that 49 % of all respondents indicated a low and very low level of knowledge is alarming and needs urgent attention. Only 14 % of project participants, against 54 % of extension officers, indicated a high to even very high level of knowledge at the beginning of the project. These findings

again emphasise the need for: (a) the training of project participants before the project starts, and (b) an increase in the number of training days.

Table 6.10: The level of knowledge at the beginning of the project as perceived by project participants and extension officer respondents

The respondents' level of knowledge at the beginning of the project		Respondent categories		Total
		Project Participants	Extension officers	
1. Very low knowledge	(n)	33	3	36
	(%)	27.3%	4.2%	18.8%
2. Low knowledge	(n)	41	17	58
	(%)	33.9%	23.9%	30.2%
3. Average knowledge	(n)	30	13	43
	(%)	24.8%	18.3%	22.4%
4. High knowledge	(n)	13	27	40
	(%)	10.7%	38.0%	20.8%
5. Very high knowledge	(n)	4	11	15
	(%)	3.3%	15.5%	7.8%
Total	(N)	121	71	192
	(%)	100.0%	100.0%	100.0%

$x^2 = 39.475;\ \mathrm{p} =< 0.0001$

6.5.1.3 Production level of the project

Participants were requested to assess the level of production of the project. The Chi-Square test was performed (Table 6.11) and it was discovered that there is no statistical difference (x^2=2.050, p=0.784) at 5% significant level across both categories of respondents. A total of 71% of project participants and 71% of extension officers reported an average level of production. A total of only 23% of all the respondents indicated a poor to a very poor production, while only 6% indicated a good to a very good production. It also strengthen the findings in Table 5.15 (Chapter 5) whereby 56% of respondents indicated a small to very small of production, while 37% indicated a medium scale of production.

Table 6.11: The level of project production according to both categories of respondents

Level of project production		Respondent categories		Total
		Project Participants	Extension officers	
1. Very poor	(n)	6	4	10
	(%)	4.9%	5.7%	5.2%
2. Poor	(n)	23	12	35
	(%)	18.7%	17.1%	18.1%
3. Average	(n)	87	50	137
	(%)	70.7%	71.4%	71.0%
4. Good	(n)	7	3	10
	(%)	5.7%	4.3%	5.2%
5. Very good	(n)	0	1	1
	(%)	.0%	1.4%	.5%
Total	N	123	70	193
	(%)	100.0%	100.0%	100.0%

$x^2 = 2.050;\ \mathrm{p} = 0.784$

6.5.1.4 Assessment of the project functioning

For a project to function, Sparrius (2000:267-293) states that it should satisfy customer requirements on specification or have an impact on customers. It should also have goals, a committed team and be viable. Table 6.12 below reveals the level of functioning of the projects as reported by project participants and extension officers. The fact is that 98 % of the respondents indicated a poor to very poor level of functioning. This is not only alarming but a tragedy. It needs urgent attention. This means that it could collapse if it does not receive urgent attention.

According to the Chi-Square test results, there is no statistical difference at 5 % significant level (x^2=3.429, p=0.600).

Table 6.12: The level of functioning of the project according to both categories of respondents

The level of functioning of the projects		Respondent categories		Total
		Project Participants	Extension officers	
1. Very poor	(n)	55	29	84
	(%)	49.5%	43.9%	47.5%
2. Poor	(n)	54	36	90
	(%)	48.6%	54.5%	50.8%
3. Average	(n)	0	1	1
	(%)	.0%	1.5%	.6%
4. Good	(n)	1	0	1
	(%)	.9%	.0%	.6%
5. Very good	(n)	1	0	1
	(%)	.9%	.0%	.6%
Total	(N)	111	66	177
	(%)	100.0%	100.0%	100.0%

$x^2 = 3.429$; $p = 0.600$

6.5.1.5 The assessment of the general success of projects

The management of agricultural development projects is important to their success (Hart *et al*., 2005:104). Project participants, the community, stakeholders and extension officers play an essential role in the success of the project. The indication from the majority of project participants (59%) and extension officer respondents (58%), as indicated in Table 6.13 below, is that projects were only slightly successful. The highest percentage of the two respondent categories (58%) indicated that projects were only slightly successful. It is also important to note that according to 22% of participants, projects were not successful and even not successful at all. Only 14% of the total percentage of both respondents indicated that projects were successful. The Chi-Square test (x^2 = 4.078; p = 0.552) indicated no statistically significant difference at 5% significant level across all respondent categories.

Table 6.13: The assessment of the general success of projects according to both respondent categories

The categories of the assessment of the general success of projects		Type of respondents		Total
		Project participants	Extension officers	
1. Not successful at all	(n)	7	3	10
	(%)	5.7%	5.3%	5.6%
2. Not successful	(n)	16	13	29
	(%)	13.0%	22.8%	16.1%
3. Slightly successful	(n)	72	33	105
	(%)	58.5%	57.9%	58.3%
4. Successful	(n)	20	5	25
	(%)	16.3%	8.8%	13.9%
5. More successful	(n)	2	1	3
	(%)	1.6%	1.8%	1.7%
6. Totally successful	(n)	6	2	8
	(%)	4.9%	3.5%	4.4%
Total	(N)	123	57	180
	(%)	100.0%	100.0%	100.0%

$x^2 = 4.078$; p = 0.552

6.6 SUMMARY OF THE MOST IMPORTANT FINDINGS

This chapter revealed the following important findings:

(i) According to 41% of project participants and 35% of extension officers, the participants' needs were only slightly met, or even not met at all.

(ii) Project participants and extension officers clearly indicated a need for at least 26 days of training, while they had received only 14 days.

(iii) A total of 48% of both respondent categories indicated that the assessment of needs was done on a continuous basis; however, 33% indicated that the assessment was done only once a year, or even not at all.

(iv) A total of 57% of both respondent categories indicated that project participants were consulted to determine their needs.

(v) A total of 44% of both respondent categories indicated a high knowledge regarding managing their projects, while 43% indicated only an average, low knowledge and even very low knowledge.

(vi) According to 71% of both respondent categories, the level of production was only average, while 18% indicated it as poor.

(vii) According to 98% of both respondent categories, their level of functioning is poor and even very poor.

(viii) Both respondent categories (80%) indicated that the general success of the projects is only slightly successful, to even not successful at all.

CHAPTER 7:
PARTICIPATION IN PROJECTS AS PERCEIVED BY PROJECT PARTICIPANTS AND EXTENSION OFFICERS

7.1 PARTICIPATION AT PLANNING STAGE AS PERCEIVED BY PROJECT PARTICIPANTS AND EXTENSION OFFICERS

7.1.1 Introduction

Information, according to Ewang and Mtshali (1998:100-108), is important to guide the project. It will indicate whether the project should change, reorganise, rethink, or to remain on the same course. At the same time, knowledge must be made available to the people who need it. Everybody must have easy access to key project information whenever they need it, and it is important to ensure that all the project data is up to date and recorded efficiently by setting up a knowledge centre (Bruce & Langdon, 2007:76).

7.1.2 Project planning

Project planning is one of the most important phases of the project management cycle. The success or failure of a project is often determined in this phase. Planning techniques depend on the nature of a project, the type of organisation and the skills of the project manager (IDT, 2003). As seen in Table 7.1 below, the Chi-Square test (x^2 =14.769; p=0.002) indicates that there is statistically a significant association between who planned the projects for all respondents at a 5% level of significance. The majority (47%) of project participants/farmers reported that they planned the projects, while only 36% of extension officers reported the same. A total of 38% of extension officers, however, indicated that they planned the project, while only 27% of project participants indicated that. A fairly large number (27) of project participants and very few extension officers (7) reported that projects were planned by donors. The additional support services provided by the Department of Agriculture and Rural Development (DARD) were acknowledged by 5% of project participants, against 17% of extension officers. A possible reason for this significant difference could be that the project participants were not made aware of the service provided by the Department. A total of 43% of both respondent categories revealed that project participants planned the projects, while only 31% of the total respondents reported that extension officers planned the projects, and 17% reported that donors and other institutions planned the projects. The fact that 74% of project participants and extension officers indicated that they were responsible for planning

the project confirmed that it was a joint effort which is a promising factor that can lead to project success. This finding is important for the development or establishment of projects.

Table 7.1: Respondents' perceptions of persons/organisations responsible for the planning of projects

Categories of persons/organisations responsible for project planning		Respondent categories		Total
		Project Participants	Extension officers	
1. Project participants	(n)	60	28	88
	(%)	46.9%	36.4%	42.9%
2. Extension officers	(n)	35	29	64
	(%)	27.3%	37.7%	31.2%
3. Additional support services of DARD	(n)	6	13	19
	(%)	4.7%	16.9%	9.3%
4. Donor & Other stakeholders	(n)	27	7	34
	(%)	21.1%	9.1%	16.6%
Total	(N)	128	77	205
	(%)	100.0%	100.0%	100.0%

x^2 = 14.769; p= 0.002 (Highly significant association)

7.1.3 Participation of stakeholders in project initiation

The involvement of organisation and stakeholders in project initiation implies a proactive capacity and the confidence to get going on one's own. According to a World Bank discussion paper (Paul, 2006), when beneficiary groups engage in a project, identify a new need and decide to respond to it on their own, they are taking the initiative for their development. There are also cases where beneficiary groups which had seemingly failed in some projects went on to initiate other projects on their own and with greater success. The earlier projects obviously had strengthened their capacity for cooperative action and given them the confidence and skills to initiate action elsewhere. Project initiation and participation of stakeholders were among the factors which were investigated.

According to Table 7.2 below, 35% of project participants and 36%of extension officers reported that individuals from the community initiated the projects. Fewer project participants (16%) and extension officers (13%) gave credit to the Provincial Department of Agriculture and Rural Development for initiating the projects. An interesting fact is that 27% of project participants and 17% of extension officers reported that donors and other funding agencies were the ones responsible for initiating the projects. Although there is no significant difference (x^2= 4.937; p = 0.179) shown in Table 7.2 below, it is clear that projects in the North West Province were mostly initiated by individuals from the community (36%), with 26% being initiated by the broader community (in total 62%). These figures are in line with the current practice in the Province. Once the projects are initiated by farmers, they will be able to own them.

Table 7.2: Respondents' perceptions of the organisation and stakeholders responsible for project initiation

Organisations and stakeholders responsible for Project initiation		Respondents categories		Total
		Project Participants	Extension officers	
1. Department of Agriculture and Rural Development (DARD)	(n)	21	10	31
	(%)	16.4%	13.0%	15.1%
2. Individuals from community	(n)	45	28	73
	(%)	35.2%	36.4%	35.6%
3. The Community	(n)	28	26	54
	(%)	21.9%	33.8%	26.3%
4. Donors & Other stakeholders	(n)	34	13	47
	(%)	26.6%	16.9%	22.9%
Total	(N)	128	77	205
	(%)	100.0%	100.0%	100.0%

x^2 = 4.937; p = 0.179 (No significant difference)

7.1.4 Project ownership

As shown in Table 7.3 below, 72% of project participants and 60% of extension officers reported that projects were owned by participants. There were only 17% of project participants and 31% of extension officers who reported that projects were owned by the

community. Only a few respondents reported that projects were owned by donors, local municipalities and other government departments. It is quite clear from Table 7.3 below that according to both respondent categories, projects are owned by project participants (68%), while 22% indicated community ownership, and only 4% perceived that projects were owned by the Provincial Department of Agriculture and Rural Development. Botha (1995) indicated that if projects are owned by projects participants, they will participate in all activities of the projects and they will also perceive the projects as theirs. Renfro (2004:1-5) has also highlighted the fact that improved ownership and responsibility by the relevant stakeholders and beneficiaries results in higher productivity and reduced conflicts. In this case, there is agreement (67%) between the respondents that projects are owned by participants, which is a good sign that might contribute to high productivity, as indicated by Renfro (2004:1-5). An Exact sig. (2-sided) Pearson Chi-Square test was performed which also proved that there is no statistical difference between the project participants and extension officers with regard to project ownership.

Table 7.3: Project ownership as perceived by project participants and extension officers

Project ownership categories		Respondent categories		Total
		Project Participants	Extension Officers	
1. Project Participants	(n)	90	45	135
	(%)	72.0%	60.0%	67.5%
2. The Community	(n)	21	23	44
	(%)	16.8%	30.7%	22.0%
3. Department of Agriculture and Rural Development(DARD)	(n)	5	2	7
	(%)	4.0%	2.7%	3.5%
4. Donor	(n)	0	1	1
	(%)	.0%	1.3%	.5%
5. Municipality	(n)	2	0	2
	(%)	1.6%	.0%	1.0%
6. "Other" government departments	(n)	1	0	1
	(%)	.8%	.0%	.5%
7. Participating forum	(n)	4	2	6
	(%)	3.2%	2.7%	3.0%
8. Other stakeholders	(n)	2	2	4
	(%)	1.6%	2.7%	2.0%
Total	(N)	125	75	200
	(%)	100.0%	100.0%	100.0%

x^2 = 8.620; p = 0.255 (No significant difference)

7.1.5 The extent of details provided in the project proposal

Projects can only be appraised properly when all basic information about the project is captured well (IDT, 2003). If the proposal is captured in sufficient detail, it is that much easier for donors to fund because all the information required will be available. The Chi-Square test (x^2=3.056; p = 0.558) indicates that there is statistically no significant difference between the two respondent categories about the details of the project proposal (Table 7.4). A total of

55% of both respondent categories revealed that proposals were presented with sufficient detail, while 14% indicated that it was presented in much more detail. An alarming aspect, however, is that 32% of both respondent categories still indicated that the detail was insufficient (not applicable, very little, and only some detail).

Table 7.4: The extent of project proposal detail according to respondent categories

Categories of proposal details			Respondent categories		Total
			Project Participants	Extension officers	
1.	Not applicable	(n)	13	7	20
		(%)	10.2%	9.1%	9.8%
2.	Very little detail	(n)	7	7	14
		(%)	5.5%	9.1%	6.8%
3.	Some detail	(n)	17	14	31
		(%)	13.3%	18.2%	15.1%
4.	Sufficient detail	(n)	75	37	112
		(%)	58.6%	48.1%	54.6%
5.	Much more detail	(n)	16	12	28
		(%)	12.5%	15.6%	13.7%
Total		(N)	128	77	205
		(%)	100.0%	100.0%	100.0%

$x^2 = 3.056$; $p = 0.558$ (No significant difference)

7.1.6 Project sponsorship

In the Province, projects are mostly funded for infrastructure, labour, production inputs, or a combination of these. Project sponsorship was considered using a scale of fully-sponsored (for infrastructure, labour and production inputs), and partially-sponsored (for labour and infrastructure, or labour or infrastructure or other activities not mentioned, such as ploughing in a crop project, provision of machinery, and mentoring). In the Province, funding is always guided by proposals submitted by the extension officer to the agricultural economists who will then develop a business plan for a project to be funded. In a business plan, the activities of a

project are subdivided and funds allocated accordingly. The Chi-Square test (x^2 =4.547; p =0.326) indicates that there is statistically no significant difference between the two respondent categories, namely project participants and extension officers, at 5% significant level, with regard to project sponsorship. The highest percentage, according to both respondent categories, was on partial infrastructure support (34%) and for a full sponsorship (30%) of a project (i.e. infrastructure, labour and production inputs), 15% for other project activities, with the lowest percentage being partial support for labour (0.5%). According to Lewis (2003), most of the projects that are not financed properly, because the budget was not allocated properly, tend to fail, whereas if there is an effective sponsor, project failure will be avoided (Anon., 2002). Sponsorship is a very important element in the execution of a project.

7.1.7 Summary of the most important findings

Projects were mostly initiated by individuals from the community (36%) and 26% were initiated by the broader community. Both (74%) project participants and extension officer respondents indicated that projects were planned by them.

Projects were mostly owned by project participants (68%), with 22% by communities. They were partially sponsored for infrastructure (34%) and full sponsorship (30%). The project details were also insufficient according to both respondent categories (55%).

7.2 THE ROLE OF THE MARKET AS AN ESSENTIAL ELEMENT OF A PROJECT

7.2.1 Market availability

A market is a very important dependent variable that can influence the outcome of the project. When selecting projects, consideration must be given by project participants/farmers to whether the project will maximise profit, maintain market share, increase market share or consolidate market position, maximise the utilisation of the work force and maximise the utilisation of plant and equipment (Burke, 2003:2-4, 48-59). For any project that earmarks funding from the Department of Agriculture and Rural Development in the Province, a market has to be established/identified before approval of such funds is given. Market availability was assessed using a simple scale, from no market, a reasonable market, a good market to a very good market. The results of the Chi-Square test (x^2 = 4.512; p = 0.213) indicate that there is statistically no significant association between the two types of respondent categories at 5% significant level regarding marketing availability. According to project participants (54%) and extension officers (53%), markets are only reasonable, while 20% of

project participants and 10% of extension officers indicated that there is still no market. What is really needed is a reliable market to ensure project success.

7.2.2 Market status as perceived by project participants and extension officers

When establishing a project, market research normally has to be carried out to check the market's stability with regard to the produce of the project. In this study, the market was assessed in terms of its performance during the duration of the project. Assessment was based on whether the market had improved, decreased or remained unchanged. According to Table 7.5 below, the majority (48%) of both respondent categories indicated that the market had remained unchanged, while 19% of project participants and 9% of extension officers indicated that the market had decreased. A total of 37% of both respondent categories indicated a market improvement, which is a positive sign that needs to be encouraged. The Pearson Chi-Square test indicated that there is no statically significant difference ($x^2 = 3.798$; p = 0.151) at 5% significant level between the two respondent categories concerning the market status.

Table 7.5: Market status as perceived by project participants and extension officers

Market status categories		Respondent categories		Total
		Project participants	Extension officers	
1. Market improved	(n)	41	32	73
	(%)	33.3%	42.7%	36.9%
2. Market remained unchanged	(n)	59	36	95
	(%)	48.0%	48.0%	48.0%
3. Market decreased	(n)	23	7	30
	(%)	18.7%	9.3%	15.2%
Total	(N)	123	75	198
	(%)	100.0%	100.0%	100.0%

$x^2 = 3.798$; p = 0.151

7.2.3 The degree to which the produce meets market requirements in terms of quality

Planning for the quality requirements for projects is essential to avoid project failure (Regenesys School of Public Management, 2002). According to Table 7.6 below, the highest percentage of project participants (59%) and extension officer respondents (53%) indicated that produce only slightly met market requirements in terms of quality. The second largest percentage of both respondent categories (25%) indicated that produce did not meet market quality requirements. Only a very small percentage of both respondent categories (3%) indicated that produce met market quality requirements. The Chi-Square test results (x^2= 3.783; p = 0.611) indicate that there is no statistically significant difference for all type of respondents at 5% significant level concerning the quality of the produce in terms of meeting market requirements at various projects in the Province. If the quality of the produce does not meet the requirements set by the market, this could have disastrous effects on the project.

Table 7.6: The degree to which the produce met market requirements in terms of quality according to both respondent categories

The degree of market quality requirement		Respondent categories		Total
		Project participants	Extension officers	
1. Did not meet market quality requirements at all	(n)	32	18	50
	(%)	25.6%	23.7%	24.9%
2. Did not meet market quality requirements	(n)	11	12	23
	(%)	8.8%	15.8%	11.4%
3. Market quality requirements slightly met	(n)	74	40	114
	(%)	59.2%	52.6%	56.7%
4. Market quality requirements met	(n)	3	2	5
	(%)	2.4%	2.6%	2.5%
5. Market quality requirements met to a large extent	(n)	3	1	4
	(%)	2.4%	1.3%	2.0%
6. Market quality requirements totally met	(n)	2	3	5
	(%)	1.6%	3.9%	2.5%
Total	(N)	125	76	201
	(%)	100.0%	100.0%	100.0%

x^2= 3.783; p = 0.611

7.2.4 The degree to which the produce meets market requirement in terms of contract (quantity and date)

While quality is essential in marketing produce, the timely delivery of the required quantity that has to be supplied periodically (date) is essential for keeping the contract between the producer and buyer in harmony. It is, therefore, essential that producers must always ask themselves the following questions, as listed by Gittinger (1982), before entering into any contract with institutions or organisations: (a) Will the project maximise profit? (b) Will the profit maintain market share, increase market share or consolidate market position? These questions will re-assure the producer about his or her position for entering into any agreement with any institution or organisation. According to Table 7.7 below, the highest percentage of project participants (59%) and extension officer respondents (47%) indicated (in total 54%) that produce did not meet the market requirements in terms of contract. The second largest percentage of both respondent categories (35%) indicated that the produce only slightly met the market contract requirements. Only a very small percentage of both respondent categories (3%) indicated that produce met the market contract requirements, also to a large extent and even totally. The Chi-Square test results (x^2= 5.465; p = 0.353) indicates that there is no statistically significant difference at 5% significant level for both respondent categories. According to the above findings, this could have a very negative effect on future production and contracts with the market.

Table 7.7: The degree to which produce meets market requirements in terms of contract according to both respondent categories

The degree of market contract requirement		Type of respondent		Total
		Project participants	Extension officers	
1. Did not meet market contract requirements at all	(n)	69	32	101
	(%)	58.5%	47.1%	54.3%
2. Did not meet market contract requirements	(n)	10	4	14
	(%)	8.5%	5.9%	7.5%
3. Market contract requirements slightly met	(n)	35	30	65
	(%)	29.7%	44.1%	34.9%
4. Market contract requirements met	(n)	1	0	1
	(%)	0.8%	0.0%	0.5%
5. Market contract requirements met to a large extent	(n)	1	0	1
	(%)	0.8%	0.0%	0.5%
6. Market requirements totally met	(n)	2	2	4
	(%)	1.7%	2.9%	2.2%
Total	(N)	118	68	186
	(%)	100.0%	100.0%	100.0%

x^2= 5.465; p = 0.353

7.2.5 Market assessment in terms of price

Financial awareness to farmers is always essential to make sure that they make a proper assessment concerning all the resources that they manage. Furthermore, they must be aware of potential financial loss (Lombard *et al*., 1995:65-77), and they must also be able to budget independently and be willing to interpret financial records so that they can make informed decisions. The market was assessed in terms of price, using a scale between very bad to very good. According to the majority of project participants (40%) and extension officers (36%), the market price was average and only 3% of project participants and 1% of extension officers reported that the market price was very good. A total of only 29% of both respondent categories indicated that the price was good, whereas 20% of project participants

and 21% extension officers reported that the market price was very bad. The Pearson Chi-Square test (x^2 =3.823; p = 0.442) indicated that there is no statistically significant difference at 5% significant level between the two respondent categories concerning the market status.

7.2.6 Market assessment in terms of quantity it can absorb

It is always proper to make an assessment of the market in terms of the quantity it can absorb, so that one may know what might happen if one increases the rate of his or her production and how it would affect market share, through assessing competitors in the market (Burke, 2003:2-4, 48-59). The majority of project participants (39%) and extension officers (36%) indicated that the market assessment in terms of quantity it can absorb is average. Only 8% of project participants and 7% of extension officers indicated a very good absorption of produce by the market. A total of only 23% of both respondent categories indicated a bad to very bad perception on the quantity the market can absorb. The Pearson Chi-Square test (x^2= 0.827; p = 0.931) indicated that there is no statistically significant difference between the two respondent categories concerning the quantity it can absorb.

7.2.7 Transportation of produce to the market

When establishing a project, the effect of location on the project must be considered (Burke, 2003), and the logistic requirements during the project and subsequent operation should be met through existing roads and ports. How do participants or farmers get their produce to the market, was one of the questions raised during the survey. The highest total percentage according to both respondent categories (Table 7.8) was by hired transport (35%), second highest was buyers collecting at the farm gate (31%), other means of transport (18%), and use of own transport (16%). The Chi-Square test reveals an indication of an association (x^2 =7.737; p = 0.051) whereby project participant respondents (35%) make use of buying at the gate, against 24% of extension officer respondents. This finding implies that project planning must take the location of the project into consideration.

Table 7.8: The means of transporting produce to market as perceived by both respondent categories

Transportation of produce to market categories		Respondent categories		Total
		Project Participants	Extension officers	
1. Use own transport	(n)	15	17	32
	(%)	11.8%	22.7%	15.8%
2. Hire transport	(n)	48	23	71
	(%)	37.8%	30.7%	35.1%
3. Buyers collect at the farm gate	(n)	45	18	63
	(%)	35.4%	24.0%	31.2%
4. "Other" means of transport	(n)	19	17	36
	(%)	15.0%	22.7%	17.8%
Total	(N)	127	75	202
	(%)	100.0%	100.0%	100.0%

x^2 =7.737; p = 0.051

7.2.8 Marketing of produce

Once the project is established, a regular assessment of the market must be made and the supply and demand curve must be monitored so that the present demand for the product and the forecast demand may be known (Burke, 2003). Areas identified by the study where produce can be sold were: (a) farm gate; (b) local community market; (c) auction sales; (d) open market; (e) pre-arranged market; (f) pension point; and (g) in town. The highest total percentage, according to both respondent categories, was at the local community market (33%), the second highest was buyers at auction sales (25%) while other means of marketing produce accounted for 20%. The Chi-Square result (x^2 = 13.128; p = 0.062) reveals that there is no statistically significant difference at 5% significant level between the project participants and extension officers about where produce are sold.

7.2.9 The percentage of the gross income on transport costs

The mean transport costs, according to project participants (25.367%) and extension officer respondents (22.278%), are presented in Table 7.9 below. The T-test results (t= 0.001; p = 0.334) also indicate no statistical difference at 5% significant level across the two respondent categories. The fact is that the cost of transport was between 22% and 25% of the gross income of the produce sold at the market. This finding means that when the project is established, the transport of produce to the market should be considered and prioritised as an important factor to ensure project success.

Table 7.9: T-Test to compare the percentage of gross income on transport costs across type of respondent

Type of respondent	N	Mean	Std. Deviation	Std. Error Mean
Project participants	120	25.367%	21.1541%	1.9311%
Extension officers	72	22.278%	21.7354%	2.5615%

t= 0.001; p = 0.334

7.2.10 Summary of the most important findings

A reliable market is needed to ensure project success. According to project participants (54%) and extension officers (53%), the markets were reasonable. The majority (48%) of both respondents indicated that the market had remained unchanged. The produce, according to 54% of project participants and 53% of extension officer respondents, only slightly met market requirements. The market price was average, according to 40% of project participants and 36% of extension officers. Produce was mostly transported to the market by hired transport (35% of both respondents).The quantity the market can absorb was reported by project participants (39%) and extension officers (36%) as being average. The market is important for stakeholders and therefore there is a need for them to participate and get involved in the projects. They should understand the project participants' needs and the challenges in marketing.

7.3 KNOWLEDGE OF PRODUCTION EFFICIENCY AS PERCEIVED BY PROJECT PARTICIPANTS AND EXTENSION OFFICERS

7.3.1 Introduction

Project data should be up-to-date and recorded correctly through setting up a knowledge centre (Bruce & Langdon, 2007:76) so that everybody might have easy access to key project information whenever they need it. The production knowledge of an individual was assessed by looking at factors that were considered when the project was selected and when planning the project commodities. The following scales were used: 1 = No knowledge, 2 = Some knowledge, 3 = Average knowledge, 4 = Above average knowledge and 5 = Excellent knowledge for project planning, with seven factors being investigated (i) “before production” and (ii) “at interview” and using a scale of 1 = Not important, 2 = Less important, 3 = Important, 4 = More important and 5 = Very important for project selection.

7.3.2 Status of production knowledge of the commodity in the area before production

The knowledge of project participants on the status of production of the commodities in the area was assessed and 34% of project participants and 32% of extension officers reported only an average knowledge about the commodity in the area before the start of production, while only a few project participants (2%) and extension officers (9%) reported that they had excellent knowledge before the production started. An alarming aspect is that 50% of project participants had only some and even no knowledge at all.

Out of the total number of extension officers, a total of 37% indicated only some knowledge and even no knowledge. The total percentage of both respondent categories revealed that:

- 33% average knowledge;
- 24% had no knowledge;
- 21% had some knowledge;
- 17% above average knowledge, and
- 4% excellent knowledge.

The exact Sig. (2-Sided) Pearson Chi-Square test (Table 7.10 below) indicated a significant difference (x^2= 14.60; p = 0.005) between the views of participants and extension officers regarding their knowledge about the production status of the commodity in the area before commencement of production. Significantly more project participants (31%) had no knowledge at all, against only 13% of extension officer respondents.

Table 7.10: The status of production knowledge of the commodity *before* the project planning starts according to respondent categories

Production knowledge categories when planning the project		Respondent categories		Total
		Project Participants	Extension officers	
1. No knowledge	(n)	39	10	49
	(%)	30.7%	13.2%	24.1%
2. Some knowledge	(n)	25	18	43
	(%)	19.7%	23.7%	21.2%
3. Average knowledge	(n)	43	24	67
	(%)	33.9%	31.6%	33.0%
4. Above average knowledge	(n)	18	17	35
	(%)	14.2%	22.4%	17.2%
5. Excellent knowledge	(n)	2	7	9
	(%)	1.6%	9.2%	4.4%
Total	(N)	127	76	203
	(%)	100.0%	100.0%	100.0%

x^2= 14.606; p = 0.005

7.3.3 Status of production knowledge of the commodity in the area at the time of interview

A total of 23% of project participants and 14% of extension officers reported that they had average knowledge about the commodity in the area at the time of interview, while only 12% of project participants and 26% of extension officers reported that they had excellent knowledge. An interesting aspect is that 16% of project participants and 15% of extension officers indicated still having no knowledge, which is an alarming aspect, as shown in Table 7.11 below. A Pearson Chi-Square exact Sig. (2-sided) indicated no statistical difference at 5% significant level between the report of participants and extension officers about the production knowledge at interview. Most important, however, is the increase of above-average knowledge by both respondent categories, from 17% before production to 44% at interview. Excellent knowledge production also increased from 4% to 17%.

Table 7.11: The status of production knowledge of commodity at the time of interview according to both respondent categories

Production knowledge categories at the time of interview		Respondent categories: Project participants	Respondent categories: Extension officers	Total
1. No knowledge	(n)	20	11	31
	(%)	16.3%	15.3%	15.9%
2. Some knowledge	(n)	6	1	7
	(%)	4.9%	1.4%	3.6%
3. Average knowledge	(n)	28	10	38
	(%)	22.8%	13.9%	19.5%
4. Above average knowledge	(n)	54	31	85
	(%)	43.9%	43.1%	43.6%
5. Excellent knowledge	(n)	15	19	34
	(%)	12.2%	26.4%	17.4%
Total	(N)	123	72	195
	(%)	100.0%	100.0%	100.0%

x^2 =8.659; p = 0.068

7.3.4 Summary of status of production knowledge of the commodity before project start and at the time of the interview

Table 7.12 below shows the improvement in terms of knowledge gained at interview of both respondent categories. There is a significant improvement of 26% (from 17.2% to 43.6%) of respondents who gained above-average knowledge at interview, and a 13% increase (from 4.4% to 17.4%) of all respondent categories gaining excellent knowledge. Project participants indicated a 30% increase of above-average knowledge and extension officer respondents indicated an increase of 21%. This finding supports the need for training of project participants before and during the life cycle of the project.

Table 7.12: Comparison of production knowledge before project start and at time of interview

Production knowledge categories	Knowledge before production			Knowledge at interview			Percentage increase(+)/ decrease (-) of both respondent categories
	Project participants (%)	Extension officers (%)	Both respondents (%)	Project participants (%)	Extension officers (%)	Both respondents (%)	
1. No knowledge	30.7	13.2	24.1	16.3	15.3	15.9	-8.2
2. Some knowledge	19.7	23.7	21.2	4.9	1.4	3.6	-17.6
3. Average knowledge	33.9	31.6	33.0	22.8	13.9	19.5	-13.5
4. Above average knowledge	14.2	22.4	17.2	43.9	43.1	43.6	+26.4
5. Excellent knowledge	1.6	9.2	4.4	12.2	26.4	17.4	+13
Total	100	100	100	100	100	100	

7.3.5 Knowledge of special design requirements before production

A special design requirement refers to specific designs suitable for the produce of the project. It is very imperative for producers to know the special design requirements of their projects before production; this will reduce delays as a result of re-designing the projects during establishment which might also disturb production. The perception of knowledge of special design requirements “before” production was assessed. According to Table 7.13 below, 40% of project participants and 34% of extension officers did not have knowledge about special design requirements before production. Only 2% of the project participants and 11% of extension officer respondents reported that they had excellent knowledge. Significantly lesser project participants (15%) than extension officers (27%) indicated average knowledge, while 12% of project participants and 19% of extension officers had above-average knowledge.

Table 7.13: The level of knowledge of special design requirements *before* production starts according to the respondent categories

Knowledge of special design requirement categories when planning the project		Respondent categories		Total
		Project participants	Extension officers	
1. No knowledge	(n)	50	25	75
	(%)	39.7%	33.8%	37.5%
2. Some knowledge	(n)	40	7	47
	(%)	31.7%	9.5%	23.5%
3. Average knowledge	(n)	19	20	39
	(%)	15.1%	27.0%	19.5%
4. Above average knowledge	(n)	15	14	29
	(%)	11.9%	18.9%	14.5%
5. Excellent knowledge	(n)	2	8	10
	(%)	1.6%	10.8%	5.0%
Total	(N)	126	74	200
	(%)	100.0%	100.0%	100.0%

$x^2 = 24.481; \mathrm{p} =< 0.0001$

What is pleasing is that extension officers (27%) indicated an average knowledge and an above-average knowledge (19%), which means that information was communicated to them as advisors that would have enabled them to communicate it to the 40% of participants who did not have knowledge, as well as the 32% of those who had only some knowledge. According to the total percentage of both respondent categories, 38% did not have knowledge and 24% only had average knowledge. The Pearson Chi-Square test ($x^2 = 24.481;\ \mathrm{p} = 0.000$) concludes that there is a statistically significant association at 5% significant level between project participants and extension officers respondents about their knowledge of special design requirements. Most alarming is that 71% of project participants indicated only some knowledge and even no knowledge. This is a clear indication that the knowledge of special design requirements has an effect on the success or failure of a project.

7.3.6 Knowledge of special design requirements at the time of interview

According to Table 7.14 below, 24% of project participants and 18% of extension officer respondents indicated that they still did not have knowledge of special design requirements; 33% of project participants and 23% of extension officer respondents indicated an average knowledge about special design requirements at interview. Only 15% of the project participants and 19% of extension officer respondents reported that they had excellent knowledge. The total percentage of both respondent categories indicated that 29% had an average and above-average knowledge, respectively, while only 16% indicated excellent knowledge. The Pearson Chi-Square exact sig. (2-sided) indicated that there is no statistically significant difference (p=0.336) at 5% significant level between both respondent categories.

Table 7.14: The level of knowledge of special design requirements at the time of interview according to the respondent categories

Knowledge of special design requirement categories at the time of interview		**Respondents categories**		**Total**
		Project participants	**Extension officers**	
1. No knowledge	(n)	30	13	43
	(%)	24.4%	17.8%	21.9%
2. Some knowledge	(n)	4	3	7
	(%)	3.3%	4.1%	3.6%
3. Average knowledge	(n)	40	17	57
	(%)	32.5%	23.3%	29.1%
4. Above average knowledge	(n)	31	26	57
	(%)	25.2%	35.6%	29.1%
5. Excellent knowledge	(n)	18	14	32
	(%)	14.6%	19.2%	16.3%
Total	(N)	123	73	196
	(%)	100.0%	100.0%	100.0%

x^2 = 4.629; p = 0.336

7.3.7 Summary of knowledge of special design requirements before production starts and at the time of the interview

There is an improvement of +15% (above average) and + 11% (excellent knowledge) of knowledge gained in both categories of respondents in terms of special design requirement (Table 7.15 below). There was a significant decline in the percentage of respondents with no knowledge (-16%) and some knowledge (-20%). This finding indicates knowledge as being an important factor to ensure project success or failure.

Table 7.15: Comparison of knowledge of special design requirements before the projects start and at the time of interview

Knowledge of special design requirement categories	Knowledge before production			Knowledge at interview			Percentage increase (+)/ decrease (-) of both respondent categories
	Project participants (%)	Extension officers (%)	Both respondents (%)	Project participants (%)	Extension officers (%)	Both respondents (%)	
1. No knowledge	39.7	33.8	37.5	24.4	17.8	21.9	-15.6
2. Some knowledge	31.7	9.5	23.5	3.3	4.1	3.6	-19.9
3. Average knowledge	15.1	27.0	19.5	32.5	23.3	29.1	+9.6
4. Above average knowledge	11.9	18.9	14.5	25.2	35.6	29.1	+14.6
5. Excellent knowledge	1.6	10.8	5.0	14.6	19.2	16.3	+11.3
Total	100	100	100	100	100	100	

7.3.8 Knowledge of special machinery and equipment requirements *before* production

Special machinery and equipment refers to specific machinery and equipment suitable for the preparation of the produce of the project. Before each and every project is established, planners must ensure that machinery suitable for it is made available to ensure that the project will produce as expected. According to the Regenesys School of Public Management, unsuitable equipment can result in the failure of project planning and development (Regenesys, 2002). The project must be able to maximise the utilisation of plant and equipment (Burke, 2003:2-4, 48-59). Participants were also assessed in terms of their

knowledge of special machinery and equipment requirements “before” production (Table 7.16 below).

Table 7.16: The level of knowledge of special machinery and equipment requirements before production starts according to the respondent categories

Knowledge of special machinery and equipment categories when planning the project		Respondent categories		Total
		Project participant	Extension officers	
1. No knowledge	(n)	54	22	76
	(%)	42.5%	29.7%	37.8%
2. Some knowledge	(n)	37	11	48
	(%)	29.1%	14.9%	23.9%
3. Average knowledge	(n)	19	15	34
	(%)	15.0%	20.3%	16.9%
4. Above average Knowledge	(n)	13	17	30
	(%)	10.2%	23.0%	14.9%
5. Excellent knowledge	(n)	4	9	13
	(%)	3.1%	12.2%	6.5%
Total	(N)	127	74	201
	(%)	100.0%	100.0%	100.0%

$x^2 = 18.478\,;\mathrm{p} = 0.005$

Significantly more project participants (43%) than extension officer respondents (30%) indicated that they had no knowledge and 29% of project participants and 15% of extension officers indicated that they had only some knowledge of the requirements of special machinery and equipment. Although small, an interesting aspect is the higher percentage of extension officers (12%) than project participants (3%) indicated excellent knowledge. It is a worrying factor to find that 30% of extension officers had no knowledge. It is, however, understandable that the highest percentage of project participants (43%) had no knowledge because most activities are facilitated by extension officer before production started at the project in the Province, but it is also encouraging to find that 15% of project participants and 20% of extension officers indicated an average knowledge.

A total of 38% of respondents across both types of respondents had no knowledge, 24% had some knowledge, and only 17% had average knowledge. A very small percentage of 6.5% indicated excellent knowledge. The Chi-Square ($x^2 = 18.478$; $p = 0.005$) statistical analysis indicated a highly significant difference at 5% significant level between both respondent categories. A total of 72% of project participants and 45% of extension officers indicated some knowledge, and even no knowledge, of special machinery and equipment and their requirements before planning production. The highly significant association implies that knowledge before production might have an effect on the outcome of the project.

7.3.9 Knowledge of special machinery and equipment requirements *at* interview

Respondents were also assessed in terms of their knowledge about the requirements of special machinery and equipment at interview (Table 7.17 below).Significantly more project participants (40%) than extension officer respondents (16%) indicated an average knowledge, while 40% of extension officer respondents and only 21% of project participants indicated an above-average knowledge. The Chi-Square test result shows that there is statistically significant difference at 5% level (0.001) between project participants and extension officer respondents about the requirements for special machinery and equipment.

Table 7.17: The level of knowledge of the requirements for special machinery and equipment at interview according to the respondent categories

Knowledge of special machinery and equipment categories at interview		Respondent categories		Total
		Project participants	Extension officers	
1. No knowledge	(n)	22	12	34
	(%)	17.9%	16.4%	17.3%
2. Some knowledge	(n)	7	4	11
	(%)	5.7%	5.5%	5.6%
3. Average knowledge	(n)	49	12	61
	(%)	39.8%	16.4%	31.1%
4. Above average knowledge	(n)	26	29	55
	(%)	21.1%	39.7%	28.1%
5. Excellent knowledge	(n)	19	16	35
	(%)	15.4%	21.9%	17.9%
Total	(N)	123	73	196
	(%)	100.0%	100.0%	100.0%

$x^2 = 14.833; \mathrm{p} = 0.005$

7.3.10 Summary of knowledge of special machinery and equipment requirements

A general improvement in all categories is noticeable, as far as the knowledge of special machinery and equipment and their requirements are concerned (Table 7.18 below). No knowledge decreased by 21%, while the average knowledge of both respondent categories increased by 14% and excellent knowledge increased by 11%. This again is an important result, emphasising the importance of capacity building by means of training. Knowledge is one of the intervening variables that change people's behaviour.

Table 7.18: Knowledge comparison of special machinery and equipment requirements before project starts and at interview

Knowledge of special machinery and equipment categories	Knowledge before production			Knowledge at interview			Percentage increase(+)/ Decrease(-) for both respondents
	Project participants (%)	Extension officers (%)	Both respondents (%)	Project participants (%)	Extension officers (%)	Both respondents (%)	
1. No knowledge	42.5	29.7	37.8	17.9	16.4	17.3	-20.5
2. Some knowledge	29.1	14.9	23.9	5.7	5.5	5.6	-18.3
3. Average knowledge	15.0	20.3	16.9	39.8	16.4	31.1	+14.2
4. Above average knowledge	10.2	23.0	14.9	21.1	39.7	28.1	+13.2
5. Excellent knowledge	3.1	12.2	6.5	15.4	21.9	17.9	+11.4
Total	100	100	100	100	100	100	

7.3.11 Knowledge of special transport requirements before production

It is important to be knowledgeable with regard to special transport requirements and to plan for it before production starts, so that produces is transported to its destination in good condition. Participants were assessed on their knowledge about transport requirements "before" production. The findings are presented in Table 7.19 below. The project participants (48%) and extension officers (26%) reported that they had no knowledge, and only 3% of project participants and 8% of extension officers reported that they had excellent knowledge about special transport requirements. An unsatisfactorily small percentage of project participants (14%) and extension officers (19%) indicated an average knowledge. A total of 31% of extension officer respondents indicated above-average knowledge, while only 12% of project participants indicated above-average knowledge. The total percentage of the two respondent categories revealed that 40% of respondents did not have knowledge; and only 5% had excellent knowledge.

The Pearson Chi-Square test ($x^2 = 19.031$; $p = 0.001$) indicated a highly statistical significant association. The fact that 40% of both respondent categories have no knowledge,

and 20% only some knowledge, is alarming and this might have an effect on the outcome of the project.

Table 7.19: The level of knowledge of special transport requirements before production starts according to the respondent categories

Knowledge of special transport requirement categories		Respondent categories		Total
		Project participants	Extension officers	
1. No knowledge	(n)	61	19	80
	(%)	48.0%	25.7%	39.8%
2. Some knowledge	(n)	29	12	41
	(%)	22.8%	16.2%	20.4%
3. Average knowledge	(n)	18	14	32
	(%)	14.2%	18.9%	15.9%
4. Above-average knowledge	(n)	15	23	38
	(%)	11.8%	31.1%	18.9%
5. Excellent knowledge	(n)	4	6	10
	(%)	3.1%	8.1%	5.0%
Total	(N)	127	74	201
	(%)	100.0%	100.0%	100.0%

$x^2 = 19.031;\ \mathrm{p} = 0.001$

7.3.12 Knowledge of special transport requirements *at* interview

Project participants' and extension officers' knowledge of special transport requirements at interview is presented in Table 7.20 below. The assessment at interview revealed that 31% of project participants' knowledge of special transport requirements for their project is above average, while 29% indicated an average knowledge, and only 12% indicated that their knowledge is excellent. The highest percentage of extension officer respondents (35%) indicated above-average knowledge, 32% indicated an excellent knowledge, while only 15% indicated that they do not have knowledge about special transport requirements. The Pearson Chi-Square test $(x^2 = 16.093;\ \mathrm{p} = 0.002)$ indicated a statically significant

association between the two respondent categories. Extension officers have a significantly higher excellent knowledge of special transport requirements than project participants.

Table 7.20: The level of knowledge of special transport requirements at production according to the respondent categories

Knowledge of special transport requirement categories at production		Respondent categories		Total
		Project participants	Extension officers	
1. No knowledge	(n)	22	11	33
	(%)	18.0%	15.3%	17.0%
2. Some knowledge	(n)	13	4	17
	(%)	10.7%	5.6%	8.8%
3. Average knowledge	(n)	35	9	44
	(%)	28.7%	12.5%	22.7%
4. Above-average knowledge	(n)	38	25	63
	(%)	31.1%	34.7%	32.5%
5. Excellent knowledge	(n)	14	23	37
	(%)	11.5%	31.9%	19.1%
Total	(N)	122	72	194
	(%)	100.0%	100.0%	100.0%

$x^2 = 16.093; \mathrm{p} = 0.002$

7.3.13 Summary of knowledge of special transport requirements before production at interview

According to Table 7.21 below, both respondent categories indicated an excellent knowledge that increased by 14% at interview. Above-average knowledge also increased by 14%. More important, however, is that there is significantly less respondents with no knowledge, which decreased by 23%.

Table 7.21: Comparison of knowledge of special transport requirements before projects start and at the interview

Knowledge of special transport requirement categories	Knowledge before production			Knowledge at interview			Percentage increase(+)/ Decrease(-) of both respondents
	Project participants (%)	Extension officers (%)	Both respondents (%)	Project participants (%)	Extension officers (%)	Both respondents (%)	
1 No knowledge	48.0	25.7	39.8	18.0	15.3	17.0	-22.8
2. Some knowledge	22.8	16.2	20.4	10.7	5.6	8.8	-11.6
3. Average knowledge	14.2	18.9	15.9	28.7	12.5	22.7	+6.8
4. Above-average knowledge	11.8	31.1	18.9	31.1	34.7	32.5	+13.6
5. Excellent knowledge	3.1	8.1	5.0	11.5	31.9	19.1	+14.1
Total	100	100	100	100	100	100	

7.3.14 Knowledge of product quality assurance requirements before production starts

Produce must meet market requirements in terms of quality, and quality assurance requirements must be a subject of discussion by planners before production starts, at the planning stage. The project must, therefore, assure its market about the quality of its produce and the sustainability of supply. Significantly more project participants (48%) than extension officer respondents (34%) did not have any knowledge, and only 2% of project participants and 8% of extension officer respondents indicated an excellent knowledge about quality assurance requirements (Table 7.22). Only 15.6% of project participants and 18.4% of extension officer respondents indicated an average knowledge, while 12.5% and 23.7% indicated above-average knowledge, respectively. What is not good is the high percentage of project participants (48%) who do not have any knowledge. The same applies to the extension officer respondents (34%) who should advise farmers. The Pearson Chi-Square test ($x^2 = 10.055;\ \mathrm{p} = 0.038$) indicated a statistically significant association. A total of 43% of both respondent categories indicated no knowledge and only 4% indicated an excellent knowledge.

Table 7.22: The level of knowledge of product quality assurance requirements before production starts according to the respondent categories

Knowledge of quality assurance requirement categories		Respondent categories		Total
		Project participants	Extension officers	
1. No knowledge	(n)	61	26	87
	(%)	47.7%	34.2%	42.6%
2. Some knowledge	(n)	28	12	40
	(%)	21.9%	15.8%	19.6%
3. Average knowledge	(n)	20	14	34
	(%)	15.6%	18.4%	16.7%
3. Above-average knowledge	(n)	16	18	34
	(%)	12.5%	23.7%	16.7%
5. Excellent knowledge	(n)	3	6	9
	(%)	2.3%	7.9%	4.4%
Total	(N)	128	76	204
	(%)	100.0%	100.0%	100.0%

$x^2 = 10.055; \mathrm{p} = 0.038$

7.3.15 Knowledge of product quality assurance requirements *at* interview

The highest percentage of project participants (30%) indicated average knowledge of product quality assurance requirements at interview, while 36% of extension officer respondents indicated above-average knowledge (Table 7.23 below). Only 14% of project participants and 19% of extension officer respondents indicated an excellent knowledge about quality assurance requirements. A positive result is the fact that 26% of project participants indicated above-average knowledge, while 36% of extension officer respondents also indicated above-average knowledge of quality assurance requirements for the products. The Pearson Chi-Square (p = 0.327) did not show a statistically significant difference at 5% level between two respondent categories.

Table 7.23: The level of knowledge of product quality assurance requirements at the time of interview according to the respondent categories

Knowledge of quality assurance requirement categories		Respondent categories		Total
		Project participant	Extension officer	
1. No knowledge	(n)	19	10	29
	(%)	15.4%	13.7%	14.8%
2. Some knowledge	(n)	18	6	24
	(%)	14.6%	8.2%	12.2%
3. Average knowledge	(n)	37	17	54
	(%)	30.1%	23.3%	27.6%
4. Above-average knowledge	(n)	32	26	58
	(%)	26.0%	35.6%	29.6%
5. Excellent knowledge	(n)	17	14	31
	(%)	13.8%	19.2%	15.8%
Total	(N)	123	73	196
	(%)	100.0%	100.0%	100.0%

$x^2 = 4.660$; p = 0.327

7.3.16 Summary of knowledge of product quality assurance requirements before production started and at interview

There was a general improvement in all respondent categories in terms of knowledge gain at interview, according to Table 7.24 below. The ‘no knowledge’ category decreased by 28%, while above-average knowledge increased by 13%, and excellent knowledge by 11%.

Table 7.24: Knowledge comparison of knowledge of product quality assurance requirements before project start and at the interview

Knowledge of quality assurance requirement categories	Knowledge before production			Knowledge at interview			Percentage increase(+)/ decrease (-) of both respondent categories
	Project participants (%)	Extension officers (%)	Both respondents (%)	Project participants (%)	Extension officers (%)	Both respondents (%)	
1. No knowledge	47.7	34.2	42.6	15.4	13.7	14.8	-27.8
2. Some knowledge	21.9	15.8	19.6	14.6	8.2	12.2	-7.4
3. Average knowledge	15.6	18.4	16.7	30.1	23.3	27.6	+10.9
4. Above-average knowledge	12.5	23.7	16.7	26.0	35.6	29.6	+12.9
5. Excellent knowledge	2.3	7.9	4.4	13.8	19.2	15.8	+11.4
Total	100	100	100	100	100	100	

7.3.17 Knowledge of labour requirements *before* production

According to Table 7.25 below, 36% of project participants indicated that they had some knowledge, 28% indicated no knowledge (about labour requirements), while only 5% indicated an excellent knowledge.

Table 7.25: Knowledge of labour requirements before production as perceived by respondents

Level of knowledge about labour requirements		Respondent Categories		Total
		Project participants	Extension officers	
1. No knowledge	(n)	36	17	53
	(%)	28.3%	22.4%	26.1%
2. Some knowledge	(n)	46	8	54
	(%)	36.2%	10.5%	26.6%
3. Average knowledge	(n)	24	23	47
	(%)	18.9%	30.3%	23.2%
4. Above-average knowledge	(n)	14	19	33
	(%)	11.0%	25.0%	16.3%
5. Excellent knowledge	(n)	7	9	16
	(%)	5.5%	11.8%	7.9%
Total	(N)	127	76	203
	(%)	100.0%	100.0%	100.0%

$x^2 = 23.235; \mathrm{p} =< 0.0001$

The question one can pose is, will the project maximise the utilisation of the work force (Burke, 2003) once labour requirements are known. A total of 30% of extension officer respondents indicated an average knowledge, and 25% an above-average knowledge of labour requirements, while 22% of extension officers had no knowledge, and only 12% an excellent knowledge of labour requirements. The total percentage of both respondent categories reveals that the majority (27%) of respondents had some knowledge and 26% had no knowledge. The Pearson Chi-Square test ($x^2 = 23.235;\ \mathrm{p} = 0.000$) reveals a highly statistically significant association between the two respondent categories, whereby extension officer respondents indicated a significantly higher level of knowledge than the project participants.

7.3.18 Knowledge of labour requirements *at* interview

Each and every project established has its own labour requirements in terms of its size, type of the project, etc. that will make it functional. Table 7.26 below revealed that both project

participants (32%) and extension officer respondents (38%) had an average knowledge, and 20% of project participants and 15% of extension officers had some knowledge about labour requirements. The total percentage of both respondent categories reveals that the majority (34%) indicated above-average knowledge, 23% excellent knowledge, while only 9% did not have knowledge, which is clearly insufficient. The Pearson Chi-Square test ($x^2 = 8.459$; $p = 0.076$) indicated no statistically significant difference between the two respondent categories.

Table 7.26: Respondents' knowledge of labour requirements at interview

Knowledge of labour requirement categories as perceived by respondents		Respondent categories		Total
		Project participants	Extension officers	
1. No knowledge	(n)	16	2	18
	(%)	13.0%	2.8%	9.2%
2. Some knowledge	(n)	25	11	36
	(%)	20.3%	15.3%	18.5%
3. Average knowledge	(n)	20	11	31
	(%)	16.3%	15.3%	15.9%
4. Above average knowledge	(n)	39	27	66
	(%)	31.7%	37.5%	33.8%
5. Excellent knowledge	(n)	23	21	44
	(%)	18.7%	29.2%	22.6%
Total	(N)	123	72	195
	(%)	100%	100.0%	100.0%

$x^2 = 8.459$; $p = 0.076$

7.3.19 Summary of knowledge of labour requirements

Table 7.27 below presents a comparative analysis of respondents' knowledge about labour requirements before and at interview. It shows a good increase in knowledge gain at interview over that before production. The above-average knowledge increased by 18% and the excellent knowledge by 15%. The 'no knowledge' category decreased by 17%. The increase in the project participants' above average (20%) and excellent knowledge (13%),

underlines the importance of capacity building by means of training (dependent variable) to change people's behaviour.

Table 7.27: Comparison of knowledge of labour requirements before project start and at interview

Knowledge about labour requirement categories	Knowledge before production			Knowledge at interview			Percentage increase(+)/ Decrease(-) of both respondent categories
	Project participants (%)	Extension officers (%)	Both respondents (%)	Project participants (%)	Extension officers (%)	Both respondents (%)	
1. No knowledge	28.3	22.4	26.1	13.0	2.8	9.2	-16.9
2. Some knowledge	36.2	10.5	26.6	20.3	15.3	18.5	-8.1
3. Average knowledge	18.9	30.3	23.2	16.3	15.3	15.9	-7.3
4. Above-average knowledge	11.0	25.0	16.3	31.7	37.5	33.8	+17.5
5. Excellent knowledge	5.5	11.8	7.9	18.7	29.2	22.6	+14.7
Total	100	100	100	100	100	100	

7.3.20 Knowledge and the necessity of time devoted on production *before* production

Knowledge of time, as one of the important factors in production, was assessed (Table 7.28 below) and it was discovered that significantly more project participants (30%) than extension officer respondents (18%) indicated an average knowledge, while significantly more (29%) project participants than extension officer respondents (20%) had no knowledge. A small number of project participants (8%) and extension officer respondents (11%) indicated an excellent knowledge of the necessity to devote time to the produce. There is also a significant difference between project participants (15%) and extension officer respondents (34%) with above-average knowledge in terms of time to be devoted on production at the project. The Pearson Chi-Square test $(x^2 = 12.393; \mathrm{p} = 0.014)$ (indicated a statistically significant difference at 5% level between the two respondent categories. The Chi-Square test indicated that there is no agreement between the two respondent categories regarding the knowledge of the time that should be devoted on production.

Table 7.28: Knowledge of time devoted on the produce before production as perceived by project and extension officer respondents

Knowledge of time devoted on the produce			Respondent categories		Total
			Project participants	Extension officers	
1.	No knowledge	(n)	37	15	52
		(%)	29.4%	19.7%	25.7%
2.	Some knowledge	(n)	22	13	35
		(%)	17.5%	17.1%	17.3%
3.	Average knowledge	(n)	38	14	52
		(%)	30.2%	18.4%	25.7%
4.	Above average knowledge	(n)	19	26	45
		(%)	15.1%	34.2%	22.3%
5.	Excellent knowledge	(n)	10	8	18
		(%)	7.9%	10.5%	8.9%
Total		(N)	126	76	202
		(%)	100%	100.0%	100.0%

$x^2 = 12.393; \mathrm{p} = 0.014$

7.3.21 Knowledge and the necessity of time devoted on the produce *at* interview

The results of knowledge of time devoted on the project at interview are presented in Table 7.29 below. This reveals that 37% of project participants and 41% of extension officer respondents indicated above-average knowledge, while only 10% of project participants and 12% of extension officer respondents had no knowledge. A fairly acceptable number of project participants (20%) and extension officer respondents (30%) indicated an excellent knowledge of the necessity to devote time to the produce. The total percentage (39%) between the two respondent categories indicated above-average knowledge of the necessity to devote time for the project. An exact (2-sided) Pearson Chi-Square test (p = 0.080) indicated that there is no statistically significant difference at 5% significant level between the

two respondent categories. Most important is the fact that their knowledge about the necessity to devote time to production activity increased significantly.

Table 7.29: Knowledge of the time devoted on the produce at the time of interview as perceived by project and extension officer respondents

Knowledge of time devoted on the produce		Respondent categories		
		Project participants	Extension officers	Total
1. No knowledge	(n)	12	9	21
	(%)	9.8%	12.3%	10.8%
2. Some knowledge	(n)	13	2	15
	(%)	10.7%	2.7%	7.7%
3. Average knowledge	(n)	28	10	38
	(%)	23.0%	13.7%	19.5%
4. Above average knowledge	(n)	45	30	75
	(%)	36.9%	41.1%	38.5%
5. Excellent knowledge	(n)	24	22	46
	(%)	19.7%	30.1%	23.6%
Total	(N)	122	73	195
	(%)	100.0%	100.0%	100.0%

x^2 = 8.32; p = 0.08

7.3.22 Summary of respondents' knowledge of time devoted to the production of farm products

According to Table 7.30 below, 26% of both respondent categories did not have knowledge of the time devoted to production before production while at interview it decreased to 11%. Only 9% of respondents indicated an excellent knowledge before production, against 24% at interview, a positive improvement. The above-average knowledge increased by 16%. Respondents who indicated "no knowledge" decreased by 15%, and "excellent knowledge" increased by 15%.

Table 7.30: A comparison of respondents' knowledge of the necessity to devote time on the produce before and at interview

Level of knowledge of time devoted on the produce categories	Knowledge before production			Knowledge at interview			Percentage increase(+)/ Decrease(-) of both respondents
	Project participants (%)	Extension officers (%)	Both respondents (%)	Project participants (%)	Extension officers (%)	Both respondents (%)	
1. No knowledge	29.4	19.7	25.7	9.8	12.3	10.8	-14.9
2. Some knowledge	17.5	17.1	17.3	10.7	2.7	7.7	-9.6
3. Average knowledge	30.2	18.4	25.7	23.0	13.7	19.5	-6.2
4. Above-average knowledge	15.1	34.2	22.3	36.9	41.1	38.5	+16.2
5. Excellent knowledge	7.9	10.5	8.9	19.7	30.1	23.6	+14.7
Total	100	100	100	100	100	100	

7.3.23 Factors to be considered when selecting a project

7.3.23.1 The strength of knowledge support of extension officers

Field workers' orientation and commitment to community participations are key determinants of their effectiveness as instruments of community participation (Paul, 2006:459-467). Field staff also mobilises and interact with beneficiary groups, since they operate at the grassroots level. In this study, the project participants and extension officer respondents were both asked about factors which were considered when the projects were selected. A scale of 1 (not important) – 5 (very important) was used. Respondents were also given selection factors, namely "Yes or No" and in the event of a "yes", a rating was required. The majority of project participants (82%) and extension officer respondents (78%) agreed that the strength of knowledge-support of extension officers was considered. The Pearson Chi-Square test $(x^2 = 0.456; \mathrm{p} = 0.578)$ indicated no statistically significant difference between the two respondent categories and both indicated the importance of a knowledge-support system from extension officers as a factor to select projects.

Since the strength of knowledge-support of extension officers was considered for the selection of the project, 45% of the project participants and 63% of extension officer respondents rated it as very important in project selection (Table 7.31 below). Only three per

cent of both respondent categories indicated that the strength of knowledge-support of extension officers is not important, while 16% indicated that it is of less importance. According to the Pearson Chi-Square test $(x^2 = 7.653;\ \mathrm{p} = 0.101)$, there is no statistically significant difference at 5% significant level between the two respondent categories and 51% of both respondent categories indicated it as very important.

Table 7.31: The importance of the strength of knowledge-support of extension officer as rated by project and extension officer respondents

The rating of strength of knowledge-support of extension officers as a selection factor		Respondent categories		Total
		Project participants	Extension officers	
1. Not important	(n)	3	0	3
	(%)	2.9%	.0%	1.9%
2. Less important	(n)	21	5	26
	(%)	20.0%	8.8%	16.0%
3. Important	(n)	7	2	9
	(%)	6.7%	3.5%	5.6%
4. More important	(n)	27	14	41
	(%)	25.7%	24.6%	25.3%
5. Very important	(n)	47	36	83
	(%)	44.8%	63.2%	51.2%
Total	(N)	105	57	162
	(%)	100	100.0%	100.0%

$x^2 = 7.653; \mathrm{p} = 0.101$

7.3.23.2 The cost of establishing a project

The costs of establishing a project was assessed in terms of project selection. According to 83% of project participants and 84% of extension officer respondents, the costs of establishing a project were considered as a selection factor.

Only 18% of project participants and 16% of extension officer respondents feel that it was not a factor that influenced project selection. A Pearson Chi-Square test ($x^2 = 0.034;\ p = 1.000$) indicated no statistical difference at 5% significant level between the two respondent categories.

In rating the importance of the cost to establish a project, the data is presented in Table 7.32 below. Only 4% of both respondent categories rated it as not important. The Pearson Chi-Square test ($x^2 = 3.008;\ p = 0.567$) revealed that there is no statistical difference at 5% significant level between the two respondent categories. According to 41% of both respondent categories, the cost of establishing a project is a very important selection factor, and 30% indicated it as of more importance.

Table 7.32: The cost of establishing a project as rated by project and extension officer respondents

Rating the cost of establishing a project as a factor to select a project		**Respondent categories**		**Total**
		Project participants	**Extension officers**	
1. Not important	(n)	5	1	6
	(%)	4.7%	1.6%	3.6%
2. Less important	(n)	16	6	22
	(%)	15.1%	9.5%	13.0%
3. Important	(n)	13	7	20
	(%)	12.3%	11.1%	11.8%
4. More important	(n)	32	19	51
	(%)	30.2%	30.2%	30.2%
5. Very important	(n)	40	30	70
	(%)	37.7%	47.6%	41.4%
Total	(N)	106	63	169
	(%)	100.0%	100.0%	100.0%

$x^2 = 3.008; p = 0.567$

7.3.23.3 The potential returns (profitability)

The potential returns or profitability as a selection factor for projects was indicated by 83% of both respondent categories as essential. This is in line with the thoughts of Gittinger (1982), that project selection should be based on numerical indicators of the value of costs and returns. The Pearson Chi-Square exact sig. (2-sided) test $(x^2 = 0.857;\ \mathrm{p} = 0.435)$ indicated that there is no statistical difference at 5% significant level between the two respondent categories.

The two respondent categories' perceptions regarding the potential returns were rated as follows; the highest percentage for both project participants (35%) and extension officer respondents (48%) rated profitability as very important (Table 7.33 below). A very small percentage of project participants (5%) and extension officers (1%) rated it as not important. The Chi-Square test $(x^2 = 7.112; \mathrm{p} = 0.129)$ indicated no statistically significant difference at 5% significant level between the two respondent categories. Although the difference is not significant, there is a clear difference in favour of the extension officer respondents (48%) against project participants (35%) concerning the importance of determining the potential profitability of the farm as a selection criterion. A total of 30% of both respondent categories rated it as more important, while 40% rated it as very important.

Table 7.33: The potential returns (profitability) as rated by project and extension officer respondents

The potential returns (profitability) as rated by project and extension officer respondents.		Respondent categories		Total
		Project participants	Extension officers	
1. Not important	(n)	5	1	6
	(%)	4.9%	1.6%	3.6%
2. Less important	(n)	18	6	24
	(%)	17.5%	9.7%	14.5%
3. Important	(n)	15	4	19
	(%)	14.6%	6.5%	11.5%
4. More important	(n)	29	21	50
	(%)	28.2%	33.9%	30.3%
5. Very important	(n)	36	30	66
	(%)	35.0%	48.4%	40.0%
Total	(N)	103	62	165
	(%)	100.0%	100.0%	100.0%

$x^2 = 7.112; \mathrm{p} = 0.129$

7.3.23.4 The goals of donors

The relevance of the goals of donors as a selection factor was considered by project participants and extension officer respondents. The majority of project participants (62%) indicated that the goals of donors were considered, while 54% of extension officer respondents indicated that they were not considered. The total percentage of both respondent categories revealed that 56% agree that donor goals were considered, as opposed to 44% indicating they was not considered. According to the Chi-Square test $(x^2 = 5.098\,; \mathrm{p} = 0.026)$, there is a statistically significant difference at 5% significant level between the two respondent categories.

When rating the importance of donor goals as a selection factor, a significant difference ($x^2 = 12.405; \mathrm{p} = 0.014$) occurs between the two respondent categories (Table 7.34 below). According to the findings, the majority of project participants (51%) rated the importance of donor goals as less and even not important at all, against only 22% of extension officer respondents. Significantly more extension officer respondents (42%) than project participants (16%) indicated donor goals as very important. It will be very important to ensure that project participants in future understand the importance of donor goals in the development and implementation of the project.

Table 7.34: The goals of donors as rated by project and extension officer respondents

Rating scale of the goals of donors		Respondents categories		
		Project participants	Extension officers	Total
1. Not important	(n)	12	2	14
	(%)	14.6%	5.6%	11.9%
2. Less important	(n)	30	6	36
	(%)	36.6%	16.7%	30.5%
3. Important	(n)	10	6	16
	(%)	12.2%	16.7%	13.6%
4. More important	(n)	17	7	24
	(%)	20.7%	19.4%	20.3%
5. Very important	(n)	13	15	28
	(%)	15.9%	41.7%	23.7%
Total	(N)	82	36	118
	(%)	100.0%	100.0%	100.0%

$x^2 = 12.405; \mathrm{p} = 0.014$

7.3.23.5 The interest of project participants

The interest of project participants as a factor for project selection was considered as essential by both project participants (90%) and extension officer respondents (90%). The Pearson Chi-Square test ($x^2 = 0.027; \mathrm{p} = 1.000$) indicated no statistically significant difference at 5% significant level between the two respondent categories.

The rating of the interest of project participants as a selection factor and its importance are presented in the Table 7.35 below. The interest of project participants for project selection was rated very important by 42% of project participants and 54% of extension officer respondents, a clear indication of the importance of interest of project participants. The Pearson Chi-Square test ($x^2 = 5.382; \mathrm{p} = 0.254$) indicated no statistically significant difference between the two respondent categories. Most important, however, is the fact that 80% of both respondent categories indicated it as a more, and even very important, factor when selecting a project.

Table 7.35: The rating of project participants' interest as a selection factor according to extension officer and project participant respondents

The rating scale of the interest of the project participants as rated by both respondent categories		Respondent categories		Total
		Project participants	Extension officer	
1. Not important	(n)	3	0	3
	(%)	2.6%	.0%	1.7%
2. Less important	(n)	17	5	22
	(%)	14.9%	7.6%	12.2%
3. Important	(n)	8	3	11
	(%)	7.0%	4.5%	6.1%
4. More important	(n)	38	22	60
	(%)	33.3%	33.3%	33.3%
5. Very important	(n)	48	36	84
	(%)	42.1%	54.5%	46.7%
Total	(N)	114	66	180
	(%)	100.0%	100.0%	100.0%

$x^2 = 5.382; \mathrm{p} = 0.254$

7.3.23.6 The market

The majority of project participants (87%) and extension officer respondents (87%) considered the market as one of the essential factors for project selection. The Pearson Chi-

Square test ($x^2 = 0.001;\ \mathrm{p} = 1.000$) indicated no statistically significant difference at 5% significant level between the two respondent categories.

The importance of the market as a selection factor is indicated in Table 7.36 below, which shows that there is no significant difference ($x^2 = 6.972; \mathrm{p} = 0.135$) between the two respondent categories. However, more extension officer respondents (49%) than project participants (35%) rated market as very important, a difference of 14% in favour of the extension officer respondents. A total of 71% of both respondent categories rated the market as more and even very important, and only 15% rated it as less and even not important at all.

Table 7.36: The rating of the market as an important factor to select a project according to project and extension officer respondents

The rating scale of the market by project and extension officer respondents		Respondent categories		
		Project participants	Extension officers	Total
1. Not important	(n)	5	0	5
	(%)	4.5%	.0%	2.9%
2. Less important	(n)	16	5	21
	(%)	14.3%	7.9%	12.0%
3. Important	(n)	18	7	25
	(%)	16.1%	11.1%	14.3%
4. More important	(n)	34	20	54
	(%)	30.4%	31.7%	30.9%
5. Very important	(n)	39	31	70
	(%)	34.8%	49.2%	40.0%
Total	(N)	112	63	175
	(%)	100.0%	100.0%	100.0%

$x^2 = 6.972; \mathrm{p} = 0.135$

7.3.23.7 The influence of the environment

Environmental influence was one of the factors which were considered for project selection because of its importance in project development. The majority of project participants (77%) and extension officer respondents (67%) indicated that it was considered as a factor when

selecting projects. The Pearson Chi-Square test results ($x^2 = 2.300; \mathrm{p} = 0.138$) indicated that there is no statistically significant difference at 5% significant level between the two respondent categories. This is an indication that both respondent categories agree that the environment needs to be considered as a factor when selecting a project.

The importance of the environment and its influence as a selection factor was rated by project participants and extension officer respondents and the results are presented in Table 7.37 below. A total of 61% of both respondent categories rated it as more and even very important, while only 21% rated it as less, or of no, importance. The Pearson Chi-Square test ($x^2 = 3.575; \mathrm{p} = 0.478$) indicated no statistical difference at 5% significant level between the two respondent categories. According to this finding, the majority of the respondents clearly indicated that the importance of the environment (soil, water, vegetation and climate change) does influence the failure or success of a project.

Table 7.37: The importance of the influence of the environment on projects as a selection factor as perceived by project participants and extension officer respondents

The rating scale of environmental influence as a selection factor by project and extension officer respondents		Respondent categories		Total
		Project participants	Extension officers	
1. Not important	(n)	5	0	5
	(%)	5.2%	.0%	3.4%
2. Less important	(n)	18	8	26
	(%)	18.8%	15.1%	17.4%
3. Important	(n)	17	10	27
	(%)	17.7%	18.9%	18.1%
4. More important	(n)	25	14	39
	(%)	26.0%	26.4%	26.2%
5. Very important	(n)	31	21	52
	(%)	32.3%	39.6%	34.9%
Total	(N)	96	53	149
	(%)	100.0%	100.0%	100.0%

$x^2 = 3.575; \mathrm{p} = 0.478$

7.3.23.8 Other factors in the selection of projects

Other factors which were considered were: location of the project within the village, type of project, size of project, number of participants per project, road conditions, availability of funds from the Department to assist, the support structure of the Department, etc. A total of 89% of project participants and 79% of extension officer respondents indicated that these factors were considered. The Pearson Chi-Square test ($x^2 = 3.521; \mathrm{p} = 0.074$) indicated that there is no statistically significant difference at 5% significant level between the two respondent categories.

The ratings of other factors for selecting a project are presented in Table 7.38 below. Other factors which were considered for selection were rated less important by 64% of project

participants and were rated less important by 68% of extension officer respondents. Only 24.5% of both respondent categories indicated these factors as more important and even very important. The Pearson Chi-Square test ($x^2 = 3.199$; $\mathrm{p} = 0.542$) results indicated that there is no statistically significant difference at 5% level between the opinion of project participants and extension officer respondents on these factors. A total of 72% of both respondent categories indicated that these other factors are less and even not important at all.

Table 7.38: The rating of "other factors" to select a project as perceived by project participants and extension officer respondents

The rating scale of other factors to select projects by respondents		Respondent categories		Total
		Project participants	Extension officers	
1. Not important	(n)	9	1	10
	(%)	8.3%	2.1%	6.5%
2. Less important	(n)	69	32	101
	(%)	63.9%	68.1%	65.2%
3. Important	(n)	5	1	6
	(%)	4.6%	2.1%	3.9%
4. More important	(n)	11	7	18
	(%)	10.2%	14.9%	11.6%
5. Very important	(n)	14	6	20
	(%)	13.0%	12.8%	12.9%
Total	(N)	108	47	155
	(%)	100.0%	100.0%	100.0%

$x^2 = 3.199; \mathrm{p} = 0.542$

7.3.23.9 Summary

Eight factors were selected for respondent categories to select those which they perceived as playing an important role for project selection. According to Table 7.39 below, the majority of respondents from both respondent categories indicated that these factors were considered for selecting a project. Very important is the fact that the factor 'strength of knowledge-support of the extension officers' received a high rating, namely 82% as more and even very important. The factor 'interest of participants' received the second highest rating of 80%. Only two factors received a rating lower than 70%, namely 'goals of donors' (43%) and 'other factors' (25%).

Table 7.39: Summary of findings of factors considered for project selection and rating of importance according to both respondent categories

Selection factors	Factors considered		Rating of factors	
	Project participants (%)	Extension officers (%)	More/very important (Rating) (%) of both respondent categories	Not/less important (%)
1. Strength of knowledge-support of extension officers	81.7	77,8	76 (2)	18
2. Costs of establishing a project	82.5	83.6	72 (3)	17
3. Potential returns (profitability)	81.0	86.1	70 (5)	18
4. Goals of donors	62.4	45.8	24 (8)	42
5. Interest of participants (need)	89.7	90.4	80 (1)	14
6. Market	86.6	86.5	71 (4)	15
7. Environmental influence	77.0	67.1	61 (6)	21
8. Other factors	89.1	78.7	25 (7)	72

7.3.24 Time spent by respondents working on projects

One of the questions posed to respondents during the survey was to indicate the time (hours) they spend on their projects. According to the t-test (t= 3.359; p = 0.307), there is no significant difference between the average mean time (hours) working on the project by project participants and extension officers, at the 5% level. The mean time (hours) per week spent by the project participants at the project and extension officer respondents were 22.14 and 18.95, respectively. A five-day week has 40 working hours available (8 hours/day), and a Saturday at least four hours, resulting in 44 hours per week. The project participants, therefore, spent only 50% of their time at the project, while according to the extension officer respondents, they spent 43% of their time on the project (Table 7.40 below). For a project to function effectively and efficiently, project participants need to spend the majority of their time being available at the project and be supported by extension officers.

Table 7.40: The mean time (hours) spent by respondents working on projects as perceived by both respondent categories

Type of respondents	N	Minimum	Maximum	Mean	Std. Deviation
Project participants	126	0	84	22.14	21.717
Extension officers	73	1	120	18.78	23.492

t= 3.359; p = 0.307

7.3.25 Summary of production of production knowledge

a) The effect of production efficiency of individuals was assessed in terms of knowledge gain at interview. There was a general improvement by both respondent categories regarding excellent knowledge gained:

- Special design requirements (11%);
- Use of special machinery (11%);
- Transport requirements (14%);
- Product quality assurance requirements (11%);
- Time devoted on projects (15%);
- On labour requirements (15%).

b) Factors for selecting a project were rated as follows:

(i) Strength of knowledge-support: very important by both respondent categories (51%);

(ii) Cost of establishing a project: very important by both respondent categories (41%);

(iii) Potential returns (profitability): very important by both respondent categories (40%);

(iv) Goals of donor: very important by both respondent categories (24%);

(v) Interest of participants: very important by both respondent categories (47%);

(vi) The market: very important by both respondent categories (40%);

(vii) Influence of environment: very important by both respondent categories (35%); and

(viii) Other factors: less important by both respondent categories (65%).

c) Time working on projects: Project participants only spent 50% of their time working on the projects.

7.4 THE LEVEL OF PARTICIPATORY APPROACHES IN PROJECTS AS PERCEIVED BY PROJECT PARTICIPANTS AND EXTENSION OFFICERS

Projects implementing participatory approaches do have a higher rate of success. Participation is more effective when there is a good and clear partnership between stakeholders and the government (Renfro, 2004:1-5). Recent research suggests that an increased participation at the community level can translate into poverty reduction and welfare improvements. It is always better to conceptualise and operationalise routine relations between people collectively and to shape or change patterns of institutional and social interactions in ways that influence project outcomes (Cleaver, 2005, and Dasgupta & Beard, 2007, cited by Heinrich & Lopez, 2009:1554-1586).

Community participation may vary in the intensity with which it is sought in a particular project or at a particular stage of the project. Community participation, according to Atkinson (1999), may be viewed as a process that serves one or more of the following objectives:

(a) As an instrument of empowerment. Any project or development activity is then a means of empowering people so that they are able to initiate actions on their own and thus influence the processes and outcomes of development;

(b) May serve a more limited objective of building beneficiary capacity in relation to a project. Thus, beneficiaries may share in the management tasks of the project by taking on operational responsibility for a segment of it themselves;

(c) May contribute to increased project effectiveness;

(d) The desire to share the costs of the project with the people it serves; and

(e) May improve project efficiency.

7.4.1 The ranking order of participation factors

The respondents were required to rank the following factors of participation: (a) Ownership, (b) Major decision making, and (c) Accountability, against the following categories: (a)

Participants, (b) Community, (c) Department of Agriculture and Rural Development (DARD), and (d) Donor.

The ranking is as follows:

(a) Ownership of the projects

The ranking order, according to both respondent categories regarding ownership, is as follows (Table 7.41 below): 1st project participants (71.6%), 2nd community (38.8%), 3rd DARD (50.0%) and 4th donor (82.4%). If the project participants feel that the project belongs to them, they own it: they will be able to take care of it and its produce and the chances of success will be increased. According to Renfro (2004:1-5), improved ownership and responsibility by the relevant stakeholders and beneficiaries resulted in higher productivity and in reduced conflicts.

Table 7.41: Ranking ownership as factor of participation

Categories of ranking order of factors of participation	Respondents rating scale of ownership			
	1st	**2nd**	**3rd**	**4th**
1. Participants	71.6% (n=146)	22.5% (n=29)	10.5% (n=13)	3.4% (n=4)
2. Community	20.1% (n=41)	38.8% (n=50)	31.5% (n=39)	5.0% (n=6)
3. DARD	6.9% (n=14)	31.0% (n=40)	50.0% (n=63)	9.2% (n=11)
4. Donor	1.5% (n=3)	7.8% (n=10)	7.3% (n=9)	82.4% (n=98)
Total	100.0% (n=204)	100.0% (n=129)	100.0% (n=124)	100.0% (n=119)

(b) Major decision-making responsibility as a factor of participation

In so far as decision-making responsibility is concerned, the results of the survey indicated the following sequence. The ranking order is as follows (Table 7.42 below): 1st project participants (64.9%), 2nd DARD (42.1%), 3rd community (29.8%), and 4th donor (79.8%). What is important is the fact that DARD was rated 2nd and 3rd in the rank order. This means that project participants make major decisions about their projects. According to Bartholomew

and Bourdon (2002), the participation of greater numbers of people in the decision-making process will determine their acceptance or rejection of the developmental effort. Greater participation will, in turn, affect the sustainability of international extension programmes and international extension itself. Most important is the fact that the project participants must have the responsibility to make major decisions.

Table 7.42: Ranking order of major decision making as a factor of participation

Categories of ranking order of factors of participation	Respondents rating scale of decision making			
	1st	**2nd**	**3rd**	**4th**
1. Participants	64.9% (n=133)	20.3% (n=27)	10.5% (n=13)	0.9% (n=1)
2. Community	20.5% (n=42)	29.3% (n=39)	29.8% (n=37)	15.8% (n=18)
3. DARD	11.7% (n=24)	42.1% (n=56)	48.4% (n=60)	3.5% (n=4)
4. Donor	2.4% (n=5)	8.3% (n=11)	11.3% (n=14)	79.8% (n=91)
Total	100.0% (n=205)	100.0% (n=133)	100.0% (n=124)	100.0% (n=114)

(c) Accountability as a factor of participation

The results (Table 7.43 below) revealed the following order: 1st participants (71.7%), 2nd DARD (48.9%), 3rd community (30.8%), and 4th donor (74.6%). If the project participants are ranked number one, this suggests that their level of involvement is high and this may create more chances for sustainability and project success. It is most important they are responsible and accountable for the execution of the project.

Table 7.43: Ranking order of accountability as a factor of participation

Categories of ranking order of factors of participation	Respondents rating scale of accountability			
	1st	**2nd**	**3rd**	**4th**
1. Participants	71.7% (n=147)	17.2% (n=22)	7.5% (n=9)	2.6% (n=3)
2. Community	17.6% (n=36)	28.9% (n=37)	30.8% (n=37)	19.3% (n=22)
3. DARD	8.3% (n=17)	48.9% (n=62)	45.0% (n=54)	3.5% (n=4)
4. Donor	1.5% (n=3)	5.5% (n=7)	16.7% (n=20)	74.6% (n=95)
Total	100.0% (n=205)	100.0% (n=128)	100.0% (n=120)	100.0% (n=114)

(d) The summary of the ranking order of participation factors

Both respondent categories were required to place the following in rank order according to Tables 7.41 above to Table 7.44 below, namely: (1) project participants, (2) community, (3) DARD, and (4) donor to assess ownership, decision - making and accountability in projects. The results are encouraging, since ownership (71.6%), decision making (64.9%) and accountability (71.7%) were the responsibility of project participants. The results also reflected the participation of the community second, DARD third and donor fourth.

Table 7.44: A summary of the ranking order of factors of participation

Categories of ranking order of factors of participation	Factors of participation			
	Ownership	**Decision-making**	**Accountability**	**Average**
1. Participants	71.6%	64.9%	71.7%	69.4%
2. Community	20.1%	20.5%	17.6%	19.4%
3. DARD	6.9%	11.7%	8.3%	12.0%
4. Donor	1.5%	2.4%	1.5%	1.8%

7.4.2 Selection of project participants

7.4.2.1 Selection criteria

Once you have identified the project that you want to implement, you need to determine who should participate in the project (Regenesys School of Public Management, 2002:38-39). It was important to have criteria suggested as a means of determining how project participants were selected to participate in projects. The following criteria were used: (a) selection according to interest of the community; (b) selection on the basis of association with community leaders; (c) projects imposed on unemployed; (d) selection on the basis of the status in the community; (e) selection on the basis of affiliation to local farmer's organisation; and (f) other reasons. The highest percentage (Table 7.45) revealed that the selection of project participants was made according to the interest of the community (62%), 9% indicated it was imposed on the unemployed, while only 20% indicated other selection criteria, which were not listed. The Pearson Chi-Square test (x^2 = 3.642, p = 0.622) indicated no statistically significant difference at 5% level between the two respondent categories about the selection criteria. The majority of both respondent categories indicated the interest of the community as the most important selection criteria, which is a positive sign of project acceptance by the community

Table 7.45: Selection criteria of project members as perceived by both respondent categories

Selection criteria of project members		Respondent categories		Total
		Project participants	Extension officers	
1. Interest of the community	(n)	77	49	126
	(%)	60.2%	65.3%	62.1%
2. Association with community leaders	(n)	2	3	5
	(%)	1.6%	4.0%	2.5%
3. Imposed on unemployed	(n)	12	7	19
	(%)	9.4%	9.3%	9.4%
4. Status in the community	(n)	4	1	5
	(%)	3.1%	1.3%	2.5%
5. Affiliation to the local farmer's organisation	(n)	6	1	7
	(%)	4.7%	1.3%	3.4%
6. Other selection criteria	(n)	27	14	41
	(%)	21.1%	18.7%	20.2%
Total	(N)	128	75	203
	(%)	100.0%	100.0%	100.0%

x^2 = 3.642; p = 0.622

7.4.2.2 Selection of project members

Lombard and Botha (1995:65-77) have pointed out that agricultural projects did not seem to be very effective and one of the possible reasons for such ineffectiveness is the selection of project participants. Thousands of Rands can be saved if participants can be selected in an elementary but accurate manner. Selection of project members was raised during the survey and the respondents were requested to indicate who selected project members, using the following criteria: (a) community leaders; (b) farmer organisations; (c) participants volunteered; and (d) Department of Agriculture and Rural Development, and (e) other institutions. The results of the survey are indicated in Table 7.46 below. The majority of respondents (57%) indicated that participants volunteered to participate in projects. Only 17% of participants were selected by community leaders and 9 per cent by farmer

organisations. The Chi-Square test (x^2 = 6.495; p = 0.166) indicated no statistically significant difference at 5% significant level across all respondent categories concerning the selection of project members. Although there was no statistical difference, there is a clear indication that more extension officers (67%) than project participants (50%) stated that participants volunteered to be involved in the projects.

Table 7.46: Selection of project members across both categories of respondents

Selection of project members			Respondent categories		Total
			Project participants	Extension officers	
1.	Leaders of the Community (CPA, Headmen, etc.)	(n)	26	8	34
		(%)	20.5%	10.7%	16.8%
2.	Farmers' organisations	(n)	13	6	19
		(%)	10.2%	8.0%	9.4%
3.	Participants volunteered	(n)	65	50	115
		(%)	51.2%	66.7%	56.9%
4.	Department of Agriculture and Rural Development (DARD)	(n)	6	1	7
		(%)	4.7%	1.3%	3.5%
5.	Other institutions	(n)	17	10	27
		(%)	13.4%	13.3%	13.4%
Total		(N)	127	75	202
		(%)	100.0%	100.0%	100.0%

x^2= 6.495; p = 0.166

7.4.2.3 Decision to participate in the project

The decision to participate in a project depends on the individuals. They can accept or reject an invitation or nomination to participate in the projects. A criterion for an individual's decision to participate in a project was suggested as follows: (a) Increase income; (b) earn income; (c) because they were looking for participants; (d) to keep myself busy; (e) my friends are participating in it; (f) instructed by DARD management; (g) requested by community; (h) appreciated the need to participate; and (i) other reasons. The results are presented in Table

7.47 below. The majority of project participants and extension officer respondents (48%) indicated that participants participated in projects because they want to earn an income. The Pearson Chi-Square test (x^2 = 38.682; p = < 0.0001) indicated that there is statistically a significant difference at 5% significant level across both respondent categories. However, 50% of the cells had expected counts less than five and therefore the Chi-Square test may not be a valid test. More project participants (58%) than extension officer respondents (30%) indicated that the decision to participate was to earn an income and more project participants (26%) than extension officers (19%) indicated that they also wanted to increase their income. A total of 72% of both respondent categories indicated a financial reason for participating. A project needs to be a sustainable and financial viable proposition for it to be successful.

Table 7.47: Decision to participate in the project according to both categories of respondents

Categories of decision to participate in projects		Respondent categories		Total
		Project participants	Extension officers	
1. Increase income	(n)	33	13	46
	(%)	26.0%	18.6%	23.4%
2. Earn income	(n)	74	21	95
	(%)	58.3%	30.0%	48.2%
3. They were looking for participants	(n)	0	1	1
	(%)	.0%	1.4%	.5%
4. To keep myself busy	(n)	2	1	3
	(%)	1.6%	1.4%	1.5%
5. Friends are participating in it	(n)	1	0	1
	(%)	.8%	.0%	.5%
6. DARD management instruction	(n)	0	5	5
	(%)	.0%	7.1%	2.5%
7. Community requested	(n)	2	5	7
	(%)	1.6%	7.1%	3.6%
8. Appreciated the need to participate	(n)	5	15	20
	(%)	3.9%	21.4%	10.2%
9. Other reasons	(n)	10	9	19
	(%)	7.9%	12.9%	9.6%
Total	(N)	127	70	197
	(%)	100.0%	100.0%	100.0%

x^2 = 38.682, p = < 0.0001 (50% cells less than five counts)

7.4.2.4 Number of project participants in the projects

When a business plan is developed, the numbers of participants are normally indicated, but during the survey the project participants were expected to indicate the actual number of participants in the project at interview. According to the project participants, the mean

number of participants in the project is 21.62, while the extension officer respondents indicated a mean number of 19.90 participants. There is no significant difference (t= 2.189; p = 0.702) between the mean number of participants in the project given by project participants and by extension officer respondents at the 5% level (Table 7.48 below). There is general agreement between the respondents about the number of people that are participating in the project.

Table 7.48: Mean number of project participants in projects according to both respondent categories

Respondent categories	N	Minimum	Maximum	Mean	Std. Deviation
1. Project participants	125	1	200	21.62	35.934
2. Extension officers	73	1	318	19.90	44.560

t= 2.189; p = 0.702

7.4.2.5 Number of project participants that should be in the project with the same resources

Respondents were expected to give the actual number and also to indicate how many project participants should have been in the project with the same resources. The result of the survey indicated that a mean number of 13.54 participants, according to project participants, and 11.26 according to extension officer respondents (Table 7.49 below), should have been in the project with the same resources. The results indicate that both respondents agree about the number that should be in the project.

Table 7.49: Number of project participants that should be in the project with the same resources across all respondent categories

Respondent categories	N	Minimum	Maximum	Mean	Std. Deviation
1. Project participants	123	1	150	13.54	23.461
2. Extension officers	74	1	150	11.26	24.331

t= 2.280; p = 0.516

Both respondent categories indicated a significantly smaller mean number of participants that should be participating in a project, namely: (i) project participants' current mean number of

21.62, against the ideal mean number with the same resources of 13.54, a mean number decrease of 8.08; (ii) extension officer respondents' current mean number of 19.90, against the ideal mean number of 11.26, a mean number decrease of 8.64. The T-test (t= 2.280; p = 0.516) indicated no significant difference between the mean number of participants that should be in the project with the same resources as given by participants and by extension officers at the 5% level. It is clear that both respondent categories indicated a smaller number of project participants.

7.4.2.6 Number of project participants that should be in the project with additional resources

Respondents were also expected to indicate the number of project participants that should be in the project with additional resources. The result of the survey indicated a mean number of 15.81, according to project participants, and 12.96 according to extension officer respondents (Table 7.50). Even with additional resources, the mean number is still much smaller than the current mean number of participants: (i) project participants' current mean is 21.62 and the ideal mean is 15.81, a difference of 5.81; (ii) the extension officer respondents' current mean is 19.90 and the ideal is 12.96, a difference of 6.94. The T-test (t=2.853; p = 0.468) indicated no significant difference between the mean number of participants that should be in the project with additional resources as given by participants and by extension officers at the 5% level. The results still indicate that both respondents agree on the number of participants with additional resources. This is a good finding because both respondents know the number of farmers that should participate in projects.

Table 7.50: Number of project participants that should be in the project with additional resources across both respondent categories

Respondent categories	N	Minimum	Maximum	Mean	Std. Deviation
1. Project participants	122	1	150	15.81	26.479
2. Extension officers	73	1	150	12.96	26.506

t=2.853; p = 0.468

Most important, however, is that there is a clear indication that there are too many project participants in the projects.

7.4.2.7 Operations of project participants in projects

A scale of different methods of people's operations in projects was developed with the sole aim of determining of how they operate. A total of 36% of both respondent categories indicated that project participants operated as cooperatives, while 35% operated as individuals in projects. Only 13% indicated that they operate as a delegated group at the project. According to Table 7.51 below, the Pearson Chi-Square test ($x^2 = 8.539$, p = 0.171) indicated that there is no statistically significant difference at 5% significant level between the two respondent categories.

Table 7.51: Operations of project participants in projects across both respondent categories

Categories of operations in projects		Respondent categories		Total
		Project participants	Extension officers	
1. Individuals	(n)	40	30	70
	(%)	31.5%	40.0%	34.7%
2. A cooperative with a management structure	(n)	43	30	73
	(%)	33.9%	40.0%	36.1%
3. Delegated group working for an individual	(n)	1	0	1
	(%)	.8%	.0%	.5%
4. Delegated group working for the project	(n)	16	10	26
	(%)	12.6%	13.3%	12.9%
5. Delegation for interim decision making	(n)	1	0	1
	(%)	.8%	.0%	.5%
6. Normal community member	(n)	15	3	18
	(%)	11.8%	4.0%	8.9%
7. Other categories	(n)	11	2	13
	(%)	8.7%	2.7%	6.4%
Total	(N)	127	75	202
	(%)	100.0%	100.0%	100.0%

$x^2 = 8.539$; p = 0.171

7.4.2.8 The extent of involvement of project participants in the management of the project

The majority of the respondents (44%) indicated that project participants were very much involved, while 36% indicated that they were involved, and only 5% were not involved in the management of the projects (Table 7.52). A total of 79% of respondents indicated that they are involved, and even very much involved. The Chi-square test (x^2 = 4.486; p = 0.351) indicated that there is no statistically significant difference at 5% significant level between the two respondent categories. Although more project participants (48%) than extension officer respondents (37%) indicated that they are very much involved in the management of the project, the difference is not significant. Important, however, is the fact that project participants are involved in the management of the project.

Table 7.52: The extent of involvement of project participants in the management of the project across both respondent categories

Categories of the extent of involvement in the management of the projects		Respondent categories		Total
		Project participants	Extension officers	
1. Not involved	(n)	7	2	9
	(%)	5.6%	2.7%	4.5%
2. Slightly involved	(n)	4	2	6
	(%)	3.2%	2.7%	3.0%
3. Reasonably involved	(n)	14	13	27
	(%)	11.1%	17.6%	13.5%
4. Involved	(n)	41	30	71
	(%)	32.5%	40.5%	35.5%
5. Very much involved	(n)	60	27	87
	(%)	47.6%	36.5%	43.5%
Total	(N)	126	74	200
	(%)	100.0%	100.0%	100.0%

x^2 = 4.486, P = 0.351

7.4.2.9 Summary of aspects of selection of project participants

The participatory approach was assessed as follows:

(i) Selection of project members: according to 67% of extension officers, against 50% project participants, members volunteered to be involved in the project.

(ii) Decision to participate: 72% of respondents indicated a financial reason.

(iii) Mean number of members that should be in the project, with :

(a) The same resources – project participants indicated a mean number of 13.54 and extension officer respondents indicated a mean number of 11.26; and

(b) Additional resources – project participants indicated a mean number of 15.81 and extension officer respondents indicated a mean number of 12.96.

The above findings indicate a need for fewer participants in the current projects.

(iv) Method of operation: 36% of respondents indicated that they operated as a cooperative; while 35% indicated that they operated as individuals. If project participants operate as cooperatives, government resources, including funds, will cater for many project beneficiaries.

(v) Extent of involvement of project participants in the management: 44% of both respondents indicated that project participants were very much involved, and 36% indicated that they are involved.

7.5 COMMUNITY SUPPORT AS PERCEIVED BY PROJECT PARTICIPANTS AND EXTENSION OFFICERS

7.5.1 Provision of information to community members and institutions about project establishment

It is always important for the Departments of Agriculture and other institutions to inform the community about projects to be established in their area. A total of 27% of all respondents indicated that most people were informed, 26% were widely informed while only 5% were not informed. The Chi-square test (x^2= 1.995; p = 0.742) indicated that there is no statistically significant difference at 5% significant level between the two respondent categories. In total,

76% of both respondent categories indicated that communities were informed about projects to be established.

7.5.2 Responsibility of the community and/or DARD to initiate or request specific activities at project level

In each and every community there were different approaches to establish projects. During the survey, the question was posed to the respondents about possible scenarios at project level as to whether: (i) the community initiates or requests specific activities, either to maintain ownership, or to hand over to the service provider; (ii) the Department initiates or requests specific activities, either to take over management and responsibility, and report to the community or not report to the community. The responses (Table 7.53 below) of the majority of respondents (61%) were that the community initiates or requests and therefore maintains ownership. Only 14% of both respondent categories indicated that DARD initiated and took over the management and responsibilities. The Chi-Square test ($x^2 = 8.322$; $p = 0.077$) indicated that there is no statistically significant difference at 5% significant level between the two respondent categories. There is, however, an indication that more extension officer respondents (69%) than project participants (57%) want the community members to maintain project ownership.

Table 7.53: Responsibility to initiate or request specific activities at project level as perceived by both respondent categories

Categories of scenarios in different locations		Respondent categories		Total
		Project participants	Extension officers	
1. Community initiates or requests (maintains ownership)	(n)	70	50	120
	(%)	56.9%	68.5%	61.2%
2. Community initiates or requests (hands over to the service provider)	(n)	20	7	27
	(%)	16.3%	9.6%	13.8%
3. Department initiates or requests (takes over management and responsibility)	(n)	20	8	28
	(%)	16.3%	11.0%	14.3%
4. Department initiates or requests (and report to the community)	(n)	12	4	16
	(%)	9.8%	5.5%	8.2%
5. Department initiates or requests (and do not report to community)	(n)	1	4	5
	(%)	.8%	5.5%	2.6%
Total	(N)	123	73	196
	(%)	100.0%	100.0%	100.0%

$x^2 = 8.322$; p = 0.077

7.5.3 Summary of aspects of community support

(i) Provision of information about establishing the project: a total of 53% of both respondents indicated that communities were mostly, and even widely, informed about the project to be established.

(ii) The majority of respondents (61%) indicated that the community initiates or requests and maintains ownership of the project.

7.6 THE DEGREE OF PARTICIPATION OF PROJECT PARTICIPANTS AS PERCEIVED BY PROJECT PARTICIPANTS AND EXTENSION OFFICERS

7.6.1 Involvement of the project participants in the application of their project

Project participants should be involved in the application of their project and its approval must be communicated to them in good time. According to Batchelor (2010:77-85), it is important to inform the public of the project and also to obtain the public's consent for the project. The majority of respondents (51%) reported that they were involved in the application of their project, and 30% were intensively involved. Only 9% indicated that they were not involved, and 11% were slightly involved. The Chi-Square test (x^2 = 5.308; p = 0.153) indicated that there is no statistically significant difference at 5% significant level between the two respondent categories (Table 7.54 below). A total of 81% of respondents (project participants and extension officer respondents) indicated that they were involved, even intensively involved, when applying for the projects.

Table 7.54: Involvement of the project participants in the application of their project

Categories of involvement in the application of the project		Respondent categories		Total
		Project participants	Extension officers	
1. Not involved	(n)	10	7	17
	(%)	8.0%	9.5%	8.5%
2. Slightly involved	(n)	18	3	21
	(%)	14.4%	4.1%	10.6%
3. Involved	(n)	61	41	102
	(%)	48.8%	55.4%	51.3%
4. Intensely involved	(n)	36	23	59
	(%)	28.8%	31.1%	29.6%
Total	(N)	125	74	199
	(%)	100.0%	100.0%	100.0%

x^2 = 5.308; p = 0.153

7.6.2 Communicating the approval of the projects

There were two scenarios concerning the approval of the projects which were investigated: (a) heard about the approval before knowledge of the application, and (b) heard about approval after knowledge of the application. The results of the Chi-Square test (x^2= 9.361; p = 0.003) indicated that there is statistically a highly significant difference at 5% significant level between the two respondent categories. According to Table 7.55 below, significantly more project participants (50%) heard about the approval before they had any knowledge about the application than extension officer respondents (27%), while significantly more extension officer respondents (73%) heard about the approval after gaining knowledge of the application than project participants (50%). This is a clear indication of poor communication that can negatively affect the outcome of a project.

Table 7.55: Communicating approval of the project according to both respondent categories

Categories of communicating approval			Respondent categories		Total
			Project participants	Extension officers	
1.	Heard about approval before knowledge of the application	(n)	58	18	76
		(%)	50.0%	26.9%	41.5%
2.	Heard about approval after knowledge of the application	(n)	58	49	107
		(%)	50.0%	73.1%	58.5%
Total		(N)	116	67	183
		(%)	100.0%	100.0%	100.0%

x^2 = 9.361; p = 0.003

7.6.3 Project participants' degree of involvement in the project

The results of the Chi-Square test (x^2 = 16.096; p = 0.003) indicated that there is a highly significant difference at 5% significant level between the two respondent categories about the degree of involvement in the project (Table 7.56 below). The majority of project participants (59%) indicated that members of projects were individually self-responsible within the project, against only 37% as perceived by the extension officer respondents. The second-highest

percentage (29%) for both respondent categories (30% project participants, 26% extension officers) indicated that project participants were members of the management team. The lowest percentage (2% project participants, 7% extension officers) of both respondent categories (4%) indicated that project participants were passive members and were not attending meetings. The highest total percentage (53%) across both respondent categories indicated that project participants were self-responsible as individuals.

Table 7.56: The degree of involvement in the project as perceived by both respondent categories

Categories of involvement in the project		Respondent categories		Total
		Project participants	Extension officers	
1. Self-responsible individual	(n)	74	17	91
	(%)	58.7%	37.0%	52.9%
2. Self-responsible manager (Doing it for somebody)	(n)	5	5	10
	(%)	4.0%	10.9%	5.8%
3. Member of the management team	(n)	38	12	50
	(%)	30.2%	26.1%	29.1%
4. Passive member but active in attending meetings	(n)	6	9	15
	(%)	4.8%	19.6%	8.7%
5. Passive member and not attending meetings	(n)	3	3	6
	(%)	2.4%	6.5%	3.5%
Total	(N)	126	46	172
	(%)	100.0%	100.0%	100.0%

$x^2 = 16.096$; p = 0.003

7.6.4 Participants' degree of involvement in the management of the project

According to Table 7.57, significantly more project participants (56%) than extension officer respondents (30%) are involved in management positions, namely chairperson, manager and secretary. The majority of extension officer respondents (69%) indicated that they have other responsibilities, against only 28% of project participants. The Pearson Chi-Square test

(x^2 =31.099; p = < 0.0001) indicated a highly significant difference between the two respondent categories. There are still too many extension officers (30%) involved in the management (as chairperson, manager, secretary) of a project.

Table 7.57: The degree of involvement of the respondents in the management and other responsibilities of the project

Categories of the degree of involvement in the whole project			Respondent categories		Total
			Project participants	Extension officer	
1.	Chairperson	(n)	27	7	34
		(%)	21.3%	11.5%	18.1%
2.	Manager	(n)	29	7	36
		(%)	22.8%	11.5%	19.1%
3.	Secretary	(n)	15	4	19
		(%)	11.8%	6.6%	10.1%
4.	Community member	(n)	17	1	18
		(%)	13.4%	1.6%	9.6%
5.	Attend only annual general meetings	(n)	4	0	4
		(%)	3.1%	.0%	2.1%
6.	Other responsibilities	(n)	35	42	77
		(%)	27.6%	68.9%	41.0%
Total		(N)	127	61	188
		(%)	100.0%	100.0%	100.0%

x^2 = 31.099; p = < 0.0001

7.6.5 Project participants' contribution towards the project from initial phase to a fully-fledged production phase

The intention of the survey was to establish the contributions of project participants towards the project from the initial phase through to the fully-fledged production phase. The Department of Agriculture and Rural Development in the North West, in most cases, assists farmers with production inputs, infrastructure and the labour to erect structures, and

accordingly the assessment of their contribution was based on these three factors and other possible factors which were not verified.

(i) Infrastructure as a means of project participants' contribution towards the projects and project participants.

According to the Chi-Square test (x^2 = 3.211; p = 0.552), there is no statistically significant difference at 5% significant level between the two respondent categories. A total of 64% of the project participants and 69% of extension officer respondents indicated that their contribution (in the form of infrastructure) was less significant and even totally insignificant. Only 25% of the project participants and 19% of extension officer respondents indicated a significant contribution.

(ii) Labour as a means of contribution towards the projects by project participants.

According to De Graaf (1986:17-26), people will only commit their own resources (such as labour, land, energy, information, and social relationships) if they have the impression that the activity to which they are contributing a considerable extent is theirs and is controlled by them. A total of 61% of project participants and 48% of extension officer respondents indicated that they contributed significantly and even more significantly by means of labour towards the project (Table 7.58 below). A total of 32% of project participants and 33% of extension officer respondents indicated that labour was a very significant contribution towards the projects. The Pearson Chi-Square test (x^2 = 7.842, p = 0.096) indicated no significant difference between the two respondent categories.

Table 7.58: Contributions of project participants towards their projects through labour across both respondent categories

Level of contributions of project participants towards their project through labour		Respondent categories		Total
		Project participants	Extension officer	
1. Insignificant contribution	(n)	3	7	10
	(%)	2.6%	11.7%	5.7%
2. Less significant contribution	(n)	5	4	9
	(%)	4.4%	6.7%	5.2%
3. Significant contribution	(n)	28	9	37
	(%)	24.6%	15.0%	21.3%
4. More significant contribution	(n)	42	20	62
	(%)	36.8%	33.3%	35.6%
5. Very significant contribution	(n)	36	20	56
	(%)	31.6%	33.3%	32.2%
Total	(N)	114	60	174
	(%)	100.0%	100.0%	100.0%

x^2 = 7.842, p = 0.096

(iii) Production inputs as a means of contribution towards the project by project participants.

The findings are presented in Table 7.59 below. Although the Pearson Chi-Square tests (x^2 = 6.356, p = 0.168) indicated no significant association between the respondent categories, the following findings are important: (i) 78% of all respondents indicated that production inputs were a more and even very significant contribution towards their projects; (ii) 14% indicated it as being a significant contribution.

Table 7.59: Contributions of project participants towards their projects through production inputs across both respondent categories

Level of contributions of project participants towards their projects through production inputs		Respondent categories		Total
		Project participants	Extension officers	
1. Insignificant contribution	(n)	4	8	12
	(%)	3.5%	13.1%	6.9%
2. Less significant	(n)	1	1	2
	(%)	.9%	1.6%	1.1%
3. Significant contribution	(n)	17	7	24
	(%)	14.9%	11.5%	13.7%
4. More significant	(n)	51	23	74
	(%)	44.7%	37.7%	42.3%
5. Very significant contribution	(n)	41	22	63
	(%)	36.0%	36.1%	36.0%
Total	(N)	114	61	175
	(%)	100.0%	100.0%	100.0%

$x^2 = 6.356$, P = 0.168

(iv) Other aspects as a means of contribution towards the projects by project participants.

According to the findings, there is no significant difference (p=0.762) between the respondent categories. A total of 64% of respondents indicated that other means of contribution was insignificant, less significant and even insignificant. Only 36% indicated a significant, more significant, and very significant contribution.

7.6.6 A comparison of participants' contributions towards their projects

According to Table 7.60 below, two aspects were indicated by respondents where their contributions were significant, more significant, and even very significant:

(i) Production inputs – 92%; and

(ii) Labour – 89%.

The two aspects where participants' contributions were insignificant and less significant were:

(i) Infrastructure – 66%; and

(ii) Other aspects – 65%.

Table 7.60: A comparison of participants' contributions towards their projects regarding infrastructure, labour, production inputs and other production aspects by both respondent categories

Effects of contributions	Infrastructure			Labour			Production inputs			Other aspects		
	Project participants	Extension officer respondents	Total	Project participants	Extension officer respondents	Total	Project participants	Extension officer respondents	Total	Project participants	Extension officer respondents	Total
Insignificant and less significant	64%	69.5%	65.5 %	7%	18.4%	12.7%	4.4%	14.7%	8.0%	59.6%	68.5%	64.02 %
Significant and very significant	36%	30.5%	34.5 %	68.4%	66.6%	67.5%	80.7%	73.8%	77.3 %	40.4%	31.5%	35.95 %

7.6.7 The format of collaboration between project members in the project

The study shows that 64% of both respondent categories indicated that project members were working with one another, while 19% were working with some individuals within the projects, and only 3% were working against each other. There are no significant differences (x^2= 1.518; p = 0.677) between the two respondent categories.

7.6.8 The extent of collaboration of project members

The study indicated that according to 44% of both respondent categories, project participants collaborated often and 33% very often, while only 4% never collaborated (Table 7.61 below). The Chi-Square test was performed and the results (x^2 = 0.983; p = 0.803) indicated that there is no statistically significant difference at 5% significant level. There are, however, still 23% of respondents who indicated that the extent of collaboration is only slightly and even not at all. Another challenge will be to improve the extent of collaboration from only often to very often. It is, according to Swanepoel and de Beer (2006:24), not easy to establish collaboration and to develop it, but it is an essential element for a successful project.

Table 7.61: The extent of collaboration of project members across both respondent categories

The extent of collaboration within the project		Respondent categories		Total
		Project participants	Extension officers	
1. Not at all	(n)	5	2	7
	(%)	4.3%	3.0%	3.8%
2. Slightly	(n)	23	13	36
	(%)	19.7%	19.4%	19.6%
3. Often	(n)	53	27	80
	(%)	45.3%	40.3%	43.5%
4. Very often	(n)	36	25	61
	(%)	30.8%	37.3%	33.2%
Total	(N)	117	67	184
	(%)	100.0%	100.0%	100.0%

x^2 = 0.983; p = 0.803

7.6.9 Summary of the degree of involvement of the project participants

(i) Involvement of project participants in the application of their project (51% of both respondents indicated that project participants were involved).

(ii) Communicating the approval of the project (59% indicated that they heard about approval after the knowledge of the application).

(iii) Participants were involved in the project as self-responsible individuals (53% of both respondents).

(iv) Participants were involved in the management of the projects (47% of both respondents).

(v) Contributions of respondents were significant, more significant and very significant on production inputs (92%), and on labour (89%).

(vi) According to only 33% of both respondent categories, collaboration was experienced very often.

7.7 THE ADDITIONAL COMMITMENTS OF THE PROJECT PARTICIPANTS

The influence of additional commitments on the outcome of the project was assessed in terms of participation of members within and outside the project, with special reference to what they produce. They produce a variety of commodities, ranging from field crops (maize, sunflower) to horticulture (vegetables) to livestock (beef, goats, sheep, pigs and poultry).

(i) Production of commodities within the project

The results (Table 7.62), according to the two respondent categories, indicated that the most common commodities are poultry (32%), beef (25%), and vegetables (19%). The only noticeable significant difference between project participants (13%) and extension officers (0%) was on sheep production. The Chi-Square results (x^2 = 7.922; p = 0.428) indicated that there is no statistically significant difference at 5% significant level. Only 33% (25) of extension officers answered the questions, which is a clear and alarming indication that they do not really know what commodities are being produced.

Table 7.62: The type of commodities according to project participants and extension officer respondents

Types of commodities produced within the project		Respondent categories		Total
		Project participants	Extension officers	
1. Poultry	(n)	37	9	46
	(%)	30.8%	36.0%	31.7%
2. Sunflowers	(n)	2	1	3
	(%)	1.7%	4.0%	2.1%
3. Goats	(n)	2	1	3
	(%)	1.7%	4.0%	2.1%
4. Beef	(n)	31	5	36
	(%)	25.8%	20.0%	24.8%
5. Sheep	(n)	15	0	15
	(%)	12.5%	.0%	10.3%
6. Maize	(n)	3	1	4
	(%)	2.5%	4.0%	2.8%
7. Vegetables	(n)	22	5	27
	(%)	18.3%	20.0%	18.6%
8. Pigs	(n)	2	2	4
	(%)	1.7%	8.0%	2.8%
9. Other commodities	(n)	6	1	7
	(%)	5.0%	4.0%	4.8%
	(N)	120	25	145
	(%)	100.0%	100.0%	100.0%

$x^2 = 7.922$, p = 0.428

(ii) Number of years producing the same commodity

During the survey the respondents were expected to indicate the number of years during which the farmers or project participants had been producing the same commodities. Table 7.63 below indicates a higher mean number of years for project

participants (8.17) than the extension officer respondents (4.71). Only 33% of extension officers answered the question. The T-test results (t = 3.177; p = 0.031) indicate a significant difference at 5% significant level in favour of the project participants. This means not all extension respondents knew which commodities are being produced by their farmers over the years.

Table 7.63: The mean number of years that participants have been producing the same commodity in the project according to both respondent categories

Type of respondent	N	Mean	Std. Deviation	Std. Error Mean
Project Participants	121	8.17	8.755	.796
Extension officers	34	4.71	5.638	.967

t = 3.177; p = 0.031

(iii) Number of years of project participants in the project

If participants are selected in an elementary but accurate manner, according to Lombard and Botha (1995:65-77), many thousands of Rands in funds might be saved. These participants will stay in the project and accumulate necessary experience that will help them sustain the project. Table 7.64 below reveals that there is a significant difference in the mean number of years of project participants in the project (7.43) against extension officer respondents (3.69). The T-test results (t= 8.220, p = < 0.0001) indicate a highly significant difference between the respondent categories. Again, only 44% of extension officers were able to give an answer.

Table 7.64: The mean number of years that participants have been involved the project across both respondent categories

Type of respondent	N	Minimum	Maximum	Mean	Std. Deviation	Std. Error Mean
Project Participants	120	0	40	7.43	7.948	0.726
Extension officers	32	0	12	3.69	3.641	0.644

t= 8.220, p = < 0.0001

(iv) Production of commodities outside the project

Table 7.65 below also reveals that there is a statistically significant difference (t= 11.517; p = < 0.0001) in the mean number of years of project participants (4.23) and extension officers (0.97) producing commodities outside the projects. The project participants indicated more years of producing commodities outside their projects, against the knowledge of extension officer respondents. Possibly, extension officers were not aware of the production of commodities outside the projects. Only 33% of extension officers did answer the question.

Table 7.65: Production outside the project across both respondent categories

Type of respondent	N	Minimum	Maximum	Mean	Std. Deviation	Std. Error Mean
Project Participant	98	0	47	4.23	8.019	.810
Extension officer	30	0	7	.97	1.903	.347

t= 11.517; p = < 0.0001

7.8 THE INFLUENCE OF THE EXTENSION AND OTHER SUPPORT SERVICES AS PERCEIVED BY PROJECT PARTICIPANTS AND EXTENSION OFFICERS

7.8.1 Participation of extension officers in projects

Projects consist of different phases or stages, from when they are initiated or considered up to the phases of completion. During the survey, both respondent categories were expected to respond to the question, “When did the extension officers start to participate in the projects?” Significantly more project participants (64%) than extension officers (51%) indicated that they started to participate at the initial or consideration phase of the project phase. The second highest percentage (27%) of both respondent categories indicated that they started to participate only at the planning phase. What is alarming is the significant difference between the two respondent categories about the participation of extension at the implementation phase, where 22% of extension respondents and only 9% of project participants indicated that the extension officers only started to participate at the implementation phase. Most important, however, is that according to the two respondent categories, 59% of extension officer respondents had already participated at the initial phase, while only 22% at planning and 13% at implementation phase. This is an indication that, according to both respondent categories, extension officers disappear after the initial phase. The Chi-Square test (x^2 = 10.423; p = 0.023) indicated that there is a statistically significant difference at 5% level (Table 7.66 below).

Table 7.66: Participation of extension officers in the different phases of the project according to both respondent categories

Project phases when extension officers started to participate		Respondent categories		Total
		Project participants	Extension officers	
1. Not participated	(n)	1	0	1
	(%)	.8%	.0%	.5%
2. Initial phase	(n)	80	35	115
	(%)	64.0%	50.7%	59.3%
3. Planning phase	(n)	29	13	42
	(%)	23.2%	18.8%	21.6%
4. Implementation phase	(n)	11	15	26
	(%)	8.8%	21.7%	13.4%
5. Other phases	(n)	4	6	10
	(%)	3.2%	8.7%	5.2%
Total	(N)	125	69	194
	(%)	100.0%	100.0%	100.0%

$x^2 = 10.423$; p = 0.023

7.8.2 Assessment of the support service provided by the extension officers

Assessment of the support system of the agricultural extension officers was based on the following questions: (i) did they play a role, and (ii) how competently did they perform it. A 5-point scale (1 - not competent, 5 - very competent) was used to assess the competency of extension officers. The roles identified for the survey were: (a) organising meetings and chairing them; (b) linking project to donors; (c) development of a business plan; (d) providing training on production-related issues; (e) Monitoring production; (f) assisting with record keeping; and (g) linking the project to a market.

7.8.3 Organising and chairing meetings

7.8.3.1 The role played by extension officers in organising and chairing meetings

According to 90% of project participants and only 38% of extension officer respondents, extension officers played a role in organising and chairing meetings. There is a highly significant difference between the two respondent categories (x^2 = 57.914; p = < 0.0001) in favour of the project participants (Table 7.67 below). There is also a vast percentage difference between project participants (90%) who acknowledged the role played by extension officers and those who said none (10%) (i.e. they did not organise or chair meetings). An important finding is that 62% of extension officer respondents indicated that they did not play a role in organising or chairing meetings, versus only 38% who indicated that they did play a role. A total of 73% of both respondent categories indicated that extension officers played a role in organising and chairing meetings. It seems that project participants expect extension officers to organise and chair meetings. According to Table 7.57 above, 56% of project participants indicated that extension officers are involved in management (chairperson, manager and secretary) positions. It will be necessary to clearly determine the role of the extension officers in a project.

Table 7.67: The role played by extension officers in organising and chairing meetings according to both respondent categories

Selection categories of the role played by extension officers in organising and chairing meeting		Respondent categories		Total
		Project participants	Extension officers	
Yes	(n)	113	23	136
	(%)	90.4%	37.7%	73.1%
No	(n)	12	38	50
	(%)	9.6%	62.3%	26.9%
Total	(N)	125	61	186
	(%)	100.0%	100.0%	100.0%

$x^2 = 57.914; \text{p} =< 0.0001$

7.8.3.2 Competency of extension officers in organising and chairing meetings

The Chi-Square results (x^2 = 10.32; p = 0.049) indicated that there is a statistically significant difference at 5% significant level between the respondent categories concerning the competence of extension officers (Table 7.68 below). A total of 35% of project participants indicated that extension officers were competent, against only 4% of extension officer respondents. A total of 44% of extension officer respondents, against only 35% of project participants, indicated that they were even more competent, while 48% of extension officer respondents, against only 26% of project participants, indicated that extension officers are very competent. It needs to be mentioned that only 31% (23) of extension officer respondents indicated their competency in organising and chairing meetings. A total of 65% of extension officers did not answer the question.

Table 7.68: Competence of extension officers in organising and chairing meetings according to both respondent categories

Categories of competence of extension officers in organising and chairing meetings		Respondent categories		Total
		Project participants	Extension officers	
1. Not competent	(n)	3	1	4
	(%)	2.7%	4.3%	2.9%
2. Less competent	(n)	1	0	1
	(%)	.9%	.0%	.7%
3. Competent	(n)	40	1	41
	(%)	35.4%	4.3%	30.1%
4. More competent	(n)	40	10	50
	(%)	35.4%	43.5%	36.8%
5. Very competent	(n)	29	11	40
	(%)	25.7%	47.8%	29.4%
Total	(N)	113	23	136
	(%)	100.0%	100.0%	100.0%

x^2 = 10.32; p = 0.049

7.8.4 Linking project to donors

7.8.4.1 The role played by extension officers in linking the project to donors

A total of 76% of project participants and only 27% of extension officer respondents indicated that extension officers were able to link the projects to the donors (Table 7.69 below). A total of 73% of extension officer respondents indicated that they were not able to link the projects to donors. Although a total of 60% of both respondent categories indicated that extension officers played a role in linking projects to donors, only 27% (17) were extension officers. The Chi-Square results (x^2 = 41.245; p = < 0.0001) indicated that there is a statistically significant difference at 5% significant level.

Table 7.69: The role played by extension officers in linking projects to donors according to both respondent categories

Selection categories of the role played by extension officers in linking project to donors		Respondent categories		Total
		Project participants	Extension officer	
Yes	(n)	94	17	111
	(%)	76.4%	27.4%	60.0%
No	(n)	29	45	74
	(%)	23.6%	72.6%	40.0%
Total	(N)	123	62	185
	(%)	100.0%	100.0%	100.0%

x^2 = 41.245; p = < 0.0001

7.8.5 Competence of extension officers in linking the projects to donors

The Chi-Square results (x^2 = 0.657; p = 0.961) indicated that there is no statistically significant relationship at 5% significant level between the two respondent categories. A total of 34% of project participants indicated that extension officers were more competent and 28% of extension officer respondents indicated that they were competent in linking projects to donors. A total of 34% of both respondent categories indicated that extension officers were more competent.

7.8.5.1 Development of a business plan

The role played by extension officers in the development of a business plan for the project was examined.

The Chi-Square results (x^2= 43.652; p = < 0.0001) indicated that there is statistically a highly significant relationship at a 5% significant level. According to 90% (101) of project participants, but only 43% (23) of extension officer respondents, extension officers played a role in the development of a business plan for the project. What is further alarming is that 90% of project participants indicated that extension officers did play a role in the development of business plan, while 57% of extension officer respondents indicated that they did not play a role (Table 7.70 below). The outcomes of the project are associated highly with the role of extension officers and their collaboration with project participants in the development of the business plan. It seems again that, according to the perception of the project participants, they expect the extension officers to be a part of the development of a business plan.

Table 7.70: The role played by extension officers in the development of a business plan according to both respondent categories

Categories of the role played by extension officers in the development of business plan		Respondent categories		Total
		Project participants	Extension officers	
Yes	(n)	101	23	124
	(%)	90.2%	42.6%	74.7%
No	(n)	11	31	42
	(%)	9.8%	57.4%	25.3%
Total	(N)	112	54	166
	(%)	100.0%	100.0%	100.0%

x^2 = 43.652; p = < 0.0001

7.8.5.2 Competence of extension officers in developing a business plan for the project

The Chi-Square results (x^2= 2.092; p = 0.711) indicated that there is no statistically significant difference at 5% significant level. The highest percentage of project participants

(40%) indicated that extension officers were very competent and also more competent (36%), while (46%) of extension officer respondents indicated that they were more competent, and 27% to be even very competent. The total highest percentage according to both respondent categories indicated that 37% of extension officers were more competent and 37% even very competent. The importance of a well-planned business plan for a farm is non-negotiable. A poor business plan is one of the main reasons for project failure. Extension officers need to be trained in farm business planning as a matter of urgency.

7.8.6 Providing training on production-related issues

7.8.6.1 Provision of training by extension officers on production-related issues

According to Table 7.71 below, the Chi-Square test (x^2 = 52.676; p = < 0.0001) indicated that there is statistically a significant difference at 5% significant level. The majority (73%) of both respondent categories revealed that extension officers provided training on production-related issues to projects. Significantly, more project participants (90%) indicated that extension officers played a role in providing training on production-related issues to projects, against only 39% of extension officer respondents. It is surprising, also, to see that the majority of extension officer respondents (61%) indicated that extension officers did not provide training on production-related issues to projects. The question is: what were they doing at the projects? This is an aspect that needs urgent attention at project level.

Table 7.71: The role played by extension officers in providing training on production related issues to projects across respondent categories

Category of the role played by extension officers in providing training on production-related issues to projects		Respondent categories		Total
		Project participants	Extension officers	
Yes	(n)	112	24	136
	(%)	89.6%	39.3%	73.1%
No	(n)	13	37	50
	(%)	10.4%	60.7%	26.9%
Total	(N)	125	61	186
	(%)	100.0%	100.0%	100.0%

x^2 = 52.676; p = < 0.0001

7.8.6.2 The competence of extension officers in providing training on production related issues to projects.

The Chi-Square test (x^2 = 1.982; p = 0.763) indicated that there is no statistically significant difference at 5% significant level. Only 39% of extension officers did provide training, while 61% did not provide training. The question remains whether extension officers are really competent to provide training on production-related issues. According to both respondent categories (43%), extension officers were more competent in providing production-related training.

7.8.7 Monitoring production

7.8.7.1 The role played by extension officers in monitoring production

According to 91% of project participants and 44% of extension officer respondents, extension officers played a role in monitoring production (Table 7.72). However, there is a significant percentage difference between project participants who said yes (91%), the extension officers do play a role in monitoring projects, against those who said no (9%), they do not play a role in monitoring projects. A total of 56% of extension officer respondents indicated that they did not monitor production of the projects. The Chi-Square test (x^2 =49.245; p = < 0.0001) also indicated that there is a statistically significant difference at 5% significant level. This is a somewhat alarming finding, namely that the majority of extension officers were not really involved in the monitoring of production at project level.

Table 7.72: The role played by extension officers in monitoring production according to both respondent categories

Categories of the role played by extension officers in monitoring production		Respondent categories		Total
		Project participants	Extension officers	
Yes	(n)	114	27	141
	(%)	91.2%	44.3%	75.8%
No	(n)	11	34	45
	(%)	8.8%	55.7%	24.2%
Total	(N)	125	61	186
	(%)	100.0%	100.0%	100.0%

x^2 =49.245; p = < 0.0001

7.8.7.2 The competence of extension officers in monitoring production

The Chi-Square test (x^2 = 5.923; p = 0.189) indicated that there is no statistically significant difference at 5% significant level across both respondent categories concerning the competence of extension officers in monitoring production (Table 7.73 below). A total of 39% of both respondent categories indicated that extension officers were more competent in monitoring production. The highest percentage of project participants (35%) and extension officer respondents (59%) indicated that extension officers were more competent in monitoring production. Only 27 (36%) of extension officers were involved in the monitoring of production at production level and were prepared to indicate their competency to monitor production.

Table 7.73: The competency of extension officers in monitoring production across both respondent categories

Categories of competency of extension officers in monitoring production		Respondent categories		Total
		Project participants	Extension officers	
1. Not competent	(n)	2	0	2
	(%)	1.7%	.0%	1.4%
2. Less competent	(n)	7	1	8
	(%)	6.1%	3.7%	5.6%
3. Competent	(n)	27	5	32
	(%)	23.5%	18.5%	22.5%
4. More competent	(n)	40	16	56
	(%)	34.8%	59.3%	39.4%
5. Very competent	(n)	39	5	44
	(%)	33.9%	18.5%	31.0%
Total	(N)	115	27	142
	(%)	100.0%	100.0%	100.0%

x^2 = 5.923; p = 0.189

7.8.8 Assisting with record keeping

7.8.8.1 The role played by extension officers in assisting project participants with record keeping

A total of 67% of both respondent categories indicated that extension officers played a role in assisting with record keeping (Table 7.74 below). The Chi-Square test (x^2 = 34.285; p = < 0.0001) also indicated that there is statistically a significant difference at 5% level. According to 81% of project participants, as against 38% of extension officer respondents, extension officers played a role in assisting with record keeping. Another significant difference is noticeable between project participants (19%) and extension officer respondents (61%) who said no, extension officers did not play a role in assisting project participants with record keeping. It could again be an indication that project participants need the assistance of extension officers with record keeping. Extension officers can and should play a facilitating role to support project participants in record keeping and the analysis of data to plan effectively and to make the correct decisions.

Table 7.74: The role played by extension officers in assisting project participants with record keeping across both respondent categories

Categories of roles played by extension officers in assisting project participants with record keeping		Respondent categories		Total
		Project participants	Extension officers	
Yes	(n)	101	24	125
	(%)	80.8%	38.1%	66.5%
No	(n)	24	39	63
	(%)	19.2%	61.9%	33.5%
Total	(N)	125	63	188
	(%)	100.0%	100.0%	100.0%

x^2 = 34.285; p = < 0.0001

7.8.8.2 The competence of extension officers in assisting project participants with record keeping

The highest total percentage (34%) of both respondent categories indicated that extension officers were more competent in assisting project participants with record keeping. A total of 32% of project participants indicated that extension officers were competent, while 44%of extension officer respondents indicated that extension officers were more competent in assisting project participants with record keeping. The Chi-Square test (x^2 = 3.494; p = 0.485) indicated that there is no statistically significant difference at 5% significant level. Only 38% (29) of the extension officer respondents did play a role in record keeping, while 62% did not play a role at all.

7.8.9 Linking the project to market

7.8.9.1 The role played by extension officers in linking the project to a market

A total of 58% of both respondent categories indicated that extension officers played a role in linking the project to a market (Table 7.75 below). The Chi-Square test (x^2 = 44.348; p = < 0.0001) also indicated that there is a statistically significant association at 5% significant level. According to 75% (94) of project participants, and only 24% (15) of extension officer respondents, extension officers played a role in linking the project to a market. Another significant difference is noticeable between project participants (25%) and extension officer respondents (76%) who indicated that extension officers did not play a role in linking the project to a market. Again, one gets the impression that the project participants (75%) expected that the extension officers should link the project to a market. However, according to the majority of extension officer respondents (76%), it is not their responsibility. According to Chipita, Christopla and Katz (2008:8), market-oriented agricultural advisory services provided by extension officers can play an important role in helping the client to overcome and know how to deal with their constraints.

Table 7.75: The role played by extension officers in linking projects to market according to both respondent categories

The role played by extension officers in linking a project to a market		Respondent categories		Total
		Project participants	Extension officers	
Yes	(n)	94	15	109
	(%)	75.2%	24.2%	58.3%
No	(n)	31	47	78
	(%)	24.8%	75.8%	41.7%
Total	(N)	125	62	187
	(%)	100.0%	100.0%	100.0%

x^2 = 44.348; p = < 0.0001

7.8.9.2 The competence of extension officers in assisting project participants in linking a project to a market

The Chi-Square results (x^2 = 3.104; p = 0.560) indicated that there is no statistically significant association at 5% significant level. A total of 80% of project participants and 67% of extension officer respondents indicated that the competence of the extension officers varied between competent to even very competent. It should be kept in mind that only 24% of extension officer respondents indicated that they did play a role to link the project to a market.

7.8.9.3 The extent of advice on production aspects provided by local extension officers to the project participants

The Chi-Square results (x^2 = 9.910; p = 0.017) indicated that there is a statistically significant difference at 5% significant level. Only 40% (30) of the extension officer respondents indicated that they did provide advice provided to the project participants. In Table 7.76 below, 33% of the extension officer respondents indicated that the extent of production advice provided was not enough and even not at all, while 67% indicated that it was enough and even more than enough. A total of 86% of project participants indicated that the extent of production advice provided by the extension officer was enough and even

more than enough. Project participants clearly indicated the importance of production advice in projects.

Table 7.76: The extent of advice provided by the local extension officer on project production according to the both respondent categories

Categories of the extent of advice by local extension officer on project production		Respondent categories		Total
		Project participants	Extension officers	
1. Not at all	(n)	0	1	1
	(%)	.0%	3.3%	.7%
2. Not enough	(n)	17	9	26
	(%)	14.0%	30.0%	17.2%
3. Enough	(n)	75	17	92
	(%)	62.0%	56.7%	60.9%
4. More than enough	(n)	29	3	32
	(%)	24.0%	10.0%	21.2%
Total	(N)	121	30	151
	(%)	100.0%	100.0%	100.0%

$x^2 = 9.910$; p = 0.017

7.8.9.4 The value of the production advice provided by the extension officers

During the survey, the respondents were requested to respond to the question of how they value the advice provided by the extension officers. A total of 48% of project participants and 70% (28) of extension officer respondents indicated that the advice of extension officers was good (Table 7.77). The total highest percentage of both respondent categories (54%) also indicated that the advice of extension officers was good, while 26% indicated that the advice was very good. The Chi-Square test (x^2 = 5.953; p = 0.130) indicated that there is no statistically significant difference at 5% significant level.

Table 7.77: The value of the extension officers' advice as perceived by project participants and extension officer respondents

The valuing scale of the extension officers' advice by project participants		Respondent categories		Total
		Project participants	Extension officers	
1. Bad	(n)	2	0	2
	(%)	1.7%	.0%	1.3%
2. Fair	(n)	25	5	30
	(%)	20.8%	12.5%	18.8%
3. Good	(n)	58	28	86
	(%)	48.3%	70.0%	53.8%
4. Very good	(n)	35	7	42
	(%)	29.2%	17.5%	26.3%
Total	(N)	120	40	160
	(%)	100.0%	100.0%	100.0%

$x^2 = 5.953$; p = 0.130

7.8.9.5 Summary of support services provided by extension officers and their competence

(i) Organising and chairing meetings

- 90% (113) of project participants indicated yes, against only 37.7% (23) of extension officers.
- According to 61% (69) of project participants, the extension officers were more and even very competent, against 91% (21) of extension officers.

(ii) Linking projects to donors

- 76% (94) of project participants indicated that extension officers did link the projects to donors, against only 27% (17) of extension officers.
- A total of only 34% of both respondent categories indicated that extension officers were more competent in linking the projects to donors.

(iii) Development of a business plan

- 90% (101) of project participants indicated that extension officers were involved in developing a business plan, against only 43% (23) of extension officers.
- A total of 40% of project participants indicated that extension officers were very competent, against 27% of extension officers and 36% of project participants who indicated that extension officers were more competent, against 46% of extension officer respondents.

(iv) Provision of training on production issues

- 90% (112) of project participants, against only 39% (24) of extension officers, indicated that extension officers were providing training on production issues.

(v) Monitoring production

- 91% (114) of project participants, against 44% (27) of extension officers, indicated that they monitor production.
- 69% (79) of project participants, against 78% (21) of extension officers, indicated the extension officers' competency to be more and even very competent in monitoring production.

(vi) Assistance with record keeping

- 81% (101) of project participants, against 38% (24) of extension officers, indicated that the extension officers do assist with record keeping.
- Only 32% of project participants indicated that extension officers were competent.

(vii) Linking the project to a market

- 75% (94) of project participants, against only 24% (15) of extension officers, indicated that the extension officers did link the project to a market.
- A total of 80% of project participants and 67% of extension officer respondents indicated that the competency of extension officers to link the project to a market was between competent to even very competent.

(viii) Extent of advice on production aspects

- 86% (104) of project participants, against 67% (20) of extension officers, indicated that the extent of advice is enough and even more than enough.

(ix) The value of production advice

- 78% (93) of project participants, against 88% (35) of extension officers, indicated that the value of production advice was good and even very good.

The fact that those who participated in the projects and delivered the above-mentioned services, and who, according to the majority of project participants, were more and even very competent, is a sign of improved extension service in the NWP. However, in most cases only 41% of the extension officer respondents answered the specific questions on service provided to project participants.

7.8.9.6 The importance of information source

The results of the survey were expected to indicate preferences in terms of information sources of the farmers. The scale of not important (=1) to very important (=5) was used as an assessment tool. A summary of the data of both sets of respondents is presented in Table 7.78 below.

7.8.10 Fellow farmers operating at the same production level as a source of information

The total highest percentage of both respondent categories (40%) indicated that fellow farmers, at the same production level, were important as a source of information, while 34% indicated them as even more important (Table 7.78). Only 9% of project participants indicated that the fellow farmers were not an important source of information.

7.8.11 Commercial farmers operating at a higher level as a source of information

A total of 33% of project participants and 41% of extension officer respondents indicated that commercial farmers operating at a higher level than the respondents were a more important source of information. A total of 32% of project participants indicated this source of possible information as less and even not important at all. A total of 34% of both respondent categories (Table 7.78) indicated the commercial farmers as a more important source of information. The Chi-Square results (x^2 = 3.469; p = 0.493) indicated that there is no statistically significant difference at 5% significant level.

7.8.12 Co-operatives as sources of information to projects

The total highest percentage of both respondent categories (28%) indicated that the cooperatives were important, and even a more important (28%) source of information to respondents (Table 7.78). The Chi-Square results (x^2 = 8.827; p = 0.062) indicated that there is no statistically significant difference at 5% significant level. Although the Chi-Square test indicated no statistical difference, project participants and extension officer respondents clearly differ from one another with regard to the role of co-operatives as a source of information. A total of 50% of project participants and 81% of extension officer respondents indicated co-operatives as an important, and even more important, source of information.

7.8.13 The importance of extension officers as a source of information to projects

Although the Chi-Square test (x^2 = 3.503; p = 0.465) indicated no significant association, the following aspects are important:

- 46% of both respondent categories indicated extension officers as a very important source of information, while 35% indicated them as more important (Table 7.78).
- 45% of project participants and 55% of extension officer respondents indicated that the extension officers are a very important source of information.
- 49% of project participants and 45% of extension officer respondents indicated that extension officers, as a source of information, are important, and even more important.

7.8.14 Researchers as a source of information to projects

More extension officer respondents (72%) than project participants (41%) indicated researchers as a more and very important source of information at project level. A total of 37% of project participants indicated that researchers as a source of information is less important and even not important at all, while only 5% of extension officer respondents indicated that they are not important. Only 25% of both respondent categories indicated research as a very important source of information (Table 7.78). The role of researchers as a source of information (subject matter specialists), therefore, has an effect on project success or failure, and specifically, the extension officers definitely depend on research as a source of information.

7.8.15 Colleges and Universities as a source of information to projects

A total of 38% of both respondent categories indicated that colleges and universities are not perceived as a source of information to the projects, whereby 41% of project participants indicated that it was not important, against 24% of extension officer respondents. However, 38% of extension officer respondents, against only 13% of project participants, indicated that it is an important source of information. Significantly more extension officer respondents (71%) than project participants (45%) perceived the importance of colleges and universities as important, more important, and even very important, sources of information for project participants. Only 20% of both respondent categories indicated colleges and universities as a more important source of information (Table 7.78).

7.8.16 Other sources of information important to project

A total of 60% of project participants and 43% of extension officer respondents indicated other source of information as less, and even not important at all. A total of 58% of both respondent categories indicated other sources of information as less and even not important at all (Table 7.78).

7.8.17 Summary of the importance of information source

Table 7.78 reveals the importance of information sources for project participants, according to the rankings of importance. It is surprising that the highest percentage of both respondent categories indicated colleges and universities (38%) and other sources (42%) of information as not being important. Colleges and universities should be resourceful sources for project development in the North West Province. However, it is encouraging to realise that extension officers are regarded as more (35%) and very important (46%) source of information. Fellow farmers, commercial farmers and cooperatives also play a major role as sources of information for project participants. According to 25% of the respondents, research is a very important source of information.

A summary of the findings according to respondents, indicating the sources as important, more important and very important, and in priority order (1= most important and 7= least important), is the following:

1. Extension officers (95%)
2. Fellow farmers (83%)

3. Researchers (77%)
4. Commercial farmers (71%)
5. Cooperatives (66%)
6. Colleges/Universities (49%)
7. Other sources (42%).

Table 7.78: A summary of the importance of information sources according to both respondent categories

Categories of the importance of information source	Information sources of project participants						
	Fellow Farmers operating at same production level	Commercial Farmers operating at a higher level	Cooperatives	Extension officers	Researchers	Colleges/ Universities	Other source of information
1.Not important	11	21	26	5	24	50	24
	7.8%	15.4%	18.8%	3.6%	17.5%	38.2%	42.1%
Rank order	6	5	3	7	4	2	1
2.Less important	12	18	24	2	20	17	9
	8.5%	13.2%	17.4%	1.4%	14.6%	13.0%	15.8%
Rank order	6	4	1	7	3	5	2
3. Important	57	22	38	19	30	22	10
	40.4%	16.2%	27.5%	13.6%	21.9%	16.8%	17.5%
Rank order	1	6	2	7	3	5	4
4. More important	48	46	38	49	29	26	11
	34.0%	33.8%	27.5%	35.0%	21.2%	19.8%	19.3%
Rank order	2	3	4	1	5	6	7
5. Very important	13	29	12	65	34	16	3
	9.2%	21.3%	8.7%	46.4%	24.8%	12.2%	5.3%
Rank order	5	3	6	1	2	4	7
Total	141	136	138	140	137	131	57
	100.0%	100.0%	100.0 %	100.0%	100.0 %	100.0%	100.0%
Categories 3,4 & 5	83%	71%	64%	95%	77%	49%	42%
Rank order	2	4	5	1	3	6	7

7.8.18 The extent of donations (funds and other support services) to the projects by institution(s)

There were many institutions that donated funds or provided support to projects, but the study focused mainly on regular donors in the province, namely national and provincial departments of agriculture, district and local municipalities, other government departments,

other institutions, such as seed companies, and Non-Governmental Organisations (NGO). The extent of donations given by institutions was assessed using a scale of 'no donation' to 'very significant donation'.

7.8.18.1 The extent of donations to projects by the Department of Agriculture, Forestry and Fisheries (DAFF) at national level.

The Chi-Square test (x^2 = 6.432; p = 0.168) indicated that there is no statistically significant difference at 5% significant level. However, it is important to note that, according to the majority of project participants (70%) and extension officer respondents (67%), DAFF has not made any donation towards the projects. It is also important to note that only 11% of project participants and 10% of extension officer respondents indicated that DAFF has made a very significant donation towards the projects. A total of 19% of both respondent categories, however, indicated that DAFF has made a significant, and even very significant, donation.

7.8.18.2 The extent of donations to projects by the Department of Agriculture and Rural Development (DARD) at provincial level

According to the majority of project participants (39%) and extension officers (37%), the provincial department has made a very significant donation towards the projects (Table 7.79 below). It is, however, also important to note that 21% of project participants and 30% of extension officer respondents indicated that the provincial department has not made any donation towards the projects. According to 38% of both respondent categories, the provincial department has made a very significant donation towards the projects. The Chi-Square test (x^2 = 3.419; p = 0.496) indicated that there is no statistically significant difference at 5% significant level.

Table 7.79: The extent of donations to projects by the Provincial Department of Agriculture and Rural Development according to both respondent categories

The extent of donations to projects by the Provincial Department of Agriculture		Respondent categories		Total
		Project participants	Extension officers	
1. No donation	(n)	26	21	47
	(%)	21.0%	29.6%	24.1%
2. Very little donation	(n)	7	6	13
	(%)	5.6%	8.5%	6.7%
3. Little donation	(n)	12	4	16
	(%)	9.7%	5.6%	8.2%
4. Significant donation	(n)	31	14	45
	(%)	25.0%	19.7%	23.1%
5. Very significant donation	(n)	48	26	74
	(%)	38.7%	36.6%	37.9%
Total	(N)	124	71	195
	(%)	100.0%	100.0%	100.0%

x^2 = 3.419; p = 0.496

7.8.18.3 The extent of donations to projects by other government departments

The Chi-Square test (x^2 = 7.864; p = 0.092) indicated that there is no statistically significant difference at 5% significant level between the two respondent categories (Table 7.80 below). However, it is important to note that, according to the majority of project participants (84%) and extension officer respondents (81%), other government departments have not made any donation towards the projects.

Table 7.80: The extent of donations to projects by other government departments according to both respondent categories

The extent of donations to projects by other government departments		Respondent categories		Total
		Project participants	Extension officers	
1. No donation	(n)	98	55	153
	(%)	83.8%	80.9%	82.7%
2. Very little donation	(n)	4	1	5
	(%)	3.4%	1.5%	2.7%
3. Little donation	(n)	3	4	7
	(%)	2.6%	5.9%	3.8%
4. Significant donation	(n)	4	7	11
	(%)	3.4%	10.3%	5.9%
5. Very significant donation	(n)	8	1	9
	(%)	6.8%	1.5%	4.9%
Total	(N)	117	68	185
	(%)	100.0%	100.0%	100.0%

x^2 = 7.864; p = 0.092

7.8.18.4 The extent of donations to projects by the district municipalities

The North West Province has four district municipalities, namely Bojanala, Dr Kenneth Kaunda, Dr Ruth Segomotsi Mompati, and Ngaka Modiri Molema (Anon., 2009a & Anon., 2009c). According to 79% of both respondent categories, the district municipalities have not made a donation towards the projects. It is also important to note that only 6% of project participants and 6% of extension officer respondents indicated that district municipalities have made a very significant donation towards the projects. The Chi-Square test (x^2 = 2.051; p = 0.762) indicated that there is no statistically significant difference at 5% significant level.

7.8.18.5 The extent of donations to projects by local municipalities

The North West Province has 20 local municipalities situated in the four district municipalities (Anon., 2009a & Anon., 2009c). According to 80% of both respondent categories, the local municipalities have not made a donation towards the projects. Only 7% of project participants and 6% of extension officer respondents indicated that local municipalities have made a very significant donation towards the projects. The Chi-Square test (x^2 = 0.650; p = 0.973) indicated that there is no statistically significant difference at 5% significant level.

7.8.18.6 The extent of donations to projects by Non-Governmental Organisations (NGO)

According to 90% of both respondent categories, NGOs have not made a donation towards the projects. The Chi-Square test (x^2 = 3.379; p = 0.567) indicated that there is no statistically significant difference at 5% significant level.

7.8.18.7 The extent of donations to projects by other institutions and organisations

Other institutions and organisations refer to bodies other than those discussed specifically in this document, but unfortunately, they were not described. According to 87% of both respondent categories, institutions and organisations have not made a donation towards the projects (84% of project participants and 92% of extension officer respondents). The Chi-Square test (x^2 = 4.725; p = 0.335) indicated that there is no statistically significant difference at 5% significant level.

7.8.18.8 A summary of findings of donations by institutions to projects

Table 7.81 below reveals the role which institutions have played by means of donations in the development of community projects. Some institutions, by virtue of their location, were expected to have contributed by means of a donation, but it was surprising to see the lack of donations in projects, for example from the local municipalities (80%), district municipalities (79%) and other government departments (83%). Similarly, NGOs and other institutions did not make donations to the projects. It is only the Provincial Department of Agriculture that makes very significant contributions towards the development of agricultural

projects. A total of 61% of the respondents indicated that DARD's donation was significant, and even very significant.

Table 7.81: A summary and comparison of donations by institutions to projects according to both respondent categories

Scale of total percentages of donations by institutions to projects	Institutions donated to the projects						
	Department of Agriculture, Forestry and Fisheries (DAFF)	Provincial Department of Agriculture and Rural Development (DARD)	Other Governments Departments	District Municipalities	Local Municipalities	Non – Governmental Organisation (NGO's)	Other institutions/ organisation
1.No donation	127 69.0%	47 24.1%	153 82.7%	143 79.0%	147 80.3%	163 90.1%	156 87.2%
2.Very little donation	7 3.8%	13 6.7%	5 2.7%	9 5.0%	11 6.0%	4 2.2%	2 1.1%
3.Little donation	16 8.7%	16 8.2%	7 3.8%	3 1.7%	6 3.3%	6 3.3%	14 7.8%
4.Significant donation	14 7.6%	45 23.1%	11 5.9%	15 8.3%	7 3.8%	6 3.3%	4 2.2%
5.Very significant donation	20 10.9%	74 37.9%	9 4.9%	11 6.1%	12 6.6%	2 1.1%	3 1.7%
Total	184 100.0%	195 100.0%	185 100.0%	181 100.0%	183 100.0%	181 100.0%	179 100.0%
Rank order 4&5 1=More important 7=Least important	18,5 2	61 1	10.8 4	14.4 3	10.4 5	4.6 6	3.9 7

CHAPTER 8:
SUMMARY AND CONCLUSION

8.1 INTRODUCTION

The study compares the perception of the two groupings in relation to the most decisive variables influencing participation. The main findings of the research will be highlighted, discussed and concluded upon. The flow of discussion will capture systematically all variables, including objectives and hypotheses that are associated with them from Chapter 5 to 7. The respondents were project participants and extension officers.

The variables that were used to compare the perceptions of the two groupings were: location, age, gender, marital status, family size, education, employment status, profession and non-farming income and programme types. The dependent variables identified were: type of legal entities and location of the project (distance, authority level and land on which projects were established). The summarised findings will now be set out.

8.2 A DESCRIPTION AND COMPARISON OF SOCIO-ECONOMIC ASPECTS OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS

8.2.1 Location

The study focused on three main locations of the projects in the North West Province, namely: (i) local municipalities (Table 5.3 above), and (ii) Local Agricultural Development Centres (LADCs) (Table 5.1 above). All these offices of LADCs are aligned to local municipal boundaries, for example Madibeng West and East LADCs are in Madibeng local municipality, and (iii) Bojanala district (Table 5.2 above). Most of the projects are located in Bojanala district (73%) and the highest percentages are found mainly in the Moretele (24%), Moses Kotane (21%) and Rustenburg (16%) local municipalities. The main reasons why the majority of projects are located in the above local municipalities of Bojanala are the good quality soils and higher annual rainfall, as well as a fair distribution of land ownership.

8.2.2 Age of the respondents

The majority of extension officer respondents (43%) fall within the age group 40-49, and project participants (29%) within the age group 50-59. A total of 36% of project participants fall within the age category of 60 years and older, against only 1% of the extension officer

respondents. A significant difference occurred (x^2=38.4; p=< 0.0001) with regard to age. The majority of project participants were found mostly in the pensioner age category, which suggests a need for younger farmers to engage in the farming sector. The question to be addressed is how to get young people to participate in agriculture, or how to get farmers to embark on succession plans. It is also important to have younger extension officers with the relevant qualifications to assist these farmers.

8.2.3 Marital status

The majority (75%) of both categories of respondents are married, and only 13% are single.

8.2.4 Gender of the respondents

Gender in the projects, according to the total percentage across both respondent categories, is shown to be 67% male, and 33% female, which is a significant difference ($x^2 = 4.015; \mathrm{p} = 0.048$). Only 38% of the project participants are female. Women empowerment and involvement in agricultural projects needs attention and it is important to have an equitable distribution of male and female beneficiaries in projects across the Province.

8.2.5 Family size

A total of 45% of extension officer respondents, against 20% of project participants, indicated a family size of less than 3 members. A total of 80% of project participants indicated a family size of four (4) and even more than seven (7). The larger the family, the bigger the responsibility is for caring for them socially and financially. There is statistically significant difference at 5% level between the two respondent categories (p=< 0.0001).

8.2.6 Educational qualifications of the respondents

The majority of project participants (30%) have a grade 7–9 qualification, but there were also those who have diplomas or degrees (8%) and honours or master's degrees (4%). Only 5% of the project participants indicated receiving no education. The majority of extension officers have a diploma or degree (90%) and 4% have honours or master's degrees. This means that extension officers are better qualified than project participants and this could assist with the understanding of what information and training is required for farmers, proper alignment of farming activities with climatic condition of a particular area, etc. The above differences are statistically significant ($x^2 = 138.476; \mathrm{p} =< 0.0001$).

8.2.7 Profession

The majority of project participants indicated their profession as “farmers”, while 30% indicated that they had other professions and might therefore not be available full time in the project.

8.2.8 Employment status of respondents

The highest percentage of project participants (39%) was not employed, some were self-employed (36%), and very few were permanently employed (11%). All extension officer respondents who provided support to the farmers were permanently employed by the Department of Agriculture and Rural Development. The 11% of the project participants, who indicated receiving regular income, might possibly make contributions to their projects when they experience financial challenges. This off-farm income may imply that project participant’s augment their income from off-farm employment to decrease income risks. Considering that all extension officers are permanently employed by the Department of Agriculture and Rural Development, there is high probability for them to regularly interact with the 39% of project participants who are not employed. The extension officers will be able to interact with the 11% of project participants who are permanently employed when they are available or by appointment. If sustainable projects could be established, the 39% of those who are not employed might have permanent employment on their projects, and there is also the possibility for creating jobs for other unemployed community members.

8.2.9 Non-farming income of project respondents

This is the income of project participants which they acquire from sources other than agriculture. A total of 84% of project participants have a non-farming income of less than R5 000.00 per month. According to 47% of project participants, the level of project production expected will be average, while 40% expected a high to very high production. Only 27% of both respondent categories expected an income of 61% and more.

8.2.10 Programme types

Agricultural Programmes in the North West Province are divided into four main categories, namely crop production, horticulture, livestock and poultry. These categories were further divided into sub-programmes, such as field crops, poultry, vegetables, sheep, goats, cattle, layers, pigs and broilers. The total percentage across both categories of respondents

revealed that the most preferred programme type was livestock (41%), followed by poultry (29%), while the least preferred was crop production (6%). The sub-programme with the highest participation was beef (29%), followed by broilers (23%), and the least was piggeries (3%). The Chi-Square test ($x^2 = 3.958; \mathrm{p} = 0.419$) indicates no statistically significant difference between the two respondent categories. It is essential that extension officers need to work closely with the farmers, to ensure that the agricultural programmes and sub-programmes will be easy to manage and will be in line with the needs of the farmers they serve. It is important for the farmers to produce what they prefer, and which is viable. It is important that extension officers should advise farmers on commodities that are viable for a particular area.

8.2.11 Projects legal registration

- **Type of legal entity**

Some projects in the North West Province were registered as legal entities, such as close corporations, agricultural cooperatives and others. There are projects which are not registered as a legal entity but members have a constitution that binds them together. The highest total percentage (36%) across all respondent categories revealed that project participants were registered as "other" legal entities, 27% not registered as a legal entity, 20% as close corporations, and 17% as agricultural cooperatives. Legal entities, to a certain extent, bind people together to cooperate and function in a certain organised or structured way that aims for a pre-determined goal.

8.2.12 Project accessibility

- **Location of the projects in terms of distance**

The intention during the survey was to check the location of each and every project within or outside the borders of the village. The total percentage across all categories of respondents (46%) reported that projects were located within the village (residential area), and the second highest percentage (29%) reported that they were three (3) or more kilometres outside the borders of the village. The nearer the projects are to the farmers, the better because they will be able to work and check them regularly.

- **Location of the project in terms of authority level**

The focal areas of the authority levels of the survey were the village, ward, local and district municipality. Establishment of some projects in the Province were location based, for example the district can establish a large project that represents the interest of the district

and the same applies to a local municipality. The highest total percentage (43%) across both categories of respondents revealed that projects were located at village level, secondly at local municipality level (33%), and only 6% were located at district level. The Chi-Square test ($x^2 = 5.702$; $p = 0.128$) indicated no significant difference.

- **Land on which the projects are established**

Most of the projects in the North West Province were established on communal, private, state, and municipal land. The highest total percentage across all respondent categories (48%) revealed that projects were established on communal land (where farmers do not own the land), 25% on the state land, 16% on private land, and only 5% on municipal land. The Chi-Square test ($x^2 = 2.366; p = 0.676$) indicates no statistically significant difference.

8.3 OBJECTIVE 1 AND HYPOTHESIS 1

Objective 1:

To determine and compare the degree of participation of project participants in projects as perceived by project participants and extension officers.

Hypothesis 1:

There is a relationship between the perception and knowledge of project participants and extension officers regarding participation in projects.

Variables related to participation are: (1) project panning, (2) knowledge production efficiency, (3) selection of project participants, (4) degree of involvement, (5) multi-membership, and (6) extension and other support services. The summarised findings are:

8.3.1 Perception of project participants and extension officers about participation at planning stage

Availability of information at the planning stage is important for guiding the project. Planning focuses on who plans initiates and owns the project, on details of sponsorship and proposal, on market availability, and on farmers' meeting market needs in terms of quality, price, and quantity, and means to transport to market. These variables were discussed as follows:

- **Project planning**

People who had the potential to plan the projects were project participants, support staff of the Department of Agriculture and Rural Development, extension officers and donors. It is also important to note that the projects that are planned are for farmers. Although there was a significant difference between the two respondent categories ($x^2 = 14.769; \mathrm{p} = 0.002$), the total highest percentage of both (43%) revealed that the projects were planned by project participants, while 31% indicated that extension officers were involved and participated in the planning stage of the project. If participants were involved, played a major role and planned their projects, the chances of disowning the projects are minimised and this increases the chances of project success. There is a relationship between project planning and the participation of project participants in planning the project. The Hypothesis is accepted.

- **Project initiation**

When a group engages in a project, identifies a new need and decides to respond to it on their own, they are taking the initiative for their development. Possible institutions that normally initiate projects were identified as follows: Department of Agriculture and Rural Development, donors, the community and project participants (individuals from the community). The highest total percentage across both respondent categories (36%) revealed that projects were initiated by individuals from the community (project participants), while 26% indicated that the community initiated the project. The Chi-Square results ($x^2 = 4.937; \mathrm{p} = 0.179$) indicate no statistically significant difference between the two respondent categories. Projects initiated by project participants stand a good chance of success because the project participants will take the initiative for their development and success. There is a relationship between project initiation and project participation. The Hypothesis is accepted.

- **Project ownership**

The majority of project participants (72%) and extension officer respondents (60%) reported that projects were owned by the participants. There was no statistical difference between the two respondent categories ($x^2 = 8.620; \mathrm{p} = 0.255$). A very positive finding is that the Department of Agriculture and Rural Development do not own the projects. The role of the Department, specifically the extension officers, is to support farmers with advice and training activities. The fact that projects are owned by farmers/project participants is a positive aspect moving towards project participation. This demonstrates a relationship between project ownership and project participation. The Hypothesis is accepted.

- **Project proposal details**

It is always important for project planners and implementers to provide abundant detail for project proposals to management, or to whoever needs the information, so that proper assessments of funding can be established. The highest percentage (55%) of both respondent categories revealed that project proposals were presented in sufficient detail, while 14% indicated that the detail was even much more than sufficient and there is no statistical difference between the two respondent categories ($x^2 = 3.056; p = 0.558$). Projects can only be appraised properly when all basic information about them is well captured. This can: (1) attract donors; (2) make projects easier to fund because all the information required will be available, (3) provide a good base from which to start a successful project. There is a relationship between project proposal detail and project participation. The Hypothesis is accepted.

- **Project sponsorship**

Projects in the North West Province were mostly funded for infrastructure, labour, production inputs, or a combination of these. The findings of the study, according to the highest percentage of both respondent categories (34%), revealed that projects were partially sponsored for infrastructure, while 30% indicated that projects were fully sponsored (infrastructure, labour and inputs). Projects that are not fully sponsored according to a business plan normally find it difficult to survive, especially when project participants do not have off-farm income. A project needs to be financed properly and the effective sponsorship and management of it will play a role in the success of the project. The Hypothesis is accepted.

- **Market availability**

Any project should, among other factors, be selected on the basis of whether the project will maintain market share, increase market share, or consolidate market position. Market availability was assessed for the produce of the projects and the majority of both respondent categories (54%) indicated that the market was reasonable, while 26% indicated that the market was good, and only 16% indicated that there was no market. Market stability with regard to the produce of the project has to be known.

- **Market status**

  The majority of both respondent categories (48%) indicated that the market status remains unchanged, while only 15% indicated the status of the market as decreased.

- **Degree to which produce meets market requirements**.

(i) Market quality requirements : 57% only slightly met.

: 36% requirements not met.

(ii) Market contract requirements : 62% did not meet contract requirements.

: 35% slightly met contract requirements.

: 3% met contract requirements.

(iii) Quantity the market can absorb: Only 8% project participants and 7% of extension officers indicated a very good absorption of produce. An average absorption of produce was indicated by 31% of project participants and 36% extension officers.

(iv) Market price: 29% of both respondent categories indicated that the price was good. 40% of project participants and 36% of extension officers indicated an average market price.

(v) Market transportation: 35% of both respondent categories indicated that transport is hired and 31% indicated that buyers collect produce at the farm gate.

(vi) Marketing of produce: 33% of both respondent categories indicated that the local community is the most important place to market their products.

The market has to be established or identified before approval of funds and farmers must indicate if they will be able to meet market needs in terms of quality, price, quantity and that they will have the means to take their produce to the market. There is a clear relationship between market availability and project participation. Hypothesis 1 is accepted.

8.4 OBJECTIVE 2 AND HYPOTHESIS 2

Objective 2:

To determine and compare the production knowledge of the project participants in projects as perceived by project participants and extension officers.

Hypothesis 2:

There is a relationship between the perception and knowledge of project participants and extension officers regarding production knowledge of projects.

8.4.1 Knowledge of production efficiency as perceived by project participants and extension officers

- **Knowledge of managing the project**

The total highest percentage across both respondent categories revealed that the majority of respondents indicated a high knowledge (44%). Significantly (p=0.019) more extension officer respondents (59%) than project participants (35%) indicated a high knowledge, while significantly (p=0.019) 41% of project participants and only 22% of extension officer respondents indicated an average knowledge in managing the project. Farmers have high knowledge of what they produce and of how to manage the project; the Hypothesis is accepted.

- **Knowledge assessment of the commodity**

Knowledge of both respondent categories was assessed in terms of participants' knowledge about the commodities to be produced for a particular area before production, and at interview. Knowledge assessment was based on the production status of the commodity, special design requirements, special machines and equipment requirements, special transport requirements, quality assurance requirements, labour requirements, and time devoted on the produce. A general improvement in all categories was noticeable in knowledge gain at interview, compared to that before production. This could be attributed to the fact that project participants were now more involved than before the commencement of the project. There is a relationship between production knowledge before production of the commodity and project participants' production knowledge of the project. The Hypothesis is accepted. Knowledge was assessed on the following aspects of production:

  - **Status of production knowledge of the commodity in the area:**

    The above-average production knowledge increased from only 17% before the project start to 44% at interview. Excellent knowledge increased from 4% before project start to 17% at interview (Table 7.11 above).

  - **Knowledge of special design requirements:**

    The above-average knowledge of special design requirements increased from only 15% before the project start to 29% at interview. Excellent knowledge increased from 5% before project start to 16% at interview (Table 7.14 above).

- **Knowledge of special design machinery:**

The above-average knowledge of special design machinery increased from only 15% before the project start to 28% at interview. Excellent knowledge increased from 7% before project start to 18% at interview (Table 7.17 above).

- **Knowledge of special transport requirements:**

The above-average knowledge of special transport requirements increased from only 19% before the project start to 33% at interview. Excellent knowledge increased from 5% before project start to 19% at interview (Table 7.21 above).

- **Knowledge of product quality assessment:**

The above-average knowledge of product quality assessment increased from only 17% before the project start to 28% at interview. Excellent knowledge increased from 4% before project start to 16% at interview (Table 7.23 above).

- **Knowledge of labour requirements:**

The above-average knowledge of labour requirements increased from only 16% before the project start to 34% at interview. Excellent knowledge increased from 8% before project start to 23% at interview (Table 7.26 above).

- **Knowledge of time devoted to projects**

The above-average knowledge of time devoted to projects increased from only 22% before the project start to 39% at interview. Excellent knowledge increased from 9% before project start to 24% at interview (Table 7.30 above).

- **Project selection factors**

A list of project selection factors was developed to establish what actually influenced the selection of the projects. The following factors were investigated and are listed according to their importance as perceived by both respondent categories as follows:

- Interest (needs) of participants ($x^2 = 5.382; \mathrm{p} = 0.254$): rated more and very important – 80%;
- The strength of knowledge of extension officers ($x^2 = 7.653; \mathrm{p} = 0.101$): rated more and very important – 77%;
- Cost of establishing the project ($x^2 = 3.008; \mathrm{p} = 0.567$): rated more and very important – 72%;

- Market ($x^2 = 6.972; \mathrm{p} = 0.135$): rated more and very important – 71%;
- Profitability of the project ($x^2 = 7.112; \mathrm{p} = 0.129$): rated more and very important – 70%;
- Environmental influence ($x^2 = 3.575; \mathrm{p} = 0.478$): rated more and very important – 61%;
- Goals of donors ($x^2 = 12.405; \mathrm{p} = 0.014$): rated more and very important – 44%; and
- Other selection factors ($x^2 = 3.199; \mathrm{p} = 0.542$): rated more and very important – 25%.

The majority of respondents across all categories indicated that all factors were considered for project selection and they were rated as more and very important, except for the "other factors", which were considered for project selection and were rated low by respondents. All selection factors, including donors, play a major role in project success. There is a relationship between project selection factors and production knowledge of the project. The Hypothesis is accepted.

- **Time spent in the project**

  The project participants spent 22.14% mean hours (50% of total hours available) at the project, while extension officer respondents indicated that project participants spent 18.78 mean hours (43% of total hours available) at projects. There is a serious need for farmers to increase their mean number of hours spent at the project. There is a relationship between time spent on the project and the production knowledge of the project. The Hypothesis is accepted.

- **Major decision-making responsibility**

  In so far as the decision-making responsibility is concerned, both respondent categories indicated the following (Table 7.42):

  - Participants – rated first;
  - Community – rated second;
  - DARD – rated third; and
  - Donor – rated fourth.

  When people concerned are informed on time, and there is consensus on how problems or project activities are to be approached or done, this might contribute to

knowledge gain. There is a relationship between decision-making and the production knowledge of the project. The Hypothesis is accepted.

- **Ownership**

  Ownership, according to both respondent categories, is indicated as follows (Table 7.41):

  - Participants – rated first;
  - Community – rated second;
  - DARD – rated third; and
  - Donor – rated fourth.

  There is a clear indication that project participants are the owners and should be the owners of the projects. This will undoubtedly motivate them to work hard and make a meaningful contribution towards project development and success. There is a relationship between ownership and project success. The Hypothesis is accepted.

- **Accountability**

  In so far as accountability is concerned, both respondent categories indicated the following (Table 7.43):

  - Participants – rated first;
  - Community – rated second;
  - DARD – rated third; and
  - Donor – rated fourth.

  Project participants have been clearly indicated to be accountable for what is happening at the project. There is a relationship between accountability and production knowledge of the project. The Hypothesis is accepted.

- **Number of times financially assisted**

  The highest percentage of respondents (59%) reported that they were assisted once, while 27% indicated that they were assisted twice, and only 8.8% reported that they were assisted more than four times. There should not be restrictions on how many times to assist a project, but it is also important not to fund any project continuously. In

times of need, a project should be assisted to avoid failure. There is a relationship between the number of times a project is financially assisted and the production knowledge of the project. The hypothesis is accepted.

- **Assessment of the general success of the project**

  The management of the project is important towards facilitating its success; this includes managing production, stakeholders, regular monitoring and evaluation of the whole project in terms of maintaining its sustainability. According to the highest percentage of both respondents (58%), the projects were only slightly successful. Only 14% of the respondents indicated that projects were successful. The Chi-Square test ($x^2 = 4.078; \mathrm{p} = 0.552$) indicated no statistical difference between the two respondent categories. An assessment of a project's success should be done on a continual basis to ascertain its sustainability and this exercise could contribute towards increased production knowledge of the project.

8.4.2 Selection of project participants

- **Selection of project members**

  One of the questions raised during the survey was who selected project members. The result of the survey indicated that the majority of project participants (51%) and extension officers (67%) volunteered to participate in projects. Few participants were selected by community leaders (17%) and farmer organisations (9%), according to both respondent categories. The facts that participants volunteered and that the community also selected some of the project participants give a positive indication of project success. There is also no significant difference between the two respondent categories ($x^2 = 6.459; \mathrm{p} = 0.166$) at 5% significant level. The selection of project members has a relationship with the production knowledge of the project success. The Hypothesis is accepted.

- **Selection criteria**

  The majority of people volunteered to participate in projects but it was also important to have criteria suggested as a means of determining how project participants were to be selected, especially from those who did not volunteer to participate in projects. The highest total percentage according to both respondent categories revealed that the selection of project participants was made according to the interest of the community (62%) and other criteria (20%) which were not listed. There is no significant difference at 5% significant level between the two respondent categories ($x^2 = 3.622; \mathrm{p} = 0.622$).

The selection was made according to the interests of the community; this might also mean that the community has an interest in the project, which is an indicator for project participation. Selection criteria have a relationship with production knowledge of the project. The Hypothesis is accepted.

8.4.3 Participatory approach

- **Decision to participate in the project**

  The decision to participate in a project depends on the individuals concerned, as they can accept or decline nomination. The study revealed that the majority volunteered, and the question was, what made them participate. The results revealed that the majority of project participants (58%) participated in projects because they wanted to earn income, and 26% wanted to increase their income. Only 30% of extension officers indicated that participants want to earn an income, while 48% of both categories indicated the wish to earn an income. The decision to participate in a project is essential to project development, especially if project participants want to earn or increase income. Decision to participate in a project has a relationship with production knowledge of the project. The Hypothesis is accepted.

- **Number of participants in project**

  If farmers participate in projects to either earn or increase their income, the business plan has to determine the number of farmers per project, so that they might be able to realise their dreams by participating in projects. Respondents were expected to give the actual number and also to indicate how many participants should have been in the project with the same and additional resources. According to the project participants, there are currently a mean number of 21.62 participants in the project, while extension officers indicated a mean number of 19.90. The indications from the survey were that:

  (1) For participants with the same resources, the project participants indicated a mean of 13.54 participants, and extension officer respondents indicated a mean number of 11.26. The T-test ($t = 2.280$; $p = 0.516$) indicated no significant difference between the average number of participants that should be in the project with the same resources, as given by both respondents.

  (2) For participants with additional resources, project participants indicated a mean of 15.81 project participants, and extension officers indicated 12.96 participants. The T-test ($t = 2.853$; $p = 0.468$) indicated no significant difference between the average

number of participants that should be in the project with additional resources, as given by both respondents.

According to the above finding, there is significantly less participants to participate in the projects even when more resources are available related to the current number of participants. The number of participants in projects has a relationship with production knowledge of the project. The Hypothesis is accepted.

- **Extent of involvement in the management of the projects**

  The majority of respondent categories (44%) indicated that project participants were very much involved in the management of projects, 36% were involved, and only 5% were not involved. The Chi-Square test (x^2 = 4.486; p = 0.351) indicates no statistically significant difference between the two respondent categories. Project participants are involved in the management of the projects, and the possibility of them taking care of their project's production exists. The extent of involvement of project participants in the management of the project has a relationship with production knowledge of the project. The Hypothesis is accepted.

8.4.4 Community Support

- **Provision of Information**

  It is always important for the community or relevant institution to be informed about activities that are taking place in their area. The questions of when project members were selected, and to what extent community members or institutions were informed about the project, become relevant. According to 76% of both respondent categories, communities were informed about the project to be established. The information provided to the majority of participants will ensure that the project is known and supported and this is an indicator of project success. There is a relationship between provision of information and production knowledge of the project. The Hypothesis is accepted.

- **Responsibility of the community and DARD to initiate or request specific activities at project level**

  In so far as management of the projects is concerned, the question was posed to the respondents as to what responsibilities the named entities had to initiate or request specific activities on the projects. The response of the majority of respondents (61%) was that the community initiates or requests and therefore maintains ownership. A few

respondents (3%) indicated that the Department initiates or requests and does not report to back to the community. The Chi-Square test (x^2 = 8.322; p = 0.077) indicates that there is no significant difference between the two respondent categories. The fact that the community initiates or requests specific activities and maintains ownership at project level has a relationship with production knowledge of the project. The Hypothesis is accepted.

8.4.5 Degree of involvement

- **Involvement of the participants in the application of the project**

  It is always important for the project participants to be involved in the application of their projects. The timing of communicating the feedback about its approval is also important, in so far as the acceptance of the project is concerned. The majority of respondents in both categories (51%) reported that they were involved in the application of their project, with 30% intensely involved. The involvement of participants in every aspect of the project increases chances of project success. The involvement of the participants in the application of the project has a relationship with production knowledge of the project. The Hypothesis is accepted.

- **Communicating the approval of the project**

  The majority of respondents (59%) heard about the approval of the project after knowledge of application, but 41% heard about the approval before any knowledge of the application. Timely communication is essential for project success.

- **Degree of involvement in the project**

  The majority of respondent categories (53%) reported that they were involved as self-responsible individuals. There were also project participants who participated as members of a management team (29%). Even though the Chi-Square results ($x^2 = 16.096\,; \mathrm{p} = 0.000$) indicate a significant difference between the two respondent categories, where participants/farmers act as responsible individuals in favour of the project participants, this contributes to project success. There is a relationship between the degree of involvement in the project and production knowledge of the project. The Hypothesis is accepted.

- **Degree of involvement in the management of the project**

  Significantly more project participants (56%) than extension officers (30%) are involved in the management of the projects. Extension officer respondents clearly indicate that they have other responsibilities in the projects. Project participants' involvement in the management of the project can play an important role in the production knowledge of the projects participants.

- **Contribution of project participants**

  The total percentage (67%) across all respondent categories revealed that their contribution towards infrastructure was less significant and even totally insignificant; labour more significant (35%) and even very significant (32%); and production inputs more significant (42%) and even very significant (36%). Project participants rely on the government to supply infrastructure for their projects, and because they do not have funds, they provide labour to assist in the establishment of the projects. Once the project is operational, they provide production inputs to sustain the projects. Contributions of project participants, in whatever form, have a relationship with production knowledge of the project. The Hypothesis is accepted.

8.4.6 Extension support

- **Participation of extension officers**

When did the extension officers start to participate in the projects? Was it at the initial, planning or implementation stage, or had they never participated? These were questions raised to establish the participation and involvement of extension officers in projects. The total percentage (59%) of the two respondent categories indicated that extension officers participated at the initial phase, 22% at planning, and 13% at implementation. It is important to note that very few (0.5%) of the respondent categories indicated that no extension officers participated in projects. Although there is a significant difference at 5% significant level between the two respondent categories ($x^2 = 10.423\,; \mathrm{p} = 0.023$), it is important to note that extension officers participated at the initial and planning stages. Although it is a small number, it is still a worrying finding that 13% of extension officers only started to participate in the implementation phase. There is a relationship between the participation of extension officers in farmers' projects and production knowledge of the projects. The Hypothesis is accepted.

- **The extent of donations to projects by institutions**

There were many institutions that had donated funds or provided support to projects, but the study focused mainly on the regular donors, namely the national and provincial departments of agriculture; district and local municipalities; other government departments; and other institutions, such as seed companies and NGOs. The extent of donation by institutions was assessed using a scale of 'no donation' to 'very significant donation'. According to the total percentage of the two respondent categories, the following were perceived as not having made donations: the National Department of Agriculture (DAFF) (69%), other government departments (83%), the district municipality (79%) and local municipalities (80%), NGOs (90%) and other institutions (87%). The DARD is the only institution that made a donation to the projects, according to the total percentage of both respondent categories (38%). Other institutions made very little to no donations to agricultural projects and this is not good for agricultural development in the Province. Donations by various role players can contribute to agricultural development of the Province. The hypothesis is accepted.

- **Assessment of extension support**

Although, on average, only 32% of extension officer respondents answered the question regarding support services provided by them, the finding clearly indicated that these services are essential for project success. The majority of project participants (84%), however, clearly indicated that the extension officers did provide the services and that they were more and even very competent. The services provided were (project participants' indication of the participation of extension officers):

- Organising and chairing meetings (90%)
- Linking project to donors (76%)
- Development of a business plan (90%)
- Provision of training on production issues (90%)
- Monitoring production (91%)
- Assisting with record keeping (81%)
- Linking the project to a market (75%)
- Extent of advice on production aspects (86%)
- The value of production advice (78%)

The assessment of support of extension officers has a relationship with project success. The Hypothesis is accepted.

8.5 OBJECTIVE 3 AND HYPOTHESIS 1

Objective 3:

To determine and compare the format of participation of project participants in projects as perceived by project participants and extension officers

Hypothesis 1:

There is a relationship between the perception and knowledge of project participants and extension officers regarding participation in projects.

- **Collaboration of project members**

Collaboration of members in projects was generally good because where collaboration existed, members would collaborate often (44%) or very often (33%). The study indicated that members (64% of both respondent categories) were working with one another, 19% were working as individuals within the projects, and only 3% were working against each other. There is no significant difference at 5% significant level between the two respondent categories ($x^2 = 1.518; \mathrm{p} = 0.677$). If a few people work against each other and the majority with one another, the chances of project success increase, and therefore Hypothesis 1 is accepted. There is a relationship between the collaboration of project members and participation in projects.

- **Methods of operation in projects**

  The total percentage across all respondent categories indicated that project participants operated as cooperatives (36%), as well as individuals (35%), in projects. Only 13% indicated that they were working as a delegated group. Project participants/farmers work as a cooperative, as well as individuals, which increases the chances of them taking good care of the projects and this can also improve production knowledge of the project. Operations in the project have a relationship with participation in projects. The Hypothesis is accepted.

8.5.1 Additional commitments

The influence of additional commitments to project success or failure was assessed in terms of the participation of members within and outside the project, related to what they produce. They produced a variety of commodities, ranging from field crops (maize, sunflower) to horticulture (vegetables) to livestock (cattle, goats, sheep, pigs and poultry). The results indicated that the most common commodity is poultry (32%), cattle (25%), and vegetables (19%). According to project participants, they had been producing the same commodity for a period of 8.17 mean years, against only 4.71 mean years according to extension officer respondents. Project participants clearly indicated more mean years (7,948) of being involved in the project than did extension officers, with 3,641 mean. The experience acquired through interaction with different farmers in and outside the project, and the number of years under production, could play an important role in a project's production. Therefore, it is indicated that additional commitment has a relationship with participation in projects. The Hypothesis is accepted.

8.6 OBJECTIVE 4 AND HYPOTHESIS 3

Objective 4:

To determine and compare the project participants needs in projects as perceived by project participants and extension officers

Hypothesis 3:

There is a relationship between the perception and knowledge of project participants and extension officers regarding the needs of project participants.

The variables identified for this hypothesis and objectives were: priority choice of projects, training, and needs assessment.

8.6.1 Priority choice of projects

- **Meeting farmer's needs**

The development of farmers should not only focus on felt needs; there should be reconciliation of felt needs and unfelt needs. The survey assessed the farmers' needs using a scale of (1) does not meet the needs, to (5) meets all the needs. The highest percentage across all respondent categories (33%) revealed that projects slightly met farmers' needs;

whereas the second highest percentage (31%) indicated that projects met farmers' needs. Where priority is given to choosing projects which meet farmers' needs, there is an indication of project success. Hypothesis 3 can be accepted because meeting farmers' needs has a relationship with needs of project participants.

- **Extension programme**

The content of choice to select extension programmes was based on: (1) calculated impact, (2) comparative impact, (3) political needs, (4) extension officers' needs, (5) DARD's needs and (6) other choice of extension programme. The total highest percentage across both respondent categories revealed that programme choice was mostly based on "other" factors that were important to address the project's needs (31.5%), rather than calculated impact (22.3%) or departmental needs (21.7%). The extension officer should select a programme that is appropriate to the situation where the farmer is located. There is a relationship between extension programme choice and needs of project participants. The Hypothesis is accepted.

8.6.2 Training needs of project participants

- **Formal training received**

Training during the survey was assessed in terms of formal training received and the number of days project participants were exposed to it. Farmers were exposed to formal training from the initial phase of project development. Project participants' indicated 14.30 mean days of formal training received, and extension officer respondents indicated 12.94 mean days. There is no significant difference between the two respondent categories ($t = 0.360$; $p = 0.720$). More days of training for farmers can contribute to increased knowledge gain. The formal training of participants has a relationship with needs of project participants. The Hypothesis is accepted.

- **Number of days needed for training**

Project participants indicated 25.25, and extension officer respondents 26.71, mean number of days of formal training needed to assist project participants to produce optimally. There is no significant difference between the two respondent categories ($t = 288$; $p = 0.772$). Project participants indicate a need for an additional 10.95 mean days of formal training (an increase of 43%) while extension officers indicated an additional 13.77 mean days (52% increase of mean days). There is a clear indication of a relationship between training needs and needs of project participants. The Hypothesis is accepted.

- **Relevance of training**

The highest percentage of both respondent categories (52%) indicated that training received was very much relevant (although respondents did indicate that there is a need for more training days). Only 3% of both respondent categories indicted that training was very much irrelevant. There is no significant difference between the two respondent categories ($x^2 = 1.735; \mathrm{p} = 0.876$). Technical training should be in line with business activities, including financial management. Relevance of training has a relationship with needs of project participants. The Hypothesis is accepted.

8.6.3 Needs assessment

- **Frequency of needs assessment**

The highest percentage of both project participants and extension officer respondents reported that needs assessment was done on a continual basis (48%), and the second highest percentage for both respondent categories (31%), indicated once a year. Frequent needs assessment is important because it will, on a continual basis, keep decision makers informed and also permit them to respond to issues such as: (a) whether to intervene; (b) the nature of intervention, (c) scale of the intervention; (d) prioritisation of intervention and (e) allocation of resources (Darcy & Hofmann, 2003). There is a relationship between the frequency of needs assessment and needs of project participants. The Hypothesis is accepted.

- **Consultation during needs assessment**

The total highest percentage across both respondent categories (57%) revealed that project participants were consulted, even though there is a significant difference between project participants (73%) and extension officer respondents (22%). The importance of this finding is that project participants perceived consultation as being very important. The second highest percentage (24%) indicated that other forms of consultation were used. There is also a significant difference (x^2= 74.051; p = < 0.0001) between project participants (6%) and extension officer respondents (63%) in the same category regarding other forms of consultation. Only 8% of the respondents indicated that they were not consulted. People were consulted when needs assessments were done; this means that programmes will be implemented based on the real needs of the farmers. The involvement of farmers in the assessment process should always be consistent. There is a relationship between consultation during need assessment and needs of project participants. The Hypothesis is accepted.

- **Methods of needs assessment**

The total percentage across both categories of respondents revealed that participatory rural appraisal (38%) and “other” methods were used to assess the needs of the people and 23% reported that a questionnaire was used. A simple, easy to use, understandable method should be used for needs assessments because farmers will then be able to express themselves. There is a relationship between methods of needs assessment and the project/programmes to be implemented and needs of project participants. The Hypothesis is accepted.

CHAPTER 9:
RECOMMENDATIONS

9.1 INTRODUCTION

The study has compared the perception and knowledge of project participants and extension officers about the participation of beneficiaries in projects.

It is, therefore, recommended that the following elements of participation should be part of any agricultural project in future.

9.2 A DESCRIPTION OF SOCIO-ECONOMIC ASPECTS OF PROJECT PARTICIPANTS AND EXTENSION OFFICER RESPONDENTS

9.2.1 Age

According to research (Alfred & Odefadehan, 2007), the most productive age category is 45 years and less. The majority (65%) of the project participants are older than 50 years of age and only 35% falls in the most productive age category.

Recommendation:
There is an urgent need to get more young people involved in agricultural projects. Agriculture extension staff should engage with secondary schools to change the negative perception which young people have about agriculture as a career.

9.2.2 Gender

Gender equity is one of the government's main goals and specifically in agriculture. Only 38% of the project participants and only 25% of extension officer respondents are females.

Recommendation:
Agricultural Departments must strive to obtain equity with regard to gender in agricultural projects and careers.

9.2.3 Family size

Project participants have significantly more family members to care for than extension officers have and this could influence a project participant's availability at project level because of family responsibilities.

Recommendation:
If project participants have more family members to take care of, family planning should be introduced in their developmental programmes.

9.2.4 Education level

To be effective, according to Alfred and Odefadehan (2007), higher education should assist with the understating of what information is required. Although there are significant differences between project participants' and extension officers' levels of education, the majority (95%), of project participants can read and write. This will reduce misunderstanding between the two categories of respondents since information required will be understood.

Recommendation:
Since 95% of project participants can read and write, attention should be given to the dissemination of production-, simplified financial- and market-related information for purposes of improving their skills and knowledge. Record keeping for farming activities should also form part of skills and knowledge development.

9.2.5 Employment

There is still a large number (39%) of project participants who indicated that they are not employed. They do not recognise that they are employed on the farm in carrying out the project's activities. Many people still consider farming as being something for elderly (retired) people and not necessarily as a viable career. However, 36% were self-employed in other jobs, meaning they did not rely on income from the project. Paul (2006) in his study of off-farm employment revealed that 60% of household in Uganda earned an off-farm income; this was mainly to decrease income risk.

Recommendation:
This negative picture of agriculture as a field of employment needs to be changed. Extension officers should develop awareness campaign programmes to teach people that

agriculture is a business and it can create sustainable jobs, and that projects can be implemented according to business plans to produce a desired outcome.

9.3 INCOME AND FINANCIAL ASSISTANCE

9.3.1 The level of project production and income

The production of what the project participants were producing was investigated in terms of: (i) their expectations on production level of their produce, and (ii) the percentage of income they would get from their produce.

A total of 60% of project participants indicated only an average, low, and even very low level of production, while 59% of extension officers indicated the same. These are the signs of projects that will not make it and an intervention from extension is required to improve production and income of project participants. The majority of project participants (30%) expected an income of 61-75%, and extension officers (27%) 16-30%, while a small number (4%) of both participants expected an income of more than 91%. If production is low, income will also be low and this can result in project participants looking for off-farm income to augment what they get from the projects.

Recommendation:
The improvement of production levels is essential to ensure project participant participation as farmers in the project. Specific attention needs to be given to the implementation of best practices related to the specific commodity so as to ensure improvement of production. This is the responsibility of the extension officer to oversee so that the project participants acquire the knowledge and skills to implement the best practices. A specific technical training programme relevant to the commodity is, therefore, essential for improving production and income and for building human capital. According to Carlson (2002:61-63), citing Wallace (1990:26), technical assistance can enhance human and institutional capabilities, and it is therefore proper for project participants receive such type of training.

9.3.2 Project funding

Project funding available for project participants is listed in Table 5.11, and its frequency per project was investigated during the survey, with the indication being seen that: (i) CASP (47%) and (ii) other funding programmes (37%) were the highest funders of projects, while (iii) equitable shares (6.5%) and (iv) land care (9.5%) were also used to fund projects.

The frequency of funding of projects was not consistent because some projects were assisted once (58%) and others twice (29%), while some projects were not assisted (1%).

Recommendation

It is a known fact that members of the communities need funding for their projects and the fact is that available funds cannot cater for every member of the community and for all projects. Accordingly, (i) the policy of DARD should give guidance to ensure that other projects and members of the community do not benefit more than the others, and (ii) a feasibility study and a comprehensive business plan should be a prerequisite before projects can be funded. It is important to check project participants because a project can appear to be viable from the feasibility study, but it may subsequently be found that wrong people have been funded, and this can precipitate project failure.

9.3.3 Project status

At interview, the status of each project was established to determine whether it was active in terms of project participants producing commodities, as listed in Table 7.62, or dormant, meaning nothing was happening in the project, using the scale of dormant to very active. The results showed only 31% of both respondent categories indicating that the projects were active, to very active, with 40% being reasonably dormant to semi-dormant.

Recommendation:

Extension officers need to monitor the project status on a continual basis, and at least on a monthly basis, to ensure that projects stay active.

Extension officers need to be trained in the monitoring and evaluation of projects so that intervention is sought before the desired status of a project is affected.

9.3.4 Project division and registration as a legal entity

During the survey, the projects were investigated on whether one project could have sub-divisions and also to determine whether members or projects were organised as legal entities.

According to the majority (77%) of both respondent categories, the projects were not divided into specific, individual farmer portions. The project is managed as an entire farm

enterprise. The respondents (73%) indicated that the projects were registered as legal entities.

Recommendation:

Extension officers need to ensure that there is a management team appointed with a clear constitution and mandate to manage the farms and projects (entities) effectively and to mobilise the project participants to work together as a farmer group or cooperative. The training of extension officers in the establishment of farmer groups or cooperatives is recommended.

9.3.5 Project accessibility

The accessibility of projects refers to the ease with which a project could be accessed by project participants and the investigation during the survey was to: (i) determine the location in terms of the distance from the village where they stay to the project; and (ii) the location in terms of the authority level. The majority of projects (40%) were located within the residential areas of the project participants, while 38% of participants indicated that the projects are far (1-2km), and even further away (≥3km), from where they stay. In terms of the authority level, the majority of projects were located in a village, ward and local municipality, which were the authorities responsible for the wellbeing of residents.

Recommendation:

Project implementers, project participants and relevant authorities need to ensure that projects are established where they might be accessed easily by members. Project management committees and the extension officers need to register or record the projects with the relevant level of authorities so that they are known and supported, and the projects performances are communicated accordingly.

9.3.6 Time spent working on the project

The numbers of hours spent on projects by members or owners are crucial for project success. According to project participants, they spend only 22.14 mean hours at the project per week – less than three days. It is always important for project participants to spend more hours on their projects so that they can gain more knowledge about the commodities they produce.

Recommendation:

Extension officers need to: (i) train and educate project participants about the level of management and time that should be devoted for a particular commodity, (ii) make them aware that the more time they spend on their project, the more opportunities they will have to guard or protect their produce, and (iii) motivate them to spend more on their projects working on quality issues relevant for their market.

9.3.7 Market availability

According to the National Development Plan for South Africa (Planning Commission, 2012), there is an urgent need to invest substantially in providing innovative market linkages for small-scale farmers in communal and land reform areas.

Recommendation:

Specific attention should be given to linking farmers to "food away from home" markets, namely:

Take-away outlets;

School feeding schemes; and

Food services in hospitals.

Project planners need to investigate the possibilities for opening access to the abovementioned "new" markets and link them with the project. No farming enterprise can start to generate produce without a market.

9.4 THE PERCEPTION OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS ABOUT THE BENEFICIARIES' NEEDS IN PROJECTS

9.4.1 The project meeting farmers' needs

When a project is established, one of its main aims is to meet farmers' needs: Swanepoel and de Beer (2006:173) argue that all community development projects are built around needs. It is against this background that projects are established on beneficiary needs. The study reveals that projects met the farmers' needs (31%), but what is alarming is that only 6% of both categories of participants indicated that they met all their needs. Project

participants indicated that they would prefer having a choice regarding the commodities that they wanted to farm with.

Recommendation:
For a project to be successful, extension officers must at all times determine the needs of the farmers or project participants and discuss it with them. Their needs regarding: (i) commodities for their projects, (ii) Training they require to make them competent, (iii) location of the project, and as well as extension programmes designed to help them.

9.4.2 Training needs of project participants

Project participants and extension officer respondents indicated a need for formal training before the project started and throughout the duration of the project. According to Burger (1995) citing Gedebe (1992), project participants should be trained on technical skills, budgeting, production costs, marketing and determination of gross margins to enhance their skills and knowledge. Project participants indicated a 43% increase in mean days needed for formal training.

Recommendation:
The development and implementation of a training programme should receive a top priority since there is a high need (43% increases) for it. The training programme should address beneficiaries, as well as project needs and activities. It is, however, essential to determine project participants' levels of skills and knowledge before the training programme is planned and implemented. It is also essential that extension officers undertake needs assessments on a continual basis to keep decision makers informed so that they may be able to intervene in time, if necessary and when necessary.

It should be ensured that every project participant fully participates during needs assessments. There are methods one can use to determine the needs of the participants. The specific situation and number of project beneficiaries will determine the method and an experienced facilitator (extension officer) should to be appointed to facilitate the training needs assessment process.

It is also recommended that part of the training needs assessment should link the farmers' felt needs (as perceived by them) to the unfelt needs (as perceived by the extension officers). What is needed as part of the needs assessment is, therefore, a process of problem conceptualisation.

9.5 THE PERCEPTION OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS ABOUT PARTICIPATION IN PROJECTS

9.5.1 Participation at planning stage

Planning and initiation of the project (both categories)

Only 43% of respondents indicated that project participants were part of the planning process, while 31% of project participants indicated that extension officers planned the project. Projects were mostly (62%) initiated by individuals from the community, which is a good indication of the intensity of community participation (Atkinson, 1999:337-342). The majority (68%) of the respondents (both categories) indicated that the projects are owned by the project participants and 55% indicated that the project proposals were presented with sufficient detail.

Recommendation:

Project participants need to be involved in the planning of the project and be provided with a detailed project proposal. Once they are involved, plans of the project could be changed in a flexible and responsive way (Ali *et. al*., 2001:658). This is the starting point for project participants to accept ownership of the project.

9.5.2 Knowledge of production efficiency as perceived by project participants and extension officers.

Only 44% of respondents (both categories) indicated a high knowledge for managing the project. Above-average knowledge of the commodity increased from 17% before the project started, to 44% at interview.

Respondents clearly indicated the importance of the following factors in selecting a project: the strength and knowledge of extension officers, interest (needs) of participants, cost of establishing the project, environmental influences, a market for the product, and profitability of the project.

It was clearly indicated that project participants should be responsible for decision making at project level, as well as being the owners of the project and being accountable for what is happening at the project.

The general success of the project was indicated as only slightly successful by 58% of the respondents from both respondent categories.

Recommendation:
The training and the overall extension programme must include all aspects related to the project, namely: management skills, which will include decision making; ownership and accountability; monitoring and evaluation of the activities, as well as commodity production and marketing skills and knowledge.

9.6 THE SELECTION OF PROJECT

9.6.1 Selection of project participants

The majority of project participants (65%) volunteered to participate in the project and the main reason for participating was to earn an income on the project. The most important selection criterion used to select participants was: If the participant participation will be in the interest of the community.

The number of members involved in a project is also very important and, according to project participants and extension officer respondents, there are already too many members involved and the numbers should decrease by 40%. The majority of participants indicated that they are operating as a cooperative or a group.

Recommendation:
The selection of project participants is very important. There are specific screening instruments (Lombard & Botha, 1995) available for selecting new farmers according to the best chance of success, and which also determine any limitations that can be addressed by means of training and capacity-building efforts. Specific attention needs to be given to the number of participants within a project – the larger the number, the more difficult it is to manage. Extension officers need to work effectively with farmer groups for them to become effective and efficient in the management of their projects as a group.

9.7 THE DEGREE OF PARTICIPATION OF PROJECT PARTICIPANTS AS PERCEIVED BY PROJECT PARTICIPANTS AND EXTENSION OFFICERS

9.7.1 The extent and the degree of project participants' involvement in managing the project.

The project participants indicated their degree of involvement as follows:

Involvement in management:

- Involved – 32%.
- Very much involved – 48%.

Involvement when applying for the project:

- Involved and intensely involved – 77%.

Reason for involvement:

- Self-responsible individual – 59%.
- Member of management – 30%.

It is clear that project participants were adequately involved in the application and management of the project. They also participated as members of the management. What is pleasing is that members are able to work as self-responsible individuals in their projects and this is a good sign for influencing project success.

Recommendation

Involvement of project participants is very important in the success of the project, therefore: (i) they should be involved in all stages of project development, (iii) they should be capacitated in managing their project as individuals or groups, and (iii) be involved in decision making, and needs identification of their project.

9.8 PROJECT PARTICIPANTS' CONTRIBUTION TOWARDS THE PROJECT FROM INITIAL PHASE TO FULLY-FLEDGED PRODUCTION PHASE

The majority of project participants (64%) and extension officer respondents (69%) indicated that project participants' contribution related to infrastructure was less significant and even totally insignificant.

Project participants (93%), however, indicated a significantly more, and a very significant contribution in the form of labour, towards the projects and towards production input (95%). According to De Graaf (1986:17-26), people will contribute resources in the form of labour if the activity is theirs and is controlled by them. Since the majority (93%) of project participants contributed labour, this is a positive indication that they will take care of the project and this could contribute to project success

Recommendation:

Extension officers (project managers) must ensure that the needs for infrastructure and other equipment are being addressed and managed effectively.

All participants need to be trained in all aspects of labour legislation and labour relations.

9.9 THE EXTENT OF COLLABORATION OF PROJECT MEMBERS

Clear evidence was found that project participants (64%) do collaborate and work with one another and the extent of collaboration was often (45%), while 31% indicated that they collaborate very often.

Recommendation:

It is recommended that project participants, extension officers and all other stakeholders be exposed to the "six-step process to establish collaboration" (Swanepoel & de Beer, 2006:22-23) and that they should evaluate the collaborative process on a continual basis.

9.10 THE EXTENSION AND OTHER SUPPORT SERVICES AS PERCEIVED BY PROJECT PARTICIPANTS AND EXTENSION OFFICERS

The study revealed that 60% of extension officer respondents participated at the initial phase of the project, but only 22% were involved in the planning phase and only 13% at implementation. Significantly more project participants than extension officer respondents perceived and indicated that extension officers should be playing a role in: organising and chairing meetings (90%); linking projects to donors (76%); developing a business plan (90%); providing training on production-related issues (90%); monitoring production (91.9%); assisting with record keeping (81%); linking the project to market (75%); and giving advice on production aspects (62%). Only 29% of project respondents indicated that the value of advice received from extension officers is very good.

Recommendation

According to GFRAS (2012), the extension officer has to fulfil a wide range of roles. These include developing networks, organising producers, facilitating access to credit, inputs and output service, conveying information platforms, promoting gender equality, and disseminating new knowledge through training and demonstrations.

It is, therefore, recommended that it be ensured that extension staff have a good understanding of technical (agriculture) information and are able to manage social processes (the science of extension).

They must have capacities to put in place systems and procedures to manage human and financial resources, to facilitate partnerships and deal with legal and regulatory issues. The re-training of current extension staff will enable them to deliver a service of excellence and advice that is of high value to project participants.

9.11 THE IMPORTANCE OF INFORMATION SOURCE

Only 38% of project participants perceived fellow farmers, at the same production level, as an important source of information, while only 33% perceived commercial farmers as an important source of information.

Recommendation

It is recommended that potential mentors, who are knowledgeable and experienced in farming and who are willing to mentor project participants, be identified and linked with the project participants.

It is also recommended that project participants be linked with researchers, who are sources of relevant subject material, as specialists with the projects, as well as with co-operatives, agricultural colleges and universities, where applicable.

9.12 OBJECTIVE 5

To identify and develop measures of participation essential for future policy development in the North West Province.

9.12.1 Model/structure for participation

Finally, factors to be considered to ensure participation:

1. The environment: soil, water, vegetation, climate, undertake a reconnaissance survey to determine the potential of the farm, project type and possible risks.

2. Determine the strength of knowledge support available: Extension and other role players/stakeholders/third parties.

3. Selection of project participants/farmers: – use of a scientific screening instrument to select participants with the best chance of success.

    3.1 Establish a management committee and constitution that emphasises that project participants take ownership of the project.

    3.2 Determine project participants' knowledge/skills regarding the commodity and other farming skills/experience.

    3.3 Determine project participants' needs/problems/aspirations (felt needs).

    3.4 Determine project participants' training needs.

    3.5 Through a process of conceptualisation with project participants, link their felt needs to real needs of the project (the farming operation).

4. Establish a communication channel to communicate regularly with all role players.

5. Develop a business plan for the project, and ensure that all role players are involved.

    5.1 Register a project as a legal entity.

    5.2 Link the project produce to a market.

    5.3 Determine project participants' and extension officers' knowledge of: (i) The commodity, (ii) Special design requirements, machinery, transport, production quality assurance, and labour requirements.

6. Develop a training programme for project participants and extension officers: (i) Before the project start, (ii) During the project (on-going).

    6.1 Determine time to be devoted to the project for both project participants and extension officers.

    6.2 Determine the role of all other stake holders/third parties and give special attention to the role of project participants and extension officers.

7. Establish and implement a monitoring and evaluation system.

7.1 Monitoring:

(a) Purpose: What is to be monitored?

- Physical and financial resources
- Quality control
- Human resource performance
- Achievement of project objectives

(b) Some principles to adhere to:

- Simple
- Timely
- Relevant
- Participatory
- Flexible
- Action oriented
- Cost-effective

7.2 Evaluation:

(a) The beginning, answer the following questions:

- Does the project work?
- How can it be improved?
- Is the project worthwhile?
- Are other alternatives that can be better?
- Is the project goals appropriate and useful

(b) What do you want to know?

- Project output
- Process
- Formative

- Impact
- Cost effectiveness
- Project accomplishment

(c) steps for project evaluation

- Engage project beneficiaries and stakeholders
- Focus on: purpose, use, questions, indicators and design of evaluation
- Collect data: source, methods, schedule
- Data analysis: process, analyse, interpret, state what you learned and limitations
- Use of information: share findings and lessons learned, use in decision making and determine the next step

8. Implement the project.

8.1 Manage the project according to set objectives (business plan) use the PROPEL management approach.

8.2 Communicate process continuously with all role players/stakeholders/the broader community and the leadership structure in the community.

9. Ensuring and promoting participation throughout the life cycle of the project.

Table 9.1: The Involvement of project participants throughout the life cycle of a project

PROJECT PHASES AND ISSUES TO BE DISCUSSED OR RESOLVED			
PROJECT PHASES	**OBJECTIVES**	**ISSUES TO BE DISCUSSED OR RESOLVED**	**WHO SHOULD BE INVOLVED**
1.CONCEPTUAL/ CONSIDERATION	To determine people, their objectives, requirements and resources needed for project implementation	➢ Vision of the project ➢ Customer requirements ➢ Identification of stakeholders and brief ➢ Definition of key performance indicators ➢ Generate and evaluate alternative solution ➢ Determination of the best solution and assess its risks ➢ Develop a plan for the planning stage and present a preliminary plan ➢ Develop provisional baseline for decision making ➢ Expectations ➢ Needs ➢ Deliverables ➢ Specifications ➢ Constraints ➢ Scope	Project participants, extension officers, stakeholders, community
2. PLANNING/ PREPARATION	Plan the project	➢ Identify what is to be done ➢ Feasibility of the project ➢ Develop work breakdown structure (WBS) for implementation phase ➢ Determine contractors to perform tasks ➢ Prepare provisional milestone for the next decision making milestone ➢ Detailed design ➢ Project preparation ➢ Project business plan ➢ Determining project pipeline ➢ Project prioritisation ➢ Project negotiation ➢ Project estimates ➢ Schedules (milestones, check points, critical path analysis, resources) ➢ Plan (financial, communication, manpower, resources) ➢ Risk and contingency, change and conflict	Project participants, extension officers

		➢ Presentation to stakeholders, get commitment and check	
3.IMPLEMENTATION	Execute the plan	➢ Contract out ➢ Perform WBS ➢ Launch corrective action ➢ Construction of the project ➢ Design approval ➢ Funds released ➢ Product management ➢ Personnel management ➢ Operational plan ➢ Start, initiate the project ➢ Performance management and motivation ➢ Manage the change and requests ➢ Manage progress (milestones, check, anticipate, re-plan , monitor and evaluate) ➢ Quality assurance (measure, contingency management) ➢ Communication at all times (meeting, feedback) ➢ Manage expectation	Project participants, extension officers
4. MONITORING	Monitor the plan	➢ Monitor implementation progress	Project participants, extension officers, consultants, external stakeholders
5. EVALUATION	Evaluate progress of plans	➢ Evaluate project performance ➢ Evaluate reports ➢ Post mortem	Project participants & extension officers

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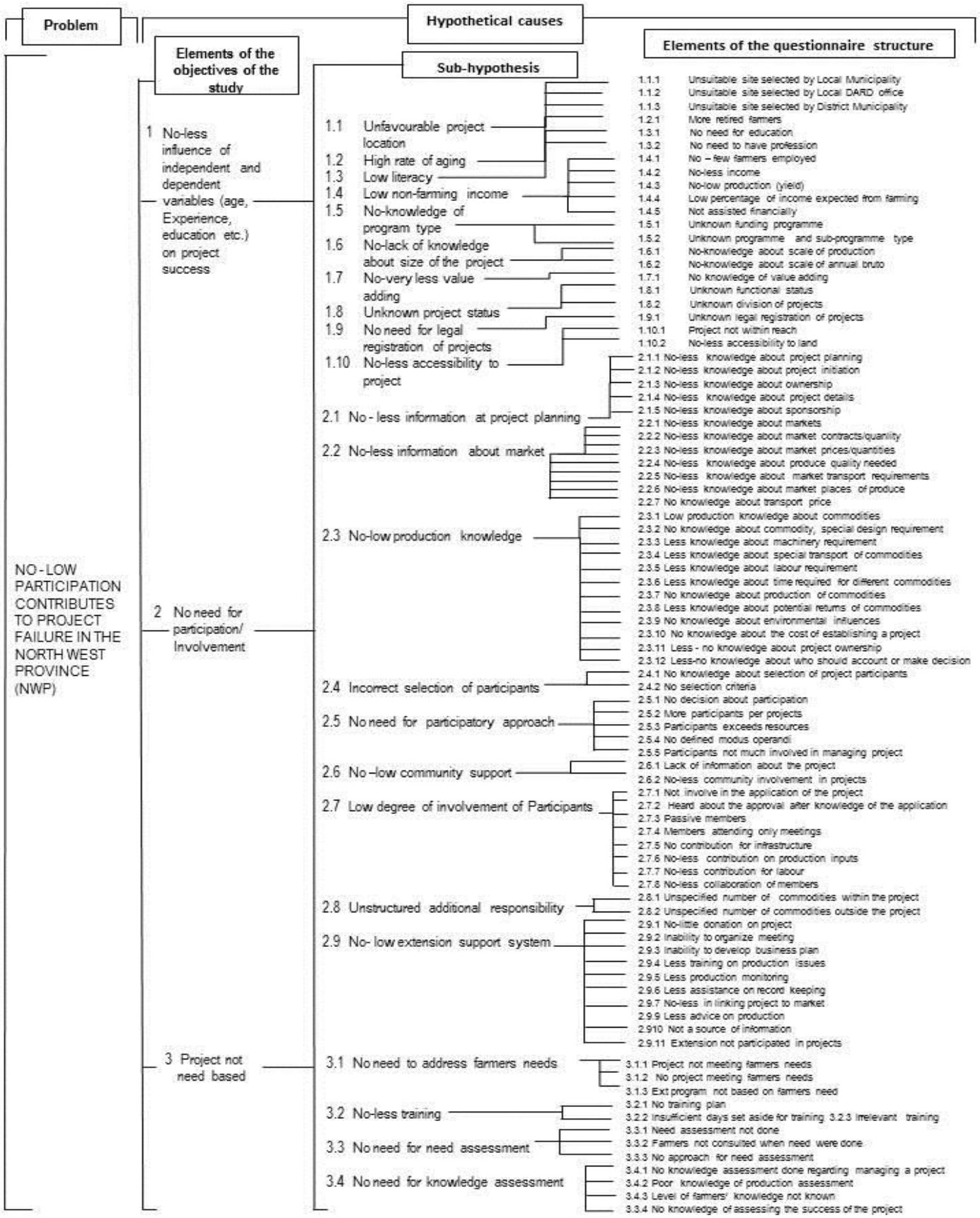
PROBLEM CONCEPTUALISATION STRUCTURE



QUESTIONNAIRE (For Project Participants and Extension Officer Respondents)

A DESCRIPTION OF SOCIO-ECONOMIC ASPECTS OF PROJECT PARTICIPANTS AND EXTENSION OFFICER RESPONDENTS

1.1 Names of respondents and projects

(1) Participant's name..... ☐ V1

(2) Extension Officer's name..... ☐ V2

(3) Project name..... ☐ V3

The location of the projects

1.2 Name of the local agricultural development centre (LADC). ☐ V4

.....

1. 3 Name of the district……..... ☐ V5

(1) Bojanala

(2) Dr Ruth Segomotsi Mompati (Bophirima)

(3) Ngaka Modiri Molema (Central)

(4) Dr Kenneth Kaunda (Southern)

1.4 Name of the Local Municipality. ☐ V6

Age of the respondents

1.5. What is your age? ☐ V7

(1) < 30

(2) 30 – 39

(3) 40 – 49

(4) 50 – 59

(5) 60 – 69

(6) >70

Marital status of the respondents

1.6 Marital status ☐ V8

(1) Married
(2) Single
(3) Divorced
(4) Widow
(5) Widower

Gender of the respondents

1.7 Gender ☐ V9

(1) Male (2) Female

Family size of the respondents

1.8 Family sizes (homestead) ☐ V10

(1) <3
(2) 3 – 6
(3) > 7

Educational qualification of the respondents

1.9 What are your formal educational qualifications? ☐ V11

(1) No education
(2) Grade 1 – 3
(3) Grade 4 – 6
(4) Grade 7 – 9
(5) Grade 10 - 12
(6) Diploma - Degree
(7) Hons / masters

1.10 What is your profession? ☐ V12

(1) Teacher
(2) Priest
(3) Lawyer
(4) Extensionist
(5) Farmer
(6) Nurse
(7) Social Worker
(8) Other professions

Non farming and other farming related income of the respondents

1.11 What is your employment status? ☐ V13

(1) Not employed
(2) Temporary employment
(3) Permanent employment
(4) Self employed
(5) Other means of employment

1.12 In which category do you fall, as far as your total non-farming income per month is concerned ☐ V14

(1) <5000
(2) 5001– 10 000
(3) 10 001 – 15 000
(4) 15 001 – 20 000
(5) 20 001 – 25 000
(6) >25 000

Income of the respondents

1.13 How far are you from the top in terms of your production? ☐ V15

Scale

1	2	3	4	5
Very low	Low	Average	High	Very high

1.14 What percentage of your income do you expect from this project? ☐ V16

(1) > 15%
(2) 16 – 30%
(3) 31 – 45%
(4) 46 – 60%
(5) 61 – 75%
(6) 76 – 90%
(7) ⩾ 91

1.15 How many times you were financially assisted? ☐ V17

(1) Not assisted
(2) Assisted once
(3) Assisted twice
(4) Assisted thrice
(5) Assisted four times
(6) Assisted five times and more

The types of programmes

1.16 Funding programmes ☐ V18

(1) Land Care

(2) CASP

(3) Equitable share

(4) Other funding programmes

1.17 Programme type ☐ V19

(1) Crop production

(2) Horticulture

(3) Livestock

(4) Poultry

(5) Other programmes

1.18 Sub-Programme type ☐ V20

(1) Field crops

(2) Vegetables

(3) Sheep

(4) Layers

(5) Goats

(6) Beef

(7) Piggery

(8) Broilers

(9) Other sub programmes

The size of the projects' production

1.19 Asses the scale of the project's production ☐ V21

(yield/ha, no. of birds, etc)

(1) Very small (4) Large

(2) Small (5) Very large

(3) Medium

1.20 Assess the scale of the annual gross of the project's ☐ V22

production value

(1) Very small (4) Large

(2) Small (5) Very Large

(3) Medium

Value adding of the projects

1.21 What percentage of the project's total yield is processed? ☐ V23

Project status of the projects

1.22 Project status ☐ V24

(1) Dormant (2) Semi-dormant

(3) Reasonably Active (4) Active

(5) Very Active

1.23 Which of the following apply to the project? ☐ V25

(1) Project divided according to farmer's portion

(2) Project partially divided

(3) Project not divided

Legal registration of the projects

1.24 What type of legal entity is this project? ☐ V26

(1) Not a legal entity

(2) Close Corporation (CC)

(3) Agricultural cooperative

(4) Other legal entities

Project accessibility

1.25 Location of the project ☐ V27

(a) Distance

(1) Within residential area

(2) <500m outside the borders of the village

(3) 1km outside the borders of the village

(4) 2km outside the border of the village

(5) ⩾3km outside the borders of the village

(b) Authority level ☐ V28

(1) Village

(2) Ward

(3) Local municipality

(4) District

1.26 Land on which the project is established ☐ V29

(1) Communal land

(2) Private land

(3) State land

(4) Municipal land

(5) Other land categories

2 THE PERCEPTION OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS ABOUT PARTICIPATION IN PROJECTS.

Participation at planning stage

2.1 Who planned the project? ☐ V30

(1) Project participants

(2) Extension Officers

(3) Additional Support services of DARD

(4) Donor and other stakeholders

2.2 Who initiated the project? ☐ V31

(1) Department of Agriculture and Rural Development (DARD)

(2) Individual from the community

(3) The community

(4) Donor and other stakeholders

2.3 Who according to your opinion owns this project? ☐ V32

(1) Project participants

(2) The Community

(3) Department of Agriculture and Rural Development (DARD)

(4) Donor

(5) Municipality

(6) Other government departments

(7) Participating forum

(8) Other stakeholders

2.4 To what detail was the project proposal done? ☐ V33

(1) Not applicable

(2) Very little detail

(3) Some detail

(4) Sufficient detail

(5) Much more detail

2.5 To what extent was your project sponsored? ☐ V34

(1) Fully sponsored for: infrastructure, labour, production inputs

(2) Partially sponsored for: labour and infrastructure

(3) Partially sponsored for: labour only

(4) Partially sponsored for: Infrastructure only

(5) Other sponsorship categories

The market

2.6 Is there a market? ☐ V35

(1) No market

(2) Reasonable market

(3) Good market

(4) Very good markets

2.7 Since commencement of your project has the market ☐ V36

(1) Improved

(2) Remained unchanged

(3) Decreased

2.8 To what degree did the produce meet the market requirements?

(1) Quality ☐ V37

(2) Contract (Quantity and date) ☐ V38

Scale:

(1) Did not meet marker requirements at all

(2) Did not meet market requirements

(3) Market requirements slightly met

(4) Market requirements met

(5) Market requirements met to a large extent

(6) Market requirements totally met

2.9. How do you assess the market in terms of?

(1) Price ☐ V39

(2) Quantity it can absorb ☐ V40

Scale

1	2	3	4	5
Very bad	Bad	Average	Good	Very good

2.10 How does the produce get to the market? ☐ V41

(1) Use own transport

(2) Hire transport

(3) Buyers collect at the farm gate

(4) Other means of transport

2.11 Where is produce sold? ☐ V42

(1) Farm gate

(2) Local community

(3) Open market in townships

(4) Pre-arranged market

(Contract between seller and buyer)

(5 Pensioners pay points

(6) In town

(7) Auction sales

(8) Other suitable marketing places

2.12 What is the percentage of the gross income on transport costs? ☐ V43

Knowledge of production efficiency

2.13 When planning the project commodity did you have knowledge about:

Scale

1	2	3	4	5
No knowledge	Some knowledge	Average knowledge	Above average knowledge	Excellent knowledge

		(a) Before production	(b) Now at interview
(1)	Production status of the commodity in the area	☐ V44	☐ V51
(2)	Special design requirements	☐ V45	☐ V52
(3)	Special machines and equipment requirements	☐ V46	☐ V53
(4)	Special transport requirements	☐ V47	☐ V54
(5)	Quality assurance requirements	☐ V48	☐ V55
(6)	Labour requirements	☐ V49	☐ V56
(7)	Time devoted on the produce	☐ V50	☐ V57

2.14 Which factors were considered when the project was selected?

Scale

1	2	3	4	5
Not Important	Less Important	Important	More Important	Very Important

(a) Selection Factor (b) Importance

(1) Yes (2) No If "yes" rate the importance

(1)	Strength of knowledge support of extension officer	☐ V58	☐ V66
(2)	Costs of establishing a project	☐ V59	☐ V67
(3)	Potential returns (profitability)	☐ V60	☐ V68
(4)	Goals of donors	☐ V61	☐ V69
(5)	Interest of project participants (need)	☐ V62	☐ V70
(6)	Market	☐ V63	☐ V71
(7)	Environmental influence	☐ V64	☐ V72
(8)	Others factors	☐ V65	☐ V73

2.15 How much time do you spend working on the project (hours/week)? ☐ V74

2.16 Place the following in rank order namely:

(1) Participants (2) Community (3) DARD (4) Donor

(1) Ownership ☐ V75

(2) Major decision making ☐ V76

☐☐☐☐

(3) Accountability ☐ V77

☐☐☐☐

Selection of project participants

2.17 Who selected project members? ☐ V78

(1) Leaders of the community (CPA, Headman etc.)

(2) Farmer's organization

(3) Participants volunteered

(4) Department of Agriculture and Rural Development (DARD)

(5) Other institutions

2.18 What selection criteria were used to select participants? ☐ V79

(1) Interest the commodity

(2) Association with community leaders

(3) Imposed on unemployed

(4) Status in the community

(5) Affiliation to the local farmer's organization

(6) Others selection criteria

Participatory approach

2.19 Why did you decide to participate in this project ☐ V80

(1) Increase income

(2) Earn income

(3) They were looking for participants

(4) To keep myself busy

(5) My friends are participating in it

(6) DARD management instruction

(7) Requested by the community

(8) Appreciated the need to participate

(9) Others reasons

2.20 How many participants are in this project? ☐ V81

2.21 In your view how many participants should be in this project? ☐ V82

(1) With the same resources……. ☐ V83

(2) With additional resources…….. ☐ V84

2.22 How do participants operate in this project? …… ☐ V85

(1) Individuals

(2) A cooperative with a management structure

(3) Delegated group working for an individual

(4) Delegated group working for the project

(5) Delegation for interim decision making

(6) Normal community member

(7) Others categories

2.23 To what extent are you involved in the running of the project? ☐ V86

Scale

1	2	3	4	5
Not involved	slightly involved	reasonably involved	Involved	Very much involved

Community support

2.24 To what extent were community members or institutions informed about the project by the time project members were selected? ☐ V87

(1) Not informed

(2) Selected people informed

(3) Many informed

(4) Most people informed

(5) Widely informed

2.25 Which of the following scenario applies to your project? ☐ V88

(1) Community initiates or requests (maintains ownership)

(2) Community initiates or requests (hands over to the service provider)

(3) Department initiates or requests (takes over management and responsibility)

(4) Department initiates or requests (and report to the community)

(5) Department initiates or requests (and not report to community)

The degree of involvement and collaboration of project participants

2.26 What was your involvement in the application of the project? ☐ V89

(1) Not involved

(2) Slightly involved

(3) Involved

(4) Intensively involved

2.27 So far as this project is concerned which of the following applies? ☐ V90

(1) Heard about approval before knowledge of the application

(2) Heard about approval after knowledge of the application

2.28 To what degree are you involved in the project? ☐ V91

(1) Self-responsible individual

(2) Self-responsible manager (Doing it for somebody)

(3) Member of the management team

(4) Passive member but active in attending meetings

(5) Passive member and not attending meetings

2.29 To what degree are you involved in the whole project? ☐ V92

(1) Chairperson

(2) Manager

(3) Secretary

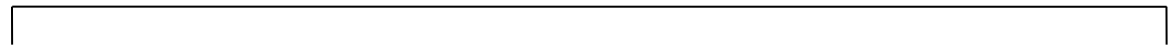
(4) Community member

(5) Attend only annual general meeting

(6) Other responsibilities

2.30 What was your contribution towards the project from initial phase to a fully-fledged production phase?

Scale



1	2	3	4	5
Insignificant	Less significant	Significant	More significant	Very Significant

(1) Infrastructure ☐ V93

(2) Labour ☐ V94

(3) Production input ☐ V95

(4) Other means ☐ V96

2.31 How is the collaboration of the project members? ☐ V97

(1) Working against each order

(2) Working with some individual

(3) Working with one another

(4) Other means of collaboration

2.32 To what extent are the project members collaborating? ☐ V98

(1) Not at all

(2) Slightly

(3) Often

(4) Very often

Additional commitments

2.33 What are you producing?

(1) Within the project: ☐ V99

……

.....

.....

(1.1) How many years have you been producing the same commodity? ☐ V100

(1.2) How many years have you been in this project? ☐ V101

……

(2) Outside the project ☐ V102

……

.....

.....

The extension and other support services

2.34 When did the Ext. Officer started to participate in this project? ☐ V103

(1) Not participated

(2) Initial phase

(3) Planning phase

(4) Implementation phase

(5) Other phases

2.35 To what extent did the institution(s) donate to the project?

Scale

1 2 3 4 5

No donation | Very little donation | Little donation | Significant donation | Very significant donation

(1) DAFF (National ☐ V104

(2) DARD (Provincial) ☐ V105

(3) Other Governments Departments ☐ V106

(4) Municipality (District) ☐ V107

(5)Municipality(Local) ☐ V108

(6)NGO's ☐ V109

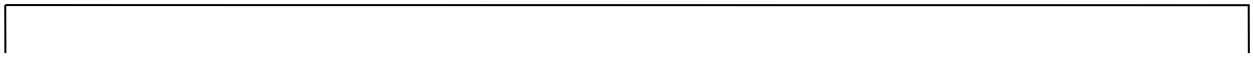
(7) Others Institutions ☐ V110

2.36 Assessment of the support system of the Extension Officers

(a) Which of the following roles did the Extension Officers play?

(b) How competent did they perform the roles?

Scale



1 2 3 4 5

Not competent | Less competent | Competent | More competent | Very competent

(a) Roles: (b) Competence

(1) Yes (2) No (If yes assess competence)

(1) Organizing meeting and chairing them ☐ V111 ☐ V118

(2) Linking project to donors ☐ V112 ☐ V119

(3)	Development of business plan	☐ V113	☐ V120
(4)	Providing training on production related issues	☐ V114	☐ V121
(5)	Monitoring production	☐ V115	☐ V122
(6)	Assisting with record keeping	☐ V116	☐ V123
(7)	Linking project to market	☐ V117	☐ V124

2.37 To what extent were you advised by your local Extension Officer on your production? ☐ V125

(1) Not at all

(2) Not enough

(3) Enough

(4) More than enough

2.38 How do you value the advice of the Extension officer on your production? ☐ V126

(1) Bad

(2) Fair

(3) Good

(4) Very good

2.39 Place your choice regarding information sources, according to its importance.

Scale

1	2	3	4	5
Not important	Less important	Important	More important	Very important

(1)Fellow farmers operating at the same production level ☐ V127

(2)Commercial farmers operating at a higher level ☐ V128

(3) Co-operatives ☐ V129

(4) Extension officers ☐ V130

(5) Researchers ☐ V131

(6) College/University ☐ V132

(7) Other sources ☐ V133

3. THE PERCEPTION OF PROJECT PARTICIPANTS AND EXTENSION OFFICERS ABOUT THE BENEFICIARIES' NEEDS IN PROJECTS

Need as an intervening variable

3.1 To what degree did this project meet farmer's needs? ☐ V134

(1) Did not meet the needs

(2) Slightly met the needs

(3) Met the needs

(4) Mostly met the need

(5) Met all the needs

3.2 Which other project met farmer's needs ☐ V136

3.3 The content of choice of extension programmes to assist participants are based on what ☐ V137

(1) Calculated impact
(2) Comparative impact
(3) Extension Officer's needs
(4) Departmental needs
(5) Political need
(6) Other content of choice of extension programmes

Training as an intervening variables

3.4 How many days of formal training did you get since the initial phase of the project?…….. ☐ V138

3.5 How many days of formal training do you need per annum to help you produce optimally? …….. ☐ V139

3.6 How do you judge the relevance of training in terms of what you produce? ☐ V140

Scale

1	2	3	4	5
Very much relevant	Irrelevant	Relevant	More relevant	Very relevant

Needs assessment

3.7 How often were needs assessed by extension? ☐ V141

(1) No assessment was done

(2) Once a year

(3) Once in two years

(4) Continuously

(5) Other categories of need assessment

3.8 Were you consulted when your needs were assessed by extension officers? ☐ V142

(1) Not consulted

(2) Consulted

(3) Some farmers were consulted

(4) Community was formally consulted

(5) Other forms of consultation

3.9 How were the project's needs assessed? ☐ V143

(1) Participatory rural appraisal (PRA)

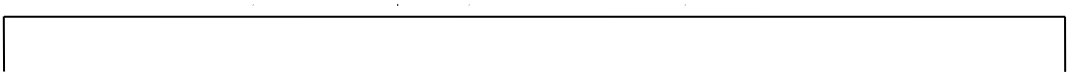
(2) Questionnaire

(3) Other means of need assessment

Assessment of production knowledge

3.10 How do you assess your knowledge with regard to successfully managing the project? ☐ V144

Scale



1	2	3	4	5
Very low knowledge	Low knowledge	Average knowledge	High knowledge	Very high knowledge

3.11 What was your level of knowledge at the beginning of the project? ☐ V145

Scale

1	2	3	4	5
Very low Knowledge	Low knowledge	Average knowledge	High knowledge	Very high knowledge

3.12 How do you assess the production of this project? ☐ V146

(1) Very poor

(2) Poor

(3) Average

(4) Good

(5) Very good

3.13 How do you assess the functioning of this project? ☐ V 147

(1) Very poor

(2) Poor

(3) Average

(4) Good

(5) Very good

3.14 How do you assess the general success of this project? ☐ V148

(1) Not successful at all

(2) Not successful

(3) Slightly successful

(4) Successful

(5) More successful

(6) Totally successful