Perceptions and attitude of farmers and extensionists towards extension service delivery in the Free State Province, South Africa

by

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Submitted in partial fulfilment of the requirements for the degree

MInst Agrar in Agricultural Extension

In the

Faculty of Natural and Agricultural Sciences

University of Pretoria

Pretoria

2016

ABSTRACT

Perceptions and attitudes of farmers and extension officers towards extension service delivery in Fezile Dabi district in Free State Province

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Agricultural extension plays a pivotal role in most developing countries and is responsible for promoting the latest agricultural technologies among the people of the farming community in order to ensure sustainable agricultural growth. However, research shows that agricultural extension services has been performing poorly especially to small scale farmers in South Africa and other developing countries. Extension credibility is highly questionable and therefore the introduction of Extension Recovery Plan (ERP) in South Africa. The purpose of this report was to determine the effectiveness of agricultural service delivery as perceived by both extension officers and farmers in the Fezile Dabi District of the Free State Province and secondly to evaluate the impact of Extension Recovery Plan (ERP) used towards the improvement of extension service delivery in Fezile Dabi District. Farmers look upon the extension officers as technical advisors to provide them with information and advice that will enable them to obtain higher returns. A structured questionnaire was administered amongst 200 smallholder farmers randomly selected, and 15 extension officers from four local municipalities of Fezile Dabi district, namely Metsimaholo, Moqhaka, Mafube and Ngwathe.

The majority of respondents (87%) perceive the role of extension agents as a critical source of relevant information. 93.5% of the farmers indicated that they regard their extension officers as competent technical and social in performing the extension services. Although there are many agricultural development programmes roll out, only 20% of farmers in the district is participating in these programmes. The farmers did not perceive improvement of extension

service delivery, since the inception of Extension Recovery Plan in the district, although they have indicated an improvement in on farm production. The results show that extension staff have perhaps benefitted more from the ERP programme than the farmers.

Some of the key recommendations are that linkages between the extension officer, farmers and research should be strengthened as the funding system for agricultural projects and programmes should be revised and more land should be made available to deserving farmers farming on commonage and communal land. Although one of the objectives of the Extension Recovery Plan programme was to improve communication between extension officers and farmers with the provision of Information and Communication Technology tools, farmers did not perceive any improvement in communicating with extension agents and this should urgently be addressed by extension management.

ACKNOWLEDGEMENT

I wish to express my sincere gratitude to the following individuals that contributed directly and indirectly to the completion of this study:

- My supervisor, Dr. JB Stevens, for the hard work, guidance and dedication in supervising me through the course of the study.

- Mrs Joyce Jordaan for analysing the statistics for data collected.

- The extension officers and farmers who sacrificed their time, who were patient during the interview and provided their valuable inputs in sharing their perceptions.

- The officials of the Department of Agriculture and Rural Development- Free State, in the province and districts who were contacted and contributed accordingly.

- My daughter Palesa and my family and friends for their words of encouragement and continued support.

The Almighty God who made all this work possible for me.

DECLARATION

I declare that this dissertation, submitted for the degree of MInst Agrar in Agricultural Extension at the University of Pretoria, is my own work and has not been previously submitted by me or anyone else for the degree at any other University. All the sources quoted have been acknowledged by references.

Signature_____

DEDICATION

To my dear parents, Mantsieng Maria and Lesolathebe David Sebeho, who are already late and to my beautiful beloved daughter, Palesa Precious Sebeho.

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ACRONYMS AND ABBREVIATIONS

AFASA	African Farmers Association of South Africa
AVMAP	Animal and Veld Management Programme
CAADP	Comprehensive Africa Agricultural Development Programme
CASP	Comprehensive Agricultural Support Programme
ERP	Extension Recovery Plan
DAFF	Department of Agriculture, Forestry and Fisheries
DARD	Department of Agriculture and Rural Development
DoA	Department of Agriculture
DRDLR	Department of Rural Development and Land Reform
ESO	Extension Suit Online
FAO	Food and Agricultural Organisation
FEA	Female Entrepreneur Award
FSGDS	Free State Growth and Development Strategy
GDP	Gross Domestic Product
GFRAS	Global Forum for Rural Advisory Service
ICT	Information and Communication Technology
IDP	Integrated Development Programme
LARP	Land and Agrarian Reform Projects
LRAD	Land Redistribution for Agricultural Development
LED	Local Economic Development
MEC	Member of Executive Council
NAFU	National African Framers Union
NGO	Non- Governmental Organisation
NPC	National Planning Commission
NDP	National Development Plan
PLAS	Pro-Active Land Acquisition Strategy
RECAP	Recapitalisation and Development Programme

SADC	Southern African Developing Countries
SASAE	Southern African Society for Agricultural Extension
SACNASP	South African Council of Natural Scientific Profession
SAS	Statistical Analysis System
SLAG	Settlement Land Acquisition Grant
WARD	Women in Agriculture and Rural Development

CHAPTER 1

INTRODUCTION

1. INTRODUCTION AND BACKGROUND TO THE STUDY

In many developing countries, half or more of the rural population live in poverty. Fifty per cent of the poor is women, many of whom are responsible for farming. Worldwide, only 6% of time and resources are allocated to this clientele. The poor in general, particularly the women, youth and the landless have been largely excluded from extension programmes. Government policy, investment and services including extension have generally favoured farmers with large areas of the best land and resources to exploit in the expectation that total food supply and national income would increase most rapidly as indicated in the National Development Plan (DAFF, 2009).

Agricultural extension has long been seen as a key element for enabling farmers to obtain information and technologies that can improve their livelihoods and is recognised as an important factor in promoting agricultural development (Bembridge, 1991). Agriculture constitutes the backbone of most economies in developing countries. Agricultural extension services operates in all the developing areas of Southern Africa and is a basic tool in government programmes and projects to bring about changes in agricultural production and raise rural living standards. These services are responsible for cooperation with researchers, farmers and farmer organisation, and for planning and implementing programmes and projects for agricultural change within local environments (Bembridge, 1991). Different extension approaches have been identified and promoted in the past several decades based on changes in agricultural development. Agricultural extension has an important role to play for changes to take place.

Change requires credible programmes and projects with good implementation plans. Agricultural extension officers in South Africa play a pivotal role in service delivery to commercial farmers and new farmers that enter agriculture. Adupa & Dűvel (1999) indicate that the agricultural extension service has not been effective in reaching the rural farmers with innovations and

technology. They further mention that the situation is even worse among the women farmers who form the active majority of the many farming population in Africa. Mokone (2004) mentions that extension officers have been criticised for failing to deliver the services to the farmers. This is further confirmed by Dűvel (2000) that South African extension services and extension services in other developing countries has performed poorly especially in relation to addressing the needs of the small holder farmers. He indicates that the extension service in the whole country of South Africa is invisible and that initiated the introduction of Extension Recovery Plan (ERP) in all nine provinces of South Africa during 2008.

The agricultural sector is crucial to rural development and contributes significantly to any initiative to alleviate poverty. For this reason there is a great need for strong extension and advisory services led by government's operations in partnership with relevant role players (DoA, 2005).

Traditionally, agriculture was a livelihood asset to the rural poor when other sources of income fell away. This role was not promoted because of apartheid, but it is still shrinking due to an increase in social grants and employment outside agriculture. Agriculture however has the potential to expand if the necessary environment can be created. Better land use in communal areas has the potential to improve the livelihood of at least 370 000 people (DAFF, 2006; Terblanche, 2010).

1.2 OVERVIEW OF AGRICULTURE IN SOUTH AFRICA

The Republic of South Africa is situated at the southern tip of Africa. It is bordered to the north by Namibia, Botswana, Zimbabwe and Mozambique, in the west by the Atlantic Ocean and in the south and east by the Indian Ocean (Palmer & Ainslie, 2015).

Agriculture, which includes all economic activities from provision of farming inputs, farming and value adding, remains an important sector in South African economy despite its small direct share of the total gross domestic product (GDP). Primary agriculture accounts for 4.5% of the

GDP of South Africa, while the larger agro-food complex accounts for another 9% (DAFF, 2014 a).

With a surface area of 1.2 million kilometres and a population of 46.9 million, South Africa is one of the largest countries on the African continent and has seven climatic regions, from Mediterranean to subtropical to semi-desert. It is also the largest African economy, with a per capita gross domestic product (GDP) of more than four times the African average (DAFF, 2006). South Africa consists of nine provinces being Gauteng, Western Cape, Northern Cape, Eastern Cape, Kwa-Zulu Natal, Free State, North West, Mpumalanga and Limpopo.

South Africa has a dual agricultural economy, with both well-developed commercial farming and more subsistence based production in the deep rural areas. The biodiversity together with a coastline 3 000 kilometres long and served by eight commercial ports, favours the cultivation of highly diverse range of marine and agricultural products, from deciduous, citrus and subtropical fruit to grain or field crops, wool, cut flowers, livestock and game (DAFF, 2006). Agriculture in South Africa contributes around 10% of formal employment, relatively low as compared to other parts of Africa as well as providing work for casual labourers and contributing around 2.6% of GDP for the nation (DAFF, 2006). While 13.5% of South Africa's land can be used for crop production, only 22% of this is high potential arable land. South Africa's limitation is the availability of water with uneven and unreliable rainfall, poor land quality and highly variable climatic conditions. About 50% of South Africa's water is used for agriculture and about 1.5 million hectares are under irrigation (DAFF, 2006). The National Development Plan indicates that agriculture is the primary activity in rural areas and has the potential to create close to one million new jobs by 2030 and to achieve this there is a need for South Africa to:

- Expand irrigated agriculture - evidence shows that 1.5 million hectares under irrigation can be expanded by at least 500 000 hectares through the better use of existing water resources and developing new water schemes
- Convert some under-utilised land in communal areas and land reform projects into commercial production

- Pick and support commercial agriculture sectors and regions that have the highest potential for growth and employment
- Support job creation in the upstream and downstream industries
- Find creative combinations between opportunities for example emphasis on land can benefit from irrigation infrastructure
- Develop strategies that give new entrants access to product value chains and support from better resourced players.

Agricultural activities include intensive crop production and mixed farming in winter rainfall and high summer areas, cattle ranching in the veld and sheep farming in the arid regions.

South Africa contains three major soil regions. East of approximately longitude 25^0 E, soils have formed under wet summer and dry winter conditions. A second major region lies within an area receiving year-round precipitation in Western Cape and Eastern Cape and generally contains grey sandy and sandy loam soils. Most of the rest of the country is dry. More than a third of the country's soils are shallow with minimal development. South African cultivated soils are generally very low in organic matter and are susceptible to wind erosion. They are also susceptible to acidification through cultivation and nitrogen fertilisation and a liming strategy is indicated under normal cultivation practices of which is true for leached soils in higher rainfall areas (Palmer & Ainslie, 2015).

More than 60% of the country receives rainfall less than 600 mm per annum and approximately one fifth of the country receives less than 200mm per annum. The southern coastal region of the Western Cape Province receives rainfall throughout the year, while the rest of the province gets its rainfall in winter. The remainder of the country is classified as summer rainfall area. 80% of South Africa is semi-arid to arid and only 18% is dry, sub-humid to humid (Palmer & Ainslie, 2015). The low rainfall regions have the highest co-efficient of variation. Annual rainfall is skewed such that there are more below average than above average rainfall years and the median is a more meaningful than a mean hence drought conditions are a common phenomenon Schulze (1997) as quoted by Palmer & Ainslie (2015). Table 1.1 indicates the distribution of annual rainfall in South Africa.

Table 1.1: Annual rainfall distribution and climatic classification in South Africa (Palmer & Ainslie, 2015)

Rainfall (mm)	Classification	Percentage of land surface
< 200	Dessert	22.8
201-400	Arid	24.6
401-600	Semi-arid	24.6
601-800	Sub-humid	18.5
801-1000	Humid	6.7
>1000	Super-humid	2.8

Maize is mostly grown, followed by wheat, sugar cane and sunflower. Maize is regarded as the country's most important crop because it is a dietary staple, a source of livestock feed and an export crop in the country (DAFF, 2014a). Citrus and deciduous fruits are exported including wines and flowers. South Africa is the leading exporter of protea cut flowers which account for more than half of the proteas sold on the world market (Palmer & Ainslie, 2015). South Africa is not only self- sufficient in all major agricultural products but it is also a net food exporter. Wine, citrus, maize, grapes, sugar, apples, pears and quinces including agro-processing products such as under-mature ethyl alcohol and hides and skins are exported. It is indicated that Europe is by far the largest destination absorbing almost one half of the country's agricultural exports while agricultural imports are also growing but less rapidly than exports, accounting for 5-6 % of total annual imports since the year 2000 (DAFF, 2014a).

The sector significance is largely because of its potential to create jobs of which is the key focus of the New Growth Path which is the plan by the government to create five million jobs by 2020 (DAFF, 2006). The growth plan includes the programmes promoting commercially oriented small scale farming. Support is rendered to small holders by various role-players on land acquired through the land reform programme. The Department of Agriculture Free State is encouraging small holder farmers in the Free State to develop from subsistence to commercial farmers for them to be able to export their produce and improve the rural income.

The South African agricultural extension service is challenged to improve food security, develop the rural areas through agricultural activity and to create sustainable jobs in farming. This is

promoted through the transfer of information and technologies to farmers in order to increase sustainable agriculture (van Niekerk, Stroebel, van Rooyen, Whitfield & Swanepoel, 2011). Agricultural extension service should and needs to play an important role in assisting the small scale farmers with the necessary resources like improved infrastructure, training, availability of funds, inputs and markets to improve the livelihoods.

South Africa's rural communities should have greater opportunities to participate fully in the economic, social and political life of the country by 2030 (DAFF, 2009). It further indicates that rural economies will be supported by agriculture and where possible by mining, tourism, agro-processing and fisheries. In its vision it mentions that there should be better integration of rural areas in the country and this should be achieved through successful land reform, job creation and poverty alleviation.

Various authors have defined extension in many different ways. Van den Ban and Hawkins (1988), Van de Plassche (1953), Williams (1986) as quoted by Mokone (2004) indicates that the most comprehensive definition of extension is one by Chang (1962) " An informal, out of school educational service for training and influencing land holders and their families to adopt improved crop and livestock practices, management, conservation and marketing. Concern is not only in teaching and achieving adoption of a particular improved practice but with changing the outlook of land-holders to the point where they will be receptive to and on their own initiative continuously seek means of improving their livelihood and homes".

According to Stevens (2008) there is no single comprehensive definition of extension that is applicable and universally accepted to all situations. It is dynamic and thus its interpretation is always changing. Often the combination of various components of an extension organisation's definition of extension is a matter of tradition. Too often, extension becomes what the persons want it to be. Therefore the meaning of extension often lies in the eye of the beholder.

According to Global Forum for Rural Advisory Services-GFRAS (2012) defines extension services as consisting of all the different activities that provide the information and services needed and demanded by farmers and other actors in rural settings to assist them in developing

their own technical, organisational and management skills and practices so as to improve their livelihoods and well-being. It recognises the diversity of actors in extension and advisory provision (public, private, civil society); much broadened support to rural communities (beyond technology and information sharing) including advice related to farm, organisational and business management; and facilitation and brokerage in rural development and value chains.

1.3 OVERVIEW OF CURRENT AGRICULTURE SITUATION IN THE FREE STATE

The Free State, in Afrikaans: Vrystaat, in Sotho: Foreistata and before 1995 the Orange Free State is a province of South Africa. The Free State lies on flat boundless plains in the heart of South Africa with the Kingdom of Lesotho nestling in the hollow of its bean-like shape. It is lying between the Vaal River in the north and the Orange River in the south with almost all land being 1000 metres above sea level. The Free State is the third largest province in South Africa in terms of the area, slightly bigger than the Western province, with the total area of 129 825 square kilometres or 10.6% of South Africa's land area. The capital city of Free State Province is Bloemfontein (Palmer & Ainslie, 2015). Free State Province borders more provinces of South Africa than any other province - Kwa-Zulu Natal, Eastern Cape, Northern Cape, North West, Gauteng and Mpumalanga. It further borders seven districts of Lesotho namely, Mokhotlong, Butha- Buthe, Leribe, Berea, Maseru, Mafeteng and Mahale's Hoek (Palmer & Ainslie 2015).

It has the population estimated at 2.7 million and recently estimated to grow at an annual rate of about 0.23%. 64.2% of its population speak South Sotho, 12.7% Afrikaans, 7.5% isiXhosa, 5.2% Tswana and 4.4% Zulu. The rich soil and pleasant climate allow a thriving agricultural industry. The province is the granary of South Africa with agriculture central to its economy, while mining on the rich goldfields reef is its largest employer (Palmer & Ainslie, 2014).

The province is divided into five district municipalities namely, Fezile Dabi, Xhariep, Lejweleputswa, Thabo Mofutsanyane and Mangaung Metro which was formerly known as Motheo and Figure 1 is the map showing the five districts of Free State Province

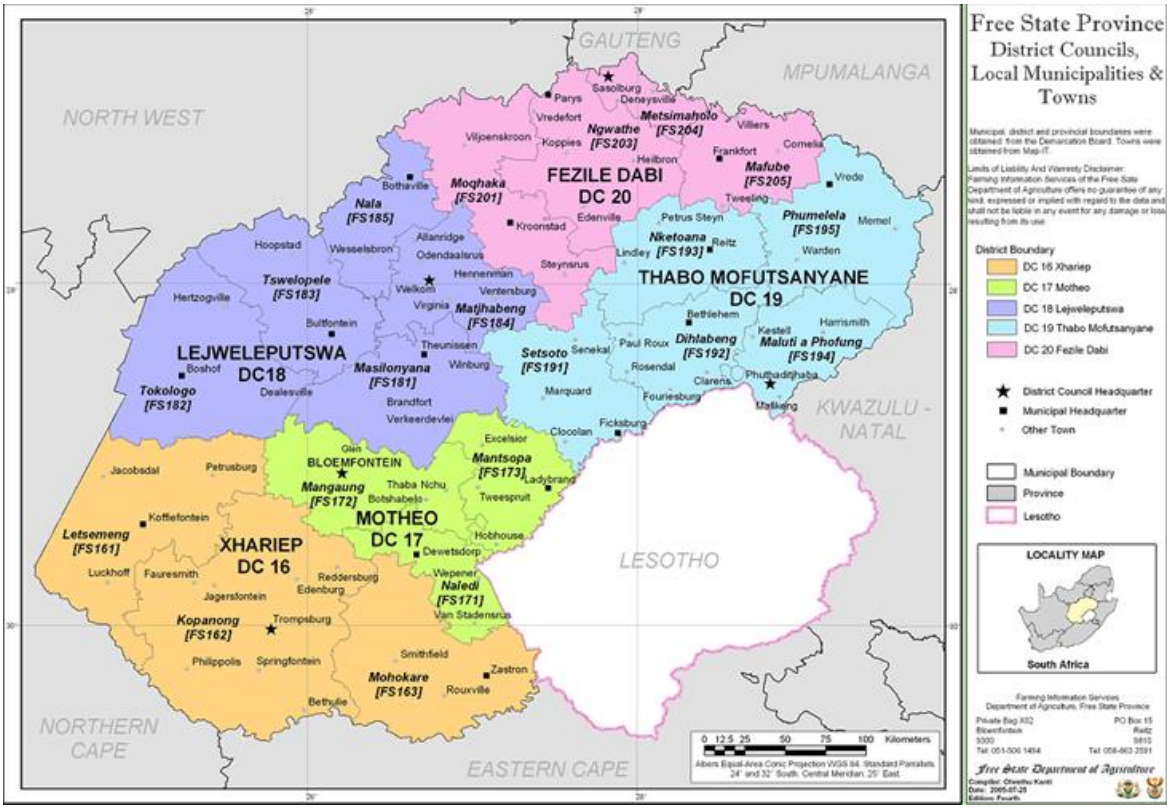

Figure 1.1: Free State Province in terms of local municipalities and districts boundaries

Agriculture has always been considered to be the main sector for the province's economy. Despite other sectors having surpassed agriculture in their contribution to the province's economic growth in the recent years, the sector continues to dominate Free State's landscape with cultivated lands, natural veld and grazing land (Palmer& Ainslie, 2015). In 2006 agriculture contributed about 4.8% to the economic growth of Free State, but representing about 14% of the total agricultural sector in the country (Palmer & Ainslie, 2015). The Free State Province is considered to be the "breadbasket" of South Africa with more than 30 000 farms which produce over 70% of the countries grain. Agriculture dominates the province with cultivated lands covering 3.2 million hectares while natural and grazing a further 87 000 square kilometres of the province. From a census that was conducted in 2002 (Bureau of Statistics South Africa, 2002) there were 45 818 active commercial farming units in South Africa in 2002, a decrease of 12 162 farming units since the last census conducted in 1993.

Of the 45 818 commercial farming units in South Africa, the highest number (8 531 units) was situated in Free State followed by the Western Cape with 7 185 units and Northern Cape with 6 114 units. Field crops yield almost two third of the gross agricultural income of the province, while animal products contribute about 30%. Free State is a summer rainfall area with extreme cold winter months. The western and southern areas are semi-dessert and mainly small stock (sheep and goats) and ostriches farming are produced in this part of the province. It is also South Africa's leader in the production of fuel from agricultural crops (Palmer & Ainslie, 2015). Agricultural production in the province include maize, wheat, sorghum, sunflower, potatoes, red meat, vegetables, dry beans, fruits, peanuts, wool, dairy and cherries. Ninety per-cent of the country's cherry crop is produced in Ficksburg in Free State which is also the place of the country's two largest asparagus canning factories. Soybean, sorghum, sunflower and wheat are cultivated in the eastern part of Free State. About 40% of the country's potato yield comes from the Free State province (Palmer & Ainslie, 2014). Support is rendered to small holders by various role-players on land acquired through the land reform programme. Table 1.2 indicates commodities that are mainly produced in different districts of Free State Province.

Table 1.2: The districts and main commodities produced

DISTRICTS	PRODUCTS
Fezile Dabi	Maize, sorghum, sunflower, red meat, peanuts, dairy
Lejweleputswa	Maize, sunflower, red meat, vegetables, peanuts, dairy
Xhariep	Wheat, potatoes, red meat, vegetables, peanuts, wool
Mangaung Metro	Red meat, vegetables, wool
Thabo Mofutsanyane	Maize, wheat, sunflower, potatoes, red meat, dry beans, fruits, wool, dairy, cherries

***Source*: DARD (2014)**

Bureau of Statistics South Africa (2002) recorded that the 2013/14 season, soya beans were grown primarily in the Free State (42%) and Mpumalanga (40%). For the first time on record, the planting in the Free State exceeded that of Mpumalanga. The Province's output for the 2013/2014 financial year was recorded at R6.2 billion, an increase of R309 million when compared to the R5.9 billion recorded in 2004. The role of the public sector in a country is

usually shaped to a large extent by the national agricultural development goals (DAFF, 2009). The vision of the Department of Agriculture and Rural Development in Free State Province (DARD, 2014) states it to be a leader in the field of agriculture which ensures that there is a place for those who wish to farm and achieve social and economic development for the community through the services it deliver and further indicates in the mission is to provide agricultural development and support to the people of the Free State through:

- Commitment to new and established farmers
- Cooperation with all stakeholders
- Innovative and creative research and development

1.4. OVERVIEW OF THE SMALL SCALE FARMING SECTOR IN THE FREE STATE

After 1994, agricultural extension in South Africa has undergone a drastic change from a dualistic service (separate services of the commercial and small scale farmers) to a single amalgamated service, focusing almost completely on previously disadvantaged small holder farmers (Dűvel, 2004). The agricultural sector is critical to the well-being of the province both as the provider of food and as a major employer. About 12% of the Free State's working age is employed in the agricultural sector (Department of Agriculture and Rural Development, 2015).

Three types of agriculture production systems are identified and grouped in terms of agro-climatic and socio economic characteristics. This also illustrates the challenges posed for the various agricultural based institutions in the province. The first two types of agricultural production systems namely the 1; high input, high yielding production systems and 2; the high capacity areas of the tropics both face problems of over production and surpluses, while the third type of agricultural production system consist of poorest and vulnerable rural households with few resources beyond the labour from their own families to offer (Palmer & Ainslie, 2015). According to FAO database (2006) there are two widely disparate types of production system. In the freehold farms there are clear boundaries, exclusive rights for the individual properties and commercial production objectives. The commercial farming sector is well developed, capital-intensive and largely export oriented. The communal land tenure system hampers the introduction and adoption of improved management practices, in which there are often unclear

boundaries, generally open access rights to grazing areas and the farmers are subsistence oriented (Palmer & Ainslie, 2015). Nationally, beef production is the most important livestock related activity followed by small stock (sheep and goat) production (Palmer & Ainslie 2015). The Free State small farming sector is characterised by low and uncertain rainfall, little irrigation potential, roads not in good conditions, land degradation, low yields and therefore no income. Small holder farmers are producing largely to meet part of their family's total needs and are involved in mixed farming. These farmers also supply local and regional market to some extent (Palmer & Ainslie, 2015). The following key activities have been identified to assist the small holder farmers in the Free State as outlined in the National Development Plan (2009):

- Expand irrigated agriculture, for example revitalization of Thaba-Nchu Irrigation scheme in Mangaung Metro.
- Focus on under-utilised land in communal areas and land reform projects for commercial production through Animal and Veld Management Programme (AVMAP).
- Pick and support commercial agriculture sectors and regions that have the highest potential for growth and employment. Identify five black small holder farmers per district and support them through Fetsa Tlala programme. The aim of the programme is to assist smallholder farmers with production inputs for example, 1) purchasing of beef cattle for farmers who are involved in livestock production and 2) purchasing of seeds, fertilizers and diesel for farmers who are involved in crop production.
- Support job creation in the upstream and downstream industries through poultry hubs, fish and dairy production and processing.
- Develop strategies that give new entrants access to product value chains and support them from better resourced players as indicated in the Strategic and Annual Performance plan of Department of Agriculture and Rural Development.

In 2014/15 financial year the Department of Agriculture and Rural Development contracted 25 mentors for the five districts and are mentoring agricultural projects that are in production, especially to assist in improving production and marketing of produce.

The introduction of Extension Recovery Plan in 2008 was to assist the extension officers to better their services to farmers. For this to happen there was a need for extension officers,

researchers and farmers to plan together for better extension service delivery that will improve productivity (Dűvel, 2007). The National Development Plan (2009) recommends that training of a new cadre of extension officers should be introduced to respond effectively to the needs of small holding farmers and contribute to their successful integration into the food value chain. Through observation, newly generated technology may not always be relevant to the needs of poor farmers. According to Kessaba (1989) and Chambers (1983) as quoted by Mokone (2004) extension systems often still evolve around top down supply driven extension approaches, which do not adequately address the socio-economic situation of resource poor holder producers or their requirements. They further mention that it might be ignorance or lack of understanding regarding appropriate extension approach. There are 99 extension officers in the province as reported by the ERP Coordinator working close with Human Resource and serving about 14 000 smallholder farmers in the province as indicated on the Annual Performance Plan.

Table 1.3: Current small holder farming enterprises in the different districts of the province

District	Current farming enterprises
Fezile Dabi	Poultry, vegetables, crops, beef and sheep production
Thabo Mofutsanyane	Dairy, pig and crop production,
Lejweleputswa	Poultry, crops, vegetables and beef production
Xhariep	Fish, sheep and ostriches production
Mangaung Metro	Beef, vegetables and crop production

Source: Author's Compilation (2015)

1.5 ROLE OF DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT IN FREE STATE WITH SPECIFIC REFERNCE TO EXTENSION SERVICE

Agricultural extension services within the Department of Agriculture and Rural Development in Free State falls under the Directorate District Implementation. Its programme is called Farmer Support and Development Programme. The sub-programmes include Farmer Settlement and Support, Extension and Advisory Services and Food Security. These sub-programmes are in line

with the National Development Plan which aims at improvement on economic growth, job creation and food security in the country.

1.5.1 Farmer settlement and support

Land reform is a policy to increase access to land by giving mostly poor people ownership rights and ensuring sustainable use (Xaba and Sibande, 2003). Approximately 5.6% of agricultural land has been transferred to black South Africans through the land reform process. The Department of Agriculture and Rural Development is expected to assist and support all farmers who are settled on the farms. This indicates coordination and support to Land Reform projects by the Department of Agriculture and Rural Development together with Department of Rural Development and Land Reform. It emphasises the support to develop small holder farmers through Comprehensive Agricultural Support Programme (CASP), ILIMA/Letsema fund, Land Care Fund, mechanisation programme and other conditional grants. The introduction of Recapitalisation and Development Programme (RECAP) in the Department of Rural Development and Land Reform is playing a vital role on the farms by assisting with the developments needed. For Fezile Dabi, there are 23 Land Reform farmers who some are unable to produce productively on their farms. About 75% of the LRAD farms purchased do not have water, fence and electricity to name a few not mentioning the production inputs. It forces the small holder farmers to lease their lands to commercial farmers for more than a year. This is confirmed by the contracts signed between the LRAD farmers and commercial farmers. The land is used for planting cash crops and for grazing. The commonages (municipal lands) are usually overgrazed due to allocating more cattle on the land than which the carrying capacity of the specific land stipulates.

1.5.2 Extension and advisory services

Different extension approaches and techniques are used to help farmers to help themselves – the philosophy of agricultural extension. The aim of the sub-programme is to work with the subsistence, small holder and commercial farmers in the district. This is the key responsibility of extension services in the ward or working area, for example, farmers are grouped according to

their interests and assisted according to their requests. Individual contacts are carried out on farms. The Further Education and Training unit in the department contracted mentors to assist in developing the farmers through mentorship programme and currently three mentors are mentoring six projects in Fezile Dabi District (poultry (layers and broilers); vegetables, crop and livestock (beef and sheep) production). These mentors are working in close cooperation with the extension officers of the identified areas. Extension service is also supported by other units of the Department like soil conservation and land care, economics, animal health and project office. Currently there are no trials done with research in Fezile Dabi District. Farmer's and demonstration days including campaigns are organized for farmers where different stakeholders are invited to share the information.

1.5.3 Food security

Malnutrition is the direct course of food insecurity (DAFF, 2009). In South Africa, growth faltering among infants and young children is widespread, with one in five young children being stunted. Food security exists when everyone has access to sufficient, nutritious and safe food at all times. This implies that food is available nationally and locally and that people have the means to access it through purchase or other legal means.

Food Security is a sub programme adopted in the Free State Growth and Development Strategy (FSGDS). It includes the identification, verification and support to food insecure households, community institutions like schools, crèches, churches and clinics and community as a whole with production inputs especially vegetable seeds, advice and technical support in the province. The programme is funded by ILIMA/Letsema fund. The successful implementation of the Re Kgaba ka Diratswana programme which is under Food Security, has received interest from different provinces in the country and Southern African Developing Countries (SADC) attracted international organisations such as Food and Agriculture Organisation (FAO). The programme is contributing positively in eradicating poverty in the Free State whereby 19 505 vegetable gardens have been established benefiting 24 509 households as indicated in the reports including the budget vote of the Member of the Executive Council (MEC) for Department of Agriculture and Rural Development (DARD, 2015).

The Provincial Department of Agriculture and Rural Development have launched Rekgaba ka Diratswana Provincial Awards which aims at encouraging food production in households, schools, churches and community gardens. This initiative also aims to develop and promote improved food processing, preservation and storage technologies to reduce post – harvest food loss especially at local level. It serves as a form of encouraging people to care for the land and provide food for them and the department is working closely with the district and local municipalities to ensure its success and sustainability.

1.6. PROBLEM STATEMENT

Agricultural extension plays a pivotal role in most developing countries and is responsible for promoting the latest agricultural technologies among the people of the farming community in order to ensure sustainable agricultural growth. The agricultural extension service operates from the backdrop belief that increased agricultural productivity depends primarily upon the acceptance of improved cultural and technological change at the rural farm level and that smallholder farmers can achieve higher farm yields only if they adopt recommended scientific farming techniques in place of their traditional practices (Aphunu & Otoikhian, 2008). They further mention that farmers of different agricultural areas or places to adopt a new technology, they must be aware of the technology, have valid and up-to-date information on the technology, the applicability of the technology to their farming system and receive the technical assistance necessary for the technology. This is a process most effectively accomplished by the agricultural extension service.

Preconditions for extension officers to be effective includes ability to communicate, attitude to extension work, frequency of contact with farmers and field responsibility, which are examined from the viewpoint of the farmers. The proposition is that the accomplishment of extension's service goals depends primarily on the effectiveness of extension officer achieving the programme objectives (Aphunu & Otoikhian, 2008). In a study conducted by Aphunu and Otoikhian (2008) in Nigeria, it was found that about 62% of farmers had contact with the extension officers on a monthly basis and they perceived extension officers to be vast in knowledge of subject matter and they integrated theories with practical well. However,

respondents were not impressed with extension officers in regard to teaching and communication skills. The findings suggested that for extension to be effective and assist in reducing poverty in Nigeria, re-training was recommended for extension officers on the specific matter. In a study conducted by Stevens & Ntai (2011) the majority of extension officers considered themselves not being competent to provide support for irrigation farming in Lesotho. They lacked the necessary skills and ability to supply sound practical advice to smallholder irrigation farmers and therefore could not fulfil the objectives of the Ministry of Agriculture, therefore, training for both farmers and extension officers was recommended on irrigation.

Adams (1982) mentions that the benefits of a good agricultural extension service have long been recognised, yet so often extension services in developing countries have failed to meet expectation. The historical review reveals that extension programmes and policies have been formulated without due consideration to the farmers opinion, the various extension approaches have been biased and extension work has not been participatory in its nature, the research - extension linkage has been very poor and extension officers have been involved in different activities which are not related to the normal duties (Adams, 1982). Agriculture is the biggest economic driver of the district as it contributes 32% of Free State's GDP.

Extension officers in Fezile Dabi District have been blamed by the farmers for not responding to their requests. Letters of complains and requests have been written to Fezile Dabi District Management for intervention. During the outreach programmes of the Member of the Executive Council, farmers frequently showed their dissatisfaction with extension service rendered. Some of the farmers directly forward their requests and complains to Head Office Provincial Department of Agriculture and Rural Development for consideration. Among others, farmers need funding for managing their farms and for purchasing production inputs for example; cattle, sheep, layers, broilers, seeds, fertiliser, pesticides, diesel and herbicides; extension officers do not visit their farms; land is not enough for cattle to graze and request for mechanisation during planting season. Extension officers are regarded as not being properly trained for the job and only assist farmers they have good relationship with.

This study seeks to investigate the perceptions and the attitudes of both farmers and extension officers towards extension service delivery by the Department of Agriculture and Rural Development Free State in Fezile Dabi District. It is hypothesised that differential perceptions and attitudes exist between farmers and extension staff however this will be assessed empirically.

1.7 PURPOSE STATEMENT

Perceptions and attitudes of both farmers and extension officers are seen as inhibiting factors or characteristics to effective and efficient agricultural extension service delivery and sustainable agricultural development. Covey (1999) indicates that perception influence individual interpretations of the physical and psychological environments that make up behaviour. The purpose of this research is to determine the effectiveness of agricultural service delivery as perceived by both extension officers and farmers in the Fezile Dabi District of the Free State Province. The second part of the study evaluates the impact of Extension Recovery Plan used towards the improvement of extension service delivery in Fezile Dabi District.

1.8 RESARCH OBJECTIVES

The specific objectives of the study were:

- To determine the farmers profile and identify the perceptions and attitudes of farmers towards extension service delivery in Fezile Dabi District.
- To determine extension officers profile and their perceptions and attitudes towards extension service delivery.
- To determine the impact of the Extension Recovery Plan towards service delivery in Fezile Dabi District Free State.
- To make appropriate recommendations regarding service delivery in Fezile Dabi District.

1.9 HYPOTHESIS

The following hypotheses were set for the study:

H1. Differential expectations, perceptions and attitudes exist between extension officers and farmers with regard to agricultural service delivery in the Fezile Dabi district.

H2. The implementation of the Extension Recovery Plan enhanced more effective extension service delivery.

1.10. ACADEMIC VALUE OF THE STUDY

The Department of Agriculture in Free State Province is embarking on project approach towards human and agricultural development. The results thereof seem not meeting the requirements of small scale farmers and not uplifting the living standards. There is no appropriate approach for all situations hence the use of different extension approaches and techniques.

The outcome of this study will assist in developing extension and development programmes that will be compatible with the needs, aspirations and goals of the farmers by the policy makers, planners and extension officers to provide clear directives regarding farmer's efforts to gain access to critical knowledge and inputs for the improvements of their productivity. It will also assist in improving on the impact of Extension Recovery Plan towards self- image of extension officers and extension service delivery.

1.11 STRUCTURE OF THE REPORT

The report is organised in seven chapters, beginning with introductory Chapter 1. Chapter 2 reviews various concepts of agricultural extension and approaches. This chapter also reflects the agricultural policy and various development programmes implemented for South Africa. It details an overview of the Extension Recovery Plan and finally provides an overview of the organisational structure of the Free State Department of Agriculture. Chapter 3 outlines the research methodology and design used for research while Chapter 4 and 5 provide the profile of farmers and extension officers and their perceptions regarding extension service delivery in

Fezile Dabi District. Chapter 6 provides results on the evaluation of the contribution of Extension Recovery Plan in Fezile Dabi District towards more effective extension services rendering. Chapter 7 gives concluding remarks on the study and generate key recommendations for the improvement of extension services in Fezile Dabi District and the implementation of Extension Recovery Plan.

CHAPTER 2

THE ROLE OF AGRICULTURAL EXTENSION IN SUSTAINABLE AGRICULTURE IN SOUTH AFRICA

2.1 INTRODUCTION

This chapter provides some insight on an understanding of the history and concept of agricultural extension in general, and its role in enhancing sustainable agricultural development. It also provides an overview of the extension policy for South Africa and how the Free State province implement the policy.

2.2 AGRICULTURAL EXTENSION

The term extension was first used to describe adult education programme in England in the second half of the 19th century. The programmes helped to expand or extend the work of universities beyond the campus and into the neighbouring community. The term was later adopted in the United States of America while in Britain it was replaced with “advisory service” in the 20th century (Stevens, 2008). Different countries have different meanings to the word “extension” for example the Spanish version implies that capacity building should take place and extension should help to do this, the same with the Germans which implies that extension knows the answers and understand farmer’s problems than they themselves do - advisory work. In South Africa extension implies to light the path way.

A number of other terms are used in different parts of the world to describe the same or similar concept:

- Arabic: Guidance
- Dutch: Lighting the path
- French: Simplification
- Spanish: Improving skills
- Thai, Lao: to promote

- Persian: to promote and to extend

The meaning of the term "extension" underlies the functioning of all extension organisations. However, how extension is seen and is done is often a matter of tradition rather than careful consideration. How an extension organisation interprets the term extension, influences the daily activities of its staff. Traditionally, extension got its name from the idea of extending agricultural knowledge through a process that has become known as extension. The agricultural knowledge was assumed to stem from the results of agricultural research (Stevens and Botha, 2000). Agricultural extension is a very concept as farmers assisted one another with the production of food.

Sustainability is a quality that emerges when people individually or collectively apply their intelligence to maintain the long-term productivity of the natural resources on which they depend, Sriskandarajah, Bawden & Packham (1989) as quoted by Stevens (2008). Sustainable agriculture is developments that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundt, 1987) as quoted by Swanepoel and de Beer (1989). Therefore, sustainability cannot be maintained by an individual person or a farmer, but it can be achieved through a collective effort of those immediately responsible for managing the resources. The goal of sustainable agriculture is to increase economic profitability, enhance environmental stewardship and improve the quality of life on farms and in rural areas (Swanepoel, 1989). He further indicates that the basic challenge for sustainable agriculture is to make better use of internal resources and minimizing the use of external inputs like: pesticides have replaced biological, cultural and mechanical methods for controlling pests, weeds and diseases, and inorganic fertilizers. Sustainable development according to Swanepoel and de Beer (1989) means to sustain the economy as well as social and ecological systems which indicate that culture occupies an important place and there should be room for different cultures and knowledge systems to coevolve in a reciprocal relationship of give and take and mutual learning. Swanepoel (1989) indicates that if the social elites and ordinary people are drawn together by a project, the social elite will invariably fill the leadership position and dominate the project. He further mentions that, it is very important that a project should not be launched before those

involved are clearly aware of the urgency and gravity of their need or problem, and have decided to do something positive about it.

This according to Elliot (1994) as cited by Swanepoel and De Beer (1989) the definition of sustainable development means:

- To help the very poor because they are left with no option than to destroy the environment.
- Maintain the idea of self-reliant development, within natural resources constraints.
- Maintain the idea of cost effective development using different economic criteria to the traditional approach; that is to say development should not degrade environmental quality, nor should reduce productivity in the long run.
- Attend to the great issues of health control, appropriate technologies, food, self-reliance, clean water and shelter for all.
- Exercise the notion that people-centred initiatives are needed, human beings, in other words, are the resource of the concept.

In more recent times, government have also become involved in educating farmers on improved farming practices, as agricultural extension bridges the gap between technical knowledge and current practices (Due, Magayane & Temu, 1997). They further indicate that several studies show that extension is cost effective and has a significant and positive impact on farmer's knowledge, adoption of new technologies and productivity.

Extension in South Africa finds itself at a crossroads situation which has been brought about a multitude of factors. According to Dűvel (2000), the extension services have been blamed for failing to deliver effectively. Its credibility has been questioned and lacking competence has led to a waning confidence and commitment on the part of extension officers. Where success has been achieved, there has usually been an absence of tangible evidence due to a lack of accountability and systematic and regular evaluation. He further mentioned that this has been exacerbated by changes within the country as well as changes in the international extension environment, which have led to additional constraints and challenges demanding a reconsideration and adaptation of the extension approach. This is confirmed by Terblanche

(2010) indicating that South Arica is fully part of global village being the word. Because of globalisation South Africa is affected by whatever is happening or taking place somewhere else in the world for example drought, floods, wars, good climatic conditions and subsidies to farmers.

Extension service is an on-going process which occurs overtime and not a single, one-off activity of getting useful information to people and assisting those people to acquire the necessary knowledge, skills and attitude to utilise effectively this technology. There is no single definition of extension applicable to all situations. Scholars have attempted to define the concept of extension Bembridge (1990); Roling (1988); Swanson & Claar (1984); Oakley & Garforth (1985); Leagans, (1971) as quoted by Zwane (2012) but due to its dynamic character a single definition is not acceptable. In general, extension refers to a systematic process of working with farmers or communities to help them acquire relevant and useful agriculture or related knowledge and skills to increase farm productivity, competitiveness and sustainability" (DARD, 2010). The attitudes, motivation, problem perception and level of knowledge of individual extension officer have a strong bearing on how efficiently and effectively an organisation functions (Bembridge, 1987). He further mentions that some researchers have concluded that problems of management and organisation rather than individual competence are the major factors responsible for the poor performance of many extension officers. Adams (1982) mentions that the success or failure of an extension programme depends on the relevance of its content and the degree of popular interest it generates. He indicates that it is essential for an extension programme to be preceded by a field survey in which the management objectives of farmers and their problems are identified and acceptable solutions devised.

In Fezile Dabi District some of the agricultural projects are identified by the municipality and are included in the Integrated Development Plan (IDP), while the Department of Agriculture is most of the time not aware of. It becomes a problem as one project is funded by two or more stakeholders without any official taking the full responsibility of assisting beneficiaries of the project. Therefore, coordination and communication of agricultural activities is important to the benefit of the farmers. To understand more about agricultural extension service, Kelsy and Hearne as quoted by Fay (undated), indicates that:

- extension is education for all village people;
- extension is changing attitude, knowledge and skills of all the people;
- extension is working with men and women, young people and boys and girls, to answer their needs and their wants;
- extension is helping people to help themselves;
- extension is learning by doing" and "seeing is believing;"
- extension is teaching people what to want, as well as how to work out ways of satisfying these wants and inspiring them to achieve their desires;
- extension is the development of the individuals in their day to day living, development of their leaders, their society and their world as a whole;
- extension is working together to expand the welfare and happiness of the people with their own families, with their own village people, their own country and the world;
- extension is working in harmony with the culture of the people;
- extension is a living relationship between the village workers and the village people; respect and trust for each other, sharing of joys and sorrows , results in friendship through which village extension work continues;
- extension is a two-way channel - it brings scientific information to the village people and it also takes the problems of the village people to the scientific institutes for solutions;
- extension is a continuous educational process in which both learner and teacher contribute and receive.

Ensminger as quoted by Fay (undated) mentions that extension is democratic- it seeks to bring about desirable changes through reason, through persuasion. The final decision is always left with the individual.

The urge behind the development of the new extension officer comes from the increasing realisation that the existing extension and advisory service need new capacities to respond effectively to the new challenges in agricultural development such as declining water availability, increasing soil degradation, changing and uncertain climate and markets (GFRAS, 2012).

2.3 AGRICULTURAL POLICY FOR SOUTH AFRICA

Since the publication of the White Paper in 1995, (2001) numerous policies, acts and strategies have been developed and implemented.

2.3.1 Strategy for South African Agriculture

The South African government has made significant changes in the policy environment governing agriculture. The policy or changes redirect agriculture to the majority population which has hitherto been marginalized and generally denied meaningful access to the agricultural sector of the South African economy (DAFF, 2014a). The current reality of South African agriculture is that, it is characterised by high levels of poverty, especially in rural area where approximately 70% of South Africa's people reside (DAFF, 2014a). It further indicates that their incomes are constrained because the rural economy is not sufficiently vibrant to provide them with remunerative jobs or self- employment opportunities. Agricultural policy reform continues with a package of measures to address past injustices including land redistribution and agricultural support programme to disadvantaged farming communities. An important share of public financial resources has been devoted to land reform. Land Reform programme consist of restitution, land redistribution and land tenure reform. Under this programme, grants are given to the black disadvantaged population to acquire land or for other forms of on and off farm infrastructure developments and production inputs.

The National Planning Commission (NPC) was appointed by the State President in May 2010 to draft the vision and the national development plan for consideration by cabinet and the country. This was an advisory body consisting of twenty six people drawn largely from outside government. The mandate of the commission is to take a broad, independent and critical view of South Africa by consulting with and drawing on the skills and expertise of multiple stakeholders to build consensus and find concrete solutions to key challenges faced with the country. The Commission advises government on issues that influence the long term development of South Africa.

National Development Plan is a plan for the country to eliminate poverty and reduce inequality by 2030 through uniting South Africans, unleashing the energies of its citizens, growing an inclusive economy (DAFF, 2014a). The National Development Plan indicates that agriculture needs to play the dual role of providing food and creating jobs.

2.3.2 Comprehensive Agricultural Support Programme (CASP)

Land reform started in South Africa as a pilot programme in 1995. Land redistribution is aimed at providing people with land for agricultural purpose or settlement. The main aim is to settle subsistence and smallholder farmers on viable farming operations in the commercial farming areas where 30% of agricultural land belonging to white commercial farmers is to be transferred to previously disadvantaged individuals. There has been less attention for new entrants to farming with regard to farmer support programmes. It is documented that if new farmer are to be empowered to play a constructive role in the development of agriculture, it is necessary that they should have access to support services (DAFF, 2014a). Research has also shown that support services to small and medium–scale farmers should not be separated from those provided to large-scale commercial farmers. Support services include the continuation of a range of on-going activities such as the strengthening of service delivery institutions for research, financial services, market access and development, training and skills developments.

The Comprehensive Agricultural Support Programme (CASP) was launched in 2004 in order to provide post settlement support to beneficiaries of land redistribution and reform and other previously dis-advantaged farmers who bought land on their own. It is aiming at promoting and facilitating agricultural development with emphasis on women, youth and people with disabilities. CASP is having six pillars which are:

- Information and knowledge management
- Technical and advisory assistance , and regulatory services
- Marketing and business development
- Training and capacity building
- On/off farm infrastructure and production inputs
- Financial support (Mafisa).

Problems perceived by farmers are related to resources rather than information, finance and mechanisation. Francis & Rawlins-Branan (1986) mention that subsistence farmers have shown themselves capable of adapting new techniques to their local farming systems and available resources. CASP has been critisised for making farmers more dependent on government funding and therefore limited impact. One of the farmers in Fezile Dabi district indicated that it is not that they (the farmers) cannot perform agricultural activities for themselves, but since the government see them as incapable, and promise them everything, they will have to wait until their promises are met or fulfilled (Personal communication, 2014).

2.3.3 Land and Agrarian Reform Project (LARP)

The land redistribution programme is performing below targets due to inadequate institutional capacity, financial resources and a lack of agricultural support services and coordination. Different policies and programmes have supported land and agrarian reform before and the rate of transfer of land has been slow and the general sustainability of projects in question (Department of Rural Development and Land Reform, 2008). The Land and Agrarian Reform Project (LARP) was launched in 2008 and provided a new framework for delivery and collaboration on land reform and agricultural support. It created a delivery paradigm for agricultural and other support services based upon the concept of "One- Stop Shop" service centres located close to farming and rural beneficiaries (DRDLR, 2008).

In 2007, the project was accepted as one of the 24 Presidential priorities commonly known as the Apex Priorities and the short term objectives of Apex Priority 7, namely for land and agrarian reform were the following:

- Redistribute five million hectares of white owned agricultural land to 10 000 new agricultural producers
- Increase Black entrepreneurs in the agribusiness industry by 10%.
- Provide universal access to agricultural support services to the target groups.
- Increase agricultural production by 10-15% for the target groups, under the ILIMA/ Letsema campaign.
- Increase agricultural trade by 10-15% for the target group.

LARP has generally not been able to achieve its aims partly because the Comprehensive Agricultural Support Programme did not align itself with it, and partly because it did not effectively engage extension support. This highlights the continuing disconnect between land reform and extension support in many provinces.

2.3.4 Integrated Growth and Development Plan for Agriculture

The Integrated Growth and Development Plan seeks to position agriculture for the purpose of improving national food safety and security and agricultural economic output in a profitable and sustainable manner, through a qualitative and quantitative improvement of South Africa's agricultural productivity and its trade and regulatory environment. By achieving the aforementioned agriculture can contribute vitally to rural economic growth and development and thus increase rural employment both on and off farm (DAFF, 2012). Agriculture is focussing on:

- ensuring national and household level food security
- economic growth and development of agriculture
- rural economic growth

2.4 EXTENSION POLICY

In the period post 1994 the Department of Agriculture was restructured and new provincial Departments of Agriculture were established. Some commentators have argued that "these provincial departments display many of the weaknesses of the former homeland departments in their inability to maintain support services to farmers," with the results that most commercial farmers have switched to privately provided services (Last, 2006). He further indicates that it seems there remain fundamental questions about the appropriate role of extension support unanswered. Many extension officers appear to have become project managers and are spending almost 90% of the time planning, developing business plans, collecting quotations, receiving equipment and writing status and expenditure reports to name a few. According to the University of Pretoria, which was commissioned by the Department of Agriculture to develop an appropriate approach to extension, 63% of farmers judged that their extension officers had no

advice of value to offer, while 37% conceded that they sometimes have information of some value (Dűvel, 2004).

Extension is an admittedly amorphous umbrella term for all activities that provide information and advisory services that are needed and demanded by farmers and other actors in the agri-food systems and rural development. It includes technical knowledge, facilitation, brokering, coaching of different actors to improve market access, dealing with changing patterns of risk and protecting the environment (Christoplos, 2010). Extension is an integral component in ensuring efficient service delivery of the government programmes aimed at alleviating poverty, improving livelihoods and a sustained environment.

2.4.1 National Extension and Advisory Service Policy

The development of the National Extension and Advisory Service Policy is intended to guide the agriculture, forestry and fisheries sectors in the provision of extension and advisory services; to provide a common framework and set of principles to achieve shared over-arching objectives and priorities set out in the National Development Plan (DAFF, 2014b). The problem areas identified include among others, poor linkage between research, extension and producers; a low extension practitioner to producer ratio; disintegration and uncoordinated efforts from different extension support services and a lack of National Policy Regulatory Framework to provide formal guidelines, working standards and governing code of ethics. The policy is to ensure that the extension service responds to the needs, aspirations, opportunities and other circumstances of the actors in the respective value chains.

The Extension Recovery Plan (ERP) is a programme aimed at revitalisation of extension and advisory services in South Africa. According to Mudau, Geyser, Nesamvuni & Belemu (2009) as quoted by van Niekerk, Stroebel, van Rooyen, Whitfield & Swanepoel (2011) indicate that introduction of the Extension Recovery Plan (ERP), aims to energise the extension service and bring it new hope. In 2006/2007 a study on the profile of extension and advisory services was completed in nine provinces in South Africa. This was followed by a request for a budget option to the implementation of the Extension Recovery Plan in July 2008/9 after the Ministerial Indaba

which was held in East London in 2008. The purpose of the ERP is to revitalize the state of extension and advisory services in South Africa through activities and policy framework for extension service provision to develop competencies of officers, make information technologies an integral part of services, which also ensure that extension becomes more visible and accountable. The ERP is based on five strategic objectives or pillars to ensure that extension becomes more effective in improving agricultural productivity:

a) Ensure accountability and visibility of extension

Extension and advisory services was identified as the weakest link militating against the full impact of government agricultural programmes in the past. The pillar seeks to discard this perception by creating an environment whereby farmers know who their extension officers or advisors are; where to find them and how to communicate with them. In Fezile Dabi District, with the introduction of ERP, fifteen laptops with 3G's, cell-phones and smart /digital pens and digitised forms were issued to extension officers. Access to Extension suit on line assist extension officers while on farms with regard to immediate access to information that is required by the farmers. Hundred Farmer Green Books were issued to small scale and commercial farmers with the purpose of recording daily interactions between the farmer and the extension officer and to also serve as a farm management tool which stays with the farmer. With this tool, the extension officers can account for the advice given to farmers. In the Free State Province, no uniform was bought for extension officers for them to be worn.

b) Promote professionalism and improve the image of extension and the involvement of other stakeholders

With the increasing number of government programmes aiming at rural development, food security, land reform (restitution and redistribution) and natural resource management, there is a growing need for dedicated professionals to support these programmes. Extension and advisory services are rising to the standard to meet these demands and for the entire public to recognise and regain confidence in the sector. The pillar focuses on the affiliation of extension officers with professional bodies and participation of extension officers in these bodies as active members.15 extension officers in Fezile Dabi District have applied for registration with the identified body by Department of Agriculture Forestry and Fisheries being South African

Council for Natural Scientific Professions (SACNASP) which is the legislated regulatory body for natural science practitioners in South Africa. Terblanche (2010) indicates that the client today demands a professional service. The professional registration of extension officers today is non-negotiable and should be implemented as a matter of agency. Extension in South Africa also needs a vision that is future directed. ERP therefore encourages the hosting of extension conferences by provinces and during the 2014/15 financial year, the provincial conference was held in Fezile Dabi District, where extension officers presented their scientific papers.

c) Recruitment of extension personnel

The government aims at ensuring that there is enough extension and advisory service personnel on the ground to comply with the recommended extension to farmer ratio of 1:400 in crop production, 1:500 in livestock production and also 1:500 in mixed farming (DoA, 2005). For Fezile Dabi District eight (8) extension officers were employed under ERP since 2009 to move closure to the targeted personnel to serve the farming sector.

d) Re-skilling and re-orientation of extension

According to the Norms and Standards document, the minimum academic qualification for an Extension Officer / Agricultural Advisor is a Bachelor's degree in Agriculture. Any person with lower qualification can only function as an Agricultural Development Officer. Three officials in Fezile Dabi were sent to the University of Free State to further their education as was the recommendation for officials to upgrade their qualification. Extension officers also attended accredited training programmes as organised by Human Resource Unit in the Department of Agriculture and Rural Development.

e) Provision of Information and Communication Technology (ICT) infrastructure and other resources

In extension services, extensional personnel need to be equipped or supported with the working tools that assist them in meeting the demands of their clients and to strengthen extension information management and dissemination. Extension officers received ICT packages as been determined by the Provincial Department of Agriculture: laptops, cell-phones, digital pens,

memory sticks and provision of an enabling environment for the adoption of Extension Suit Online (ESO).

The implementation of ERP is a provincial mandate, with the National Department playing a coordinating and monitoring role. ERP falls under the Technical and Advisory Service pillar of the Comprehensive Agricultural Support Programme (CASP). As CASP, ERP sources funding from the National Treasury as a Schedule 4 grant. The grant is administered through the Division of Revenue Act (DAFF, 2011).

The province and the districts are in the notion of more of service delivery to the farmers than the spending of Comprehensive Agricultural Support Programme funding (CASP). Each extension officer is expected to serve five hundred farmers as also recommended by Norms and Standards. Although the extension tools exist, the question still remains whether extension service is bringing about change in the way the farmers anticipate extension services to support them and whether extension officers are comfortable with the extension service support they are rendering to farmers.

2.5 PUBLIC SECTOR EXTENSION SERVICES

2.5.1 National Structure

The National structure consists of the following directorates:

2.5.1.1 National Extension Reform Directorate

The aim of the directorate is about providing strategic leadership and guidance for extension and advisory services in the sector. Its main functions include:

- the development of norms and standards for extension and advisory services,
- to set norms and standards for all service providers and extension officers level of training and qualifications
- to monitor and evaluate the implementation of norms and standards in extension and advisory services

2.5.1.2 National Extension Support Directorate

The aim of the National Extension Support directorate is to provide leadership and strategic support and coordination in the implementation of norms and standards for extension and advisory services.

Its functions include:

- Coordinate the implementation and monitoring of the national extension recovery plan in consultation with Provincial Department of Agriculture.
- Provide support to extension and advisory services in Forestry and Fisheries
- Develop and assess the effectiveness of various extension and advisory service delivery methodologies or approaches relevant for the sector.

2.5.1.3 Small holder Development Directorate

The small holder development directorate aim to improve on the production systems and development support of small holder farmers in the agriculture, forestry and fishery sectors to achieve food security livelihoods. Its functions include:

- Provide guidelines for development of existing and new small holder farmers
- Provide programmes for support and graduation
- Set norms and standards for viable farmer settlement programmes
- Monitor and evaluate policies and programmes
- Coordinate activities that are cross cutting with other entities
- Develop and promote national policy and standards for household food security
- Facilitate the design and planning of household food security

2.5.2 Free State Department of Agriculture and Rural Development Extension Services

The effectiveness and efficiency of extension services depends on the structure and overall management of the organisation itself, as well as on the personal, social, socio-psychological and communication characteristics of extension officers (Bembridge, 1987).

The Free State Department of Agriculture in Extension service is led by the Executive Manager who is based at Head Office in Bloemfontein and is responsible for district implementation. Senior Managers are appointed in all five district municipalities and part of their duties includes extension and advisory services at district level. In each district municipality there is a Manager – Extension services who reports to the Senior Manager, while the Deputy Manager – Extension services reports to the Manager - extension. Extension Officers report to the Deputy Manager. The ward clerks report to the extension officers and their duties include assisting all field workers in the wards with administrative issues. Figure 2.1 below shows the extension reporting at district level

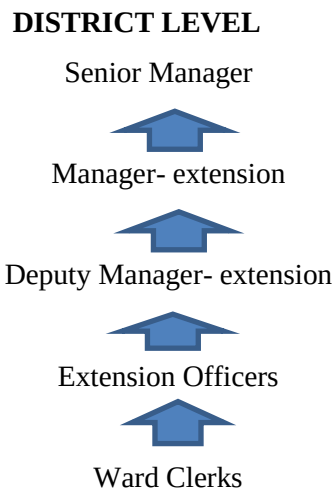

Figure 2.1: Reporting structure at district level

Source: Author's compilation (2015)

Extension officers and their deputy manager hold monthly meetings to report on Annual Performance Plan's indicators and also discuss progress and challenges at their working areas. Monthly reports are required from extension officers.

2.6 EXTENSION PARTNERS IN THE FREE STATE

An agricultural extension system cannot be effective without relevant contributions from other stakeholders who are responsible for facilitating the agricultural development process in the area.

2.6.1 Non-Government Organisations (NGOs)

The role of the Non-Government Organisations (NGOs) in South Africa has until recently not been widely known, as they were working almost exclusively in the rural areas. Even today limited cooperation between NGO's and the Department of Agriculture and Rural Development in the district still exist. Some weaknesses that have been identified include that their projects rarely address the structural factors that underlie rural poverty. In this donor-driven environment, most NGOs tend to keep their knowledge within their own circle, as sharing hard-earned knowledge freely can lead to loss of a possible donor, as the organisations use that knowledge to gain access to the donor of the different organisation**.** For example, in Fezile Dabi district at Parys there is Tumahole Self Help Association for Disabled.

2.6.2 Private sector extension services

In the South Africa and the Free State there are many commodity based agricultural support organisations like Milk Producers Organisation, National Emergent Red Meat Producers Organisation, National Wool Growers Association and Grain South Africa. These commodity organisations are potential partners and play a role in the overall extension service delivery to farmers.

2.6.2.1 Grain South Africa (GRAIN SA)

Grain SA was established on the 10 June 1999 and was formed out of NAMPO (maize), NOPO (soybean, sunflower and groundnuts), WPO (wheat, barley and oats) and the SPO (grain sorghum) (Grain SA, 2015). Its mission is to provide commodity strategies support and services to South African grain producers.

Pillars:

- a voluntary association of grain farmers established to represent the interest of its members
- it wants to be recognised as an autonomous and independent grain producer's organisation
- it is strongly apolitical and issues are dealt with only on merit and sound business principles without any party political consideration
- it is controlled by farmers for farmers and structured to ensure member's democratic control over their elected office bearers.

Grain SA highlighted the following challenges for the farmers:

- lack of knowledge, skills and experience
- lack of production credit
- lack of adequate tractors and equipment
- constraints of land access

To remedy the challenges study groups, demonstration trials, farmer's days, farmer of the year competition are conducted. The information is also disseminated through the Pula Imvula magazine for developing farmers (Grain SA, 2015).

2.6.3 African Farmers Association of South Africa – AFASA

AFASA was established in Boksburg on the 11th and 12th April 2011. The establishment of AFASA was the results of an urgent court interdict lodged by some individuals of National Farmers Union of South Africa- NAFU-SA. Nothing much has been delivered by AFASA as a newly formed farmer's association in Fezile Dabi district as they are busy with registration of farmers for membership.

According to AFASA (2015) it aims at commercializing the developing agricultural sector and ensures meaningful participation of black individuals within the mainstream commercial

agribusiness sector, hence ensuring the long term sustainability of the agricultural sector in South Africa.

2.7 APPROACHES TO AGRICULTURAL EXTENSION

Extension can be primarily technology transfer or it can be as part of human development. Research has shown that there is no extension system or approach that is appropriate for all situations (Dűvel, 2000). Different approaches of extension are found in many types of organisations using a variety of strategies and a large array of methods and techniques. The selection of a specific extension approach may be the most critical decision in planning and implementation of agricultural extension (Stevens, 2010). Need based priority approach is not considered in most situations. Dealing with the community requires more of the extension officers to be available at their farms with relevant information that the farmer can use to make sound decisions. These two schools of thought imply that three main approaches to agricultural extension occur: linear models, advisory models and facilitation models. In the Free State province four approaches are applied:

- Project approach
- Transfer of technology approach
- Commodity approach
- Participatory approach

2.7.1 Project approach

The project approach operates within a specified time frame and therefore its continuity is not anticipated. This approach relies heavily on foreign funds and therefore there is an agreement with the government on what the programme should be. Project approach as recommended by the DoA (2005) is used in the district. It is more assisting with funding on infrastructure development for agricultural purposes (e.g., handling facilities, fencing, water reticulation, construction of poultry houses) and purchasing production inputs (e.g., chicken feeds, layers and broilers, cattle, planting of pastures, vegetable seeds) to the Land Redistribution for Agricultural Development Programmes (LRAD) farms, household backyards and to those who

bought farms or plots on their own. The challenge is the short period of time for the funding of the projects which is a financial year. This means that if the implementation of the project is not completed within the financial year and if it is not budgeted for the next financial year as a second phase, this implies that there will be no continuation with the project hence structures become white elephants.

2.7.2 Transfer of Technology approach

The approach in which is believed that technology and information are available which farmers are not using and if the knowledge can be communicated to the farmers, it will trigger development and farm productivity will improve. In the transfer of technology approach, the extension worker passes on scientific information to the farmer. This approach has the limitation that the imparted information may not be relevant to the farmer's condition, or may only partially address farmer's needs**.** Technology transfer approach is also used even though seem to be linear because there is no communication and planning together between the farmer, extension officer and the researcher. There are no on farm trainings or trials that are done and these restrict the adoption of innovations by farmers.

2.7.3 Participatory approach

It is assumed that effective extension could not be provided without active participation of the farmers themselves as well as the research and related services. Swanepoel and De Beer (1989) indicate that participation does not mean involvement. When people are involved in projects, they are allowed in under certain conditions, to take part in certain actions in a prescribed way. When people are mobilised to participate, they do so fully in all aspects of the project. They become part of the decision making and planning of the project. They participate fully in the management of the project.

Hess (2007) indicates that according to a participatory extension approach the role of extension officers is to facilitate an in-depth situation analysis by the farmers themselves at the beginning of their working relation. Once farmers have become aware of the causes of their problems and

have identified the most pressing ones, the extension officer provides technical knowledge and technologies which may be useful to resolve the problems identified. Participatory extension approach means that farmers are the principal decision-maker in defining goals, planning, implementing and evaluating development activities. It puts emphasis on strengthening farmer's problem solving capacities from the start. Arnstein (1969) as quoted by Swanepoel & De Beer, (1989) is of opinion that participation without power is an empty and frustrating process for the powerless. Participatory approach is one of the approaches recommended by the Department of Agriculture and Rural Development in the Free State province.

2.7.4 Commodity approach

This is an approach that has been recently identified and recommended by the Free State Department of Agriculture and Rural Development to be implemented. The aim is to ensure that all farmers who are engaged in the same commodity like beef or dairy cattle, poultry, different grains should be grouped together and be assisted through the approach and it is the way to increase productivity and production of a particular commodity. The extension programme planning is controlled by a specific commodity organisation and the implementation is through field staff of that specific organisation.

2.8 EXTENSION PRINCIPLES

There are many different approaches to agricultural extension. Some of the approaches are much better suited in certain purposes and situations than other approaches. Certain basic principles underlie the conduct of extension work (Stevens, 2008):

- The success of an agricultural extension programme tends to be directly related to the extent to which a specific approach fits the programme goals for which it was established.
- The learning and adoption of improved farm practices tend to be facilitated by the existence of and participation of rural people in organised groups. Approaches which utilises such groups, tend to be more effective than approaches, which do not.

- The effectiveness of an agricultural extension programme tend to vary directly with the extent of discipline and seriousness, which the approach stimulates profession personnel at all levels.
- The extent to which the goals are clearly understood by those responsible for carrying out the programme. Approaches in which the extension staffs participate in setting goals tend to be most effective.
- Support for, participation in and willingness to bear part of the cost of agricultural extension tend to be greater with approaches in which the clientele have some voice in both determination of the programme goals and selection of field personnel.
- Any particular approach to agricultural extension is likely to be sustainable over time if the benefits to both its sponsors and its clientele tend to be greater than the costs to its sponsors and its clientele.
- Approaches to agricultural extension, which utilises both technical information from indigenous knowledge systems and from the international scientific knowledge system are likely to be more effective over time than approaches which utilises technical information from one of these sources.
- Some approaches to agricultural extension tend to be suitable for achievement of goals limited to increases in farm production. Other approaches allow flexibility which takes into account such matters as profitability to the farm family and general quality of life considerations. Particular approaches will be most successful when they fit national aspiration in this regard.
- The extents to which the goals of any agricultural extension programme will be achieved tend to be directly related to the extent various cultural factors are taken into consideration in planning the programme. Approaches which enable such programme development tend to be most effective.
- Approaches to agricultural extension which is gender sensitive in selection of field staff and in communication with clientele is more likely to be effective than those who are not.
- More participatory approaches to agricultural extension tend to fit best in national systems where public administration is more decentralised.
- Since the success of an agricultural extension programme in any particular locality tend to be directly related to the extent of personal contact between the people of that locality

and the extension staff. Approaches which encourage and facilitate such personal contact tend to be most effective.

- Agricultural extension approaches which facilitate two way communication linkages with personnel, conducting agricultural research, supplying agricultural inputs and marketing agricultural outputs, tend to be more effective than approaches which ignores these linkages,
- Some approaches to agricultural extension are more effective than others in developing leadership. Since sustained, vigorous, dynamic, creative leadership tend to be directly related to success of extension effort, leadership development criteria are significant in selecting an appropriate approach.
- Some approaches to agricultural extension tend to have higher total costs than other approaches. Some of the above mentioned approaches tend to have greater benefits to clientele and / or to central government than other approaches. The ideal approach may be selected on the basis of the expected excess of benefits over costs for a particular place and time, when all relevant factors are taken into consideration.

It is the function of the extension service to teach people to determine accurately their own needs and the solutions of their own problems, to help them acquire knowledge and to inspire them to action, but it must be their own action out of their own knowledge and convictions (Fay, undated). Fay (undated) mentions that the extension officer is always a teacher. He must anticipate the varied learning situations with which he will be faced. He must plan the teaching activities he will use and the teaching tools most appropriate. He further indicates that success is bringing about desired changes in behaviour with learners frequently depends on the teacher's skill in arranging the best learning situation and in teaching the most effective methods of teaching in that situation for example the use of:

- individual contacts;
- group contacts;
- mass contacts;

The changes of role entailed in farmer-first approaches, for extension officers, to become not top-down transfer of technology conveyer belts, but convenors, facilitators, catalysts, consultants

and searchers and suppliers for farmers, these require changes in attitudes, behaviour and methods. The role of farmers as observers, analyst, experimenters, monitors and evaluators require strengthening through new approaches and methods (Scoons & Thompson, 1994). It is mentioned that for example a man will often communicate differently with his son than he does with his wife. This is evident not only from the words he uses, but also especially from his non-verbal communication - his gestures, posture, tone of voice (Van den Ban & Hawkins, 1988). The many forms of non-verbal communication can be very important in relationships between the extension officers and farmers where words alone may not express whether the extension officer is sincere in his desire to help the farmer solve problems. People are aware of the words they speak, but they are only partially aware of the non-verbal signals or messages they send and receive.

This is one of the problems raised by farmers that extension workers are unable to talk to them or give clear explanations or feedback on work related issues. It has previously been believed that the adoption behaviour of farmers is largely determined or influenced by socio-economic and personal factors. Dűvel (1998) indicates that the more direct intervening variables being (need, perception and knowledge) has not been taken into account and these variables are actually the predecessors of behaviour, it is still important to determine if there is any correlation between the different independent variables respectively.

2.9 ROLE OF DEPENDENT, INDEPENDENT AND INTERVENING VARIABLES IN THE ADOPTION OF SUSTAINABLE AGRICULTURE PRACTICES

According to FAO as quoted by Suaiban *et al* (2005) defines sustainable agriculture as the management and conservation of the natural resource base and the orientation of technological and institutional change to ensure the attainment and continued satisfaction of human needs for present and future generations and thus conserves land, water, plant and animal genetic resources, non-degrading, technically appropriate, economically viable and socially acceptable. It involves practices such as organic farming, biological and natural control of pests, emphasis of watershed approach to conserve the soil and water. It further ensures pollution free food production and the continuation of agriculture with least damage to ecosystem. Niamh Dennehy

et al (2000) as quoted by Omar (2011) indicate that sustainable agriculture is a difficult term to define operationally but it includes the practice of low input agricultural production technologies. For agricultural projects and programmes to be sustainable in the district, CASP, ILIMA / Letsema and other funding is used to assist farmers. Extension officers encourage farmers to protect the environment and train them to monitor and take care of every situation on their own farms.

2.9.1 Dependent variables

The dependent variables are a combination of verbal, skeletal and visceral reaction to the external stimuli (Tolman,1967). It is all about the adoption and non- adoption of acquired knowledge, technology or practice. There are several models of adoption behaviour for example the one by Dűvel (1991), The Field Theory of Lewin (1951) and the Tolman model (1967). Dűvel's model is one of the models that can be adopted because it gives a clear indication of what make the farmer adopt or not adopt the recommended practice. There is a reason for every non adoption of a practice and once a farmer indicate that he is having a problem, it means that there is a gap between what it is and what it should be and therefore the gap needs to be identified and filled or closed. This suggests the appropriate extension approaches and methods that will be suitable for the situation. The process will be determined by all stakeholders that need to engage including the farmer as the decision- maker in the whole process.

The model can be of great importance for extension workers to utilise in their respective towns, and can work together so that they can learn from each other. Thus, it will assist in proper planning and implementation for sustainable projects or programmes.

Agricultural extension is an education system for rural adults, and its methods should incorporate the principles of adult education. It is confirmed by Bembridge, (1987) that 48% of extension workers saw themselves as having a low status in the community, they saw school teachers as having a higher status than themselves. Possibly it was because they did not perceive their own role as adult educators.

2.9.2 Independent Variables

According to Sebadieta, Terblanche and Ngomane (2007) it is assumed that to address the problem properly, the study has to address each objective in relation to the independent and intervening variables, which determines behaviour and its consequences. Independent variables namely gender, age, educational level, farming experience, farm size, field ownership, actual yield and organisation membership does have an effect on the adoption behaviour regarding the recommended practices and are not taken into consideration when extension programmes are developed.

Tolman (1967) introduced the concept of independent, intervening and dependent variables. He indicates that independent variables are the initiating causes of individual's action consisting of the environment entities presented to the individual factor at a given moment.

2.9.2.1 Gender

It has been argued that more female extension agents should be hired (Due *et al* 1997) and has been documented also that female-headed households (with no able-bodied male present), are particularly omitted from extension visits. In looking at extension service and information access, many studies have noted that extension services are less likely to reach poorer farmers. Many of the poor farmers are women, but Hirschmann & Vaughan (1983) as quoted by Doss (2001), claims that extension services were biased against poor households and not against women in particular. In a study conducted by Due *et al* (1997) it was found that female farmers found extension officers more useful in giving information on agriculture than male farmers and less useful in learning new things or obtaining new information than male farmers.

With regard to gender, farmers often state that the most important is the extension officer who will assist and not the gender of the extension officer. Character is more important than gender in assisting farmers. There is evidence that in many instances women farmers are not reached by extension services and that female-headed house-holds maybe especially disadvantaged (Doss, 2001). He further mentions that strong arguments have been made that female extension officers

are needed to reach female farmers and it was concluded that more women should be hired as extension officers since women prefer them and men do not object to them.

2.9.2.2 Educational level

Utilization of information may depend on education and literacy levels. Lower levels of education and literacy among women farmers may be additional constraints to women receiving adequate information.

Continuing perceptions that women are not "real" farmers, but only helpers on family farms, may also limit their access to resources (Doss, 2001). However, post 1994, in South Africa women have been placed first irrespective of their educational level that is why the government have women programmes like Women in Agriculture and Rural Development (WARD) and Female Entrepreneur Award (FEA) and that women who deserve should occupy high levels in different organisations.

2.9.3 Intervening variables

Tolman (1967) indicates that intervening variables being the needs, perceptions and knowledge are postulated explanatory entities conceived to be connected by one set of causal functions to the independent variables, on one side, and by another set of functions to the dependent variables of behaviour, on the other side. The intervening variables need to be taken into account as they have an effect on the adoption process.

2.9.3.1 Needs

The need related causes that have been found to determine the non- adoption of recommended practices are lacking of aspiration and need incompatibility (Dűvel, 1998). He further indicates that the lacking aspiration relates more specifically to a tendency on the part of the farmer to overrate his own efficiency, to an unawareness of the possibilities or the optimum and to a satisfaction with the present situation. An innovation or recommended practice does not fit the

life space or need situation of the individual in the sense that it is not perceived as either a need related goal, or as a means of achieving such a goal.

2.9.3.2 Perceptions

Van Den Ban & Hawkins (1988) indicate that although people live in the same world and receive similar impressions of it through their eyes and ears, and to a lesser extent through their senses of touch, taste and smell, they interpret their experiences differently. They define perception as the process by which information or stimuli are received from the environment and transform it into psychological awareness. Extension officers in less industrialised countries often work with illiterate farmers, and hence should concentrate on presentation of concrete rather than abstract information. When people communicate with someone they always express something about how they see themselves, how they see the other person and how they see their relationship with this person, even if they express these messages unconsciously.

According to Dűvel (1998), unfavourable perception as course of unwillingness to adopt, it is because the recommended practice is seen as less advantageous than the current one; or the unawareness of the advantages of the recommended solution or awareness of disadvantages of the recommended solution.

2.9.3.3 Knowledge

Knowledge is a process. The issue is not just whose knowledge counts, but who knows who has access to what knowledge and who can generate new knowledge, and how. Especially, the questions are how those who are variously poor, weak, vulnerable, female and excluded can be strengthened in their own observations experiments and analysis to generate and enhance their own knowledge, how they can better seek, demand, draw down, own and use information, how they can share and spread knowledge among themselves and how they can influence formal agricultural research priorities. According to Dűvel (2007) indicates that practical knowledge is usually not critical as it is one of the last pre-requisites for implementation or, in terms of

Lewin's (1951) model, it is one of the last areas through which it is necessary to move before goal achievement.

Different approaches as discussed can be combined to complement one another and applied for the adoption of new innovations or technologies by farmers in their different farming situations.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter 3 provides a brief overview of the research approach deployed on this study, which was carried out in Fezile Dabi District, Free State Province. It outlines the research area where the study was conducted, the methods used to collect primary and secondary data and the sources of information. A quantitative research approach was used for collection of information. Farmers were randomly sampled and primary data was collected from farmers and extension officers in the district. It also outlines the data processing procedure followed by data analysis.

3.2 RESEARCH AREA

Fezile Dabi District is a peri-urban area situated in the northern part of the Free State Province. The Vaal River and the Vaal Dam form the northern boundary of Fezile Dabi District Municipality. Fezile Dabi also serves as the boundary between Free State and Gauteng Provinces. It also borders North West and Mpumalanga Provinces. The total area of the district is 20 118 square kilometres and is composed of four local municipalities being Mafube, Metsimaholo, Moqhaka and Ngwathe. This was the focus area of the researcher where small holder farmers opinions were tested regarding the extension service rendered to them. The major towns of the district are Kroonstad, Sasolburg and Vredefort. Sasolburg which got its name from petrochemical company Sasol is known as the chemical hub of South Africa. The Vredefort Dome, being the third largest Meteorite site in the world, is situated in the district.

3.2.1 Rainfall

On average the district receive 550mm to 650mm of annual rainfall annually from October to April. Fezile Dabi is dominantly a flatland which enables the district ideally for planting field crops and vegetables. Ngwathe local municipality consist of five towns namely Parys, Edenville,

Koppies, Heilbron and Vredefort and is situated in the northern part of the Fezile Dabi District municipality. This is mainly an agricultural area as the Renoster River, Weltevrede, Rooipoort and Koppies dams are prominent water sources for agricultural purposes in the district.

Figure 3.1 shows the map of Fezile Dabi district with local municipalities and towns which is the area of operation for the researcher

Figure 3.1: Map of Fezile Dabi District showing local municipalities and towns

3.2.2 Climate

In winter the temperatures ranges from - 4^0 C and to a maximum of 33^0 C in summer. Frost is experienced in this district and therefore planting of vegetables under the tunnels is recommended. The district is blessed with fertile soil and good rainfall creating excellent conditions for maize, wheat, sunflower, cattle and game farming.

3.2.3 Demographics

Fezile Dabi District hosts 17.3% (Ngwathe IDP, 2008/9) of the total urban and rural population in the province and is the second smallest district municipality with regard to the population. The majority of its people speak South Sotho, followed by Afrikaans, Zulu and Xhosa. The general tendency of migration from rural to urban areas is also occurring in this area, as is in the case in the rest of the Free State Province. Unemployment remains a critical concern in the district for example in Mafube local municipality, in 2008, the population was 61 936 with 26.8% households having no income. Because of high rate of unemployment, people find themselves involved in agricultural practices especially beef cattle, crop and vegetable production.

3.2.4 Agricultural sector

Agriculture is the main economic driver in Fezile Dabi District and consists of small holder as well as commercial farmers whose major farming enterprises include livestock, crops and vegetables. Local communities make use of the municipal farms known as commonages and communal land for grazing. However, not all animals are kept in these farms as they have less carrying capacity. This leads to overgrazing of the farms and there is a problem of animals roaming about the streets. Pounding of animals is practiced in other towns such as Cornelia and Heilbron.

The district contributes 32.2% to the total Free State's Gross Domestic Product (GDP). It is considered to be the agricultural region producing a considerable share of South Africa's grain crops since maize, sunflower, sorghum and wheat are produced in this district and is regarded as

the bread or food basket of the province. Comprehensive Agricultural Support Programme (CASP) and ILIMA/Letsema funds are mainly used to assist small holder farmers with infrastructure development and production inputs. CASP was first introduced during 2005 in the Free State. Farmers are also assisted through a mechanisation programme with tractors and their implements. The mechanisation programme is led by Kopong Cooperative at Fezile Dabi District. The district is regarded as the vegetable and poultry hub in the Free State (DARD, 2014). In terms of the 2011/2012 Integrated Development Programme, the local economic development priority sectors are tourism, agriculture, mining, manufacturing and commercial transport. Local economic development (LED) initiatives include active farming development, including agro-processing.

3.2.4.1 Mafube Local Municipality

This area forms the eastern part of the region, with the Vaal River forming its northern boundary (see Fig 3.1). The municipality headquarters is located in Frankfort. This area has great potential for sheep and cattle farming, maize, sunflower, wheat and sorghum production (Mafube Local Municipality, 2015). The grain silos in Villiers together with other grain silos in the district have a storage capacity of 273 000 tons. Mafube is regarded as a rural area with many subsistence farmers operating from their homesteads and on communal land. Projects that are under construction are those funded by Comprehensive Agricultural Support Programme (CASP) in 2015/16 financial year. Agricultural projects like: a) Two 40 000 capacity broiler houses named Frankfort Poultry are situated in Frankfort and under construction, 10 smallholder farmers will manage these poultry houses; b) in Tweeling five 40 000 capacity broiler houses as part of a joint venture between farmers and VKB are in operation,. Slaughtering of broilers, packaging and marketing are done at VKB abattoir in Reitz; c) 20 vegetable tunnels (10m x 30m) are established in Tweeling where various vegetables like cucumber, green pepper, green chilli, tomato and spinach are produced and sold to local markets; d) 6 vegetable tunnels of (28m x 30m) are under construction in Cornelia where ten smallholder farmers will be established.

3.2.4.2 Moqhaka Local Municipality

Moqhaka local municipality is situated within the southern part of the Fezile Dabi District in the Free State province (see Fig 3.1). The seat of local government is in Kroonstad and the main economic sectors include: agriculture, commercial transport and mining. Kroonstad area is the centre of a large agricultural community that plays an important role in the economy of the district (Moqhaka Local Municipality, 2015). Subsequently, industrial activities like OCTA Engineering Company which is a metal producing factory; Premier Milling Company and Free Pack- a juice producing factory contribute significantly to the district economy. Six tunnels (28m x 30m) are under construction for Naledi Trust situated in Kroonstad and the majority of small holder farmers in Kroonstad are involved with livestock (beef) production. The Viljoenskroon area is located within an area of extreme agricultural activities and the Rammulotsi Cooperative is situated in this town. This is a layer enterprise consisting of five layer houses with a carrying capacity of 2 100 layers each. The Department of Agriculture and Rural Development district plan in 2015/16 financial year is to expand the project and build another 7 500 capacity layer house (DARD 2015/16). Rammulotsi Agricultural Cooperative is managed by 12 members consisting of three men and nine women who are part of Senekal Development Trust. In Steynsrus beef cattle and homestead vegetable production are prominent.

3.2.4.3 Ngwathe Local Municipality

Ngwathe local municipality is situated in the northern part of the Fezile Dabi District (see Fig 3.1). The seat of local government is in Parys (Ngwathe Local Municipality, 2015).The Vaal River forms the northern boundary of the area which also serves as the boundary between Free State, Gauteng and North West provinces. a) Four 40 000 capacity broiler houses are under construction including the planning of the poultry abattoir at Parys. b) 15 vegetable tunnels (10m x 30m) have been constructed and are currently partially in operation (DARD, 2015/16). Vegetables planted include: spinach, beetroot, tomato, green pepper and green chilli. Produce are sold at Pick ‘n Pay supermarket and to local community.

3.2.4.4 Metsimaholo Local Municipality

Metsimaholo is an administrative area in Fezile Dabi District (see Fig 3.1). This is a local municipality where the private sector dominates the local economy through the manufacturing of chemicals (Metsimaholo Local Municipality, 2015). Apart from the high-technology industrialised Sasolburg area in the north, the remainder of the area has the strong agricultural base. Cattle, sheep and poultry farming provide opportunities for the processing of meat, wool and dairy products. The Itekeng Poultry Project has nine broiler houses with a carrying capacity of 3 000 each which are not fully in operation. The construction of a 20 000 capacity broiler house is in progress together with the construction of the abattoir to assist in the slaughtering of broilers for marketing.

As part of poverty alleviation, vegetables under Re-Kgaba ka Diratswana Programme are produced for household food insecurity. Households and institutions are identified, verified and supported with different kinds of seeds. The Provincial Department of Agriculture and Rural Development is responsible for procurement of seeds using ILIMA/Letsema fund. Each town in the district is expected to take part in this initiative. The National Department of Agriculture, Forestry and Fisheries assists by providing fruit trees on request for households identified.

3.3 QUANTITATIVE RESEARCH METHODS

Structured interviews are used to collect quantifiable data and are also referred to as quantitative research interviews (Saunders *et al*, 2009). Leedy & Ormrod (2010) indicate that especially in studies of human behaviour, mixed methods designs with both quantitative and qualitative elements often provide a more complete picture of a particular phenomenon than either approach could do alone. A quantitative approach was used to collect data in the research area among farmers and extension officers. Respondents were well informed about the study and the objectives of the study were clearly articulated.

3.3.1 Sampling

The sample was drawn from fifteen towns of four local municipalities of Fezile Dabi District namely Cornelia, Villiers, Frankfort, Tweeling, Steynsrus, Kroonstad, Viljoenskroon, Parys, Edenville, Koppies, Heilbron, Vredefort, Metsimaholo, Deneysville and Orangeville. There are five ward offices in the district which are based at Sasolburg, Heilbron, Parys, Frankfort and Kroonstad. The target populations were small holder farmers and their extension officers from the study area.

3.3.1.1 Farmers

Table 3.1 displays the population size of farmers in four municipalities of Fezile Dabi district.

Table 3.1: Number of farmers in Mafube, Metsimaholo, Moqhaka and Ngwathe municipalities in Fezile Dabi District

MUNICIPALITIES	TOWN	NUMBER OF ACTIVE FARMERS
Mafube	Cornelia	89
	Villiers	17
	Frankfort	48
	Tweeling	36
Moqhaka	Steynsus	124
	Kroonstad	76
	Viljoenskroon	30
Ngwathe	Vredefort	145
	Heilbron	100
	Parys	80
	Koppies	115
	Edenville	15
Metsimaholo	Sasolburg	51
	Orangeville	42
	Deneysville	27
Total		**995**

Source: Author's compilation

Active farmers were identified by the respective extension officers in each town and a list of names was drafted. A total of 200 farmers were randomly selected from a population of 995 participants to participate in the interviews with 50 respondents selected from each municipality. The respondents are farmers who are actively involved in different agricultural enterprises.

3.3.1.2 Extension Officers

All extension officers operating in five wards were targeted for the study. These extension officers are predominantly responsible for rendering agricultural extension services to subsistence and small holder farmers. Due to the limited number of extension officers in the district, it was concluded that all fifteen extension officers should participate in the interviews. Each extension officer is responsible for managing one town.

3.3.2 Data collection

The information used to complete the study was acquired from both primary and secondary sources. Secondary data was obtained from journals, published and unpublished sources, textbooks, articles, internet, dissertations and extension officer's weekly and monthly reports among others. Primary data was collected through the use of structured questionnaires (Appendix A and B). The structured questionnaires were used to determine the profiles, technical competency and knowledge of farmers and extension officers and identify their perceptions and attitudes towards agricultural extension service delivery in Fezile Dabi district. The questionnaires were initially set in English, but during the interview for farmers these questions were translated into Sesotho so that farmers could understand the questions clearly. Farmers were visited where individual interviews were done. A logical order of asking questions was followed. Further probing questions were asked to collect more information where needed. The researcher was responsible for interviews which commenced in August 2013.

Extension officers were aware of the research that was to be undertaken by the researcher as they assisted with the compilation of the names of their farmers for sampling. They were also

requested to participate in the research of which they agreed. Questionnaires were issued to extension officers during the district monthly meeting.

3.3.3 Pilot testing

Pilot testing of the questionnaires were done before data collection started among the sampled respondents to establish the validity of the instrument to be used. The questionnaires were pre-tested using a sample of three extension officers from other districts in the Free State and three farmers from the district. No changes were required to the questionnaires.

3.3.4 Data analysis

The primary data was captured using Excel worksheet. The Statistical Analysis System (SAS) was used by the Department of Statistics, University of Pretoria to compute single frequencies and descriptive statistics like means, standard deviations and to perform statistical tests.

CHAPTER 4

PROFILE OF FARMERS AND THEIR PERCEPTION TOWARDS EXTENSION SUPPORT

4.1 INTRODUCTION

In this chapter the profile of the farmers and their perceptions and attitudes towards extension service delivery in Fezile Dabi District are discussed. Scoones and Thompson, (1994), Reij and Waters-Bayer, (2001), Perret and Mercoiret, (2003), Pound *et al* (2003) and CTA, (2004) as quoted by Hart and Burgess (2006) mention that much of the current literature on agricultural development during the past decade, emphasises the need for development agents and research to participate in meaningful ways with smallholder farmers in order to ensure sustainable natural resource management, sustainable production and agricultural growth. The argument is that farmers have already solutions to their own problems or can at least make meaningful contributions to solving their problems by virtue of knowledge regarding their circumstances and local environment.

4.2 GENDER AND AGE OF THE RESPONDENTS

Women farmers operate under greater challenges like little access to information, technology, land, inputs, markets and credit. As primary caretakers of children, they have limited time and mobility and are often illiterate. They also need the agricultural extension service but the services are often geared to male farmers both in content and implementation. Success of the agricultural sector cannot be achieved without paying attention to women as they are key role-players in the households and communities as a whole. Women provide nearly 70% of the agricultural labour force in Africa (Saito & Weidemann, 1990). The gender and age profile of the farmers are shown in Table 4.1.

Table 4.1 illustrates that 57.5% of farmers interviewed in Fezile Dabi district were men, which indicates that men are still dominating participation in the farming sector. In Fezile Dabi district

10 male and 5 female extension officers responsible for supporting farmers have been employed. To ensure more effective delivery of messages to women, more concerted effort to increase the number of female extension officers should be implemented or perhaps male extension officers should also be re-trained to address more effectively the needs of women farmers.

Table 4.1: Distribution of the respondents according to gender and age as per municipality (n=200)

MUNICIPALITIES	**NGWATHE**		**MOQHAKA**		**MAFUBE**		**METSIMAHOLO**		**TOTAL**	
GENDER	n	%	n	%	n	%	n	%	n	%
Male	28	56.0	36	72.0	31	62.0	20	40.0	115	57.5
Female	22	44.0	14	28.0	19	38.0	30	60.0	85	42.5
TOTAL	**50**	**25.0**	**50**	**25.0**	**50**	**25.0**	**50**	**25.0**	**200**	**100**
AGE	n	%	n	%	n	%	n	%	n	%
21-29 years	0	0.0	1	2.0	0	0.0	8	16.0	9	4.5
30-39 years	4	8.0	2	4.0	3	6.0	9	18.0	18	9.0
40-49 years	13	26.0	9	18.0	7	14.0	7	14.0	36	18.0
50-59 years	7	14.0	11	22.0	21	42.0	15	30.0	54	27.0
>60 years	26	52.0	27	54.0	19	38.0	11	22.0	83	41.5
TOTAL	**50**	**25.0**	**50**	**25.0**	**50**	**25.0**	**50**	**25.0**	**200**	**100**

International experience shows that a suitable age to get the most success in the farming sector is around 45 years of age (van Rooyen and Njobe- Mbuli, 1996). Aphunu & Otoikhian (2008) indicate that the age factor is very important for farming since it requires people with zeal and who are independent. 41.5 % of farmers are above sixty years of age followed by 27% of farmers who are between 50-59 years of age. Only 4.5% of respondents are younger than 30 years, which implies that farming as a possible business venture is not attractive to young people in the district.

4.3 EDUCATIONAL LEVEL

Education, training and skills development are critical for people to prosper and reach their full potential. One of the critical attributes to knowledge and information is education which can assist farmers in decision making (Sebadieta, et al 2007). Education is a very crucial factor in agricultural sector especially in the articulation and understanding of issues. Farmers with relatively high education levels in general understand the agriculture marketing environment and challenges better than farmers with relative low level of education (Stevens, 2010).

Table 4.2: Distribution of the respondents according to level of education as per municipality (n=200)

	EDUCATIONAL LEVEL											
MUNICIPALITIES	**No education**		**Grade 1-7**		**Grade 8-12**		**Diploma in Agriculture**		**Other (Non Agric)**		**Total**	
	n	%	n	%	n	%	n	%	n	%	n	%
NGWATHE	5	10.0	17	34.0	25	50.0	3	6.0	0	0.0	50	25.0
MOQHAKA	6	12.0	19	38.0	23	46.0	2	4.0	0	0.0	50	25.0
MAFUBE	9	18.0	20	40.0	18	36.0	1	2.0	2	4.0	50	25.0
METSIMAHOLO	5	10.0	18	36.0	26	52.0	1	2.0	0	0.0	50	25.0
TOTAL	**25**	**12.5**	**74**	**37.0**	**92**	**46.0**	**7**	**3.5**	**2**	**1.0**	**200**	**100**

Table 4.2 illustrates that 12.5% of farmers in Fezile Dabi District have never been to school, while 87.5% had attained an education level of primary, secondary and tertiary level. 3.5% of respondents obtained a Diploma in Agriculture. Glen College of Agriculture and Institute was established in 1886 as a model farm which was to help in the training of farmers. Glen Further Education and Training College as it is called today, is assisting farmers by offering short courses on different agricultural related topics and enterprises. Training programmes are dualistically developed, where farmers provide their training requirements and the college responds by developing relevant training for the farmers.

4.4 HEADS OF HOUSEHOLDS

With regard to decision making, it is difficult for people who are not heads of their household to take decisions on farming activities. Agrarian reform uses the "head of the family" concept as basis for land reallocation and decision making. In cases where the husbands are working in other places and the wives are left at home, decision making is usually postponed till the husband returns home. Where women are heading households, they are often discriminated against in their attempt to access land or housing in their own right and are often vulnerable to the abuse from traditional leaders, officials and neighbours. Despite women's critical role to the family income through their on farm activities, they have a limited role in decision making at household level.

Table 4.3: Distribution of the number of heads` of households as per municipality (n=199)

	Head of household					
	Yes		**No**		**Total**	
MUNICIPALITIES	n	%	n	%	n	%
NGWATHE	42	84.0	8	16.0	50	25.0
MOQHAKA	47	94.0	3	6.0	50	25.0
MAFUBE	42	85.7	7	14.3	49	25.0
METSIMAHOLO	28	56.0	22	44.0	50	25.0
TOTAL	**159**	**79.8**	**40**	**20.2**	**199**	**100**

79.8% of respondents interviewed are heads of households, which implies they are also the decision makers in the various households. It is stipulated in the National Development Plan (DAFF, 2009) that tenure security for black farmers in the communal areas and under the land reform programme is not adequately addressed and as long as farmers (especially women farmers) do not have secure tenure, they will not invest, and agricultural production will not grow at the rate and pattern required for growth in employment (DAFF, 2009). A significant less number of heads of households in Metsimaholo municipality have been interviewed (x^2=25.5; df=3.7; p=0.000).

4.5 FARMING EXPERIENCE

Experience of the farmers should be taken into consideration as it plays a pivotal role in decisions making in farming. Sometimes farmers sell their farms after ten years of operation of not making any profit. Some of the people involved in farming were previously farm labourers and received farms through Settlement Land Acquisition Grant (SLAG), Land Redistribution for Agricultural Development (LRAD) and Pro-Active Land Acquisition Strategy (PLAS). The district also has farmers who bought plots and farms privately. The Kopong Fezile Dabi District Cooperative has been provided with mechanisation consisting of less than ten tractors and implements by the Provincial Department of Agriculture to assist farmers who want to work their fields on a fee basis.

Table 4.4: Distribution of the respondents according to number of years farming (n=200)

	Years farming									
MUNICIPALITIES	**<3 years**		**3-5 years**		**6-10 years**		**>10 years**		**Total**	
	n	%	n	%	n	%	n	%	n	%
NGWATHE	7	14.0	6	12.0	10	20.0	27	54.0	50	25.0
MOQHAKA	6	12.0	5	10.0	13	26.0	26	52.0	50	25.0
MAFUBE	1	2.0	6	12.0	9	18.0	34	68.0	50	25.0
METSIMAHOLO	4	8.0	15	30.0	13	26.0	18	36.0	50	25.0
TOTAL	**18**	**9.0**	**32**	**16.0**	**45**	**22.5**	**105**	**52.5**	**200**	**100**

Table 4.4 indicates that 52.5% of farmers have been farming for more than ten years with only 9% farming less than three years. This illustrates that the majority of smallholder farmers in Fezile Dabi have a vast pool of farming experience and skills. The difference in farming experience between the four municipalities is statistical significant (x^2=22.27; df =12; p=0.035).

4.6 FULL TIME OR PART TIME FARMING

Unemployment is a problem in Fezile Dabi district hence, agriculture is perceived as an important employer and source of food. 96% of the respondents indicated they are full time famers, and therefore farming is their main source of household income.

Table 4.5: Distribution of full time and part time farmers as per municipality (n= 200)

	Full time farmers		Part time farmers		Total	
MUNICIPALITIES	n	%	n	%	n	%
NGWATHE	48	96.0	2	4.0	50	25.0
MOQHAKA	50	100.0	0	0.0	50	25.0
MAFUBE	46	92.0	4	8.0	50	25.0
METSIMAHOLO	48	96.0	2	4.0	50	25.0
TOTAL	**192**	**96.0**	**8**	**4.0**	**200**	**100**

4.7 SOURCES OF HOUSEHOLD INCOME

The income of the household plays a significant role in decision making Dixon, Gulliver & Gibbin (2001) as quoted by Stevens & Ntai (2011) indicate that a lower household income lowers the ability of the households to influence the biophysical condition in which they have to farm as they can afford less external inputs for their production system. 47% of the respondents indicated that agricultural income (livestock and crops/vegetables) is their major source of income, while 52% respondents indicated pension and child grants (social grants) as important contributors to their households income, 29.5% respondents indicated that they have a non-agricultural income sources like owning a tuck-shop or involved in the transport industry to be able to cope with the financial needs of their households.

Table 4.6 Different sources of household income as per municipality (n=200)

MUNICIPALITIES	Pension		Child grants		Farm produce		Off farm income		Other	
	n	%	n	%	n	%	n	%	n	%
NGWATHE	26	13.0	0	0.0	29	14.5	8	4.0	6	3.0
MOQHAKA	26	13.0	8	4.0	19	9.5	6	3.0	9	4.5
MAFUBE	24	12.0	6	3.0	25	12.5	6	3.0	4	2.0
METSIMAHOLO	12	6.0	2	1.0	21	10.5	12	6.0	8	4.0
TOTAL	**88**	**44.0**	**16**	**8.0**	**94**	**47.0**	**32**	**16.0**	**27**	**13.5**

4.8 SIZE OF FARMING AND SATISFACTION WITH LEVEL OF PRODUCTION

Government's intension is to develop more black commercial farmers playing a significant role in producing agricultural products with recommended standards for export markets. This is a challenge for the farmers in the district. Hart and Burges (2006) indicate that linking LRAD and smallholder farmers with white commercial farmers and having good relationship can assist black farmers to export their products. They gave an example of a smallholder apple famer in south-western Cape who had linkages with large scale commercial farmers and managed to enter the national and export apple markets. The size of the farm can influence the production and income of the farm. Stevens & Ntai (2011) mention bigger farms are usually more profit oriented than small sized farms, and farmers are usually in better positions to invest on more sophisticated agricultural technologies. 47% of the respondents are small scale commercial farmers producing for the market while 38.5% are farming mainly for household food security reasons. 14.5% of the respondents received land through LRAD and is also producing with the aim of selling their produce.

Table 4.7: Distribution of current level of production in municipalities (n=200)

	MUNICIPALITIES									
Level of production	**NGWATHE**		**MOQHAKA**		**MAFUBE**		**METSIMAHOLO**		**Total**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Household producer	14	28.0	22	44.0	26	52.0	15	30.0	77	38.5
Small holder farmer	24	48.0	24	48.0	21	42.0	25	50.0	94	47.0
LRAD farmer	12	24.0	4	8.0	3	6.0	10	20.0	29	14.5
Total	**50**	**25.0**	**50**	**25.0**	**50**	**25.0**	**50**	**25.0**	**200**	**100**

Land is a serious challenge for new farmers in Fezile Dabi District and subsistence and smallholder farmers operate from the backyards and institutions like school yards, clinics, crèches, libraries, municipal open spaces and churches to name a few. 23% of respondents are farming on farms less than 2ha, while 54 % of respondents farm on farms bigger than 50ha. Female farmers are mainly active on farm sizes less than 2ha while farming on relative bigger farms (>50ha) is being dominated by men, (Table 4.8). This difference in farm size between men and women is statistically significant (x^2 =20.42; df=5; p=0.001). LRAD farmers farm on bigger farms but often lack resources like fencing, water, electricity and a house to stay.

Table 4.8: Distribution of farm size in the four municipalities (n=198)

	NGWATHE		MOQHAKA		MAFUBE		METSIMAHOLO		Total	
Size of the farm	n	%	n	%	n	%	n	%	n	%
<2ha	16	32.0	5	10.0	11	22.0	14	28.0	46	23.0
2-5ha	1	2.0	4	8.0	6	12.0	5	10.0	16	8.0
6-20ha	2	4.0	1	2.0	5	10.0	10	20.0	18	9.0
21-50ha	4	8.0	2	4.0	4	8.0	2	4.0	12	6.0
>50ha	26	52.0	37	74.0	24	48.0	19	38.0	106	54.0
TOTAL	**49**	**24.6**	**49**	**24.6**	**50**	**25.0**	**50**	**25.0**	**198**	**100**

54% of farmers farm on more than 50ha and are mainly involved in livestock farming and operating on the municipal land or commonages. The situation on these commonages is not ideal as not only cattle are kept on this land but all kinds of domestic animals are hosted here with the possibility of disease outbreaks. Farmers in Fezile Dabi failed to participate in Comprehensive Africa Agricultural Development Programme (CAADP) mainly because of the small farm sizes since they were supposed to plant maize and soya-bean to be exported to other African countries.

Farmers were asked to indicate their satisfaction (using a four point Likert scale) with the current production level obtained on the farm. Only 34% of the respondents were satisfied and very satisfied with their current production levels on the farm (Table 4.9) and the main reasons for their dissatisfaction are the lack of land ownership and access to affordable credit.

Table 4.9: Perceived satisfaction with the current level of agricultural production (n=199)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	23	46.0	10	20.0	16	32.0	1	2.0	50	25.0
MOQHAKA	21	42.9	13	26.5	12	24.5	3	6.1	49	25.0
MAFUBE	19	38.0	8	16.0	12	24.0	11	22.0	50	25.0
METSIMAHOLO	28	56.0	9	18.0	13	26.0	0	0.0	50	25.0
TOTAL	**91**	**45.5**	**40**	**20.0**	**53**	**26.5**	**15**	**7.5**	**199**	**100**

4.9 MAIN AGRICULTURAL ENTERPRISE

Owning a huge number of cattle in a village are a great asset to black people as it implies wealth and increase the status of an individual. Table 4.10 shows that 68.5% of the respondents own livestock, while 19.5% are crop farmers (mainly under dry-land conditions). 66.7% of respondents involved in crop production are women, while men are mainly involved in livestock farming (65%). This difference in preference for farming enterprises by men and women was found to be statistically significant (x^2= 13.229; df=3; p= 0.004). Livestock include beef cattle, sheep, goats, and poultry (layers and broilers). Different vegetable types are planted, of which some are produced in tunnels where CASP or ILIMA/Letsema funds have been used for infrastructure development and production inputs.

Marketing of crop produce is a huge challenge in the area since the quantity and quality of the products vary significantly between farmers. Most of the crop produce are sold to local supermarkets, hawkers and the community while very little is sold on national markets. Cattle are mostly sold at auctions and to local communities for performing ritual activities.

Table 4.10: Distribution of farmers according to type of enterprise: (n=199)

	Crops		Livestock		Crops and livestock		Other		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	14	28.0	27	54.0	9	18.0	0	0.0	50	25.0
MOQHAKA	7	14.0	43	86.0	0	0.0	0	0.0	50	25.0
MAFUBE	5	10.0	36	72.0	9	18.0	0	0.0	50	25.0
METSIMAHOLO	13	26.0	31	62.0	2	4.0	3	6.0	49	25.0
TOTAL	**39**	**19.5**	**137**	**68.5**	**20**	**10.0**	**3**	**1.5**	**199**	**100**

4.10 SOURCES OF AGRICULTURAL INFORMATION AND ADVICE

One of the key responsibilities of the extension officer is to provide technical advice and other related agricultural information to the farmers for sound decision making. It is recommended by the Department of Agriculture and Rural Development that weekly and monthly reports of extension officers should indicate the technical advice given to farmers.

Farmers were asked whom do they usually contact for agricultural information and advice? 87% of the respondents indicated that they prefer to contact the extension officer, while 5% indicated they contact their neighbours or fellow farmers for relevant information. These findings indicate that farmers trust extension officers for supporting them with advice and information.

Table 4.11: Sources of agricultural information and advice used by farmers (n=200)

	Extension officer		Neighbouring farmers		Private companies		Other		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	44	88.0	4	8.0	1	2.0	1	2.0	50	25.0
MOQHAKA	42	84.0	1	2.0	1	2.0	6	12.0	50	25.0
MAFUBE	44	88.0	3	6.0	0	0.0	3	6.0	50	25.0
METSIMAHOLO	44	88.0	2	4.0	0	0.0	4	8.0	50	25.0
TOTAL	**174**	**87.0**	**10**	**5.0**	**2**	**1.0**	**14**	**7.0**	**200**	**100**

Although possible preferences of various agricultural main enterprises with regard to agricultural information sources were tested no statistical significance difference was found.

4.11 FREQUENCY OF INTERACTION WITH EXTENSION OFFICER

Continuous interaction builds the good relationship between the extension officer and the farmer. 46.5% of farmers meet their extension officers once in a month, while 10.5% of farmers indicated they did not have any contact with their extension officer at all (Table 4.12). This is very worrying and a possible reason for this may be limited kilometres allocated for travelling by field workers. Ad-hoc activities like transporting farmers to departmental events and attending of unplanned meetings have a bearing on the situation.

Table 4.12: Frequency of interaction with the extension officer (n=200)

	Once a week		Once in two weeks		Once in a month		Never		Other		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	1	2.0	5	10.0	33	66.0	10	20.0	1	2.0	50	25.0
MOQHAKA	11	22.0	13	26.0	21	42.0	2	4.0	3	6.0	50	25.0
MAFUBE	27	54.0	10	20.0	9	18.0	3	6.0	1	2.0	50	25.0
METSIMAHOLO	1	2.0	8	16.0	30	60.0	6	12.0	5	10.0	50	25.0
TOTAL	**40**	**20.0**	**36**	**18.0**	**93**	**46.5**	**21**	**10.5**	**10**	**5.0**	**200**	**100**

Table 4.12 indicates that 54% of the respondents in Mafube municipality interact with the extension officers weekly. A possible reason for this tendency is that farmers were requesting the renewal of lease agreements or contracts from the municipality in which the extension officers assisted them.

4.12 PREFERENCE OF EXTENSION METHOD FOR INTERACTION WITH THE EXTENSION OFFICER

According to Stevens and Terblanche (2004) effective farmer groups are a prerequisite for accelerated agricultural development. Effective farmer groups are the vehicle to work collectively towards change at farm level and can help with the empowerment of farmers. 28.5% of farmers prefer individual farm visit by the extension officer, while 70% of the farmers prefer group contact.

Table 4.13: Extension methods preferred by respondents for extension delivery (n=200)

	Individual farm visit		Group Contact		Other		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	17	34.0	32	64.0	1	2.0	50	25.0
MOQHAKA	9	18.0	39	78.0	2	4.0	50	25.0
MAFUBE	14	28.0	36	72.0	0	0.0	50	25.0
METSIMAHOLO	17	34.0	33	66.0	0	0.0	50	25.0
TOTAL	**57**	**28.5**	**140**	**70.0**	**3**	**1.5**	**200**	**100**

4.13 PARTICIPATION IN EXTENSION PROJECT AND PROGRAMME

A project is defined as an endeavour to accomplish a specific objective through a unique set of interrelated tasks and the effective utilisation of resources Gido & Clements (1999) as quoted by Terblanche and Stevens (2010). Agricultural programmes that farmers are involved in include, CASP, ILIMA/Letsema, Mechanisation, Re Kgaba ka Diratswana, Massification (Crops and Livestock), and Land Care. Agricultural projects implemented in the district include the construction of vegetable tunnels, poultry houses and purchasing of production inputs. Table 4.14 indicates that 80.3 % of farmers are not engaged in any of these above mentioned extension programmes.

Table 4.14: Engagement in extension programmes / projects (n=197)

	Yes		No		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	9	18.0	41	82.0	50	25.4
MOQHAKA	5	10.4	43	89.6	48	24.4
MAFUBE	9	18.4	40	81.6	49	24.9
METSIMAHOLO	16	32.0	34	68.0	50	25.3
TOTAL	**39**	**19.7**	**158**	**80.2**	**197**	**100**

A possible reason for the relative low percentage of farmers involved in agricultural development programmes and projects is that due to the limited funding available through CASP and ILIMA/Letsema, only a few farmers are selected for participation. This implies that many farmers are not benefiting from the financial assistance from the Department of Agriculture and Rural Development.

4.14 COMPETENCY OF EXTENSION OFFICERS

Farmers look upon the extension officers as technical advisors to provide them with information and advice that will enable them to obtain higher returns. In responding to a question on whether their extension officers are competent or not, 93.5% of the farmers indicated that they regard their extension officers as competent in performing the extension services (Table 4.15). 12% of respondents in Ngwathe municipality indicated they do not perceive their extension officers as competent. Farmers expect from their extension officers a defined body of technical knowledge and skills, as well as well-developed communication and interpersonal skills for professional extension service delivery (Stevens, 2008).

Table 4.15: Perceived competency of extension officers (n=200)

	Yes		No		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	44	88.0	6	12.0	50	25.0
MOQHAKA	47	94.0	3	6.0	50	25.0
MAFUBE	48	96.0	2	4.0	50	25.0
METSIMAHOLO	48	96.0	2	4.0	50	25.0
TOTAL	**187**	**93.5**	**13**	**6.5**	**200**	**100**

Perceived technical competency of extension officers

On a question how technically competent extension officers' are- 94.5% farmers indicated they perceive their extension officers to be competent and highly competent with regard to their technical knowledge. Reasons why extension advisors were perceived as incompetent include information not clearly communicated and presented to them and the lack of the ability to help with the practical application of recommendations.

Table 4.16: Perceived technical competency of extension officers (n=200)

	Very incompetent		Incompetent		Competent		Highly competent		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	2	4.0	5	10.0	35	70.0	8	16.0	50	25.0
MOQHAKA	0	0.0	0	0.0	22	44.0	28	56.0	50	25.0
MAFUBE	1	2.0	3	6.0	18	36.0	28	56.0	50	25.0
METSIMAHOLO	0	0.0	0	0.0	32	64.0	18	36.0	50	25.0
TOTAL	**3**	**1.5**	**8**	**4.0**	**107**	**53.5**	**82**	**41.0**	**200**	**100**

4.15 PERCEIVED CREDIBILITY AND TRUSTWORTHINESS OF EXTENSION OFFICERS

Table 4.17 illustrates that 92.5% of farmers indicated that their extension officers are trustworthy and credible. Communication is the best tool between the farmer and the extension officer for information sharing. This is supported by the indication that most farmers rely on extension officers for needs identification, technical advice and the continuous interaction among other things.

Table 4.17: Frequency distribution of extension officer's trustworthiness and credibility (n=200)

	Very low		Low		High		Very high		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	3	6.0	7	14.0	35	70.0	5	10.0	50	25.0
MOQHAKA	1	2.0	2	4.0	16	32.0	31	62.0	50	25.0
MAFUBE	1	2.0	1	2.0	19	38.0	29	58.0	50	25.0
METSIMAHOLO	0	0.0	0	0.0	34	68.0	16	32.0	50	25.0
TOTAL	**5**	**2.5**	**10**	**5.0**	**104**	**52.0**	**81**	**40.5**	**200**	**100**

4.16 PERCEIVED STATUS OF EXTENSION OFFICERS COMPARED TO OTHER PROFESSIONALS BY FARMERS

Farmers perceived the professional status of extension officers to be high in comparison to other agricultural professionals working in the area (Table 4.18). However in municipalities like Metsimaholo (66%) the status of their extension officers were perceived to be much lower than professionals from the private sector. Possible reasons for this are: extension officers are sharing government vehicles in their ward and therefore sometimes unable to attend to urgent requests

from farmers; offices not well equipped with office equipment like fax machines; telephones are not working, limited travelling budget available and farmers also indicated that extension officers do not have uniform to be recognised.

Table 4.18: Perceived status of extension officials in comparison to other professionals in the area (n=200)

	Very low		Low		High		Very high		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	2	4.0	35	70.0	12	24.0	1	2.0	50	25.0
MOQHAKA	6	12.0	14	28.0	18	36.0	12	24.0	50	25.0
MAFUBE	1	2.0	8	16.0	24	48.0	17	34.0	50	25.0
METSIMAHOLO	0	0.0	33	66.0	17	34.0	0	0.0	50	25.0
TOTAL	**9**	**4.5**	**90**	**45.0**	**71**	**35.5**	**30**	**15.0**	**200**	**100**

4.17 MEMBER OF FARMER ORGANISATION

According to Colliver (2001) as quoted by Stevens & Ntai (2011) farmer groups play an important role to produce faster evolution of sustainable farming systems by facilitating a better flow of ideas and information amongst the farmers. Farmer organisations are important to promote the interest of farmers and are therefore promoted by the Department. According to Table 4.19, 80.5% of the respondents do not belong to any farmer organisation with the highest occurrence of farmers not belonging or associated situated in Moqhaka (98%). 19.5% of the respondents indicated that they have affiliated to farmer organisations like African Farmers Association of South Africa (AFASA) and National African Farmers Union (NAFU) with the aim of being assisted to acquire land. Subsistence and smallholder farmers are affiliated to AFASA and NAFU organisations available in the district while white commercial farmers are affiliated to Agri-Free State.

Table 4.19: Farmer affiliation with farmer organisations (n=200)

	Yes		No		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	14	28.0	36	72.0	50	25.0
MOQHAKA	1	2.0	49	98.0	50	25.0
MAFUBE	18	36.0	32	64.0	50	25.0
METSIMAHOLO	6	12.0	44	88.0	50	25.0
TOTAL	**39**	**19.5**	**161**	**80.5**	**200**	**100**

4.18 FREQUENCY OF FARMER ORGANISATION MEETINGS

For proper planning regular meetings should be arranged by the farmer organisation to inform the members about the developments made. 46.3% of the respondents indicated there has never been a meeting organised for members after the farmer organisation has been established, while 26.8% of farmers are meeting every month (Table 4.20).

Table 4.20: Frequency of farmer organisation meetings held (n=41)

	Once a month		Quarterly		Annually		Never		Other		Total	
MUNICIPALITIES	n	%	n	%	n	%	n	%	n	%	n	%
NGWATHE	2	13.3	5	33.3	0	0.0	8	53.3	0	0.0	15	36.6
MOQHAKA	0	0.0	0	0.0	0	0.0	1	100	0	0.0	1	2.4
MAFUBE	4	15.0	1	15.0	1	5.0	10	50.0	2	10.0	18	43.9
METSIMAHOLO	5	71.4	2	28.6	0	0.0	0	0.0	0	0.0	7	17.1
TOTAL	**11**	**26.8**	**8**	**19.5**	**1**	**2.4**	**19**	**46.3**	**2**	**4.9**	**41**	**100**

4.19 CONSTRAINTS WHICH INFLUENCE EXTENSION DELIVERY

Farmers were asked to indicate the most pertinent constraints that should be addressed to improve agricultural service support in the district. 93% of farmers indicated that availability of

funding for service delivery should be urgently addressed by the Department (Table 4.21). This constraint is also impacting on the frequency that extension officials can visit farmers or farmer groups. In an ideal situation, it is expected that when the farming needs and activities are to be identified, the extension officer, the farmer and the researcher should come together for planning. 21.5% of the respondents indicated that planning of farming with the extension officer and the researcher are either not happening or are very poor.

Table 4.21: Constraints perceived by farmers with regard to agricultural extension services delivery (n=200)

Main problems	Availability of funds		Number of trainings offered		Frequency of visit by the extension officer		Planning of activities with the extension officer and the researcher		Communication between farmer and extension officer		Other	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	47	23.6	6	3.2	17	8.5	9	4.5	8	4.0	5	2.5
MOQHAKA	48	24.0	1	0.5	6	3.0	10	5.0	1	0.5	21	10.5
MAFUBE	43	21.5	8	4.3	4	2.0	10	5.0	5	2.5	18	9.0
METSIMAHOLO	48	24.0	6	3.2	14	7.0	14	7.0	5	2.5	11	5.5
TOTAL	**186**	**93.0**	**21**	**10.5**	**41**	**20.5**	**43**	**21.5**	**19**	**9.5**	**55**	**27.5**

24.5% of the respondents indicated that they identify their farming needs themselves, while 13.5% of the respondents indicated that they share ideas and plans with farmer leaders and farmer group executive committee members. Only 45% discuss their plans with extension officers. 27.5% of the respondents raised constraints like their difficulty to access land and access to appropriate markets as a part where extension officers are not supporting them with, and which they feel should be better addressed by extension officers. Moqhaka farmers indicated they discuss their needs with the extension officers, while 52% of respondents in Ngwathe municipality talk to fellow farmers and their leaders. 36% of Mafube farmers rely on themselves for needs identification and the possible reason these respondents have extensive farming experience (Table 4.22).

Table 4.22: Different information sources that help farmers with farmer need identification and planning (n=200)

	On my own		Talk to farmer leaders		Talk to fellow farmers		Discuss with farmer group executive committee		Discuss with the extension officer		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	9	18.0	7	14	19	38.0	3	6.0	12	24.0	50	25.0
MOQHAKA	10	20.0	3	6.0	3	6.0	3	6.0	31	62.0	50	25.0
MAFUBE	18	36.0	1	2.0	2	4.0	1	2.0	28	56.0	50	25.0
METSIMAHOLO	12	24.0	2	4.0	10	20.0	7	14.0	19	38.0	50	25.0
TOTAL	**49**	**24.5**	**13**	**6.5**	**34**	**17.0**	**14**	**7.0**	**90**	**45.0**	**200**	**100**

4.20 PREFERENCE OF WORKING WITH FEMALE OR MALE EXTENSION WORKER

Many studies have noted that extension services are less likely to reach poorer farmers. Many of the poor farmers are women, but Hirschmann &Vaughan (1983) as quoted by Doss (2001), claimed that extension services were biased against poor households and not against women in particular. He further indicated that female extension workers are needed to reach female farmers. To ensure more effective delivery of messages to women, farmers were asked who they prefer to serve them with regard to farm planning and decision making (Table 4.23).

Table 4.23: Preference to service delivering by female or male extension officer (n=198)

	Female extension officer		Male extension officer		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	18	36.0	32	64.0	50	25.3
MOQHAKA	25	51.0	24	49.0	49	24.7
MAFUBE	18	36.7	31	63.3	49	24.7
METSIMAHOLO	8	16.0	42	84.0	50	25.3
TOTAL	**69**	**34.8**	**129**	**65.2**	**198**	**100**

34.8% of the respondents have a definite preference to be served by female extension officers. The majority of farmers (65%) in the district however prefer male extension officers. A possible reason for this may be that due to the fact that nearly 69% of farmers are involved in livestock farming, they prefer male extension officers to serve them.

4.21 VISIBILITY OF EXTENSION SERVICE

The Extension Recovery Plan was a respond towards a need to revive extension services in South Africa. One of the pillars of Extension Recovery Plan is to ensure accountability and visibility of extension. Table 4.24 indicates that 70% of the respondents are satisfied with the general visibility of extension services. Dissatisfaction with the visibility of extension service is displayed in Ngwathe (42%) and Metsimaholo (48%) respectively.

Table 4.24: Satisfaction with the general visibility of extension service (n=200)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	3	6.0	18	36.0	28	56.0	1	2.0	50	25.0
MOQHAKA	1	2.0	6	12.0	31	62.0	12	24.0	50	25.0
MAFUBE	2	4.0	6	12.0	26	52.0	16	32.0	50	25.0
METSIMAHOLO	5	10.0	19	38.0	25	50.0	1	2.0	50	25.0
TOTAL	**11**	**5.5**	**49**	**24.5**	**110**	**55.0**	**30**	**15.0**	**200**	**100**

4.22 TRAINING EVENTS AND QUALITY

According to Table 4.25, 72.5% of the farmers showed their satisfaction with the number of training events offered to farmers and also extension officers. A request was also referred to Glen Further Education and Training Unit for addressing the training needs of farmers by offering of appropriate short courses.

Table 4.25: Satisfaction with regards to the number of training events offered (n=197)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	3	6.0	4	8.0	21	42.0	22	44.0	50	25.4
MOQHAKA	11	22.4	6	12.2	17	34.7	15	30.6	49	24.8
MAFUBE	13	27.1	4	8.3	16	33.3	15	30.0	48	24.4
METSIMAHOLO	4	8.0	8	16.0	16	32.0	22	44.0	50	25.4
TOTAL	**31**	**15.5**	**22**	**11.0**	**70**	**35.5**	**74**	**37.0**	**197**	**100**

The quality of the training courses attended is important for skills development and 79% of the respondents are satisfied with the quality of trainings provided (Table 4.26).

Table 4.26: Satisfaction with the quality of training events attended (n=199)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	3	6.0	3	6.0	19	38.0	25	50.0	50	25.0
MOQHAKA	11	22.4	5	10.2	17	34.7	16	32.0	49	25.0
MAFUBE	12	24.0	2	4.0	16	32.0	20	40.0	50	25.0
METSIMAHOLO	2	4.0	3	6.0	20	40.0	25	50.0	50	25.0
TOTAL	**28**	**14.0**	**13**	**6.5**	**72**	**36.0**	**86**	**43.0**	**199**	**100**

4.23 PERCEIVED ATTITUDE OF FARMERS TOWARDS EXTENSION OFFICERS

Attitude reflects a predisposition to behave in a certain manner. 95% of farmers perceive to have a positive attitude towards their extension officers, with the highest frequency of occurrence in Moqhaka (98%) (Table 4.27). In case where farmers perceived negative attitudes towards extension officers aspects like biasness, favouring of certain individual farmers above others were raised.

Table 4.27: Perceived attitude of farmers towards extension officers (n=200)

	Very negative		Negative		Positive		Very positive		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	0	0.0	3	6.0	32	64.0	15	30.0	50	25.0
MOQHAKA	0	0.0	1	2.0	9	18.0	40	80.0	50	25.0
MAFUBE	2	4.0	1	2.0	11	22.0	36	72.0	50	25.0
METSIMAHOLO	0	0.0	3	6.0	15	30.0	32	64.0	50	25.0
TOTAL	**2**	**1.0**	**8**	**4.0**	**67**	**33.5**	**123**	**61.5**	**200**	**100**

4.24 EXPECTATIONS OF FARMERS

Table 5.28 displays that 54.5% of the farmers indicate that they want to improve their farming production level, while 35.5% of farmers want to participate on bigger markets and increase their farming profit. 5.5% of the farmers indicated that because of age and health problems, they will most probably retire from farming in the next two years.

Table 4.28: Main expectations of farmers for the next two years (n=200)

	Improve farming production level		Increase farming profit		Improve sustainability on the farm		Other		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	31	62.0	16	32.0	1	2.0	2	4.0	50	25.0
MOQHAKA	33	66.0	12	24.0	2	4.0	3	6.0	50	25.0
MAFUBE	25	50.0	18	36.0	5	10.0	2	4.0	50	25.0
METSIMAHOLO	20	40.0	25	50.0	1	2.0	4	8.0	50	25.0
TOTAL	**109**	**54.5**	**71**	**35.5**	**9**	**4.5**	**11**	**5.5**	**200**	**100**

CONCLUSION

The majority of farmers perceived extension officers to be competent in performing extension services, for smallholder farmers to reach their full potential, the availability and quality of extension services is very important. Communication is regarded as the best tool between the farmer and the extension officer for information sharing. However, the findings indicates that some of the farmers have experienced problems with communication between themselves and the extension officers due to poor listening skills.

The findings further indicates that tenure security for black farmers in the communal areas and under the land reform programme is not adequately addressed, and as long as farmers (especially women farmers) do not have secure tenure, they will not invest, and agricultural production will not grow at the rate and pattern required for growth in employment.

CHAPTER 5

PROFILE OF EXTENSION STAFF AND THEIR PERCEPTIONS TOWARDS EXTENSION SERVICE DELIVERY IN THE DISTRICT

5.1 INTRODUCTION

Agricultural development implies a shift from traditional methods of production to new science-based methods of production that include new technological components, such as new varieties, cultural practices, commercial fertilisers and pesticides as well as new crops and new farming systems (Madukwe and Erie,1999) as quoted by Aphunu and Otoikhian (2008). These authors mentioned that preconditions for extension officers to be effective include ability to communicate, attitude to extension work; frequency of contact with farmers and field responsibility which are examined from the viewpoint of the farmers.

In this chapter, the profile of extension officers their perceptions and attitudes towards extension service delivery in Fezile Dabi District are discussed. Van den Ben and Hawkins (1988) define perceptions as the process by which information or stimuli is received from the environment and transformed into psychological awareness and attitude as a predisposition or a tendency to respond positively or negatively towards a certain idea, object, person or situation.

All 15 extension officers from the four local municipalities of Fezile Dabi District participated in this study.

5.2 GENDER AND AGE OF EXTENSION OFFICERS

Spring (1988) indicates that Ministries of Agriculture used to employ usually many male extension officers because in the past agriculture was mainly practiced by men. In Africa however, and South Africa specifically, a key objective of agricultural development programs is to improve livelihoods of the rural poor, where women play a very important role. They often contribute in providing the necessary agricultural labour required, and often women farmers are

not being visited regularly or less frequently by male extension officers due to custom and some religious practices. Information is also not properly communicated from husbands to the wives regarding farming issues. Therefore the Ministry of Agriculture, Forestry and Fisheries encouraged to employ more female extension officers to address the needs of female farmers in South Africa.

Table 5.1 illustrates that 67% male extension officers are employed in Fezile Dabi District and only 33% female extension officers. Three women extension officers were employed through the Extension Recovery Plan.

Table 5.1: Frequency distribution of the respondents according to gender and age as per municipality (n=15)

MUNICIPALITIES										
	NGWATHE		**MOQHAKA**		**MAFUBE**		**METSIMAHOLO**		**Total**	
GENDER	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Male	5	100	1	33.3	2	50.0	2	66.7	**10**	**66.7**
Female	0	0.0	2	66.7	2	50.0	1	33.3	**5**	**33.3**
TOTAL	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20**	**15**	**100**
AGE	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
21-29 years	0	0.0	0	0.0	0	0.0	0	0.0	**0**	**0.0**
30-39 years	3	60.0	2	66.7	3	75.0	3	100	**11**	**73.4**
40-49 years	1	20.0	1	33.0	0	0.0	0	0.0	**2**	**13.3**
50-59 years	1	20.0	0	0.0	1	25.0	0	0.0	**2**	**13.3**
TOTAL	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20.0**	**15**	**100**

Table 5.1 illustrates that 73.4% of the extension officers are younger than 40 years of age, which is promising for the succession of extension staff. However, this also implies that many of them are lacking experience and therefore appropriate in-service training for the effective development of their career should be organised as they still have more years to come to serve the farmers effectively and efficiently before they reach retirement. Adams (1982) is of the opinion that the

extension officers is in many cases the only government officer operating at the local level and therefore be given various non-agricultural tasks as well. This opinion however implies that little time is left for working with farmers or for in-service training.

5.3 EDUCATIONAL STATUS BACKGROUND

Educational training is the process of acquiring specific knowledge and skills to perform a job better. It helps people to become qualified and proficient in doing some jobs in positions of greater difficulty and responsibility (Dahama,1988) as quoted by Mokone (2004). Usually an organisation facilitates the employee's learning through training so that their modified behaviour contributes to the attainments of the organisation's goals and objectives.

The National Development Plan (DAFF, 2009) recommends training of a new cadre of extension that can respond effectively on producer's needs. This is confirmed by Stevens & van Heerden (2006) as quoted by Stevens & Ntai (2011) that the context of agriculture development has evolved and it is important that extension organisations should ensure to have the necessary cadre of professionals with an appropriate skill and mind-set.

There are three agricultural training institutions in Free State offering agriculture programmes

- Glen Agricultural College

Glen Agricultural College which is now known as Glen Further Education and Training College (FET) was established in 1886. Currently Glen FET College offers a three year Diploma in Animal Production and Crop Production and in the year 2014, 18 Diplomas in Agriculture were awarded.

- Central University of Technology (CUT)

Central University of Technology is offering a three year National Diploma in Agricultural Management and after completion students study for another year to qualify for B Tech degree in Agricultural Management. The Department of Agriculture at CUT have introduced and offer a

professional programme in Advanced Diploma in Agricultural Extension and made a request that extension officers should en-roll.

- University of Free State (UFS)

The University of Free State is offering different programmes in Agriculture. The Centre for Sustainable Agriculture, Rural Development and Extension is focused in educating the broader agriculturists in finding the balance between current and future agrarian and agri-business needs. The centre is producing students with Advanced Diploma; Master's degree and PhD in Sustainable Agriculture.

Table 5.2 illustrates that 47% extension officials obtained a B Tech, 27% a Diploma in Agriculture, 6.7% a BSc in Agriculture; 13.3% a Honours in Sustainable Resource Management and the same percentage obtained M Tech in Sustainable Resource Management.

A statistically significance difference exists in the education level of extension officers younger than 40 years and those older than 40 years (x^2=15;df=4; p=0.001). Officials younger than 40 years have obtained qualifications like B Tech and above, while officials older than 40 years mainly obtained Diploma certificates.

Table 5.2: Distribution of the respondents according to highest tertiary qualifications per municipality (n=15)

MUNICIPALITIES	Diploma in Agriculture		B Tech		Honours		Other BSc, M Tech		Total	
	n	%	n	%	n	%	n	%	n	%
NGWATHE	2	40.0	2	40.0	0	0.0	1	20.0	5	33.3
MOQHAKA	1	33.3	1	33.3	1	33.3	0	0.0	3	20.0
MAFUBE	1	25.0	2	50.0	0	0.0	1	25.0	4	26.7
METSIMAHOLO	0	0.0	2	66.7	1	33.3	0	0.0	3	20.0
TOTAL	**4**	**26.7**	**7**	**46.7**	**2**	**13.3**	**2**	**13.3**	**15**	**100**

5. 4 AREA OF SPECIALISATION

Table 5.3 illustrates that the majority of extension officers (80%) have majored in crops and/or livestock which concur with Table 4.7 illustrating that Fezile Dabi District is ideally suited for livestock and crop farming. Only 13% of extension officers have specialised in extension which is a promising aspect since apart from the technical competency of extension officers, they need soft skills which are addressed in extension specialisation.

Table 5.3: Distribution of the respondents according to Area of specialisation obtained by extension officers in Fezile Dabi District (n=15)

MUNICIPALITIES	Crops		Livestock		Crops and livestock		Extension		Other		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
NGWATHE	1	20.0	2	40.0	1	20.0	0	0.0	1	20.0	5	33.3
MOQHAKA	1	33.3	1	33.3	0	0.0	1	33.3	0	0.0	**3**	20.0
MAFUBE	1	25.0	1	25.0	2	50.0	0	0.0	0	0.0	4	26.7
METSIMAHOLO	1	33.3	0	0.0	1	33.3	1	33.3	0	0.0	**3**	20.0
TOTAL	**4**	**26.7**	**4**	**26.7**	**4**	**26.7**	**2**	**13.3**	**1**	**6.6**	**15**	**100**

5.5 FORMAL TRAINING ATTENDED WITH REGARD TO AGRICULTURAL EXTENSION

Adams (1982) defines agricultural extension as assistance to farmers to help them to identify and analyse their production problems and to become aware of the opportunities for improvement. To be able to do above, extension officers should be well trained in agricultural extension. 60% of the extension officers attended formal training in Agricultural Extension; however in Ngwathe (40%) and Metsimaholo (33%) the respective numbers of extension staff receiving training in extension is relatively low.

Table 5.4: Formal agricultural extension training attended (n=15)

	Yes		No		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	2	40.0	3	60.0	5	33.3
MOQHAKA	3	100.0	0	0.0	3	20.0
MAFUBE	3	75.0	1	25.0	4	26.7
METSIMAHOLO	1	33.3	2	66.7	3	20.0
TOTAL	**9**	**60.0**	**6**	**40.0**	**15**	**100**

78% extension officials obtained formal extension training through a Certificate or Diploma, while 22% obtained extension training through a BAgric or BSc Programme (Table 5.5).

Table 5.5: Formal training obtained in Agricultural Extension (n=9)

MUNICIPALITIES										
	NGWATHE		**MOQHAKA**		**MAFUBE**		**METSIMAHOLO**		**TOTAL**	
Training obtained	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Certificate programme	1	50.0	1	33.3	2	66.7	0	0.0	4	**44.5**
Diploma programme	1	50.0	1	33.3	1	33.3	0	0.0	3	**33.3**
BAgric programme	0	0.0	0	0.0	0	0.0	1	100	1	**11.1**
BSc programme	0	0.0	1	33.3	0	0.0	0	0.0	1	**11.1**
TOTAL	**2**	**22.3**	**3**	**33.3**	**3**	**33.3**	**1**	**11.1**	**9**	**100**

5.6 PERCEPTION ABOUT IDEAL NUMBER OF YEARS TO BE PLACED IN A SPECIFIC WARD TO CLEARLY UNDERSTAND THE NEEDS OF FARMERS

Table 5.6 illustrates that 60% of extension officers perceive that an extension officer should be placed in a specific ward for more than two years to ensure that he/she understands the needs of farmers for purposeful extension intervention.

Table 5.6: Perceived ideal number of years to be placed in a specific ward for purposeful intervention (n=15)

MUNICIPALITIES	NGWATHE		MOQHAKA		MAFUBE		METSIMAHOLO		Total	
	n	%	n	%	n	%	n	%	n	%
<2 years	3	60.0	0	0.0	2	50.0	1	33.3	6	40.0
2-3 years	2	40.0	1	33.3	2	50.0	1	33.3	6	40.0
4-6 years	0	0.0	2	66.7	0	0.0	1	33.3	3	20.0
TOTAL	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20.0**	**15**	**100**

5.7 EXPERIENCE

Knowledge and experience in agriculture play a very important role in the performance of extension officers. Van Den Ban and Hawkins, (1988) as quoted by Mokone (2004), recommended that extension officers are able to be effective when they are given enough time in one area. Within this period both the extension officers and the farmers should know each other well and establish good working relationships. This confirms with the statement indicating that lack of extension qualification is a problem for extension officers to perform their extension work effectively once they are employed (Mokone, 2004). Table 5.7 illustrates that 13.3% have been employed for less than two years, while a huge proportion (73.4%) have served between 2 and 20 years of service in the Department. Two extension officers respectively stationed in Moqhaka and Mafube have more than twenty years of service in the Department. This ideal mixture of experienced is ideal for the providing high quality service delivery to the farmers.

Table 5.7: Number of years employed in Department (n=15)

MUNICIPALITIES										
	NGWATHE		MOQHAKA		MAFUBE		METSIMAHOLO		TOTAL	
YEARS	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
<2 years	0	0.0	0	0.0	1	25.0	1	33.3	2	13.3
2-5 years	3	60.0	1	33.3	2	50.0	0	0.0	6	40.0
6-10 years	1	20.0	1	33.3	0	0.0	2	66.7	4	26.7
11-20 years	1	20.0	0	0.0	0	0.0	0	0.0	1	6.7
>20	0	0.0	1	33.3	1	25.0	0	0.0	2	13.3
Total	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20.0**	**15**	**100**

Table 5.8 displays that 86.7% of extension officers have been stationed for more than 2 years at a specific ward, which support the building of relationships and credibility between farmers and extension officers. A statistical significant association was found to exist between the satisfaction of extension officers about the quality training provided to farmers and the number of years stationed at a specific ward (x^2=10.63;df=3;p=0.014). Extension officers are of opinion that due to credibility and trust that were created over the years, the training is more adapted to the real felt needs of farmers.

Table 5.8: Number of years stationed at specific ward (n=15)

MUNICIPALITIES										
	NGWATHE		MOQHAKA		MAFUBE		METSIMAHOLO		TOTAL	
YEARS	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
<2 years	0	0.0	0	0.0	1	25.0	1	33.3	2	13.3
2-4 years	2	40.0	1	33.3	1	25.0	2	66.7	6	40.0
5-10 years	3	60.0	2	66.7	1	25.0	0	0.0	6	40.0
>10 years	0	0.0	0	0.0	1	25.0	0	0.0	1	6.7
TOTAL	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20.0**	**15**	**100**

5.8 MEMBER OF PROFESSIONAL BODY

It is indicated by the Norms and Standards (DoA, 2005), individuals who render agricultural extension and advisory services interact directly with the public. This requires that such individuals understand the importance of such interactions with respect to the way they impact upon service delivery and the image of government. It is therefore expected of every individual who performs the duties of agricultural extension and advisory services to demonstrate professionalism.

The National Department of Agriculture Forestry and Fisheries has requested and mandated that all extension officers in South Africa should be professional practitioners and therefore register with South African Council for Natural Scientific Professions (SACNASP). All fifteen extension officers in Fezile Dabi District have applied for registration in 2014 /15 financial year. If an extension officer does not apply and register with SACNASP, he/she is not going to be allowed to practice extension services. Table 5.9 shows that 53.3% of the officials belongs to professional bodies like South African Society for Agricultural Extension (SASAE) and Free State Society for Agricultural Extension.

Table 5.9: Member of professional body (n=15)

	Yes		No		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	3	60.0	2	40.0	5	33.3
MOQHAKA	2	66.7	1	33.3	3	20.0
MAFUBE	3	75.0	1	25.0	4	26.7
METSIMAHOLO	0	0.0	3	100	3	20.0
TOTAL	**8**	**53.3**	**7**	**46.7**	**15**	**100**

5.9 CRITICAL ISSUES TO BE ADDRESSED TO IMPROVE AGRICULTURAL SERVICE DELIVERY AT WARD LEVEL

When extension officers were asked to indicate critical issues that need to be addressed for improved service delivery, they randomly indicate the following:

- Funding systems for new and already existing projects of the farmers should be improved. It is recommended that more of bottom up approach should be used than top down approach and funding should be according to the real needs of farmers.
- Land has been identified as a major constraint for the farmers leading to seldom communication between farmers and extension officers.
- Linking of farmers to upper or formal markets.
- Communication among stakeholders involved in different agricultural projects in the district not effective.
- Lack of the necessary resources to make their work and lives easier for example processes for acquiring subsidised vehicles should be reviewed and be shortened.
- Training on managing farmer groups, conflict resolution and team work to improve management of agricultural projects is recommended for extension officers.
- Empower extension officers on the field of specialisation for example crop and livestock production.

5.10 EXTENSION METHODS USED TO CONTACT FARMERS

Farmer groups are one of the most appropriate ways in which farmers learn and distribute new innovations. Kelly (1995) and Black (2000) as cited by Stevens (2010) indicate that group activities are usually seen as important methods to give people an opportunity to participate in planning and implementing of action plans and to take ownership for decisions. Stevens (2006) mentions that farmer groups have proven to be an effective way of sharing information and knowledge between farmers. According to Colliver (2001) as quoted by Stevens (2010) one thing that will produce faster evolution of sustainable farming systems is a better flow of ideas and information in which farmer groups can play an important role. Adat & Meinzen-Dick (2007) as quoted by (Van Niekerk *et al*, 2011) mention that in certain situations farmer groups

are very effective, while where conflicts over leadership or resources; domination by group members with greater social status or wealth occur, groups inhibits development. Table 5.10 illustrates that 93% of the extension officers prefer individual farm visit, while only 7% prefer farmer group meetings to interact with farmers. In Chapter 4 (Table 4.13) it is indicated that 70% of farmers prefer group contacts, while 28.5% prefer individual contacts.

Table 5.10: Extension methods used to contact the farmers (n=15)

MUNICIPALITIES										
	NGWATHE		**MOQHAKA**		**MAFUBE**		**METSIMAHOLO**		**TOTAL**	
Method used	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Farm visit	5	100	3	100	3	75.0	3	100	14	93.0
Farmer group meetings	0	0.0	0	0.0	1	25.0	0	0.0	1	7.0
TOTAL	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20.0**	**15**	**100**

A statistical significant association was found between the preferred extension method used for interaction with farmers and how long an extension officers stationed in the same ward (x^2=15;df=3;p=0.002).

5. 11 EXTENSION CONTACT

It is advisable that the extension officers should interact with the community which they have to serve. Terblanche (2005) also indicates that the farmer is the object of the extension officer's concern meaning that extension officers work with people. This enables them to do situational analysis thoroughly so that they can provide relevant information and advices to the clients. Table 5.11 shows that 46.7% of officials interact with the farmers once a week. Where extension programmes or projects are running with the farmers, more frequent contacts between farmers and extension staff exist. This is indicated by the weekly and monthly reports of the extension officers where they have to indicate the number of farmers they gave advice as well as the kind of the advice given to each farmer or group of farmers.

Table 5.11: Frequency distribution of extension officer's interaction with the farmers (n=15)

MUNICIPALITIES	NGWATHE		MOQHAKA		MAFUBE		METSIMAHOLO		Total	
	n	%	n	%	n	%	n	%	n	%
Once a week	2	40.0	1	33.3	4	100	0	0.0	7	46.7
Once in two weeks	1	20.0	0	0.0	0	0.0	0	0.0	1	6.7
Once in a month	0	0.0	1	33.3	0	0.0	1	33.3	2	13.3
Other	2	40.0	1	33.3	0	0.0	2	66.7	5	33.3
TOTAL	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20.0**	**15**	**100**

5.12 EXTENSION OFFICERS: SATISFACTION WITH SERVICE DELIVERY TO FARMERS

In the following discussion extension officers were asked to indicate their satisfaction with regard to their competency and skills to serve farmers effectively.

- *Extension competency*

Extension officers feel that they have the necessary technical (86%) and extension (80%) competency respectively required for doing their work (Table 5.12). This positive perception of extension staff with regard to their technical and extension competency was also reflected in the general opinion of staff that they exist of the ability required to do their work properly and effectively. In general extension officers illustrated to have a positive attitude in performing their duties and 53.3% of extension staff are satisfied with extension service delivery in their respective wards. 60% of the extension officers indicated they have the ability to help farmers forming farmer groups.

- *Overall farming methods in the ward*

40% of extension officers are satisfied with the overall farming methods in their ward applied by farmers, while 60% showed dissatisfaction (Table 5.12).

- *Visibility of extension and training offered*

66.7% of extension officers are satisfied with their general visibility of services rendered to farmers.

Table 5.12: Perceived satisfaction of extension officers regarding the extension support to farmers (n=15)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
	n	%	n	%	n	%	n	%	n	%
Extension service delivery in the ward	3	20.0	4	26.7	3	20.0	5	33.3	15	100
Overall farming method in the ward	4	26.7	5	33.3	4	26.7	2	13.3	15	100
Visibility of extension service	3	20.0	2	13.3	6	40.0	4	26.7	15	100
Number of training events offered to your farmers	3	20.0	3	20.0	4	26.7	5	33.3	15	100
Quality of training events offered to your farmers	1	6.7	1	6.7	5	33.3	8	53.3	15	100
Number of farmers who contact you for further support after training	4	26.7	4	26.7	4	26.6	3	20.0	15	100
Your ability to do your work	1	6.7	2	13.3	6	40.0	6	40.0	15	100
Your ability to mobilise farmers to form and work in groups	3	20.0	3	20.0	3	20.0	6	40.0	15	100
Your technical competency in doing the work	1	6.7	1	6.7	4	26.6	9	60.0	15	100
Your extension competency in doing the job	1	6.7	2	13.3	3	20.0	9	60.0	15	100

5.13 ATTITUDE OF EXTENSION OFFICERS TOWARDS FARMERS

The following discussion provides an overview of the general attitude of extension officers towards their duty as an extension worker as well as working with farmers in the district.

- *Conceptualisation of farmer needs/problems*

93.3% of extension officers agree that sound conceptualisation of farmer problems and needs is a key responsibility before possible solutions can be formulated and implemented. 66.8% of the extension officers indicated that they identify farmer needs through talking to individual farmer. This figure provided by extension officers is different from the figure that farmers provided (Table 4.21).

- *Recognition of farmer aspiration in the planning of farm plans*

80% of the extension officers are of the opinion that farmer aspirations should be taken into consideration with the planning of farm plans.

- *Farmers have potential to improve their situations*

53.3% of extension officers agree that farmers are capable of improving their situations provided they are assisted with finance for production inputs, mechanisation and the identification of the markets.

- *Able to perform the work unsupervised*

93.4% of extension officers are of the opinion that they have the ability to do their extension work unsupervised. The 6.7% extension officers that are of the opinion they require supervision are those recently being appointed. Supervision is important not only to support them with day to day execution of job responsibilities, but also to act as a mentor that is motivating them, increase their morale and help them with self- development.

- *Good listening skills*

Listening is often explained by distinguishing it from hearing. Unlike hearing, which is a passive process, listening is a mental skill which can be developed. Listening is therefore considered as an active process which requires effort and concentration by the listener (Steyn, 2010). 100% of extension officers perceive themselves as having good listening skills. However, in Table 4.20 (Chapter 4), 19.5% of the farmers have experienced problems with communication between themselves and the extension officers due to poor listening skills.

- *Availability of extension officer to assist farmers*

Availability to the farmers mean being able to assist with relevant information and not to visit the farmer and sign off the client contact form as required or as compliance by the Department of Agriculture and Rural Development. 13.3% of extension officers are of opinion they are not always available to assist their farmers, mainly because they experience transport problem.

- *Credibility and trust worthiness amongst farmers*

93.5% of extension officers perceive themselves as highly credible and trusted by their farmers. This perception of extension officers was supported by the farmers as illustrated in Table 4.17.

- *Status of extension officers in the farming community in comparison to other professionals*

Only 20% of extension officers are of the opinion they have a low status in the farming community as compared to other professionals. The extension worker is usually seen as a community worker or the person to be contacted for every situation happening in the community. The majority of the extension officers (80%) are of opinion they have a relative high status in the farming community, and therefore will motivate their children to become extension officers. Extension officers organise campaigns at schools where they provide learners with information about different fields in agriculture. This finding is different to the finding that farmers expressed in Chapter 4 (Table 4.26), where 50% farmers perceived the status of Department of Agriculture and Rural Development extension officers as low.

- *Farmer's attitude towards extension support*

40% of extension officers are of the opinion that their farmers are not positive towards the support they receive from extension service. Farmers expect most of the time that the extension officers should assist them with funding, which is the most wanted resource required for farming in the district. Extension support the preparation of business plans and applications for credit and financial support through financial aid programmes implemented by the Department of Agriculture and Rural Development, like CASP, ILIMA/ Letsema and Land Care funds. These finances are earmarked for infrastructure, production inputs and eradication of invader species among others. When extension officers cannot guarantee the funding of farmers or projects, farmer's attitude towards extension change negatively.

5.14 EXTENSION APPROACHES CURRENTLY USED

There are many extension approaches used in agricultural extension delivery. The participatory approach is one of the approaches recommended in the Norms and Standards (DoA, 2005). It is believed that throughout the world there is growing evidence that when rural people organise for their own benefit, much more can be achieved. Participatory development approaches imply participation by researchers, extension officers as well as the farmers in agricultural development.

The Free State Department of Agriculture and Rural Development is currently promoting the commodity approach to be implemented in the province. The extension intervention focuses on the production of a specific commodity. All related functions are accommodated under one umbrella namely: extension services, research, input supply and marketing of products (Stevens & Botha, 2010). Different extension methods and techniques can be used with all the approaches. Table 5.13 indicates that 46.7% of extension officers use participatory approach in their supporting of farmers, while 40% extension officers use the project approach. The project approach is very popular especially in Moqhaka (67%) and Metsimaholo (67%) because the Department of Agriculture and Rural Development promote this approach for the implementation of CASP, ILIMA/Letsema and Land Care support programmes.

Table 5.13: Extension approaches currently used in the extension wards (n=15)

	MUNICIPALITIES									
	NGWATHE		MOQHAKA		MAFUBE		METSIMAHOLO		TOTAL	
	n	%	n	%	n	%	n	%	n	%
Participatory approach	4	80.0	1	33.3	2	50.0	0	0.0	7	46.7
Project approach	1	20.0	2	66.7	1	25.0	2	66.7	6	40.0
Training and visit approach	0	0.0	0	0.0	1	25.0	1	33.3	2	13.3
TOTAL	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20.0**	**15**	**100**

- *Application of extension programme*

An extension programme is a plan that direct the extension officers on the activities that they have to perform with farmers and it is done weekly and submitted to the supervisor for endorsemnet. Without a proper extension programme, extension delivery is based on ad hoc requests and the evaluation of impact becomes a challenge. Table 5.14 indicates that 26.7% of extension officers are not working according to an extension programme, with the highest occurence in Metsimaholo (66.7%).

Table 5.14: Working according to an extension programme (n=15)

	Yes		No		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	4	80.0	1	20.0	5	33.3
MOQHAKA	2	66.7	1	33.3	3	20.0
MAFUBE	4	100	0	0.0	4	26.7
METSIMAHOLO	1	33.3	2	66.7	3	20.0
TOTAL	**11**	**73.3**	**4**	**26.7**	**15**	**100**

Table 5.15 illustrates that 45.5% of extension officers often deviate from their planned extension programmes. The main reasons for deviation from the initial extension programme are for example attending urgent meetings called by management of which they have no control.

Table 5.15: Number of extension officers deviating from the extension plan (n=11)

	Not often		Often		Very often		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	2	50.0	2	50.0	0	0.0	4	36.4
MOQHAKA	1	50.0	1	50.0	0	0.0	2	18.2
MAFUBE	2	50.0	1	25.0	1	25.0	4	36.4
METSIMAHOLO	1	100	0	0.0	0	0.0	1	9.0
TOTAL	**6**	**54.5**	**4**	**36.4**	**1**	**9.1**	**11**	**100**

5.15 EXTENSION TO FARMER RATIO

According to the Norms and Standards (DoA, 2005), the recommended ratio of extension: farmer is varying because of the nature of farming operations (crops, livestock and mixed farming). The ratio can therefore vary because of local conditions, circumstances and realities applicable to the specific farming operation. Currently there is no specified farmer ratio to extension officer in the district.

Table 5.16: Proposed Agricultural Officer: Farmer ratio (DoA, 2005)

Scale of operation	**Nature of operation/ farming**		
	Crops	**Livestock**	**Mixed**
Subsistence and household	1:400	1:500	1:500
Smallholder/ semi commercial	1:250	1:250	1:300
Market oriented and large scale commercial	1:500	1:500	1:500

5.16 CAREER CHOICE

Extension officers were asked whether they are sure they made the right career choice. Table 5.17 indicates that 80% of extension officers are positive they made the correct career choice to become extension officers. This response illustrates that the majority of extension officers feel positive about their career which will also impact on their productivity. The extension officers who indicated they have perhaps made the wrong career choice is worrisome and will require specific attention by the extension manager.

Table 5.17: Opinion about career choice (n=15)

	Yes		No		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	5	100	0	0.0	5	33.3
MOQHAKA	1	33.3	2	66.7	3	20.0
MAFUBE	4	100	0	0.0	4	26.7
METSIMAHOLO	2	66.7	1	33.3	3	20.0
TOTAL	**12**	**80.0**	**3**	**20.0**	**15**	**100**

5.17 FREQUENCY OF VISIT BY THE SUPERVIOR

Frequent visits and supervision are important for motivating of extension officers. Contact between the supervisor and subordinates are important for job satisfaction. 20% of extension officer are of the opinion they are never visited by their supervisor, while 60% of the extension officers have frequent visits (weekly, fortnightly and quarterly) by their supervisor.

Table 5.18: Frequency of visits by the supervisor (n=15)

MUNICIPALITIES	**NGWATHE**		**MOQHAKA**		**MAFUBE**		**METSIMAHOLO**		**Total**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Weekly	1	20.0	0	0.0	0	0.0	0	0.0	**1**	**6.7**
Fortnightly	0	0.0	0	0.0	1	25.0	1	33.3	**2**	**13.3**
Monthly	2	40.0	1	33.3	1	25.0	0	0.0	**4**	**26.7**
Quarterly	1	20.0	0	0.0	1	25.0	0	0.0	**2**	**13.3**
Every six months	0	0.0	0	0.0	1	25.0	1	33.3	**2**	**13.3**
Annually	0	0.0	1	33.3	0	0.0	0	0.0	**1**	**6.7**
Never	1	20.0	1	33.3	0	0.0	1	33.3	**3**	**20.0**
TOTAL	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20.0**	**15**	**100**

5.18 FREQUENCY OF DISTRICT EXTENSION MEETINGS

Table 5.19 indicates that 93.3% of extension officers have a district extension meeting on a monthly basis, while 6.7% is meeting every six months. With district extension meetings, planning is done by the extension officers and his/her supervisor for the coming month, and feed-back on projects and other extension activities with farmers is provided.

Table 5.19: Frequency of the district extension meetings held (n=15)

MUNICIPALITIES	NGWATHE		MOQHAKA		MAFUBE		METSIMAHOLO		Total	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Monthly	5	100	3	100	4	100	2	66.7	**14**	**93.3**
Every six months	0	0.0	0	0.0	0	0.0	1	33.3	**1**	**6.7**
TOTAL	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20.0**	**15**	**100**

5.19 SATISFACTION WITH PERFORMANCE ASSESSMENT

Performance assessment of extension officers is either exercised every six months or annually as required the Department of Agriculture and Rural Development. The performance plans are directed by the strategic objectives of the Department of Agriculture and Rural Development. These objectives are discussed at the beginning of each financial year by the extension officer and the supervisor. 73.3% of extension officers are assessed every six months, while 26.7% are assessed annually.

Table 5.20 indicates that 66.7% of extension officers are not happy with the current way performance assessment is done. Extension officers often have the expectancy to be rewarded with a cash bonus for the outstanding performance every time they are assessed. Another reason is that officials are not happy with the way evaluation is done (all about numbers and not measuring impact of extension). This general dissatisfaction with the current format of performance assessment will lead to the demotivation of extension staff to perform well.

Table 5.20: Satisfaction with current performance assessment by the Department of Agriculture and Rural Development (n=15)

MUNICIPALITIES	NGWATHE		MOQHAKA		MAFUBE		METSIMAHOLO		Total	
	n	%	n	%	n	%	n	%	n	%
Very dissatisfied	0	0.0	3	100	0	0.0	2	66.7	5	33.3
Dissatisfied	2	40.0	0	0.0	2	50.0	1	33.3	5	33.3
Satisfied	3	60.0	0	0.0	2	50.0	0	0.0	5	33.4
Total	**5**	**33.3**	**3**	**20.0**	**4**	**26.7**	**3**	**20.0**	**15**	**100**

5. 20 CONTACT BETWEEN EXTENSION OFFICER AND THE SUBJECT MATTER SPECIALIST (SMSs)

Saito *et al* (1990) indicate that the subject matter specialists provide technical training and guidance to extension officers. They link research with the provision of extension advice, and thereby help formulate extension messages. 80% of extension officers have regular contacts with subject matter specialists based at Glen Further Education and Training. For improvement on technical skills and knowledge, extension officers indicated these contacts with SMS's as critical.

Table 5.21: Frequency of contact with subject matter specialist (n=15)

	Yes		No		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	5	100	0	0.0	5	33.3
MOQHAKA	1	33.3	2	66.7	3	20.0
MAFUBE	4	100	0	0.0	4	26.7
METSIMAHOLO	2	66.7	1	33.3	3	20.0
TOTAL	**12**	**80.0**	**3**	**20.0**	**15**	**100**

5.21 CONCLUSION

This chapter indicates that public extension sector is very much relevant and important, and farmers perceive extension officers to be trustworthy and effective. The results illustrate that the extension officers are positive that they have made a correct career choice to become extension officers, but they are not happy with the current way the performance assessment is done, as they become demotivated and cannot perform well.

The extension officers agree that farmers are capable of improving their farming situations if they can be provided with resources like funding, production inputs, mechanisation and have access to market. The findings indicate that 100% of extension officers perceive themselves as having good listening skills.

CHAPTER 6

AWARENESS AND IMPLEMENTATION OF EXTENSION RECOVERY PLAN IN FEZILE DABI DISTRICT

6.1 INTRODUCTION

Norms and Standards for extension and advisory services in agriculture were developed as a response to address the general weak performance of extension and advisory services in South Africa (DoA, 2005). Norms and Standards are criteria that cover aspects like qualifications, support for extension, information generation and dissemination, training interventions and farmer ratio. It further indicates that the lack of national framework for extension and advisory services created confusion with regard to the roles and responsibilities of different stakeholders on service delivery.

The objectives of the Norms and Standards are:

- To improve the efficiency, relevance and cost effectiveness of publicly funded agricultural extension and advisory services.
- To promote a participatory approach to agricultural extension and advisory services
- To promote and implement the value chain approach to ensure a holistic support service.

The focus areas of Norms and Standards:

- To facilitate access to extension and advisory services, resulting in sustainable income generation by clients
- To provide and facilitate access to agricultural information for improved planning and decision making
- To facilitate access to technology and, and where possible, provide such technologies
- To provide and facilitate access to advice on sustainable agricultural production
- To provide and facilitate advice on skills development in agriculture
- To strengthen partnership for the effective delivery of services

The findings of a study conducted in October 2006 to obtain a demographic profile of extension officers in South Africa, outlined the existing capacity of extension and also the gap in order to comply with the Norms and Standards. Based on these findings, Department of Agriculture, Forestry and Fisheries (DAFF) recognised the need to revitalise the state of extension and advisory services in South Africa.

6.2 EXTENSION RECOVERY PLAN (ERP)

Extension Recovery Plan is an initiative of the Department of Agriculture, Forestry and Fisheries (DAFF) and was introduced to respond toward a need to revive extension services in South Africa. The Extension Recovery Plan was implemented in 2008/9 and consists of a programme to improve extension and advisory services. The Extension Recovery Plan (ERP) is implemented through five pillars displayed in Figure 6.1

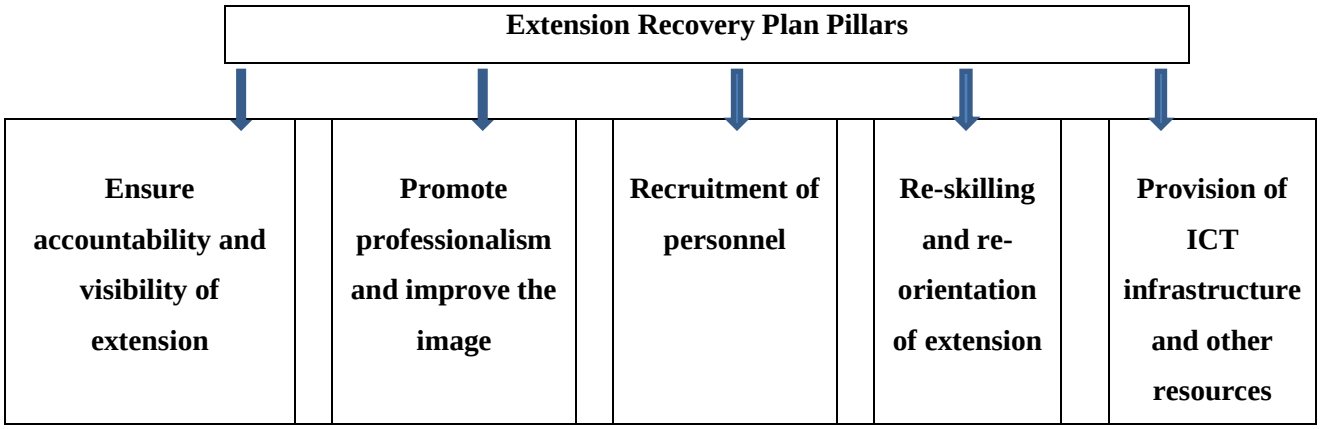

Figure 6.1: Extension Recovery Plan Pillars (Author's compilation)

Department of Agriculture, Forestry and Fisheries (DAFF) is responsible for the policy formulation, provision of frameworks and guidelines, funding advocacy and coordination of the Extension Recovery Plan. The Provincial Departments of Agriculture are responsible for ensuring success and productivity of the agricultural sector, providing funding and support to programmes and implementation (DAFF, 2014b).

6.3 AWARENESS AND SATISFACTION OF FARMERS WITH EXTENSION RECOVERY PLAN

Farmers were asked whether they are aware of Extension Recovery Plan. Only 4.5% of farmers indicated that they are aware of such a plan (Table 6.1). Differences occur in the awareness of farmers between the various municipalities, with the highest occurrence of awareness on the existing of ERP in Moqhaka (12%), while none of the farmers of Metsimaholo are aware of ERP.

Table 6.1: Farmer's awareness of ERP (n=200)

	Yes		No		Total	
MUNICIPALITIES	n	%	n	%	n	%
NGWATHE	1	2.0	49	98.0	50	25.0
MOQHAKA	6	12.0	44	88.0	50	25.0
MAFUBE	2	4.0	48	96.0	50	25.0
METSIMAHOLO	0	0.0	50	100	50	25.0
TOTAL	**9**	**4.5**	**191**	**95.5**	**200**	**100**

6.3.1 Satisfaction of farmers with information and communication tools (ICT) used

Extension officials received laptops, 3G cards, cell phones, smart pens, access to GPS and decision support systems software. The aim with provision of ICT tools was to boost the credibility of extension advisors among farmers. Another aim with ICT tools was to improve the self- image of extension officers.

The following discussions focus on the perceptions of farmers regarding the influence of ICT equipment on extension services.

6.3.1.1 Laptops

Laptops have been delivered to extension officers and 96.5% of farmers indicated that there has no positive improvement in extension services (Table 6.2)

Table 6.2: Perceived improvement of extension services after laptops were issued (n=200)

MUNICIPALITIES	Not at all		To some extent		Better		Extremely better		Total	
	n	%	n	%	n	%	n	%	n	%
NGWATHE	50	100	0	0.0	0	0.0	0	0.0	50	25.0
MOQHAKA	45	90.0	0	0.0	0	0.0	5	10.0	50	25.0
MAFUBE	48	96.0	1	2.0	1	2.0	0	0.0	50	25.0
METSIMAHOLO	50	100	0	0.0	0	0.0	0	0.0	50	25.0
TOTAL	**193**	**96.5**	**1**	**0.5**	**1**	**0.5**	**5**	**2.5**	**200**	**100**

The highest satisfaction was perceived in Moqhaka (10%) and Mafube (2%) respectively

6.3.1.2 3G Card

The 3G Cards were provided to extension officers so that they can have access to internet and also Extension Suit on Line (ESO). This is an agricultural support system that helps with providing relevant information required for advising farmers. Table 6.3 indicates that 8% of farmers in Moqhaka and 2% of farmers in Ngwathe respectively perceived improvement in service delivery due to availability of internet and the use of ESO.

Table 6.3: Perceived improvement after issuing of 3G Card to better extension service (n=200)

MUNICIPALITIES	Not at all		To some extent		Better		Extremely better		Total	
	n	%	n	%	n	%	n	%	n	%
NGWATHE	49	98.0	0	0.0	1	2.0	0	0.0	50	25.0
MOQHAKA	46	92.0	0	0.0	1	2.0	3	6.0	50	25.0
MAFUBE	49	98.0	1	2.0	0	0.0	0	0.0	50	25.0
METSIMAHOLO	50	100	0	0.0	0	0.0	0	0.0	50	25.0
TOTAL	**194**	**97.0**	**1**	**0.5**	**2**	**1.0**	**3**	**1.5**	**200**	**100**

6.3.1.3 Smart Pen

The Smart pen or digital pen is an electronic pen that is used to record different farm information or activities in a different digitized form, at which is used in reports when the extension officer interacts with the farmers. Table 6.4 indicates that 8% of farmers in Moqhaka, 4% in Mafube and 2% in Ngwathe respectively perceived smart pens have an impact on extension service delivering.

Table 6.4: Perceived improvement of extension services with the use of Smart Pen to better extension service (n=200)

MUNICIPALITIES	Not at all		Little better		Better		Extremely better		Total	
	n	%	n	%	n	%	n	%	n	%
NGWATHE	49	98.0	0	0.0	1	2.0	0	0.0	50	25.0
MOQHAKA	46	92.0	0	0.0	1	2.0	3	6.0	50	25.0
MAFUBE	48	96.0	0	0.0	2	4.0	0	0.0	50	25.0
METSIMAHOLO	50	100	0	0.0	0	0.0	0	0.0	50	25.0
TOTAL	**193**	**96.5**	**0**	**0.0**	**4**	**2.0**	**3**	**1.5**	**200**	**100**

6.3.1.4 Cell-Phones

Cell-phones improve the communication between extension officers, farmers and other stakeholders for improved service delivery. Table 6.5 illustrates that 6.5% of farmers highlighted they have experienced an improvement of accessibility of extension officers, with the highest occurrence of improvement in Moqhaka (16%).

Table 6.5: Perceived improvement of extension services with the issuing of Cell-phones to extension advisors (n=200)

MUNICIPALITIES	Not at all		Little better		Better		Extremely better		Total	
	n	%	n	%	n	%	n	%	n	%
NGWATHE	49	98.0	0	0.0	1	2.0	0	0.0	50	25.0
MOQHAKA	41	82.0	0	0.0	1	2.0	8	16.0	50	25.0
MAFUBE	47	94.0	0	0.0	3	6.0	0	0.0	50	25.0
METSIMAHOLO	50	100	0	0.0	0	0.0	0	0.0	50	25.0
TOTAL	**187**	**93.5**	**0**	**0.0**	**5**	**2.5**	**8**	**4.0**	**200**	**100**

6.3.1.5 Farmer Green Book (FGB)

The Farmers Green Book was piloted in 2009/2010 in all the provinces, which included the Free State Province. The intension with the Book was to help farmers with record keeping, but also to ensure visibility and accountability of extension staff. The Farmer Green Book was written in Sesotho, English, Afrikaans and isiXhosa languages. Not all farmers attended the launch of the Farmer Green Book in the province, hence the relative low awareness of this specific ERP tool.

Table 6.6 shows that 7% of farmers experienced the use of the Farmer Green Book to have a positive impact on improving extension service delivery.

Table 6.6: Perceived improvement of extension services with the Farmer Green Book (n=200)

MUNICIPALITIES	Not at all		Little better		Better		Extremely better		Total	
	n	%	n	%	n	%	n	%	n	%
NGWATHE	50	100	0	0.0	0	0.0	0	0.0	50	25.0
MOQHAKA	42	84.0	0	0.0	3	4.0	5	10.0	50	25.0
MAFUBE	44	88.0	0	0.0	4	8.0	2	4.0	50	25.0
METSIMAHOLO	50	100	0	0.0	0	0.0	0	0.0	50	25.0
TOTAL	**186**	**93.0**	**0**	**0.00**	**7**	**3.5**	**7**	**3.5**	**200**	**100**

6.3.1.6 Extension Suit on Line (ESO)

Extension Suit on Line is a decision support system installed on the laptops of extension officers to assist them with quick access to relevant, appropriate technical information. The highest occurrence of improvement in extension services due to ESO was found in Moqhaka (14%).

Table 6.7: Perceived improvement of extension services after ESO introduction (n=199)

MUNICIPALITIES	Not at all		Little better		Better		Extremely better		Total	
	n	%	n	%	n	%	n	%	n	%
NGWATHE	50	100	0	0.0	0	0.0	0	0.0	50	25.0
MOQHAKA	42	85.7	0	0.0	2	4.1	5	10.2	49	25.0
MAFUBE	49	98.0	0	0.0	0	0.0	1	2.0	50	25.0
METSIMAHOLO	50	100	0	0.0	0	0.0	0	0.0	50	25.0
TOTAL	**191**	**96.0**	**0**	**0.0**	**2**	**1.0**	**6**	**3.0**	**199**	**100**

6.3.1.7 Perceived improvement of extension support services and on farm production

Only 4% of farmers perceived improvement of extension service delivery since ERP was introduced in 2008/2009. This is worrisome if one takes into account the huge investment

allocated to improve extension services visibility and quality of information sharing. When farmers were asked about the influence of ERP on farm production, 46% of farmers are of opinion their level of production improved since the introduction of ERP. However, this is improvement of production is perhaps not only because of ERP, especially if one takes into account the findings expressed by farmers on the impact of ERP tools on extension delivery (Tables 6.2- 6.7)

6.4 AWARENESS AND SATISFACTION OF EXTENSION OFFICERS WITH EXTENSION RECOVERY PLAN (ERP)

6.4.1 Awareness of the Extension Recovery Plan (ERP)

93.3% of the extension officers indicated they are aware of Extension Recovery Plan, with a small percentage unaware of ERP, mainly newly appointed staff.

Table 6.8: Distribution of extension officer aware of ERP (n=15)

	Yes		No		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	5	100	0	0.0	5	33.3
MOQHAKA	3	100	0	0.0	3	20.0
MAFUBE	4	100	0	0.0	4	26.7
METSIMAHOLO	2	66.7	1	33.3	3	20.0
TOTAL	**14**	**93.3**	**1**	**6.7**	**15**	**100**

6.4.2 Extension officer's perceived satisfaction with ERP

6.4.2.1 In-service training offered

A key challenge that ERP aimed to address was the general low level of extension qualifications and the narrow breath of skill set. The Free State Province engaged into the offering of both soft

and hard skills training. This part of a report reflects on the skills training provided. Skills training programmes included training in management, leadership, facilitation and mobilisation of groups. Table 6.9 indicates that 26.6% of extension staff were satisfied and very satisfied with in service trainings offered.

Table 6.9: Perceived satisfaction with in-service training offered (n=15)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	1	20.0	2	40.0	0	0.0	2	40.0	5	33.3
MOQHAKA	2	66.7	0	0.0	1	33.3	0	0.0	3	20.0
MAFUBE	2	50.0	1	25.0	1	25.0	0	0.0	4	26.7
METSIMAHOLO	2	66.7	1	33.7	0	0.0	0	0.0	3	20.0
TOTAL	**7**	**46.7**	**4**	**26.7**	**2**	**13.3**	**2**	**13.3**	**15**	**100**

6.4.3 Perceived satisfaction with ICT equipment

The ERP provided opportunity for the development of a policy framework on ICT, which the different provinces executed through their own plans. This policy framework guided extension managers in the various provinces in the provisioning of ICT tools and equipment.

6.4.3.1 Laptops

Laptops were issued to extension officers for typing their reports and the accessing of the internet among other things. Table 6.10 indicates that 53.5% of the respondents are satisfied and very satisfied with the laptops. The 47% of the respondents who are dissatisfied with the laptops indicated they cannot make use because the 3G cards were disconnected and therefore do not have access to internet.

Table 6.10 Perceived satisfaction with laptops of extension staff (n=15)

	Very dissatisfied		Dissatisfied		satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	3	60.0	1	20.0	0	0.0	1	20.0	5	33.3
MOQHAKA	1	33.3	0	0.0	0	0.0	2	66.7	3	20.0
MAFUBE	0	0.0	0	0.0	2	50.0	2	40.0	4	26.7
METSIMAHOLO	2	66.7	0	0.0	1	33.3	0	0.0	3	20.0
TOTAL	**6**	**40.0**	**1**	**7.0**	**3**	**20.0**	**5**	**33.3**	**15**	**100**

6.4.3.2 3G Cards

The 3G Card is a mobile device that allows mobile phones and computers to access the internet wirelessly. Table 6.11 indicates that only 20% of the respondents perceive improvement on the use of 3G Cards, by having access to internet and Extension Suit on Line.

Table 6.11: Perceived satisfaction with 3G Cards (n=15)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	4	80.0	1	20.0	0	0.0	0	0.0	5	33.3
MOQHAKA	2	66.7	0	0.0	0	0.0	1	33.3	3	20.0
MAFUBE	2	50.0	2	50.0	0	0.0	0	0.0	4	26.7
METSIMAHOLO	1	33.3	0	0.0	0	0.0	2	66.7	3	20.0
TOTAL	**9**	**60.0**	**3**	**20.0**	**0**	**0.0**	**3**	**20.0**	**15**	**100**

6.4.3.3 Smart Pen

Smart Pen is an electronic ballpoint pen that digitizes, stores and transfers what is written or drawn to the computer. Fifteen extension officers in Fezile Dabi District were given Smart Pens

to use when they are filling the different forms during their visits. Table 6.12 shows that only 20% of the extension officers are satisfied with the use of smart pens for service delivery, with the highest frequency of satisfied staff occurring in Ngwathe municipality (40%).

Table 6.12: Perceived satisfaction with the use of the Smart Pen (n=15)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	2	40.0	1	20.0	0	0.0	2	40.0	5	33.3
MOQHAKA	2	66.7	0	0.0	0	0.0	1	33.3	3	20.0
MAFUBE	2	50.0	2	50.0	0	0.0	0	0.0	4	26.7
METSIMAHOLO	3	100	0	0.0	0	0.0	0	0.0	3	20.0
TOTAL	**9**	**60.0**	**3**	**20.0**	**0**	**0.0**	**3**	**20.0**	**15**	**100**

6.4.3.4 Cell-phones

Cell-phones were provided to extension officers to improve their communication with the farmers. It is also used to transfer the information to the computer or laptop. Table 6.13 indicates that 40% of extension officers are satisfied with the use of cell-phones.

Table 6.13: Perceived satisfaction with cell-phones (n=15)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	2	40.0	1	20.0	1	20.0	1	20.0	5	33.3
MOQHAKA	2	66.7	0	0.0	0	0.0	1	33.3	3	20.0
MAFUBE	1	25.0	2	50.0	1	25.0	0	0.0	4	26.7
METSIMAHOLO	1	33.3	0	0.0	0	0.0	2	66.7	3	20.0
TOTAL	**6**	**40.0**	**3**	**20.0**	**2**	**13.0**	**4**	**27.0**	**15**	**100**

6.4.3.5 Farmer Green Book (FGB)

The aim of the Free State province was to roll out Farmer Green Book to 6500 targeted farmers by 2010. This tool was intended to enhance record keeping of farmer's interactions with extension officers and improve accountability of extension officers. Farmers also through the FGB received an opportunity to evaluate the quality of extension services.

60% of the extension officers are not satisfied with the use of the farmer green book as they perceive it as a control tool or a measure to be used against them (Table 6.14).

Table 6.14: Perceived satisfaction of extension staff with the use of Farmer Green Book (n=15)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	2	40.0	2	40.0	1	20.0	0	0.0	5	33.3
MOQHAKA	1	33.3	0	0.0	1	33.3	1	33.3	3	20.0
MAFUBE	1	25.0	1	25.0	1	25.0	1	25.0	4	26.7
METSIMAHOLO	2	66.7	0	0.0	1	33.3	0	0.0	3	20.0
TOTAL	**6**	**40.0**	**3**	**20.0**	**4**	**26.7**	**2**	**13.3**	**15**	**100**

6.4.3.6 Extension Suit on Line (ESO)

In its newsletter (Extension Suit on Line, 2014) indicates that during the past four years, Extension Suit on Line has helped to re- invent agricultural advisory services in South Africa. It highlighted that it has provided extension practitioners easy access to fresh, practical and relevant information right there where they work on the farm. They also confirmed that extension officers use it to further their studies, to develop training material, to prepare presentations and to organise and lead farmer's days and demonstration. Table 6.15 indicates that 40% of extension officers perceived satisfaction with the use of ESO. Those that were

dissatisfied with ESO probably do not have access to the internet, since the 3G's were not working.

Table 6.15: Perceived satisfaction of extension staff with Extension Suit on Line (n=15)

	Very dissatisfied		Dissatisfied		Satisfied		Very satisfied		Total	
MUNICIPALITIES	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
NGWATHE	1	20.0	1	20.0	1	20.0	2	40.0	5	33.3
MOQHAKA	2	66.7	0	0.0	0	0.0	1	33.3	3	20.0
MAFUBE	2	50.0	1	25.0	1	25.0	0	0.0	4	26.7
METSIMAHOLO	1	33.3	1	33.3	0	0.0	1	33.3	3	20.0
TOTAL	**6**	**40.0**	**3**	**20.0**	**2**	**13.3**	**4**	**26.7**	**15**	**100**

6.4.4 Perceived improvement of extension services delivered

Table 6.16 illustrates extension staff in general benefitted from the ERP with regard to gaining of knowlwdge and competency (67%); credibility (73%); providing of relevant advice to farmers (80%) and better planning of extension services (67%).

Table 6.16: Perceived improvement of extension services delivered (n=15)

	No difference		Little difference		Difference		Great difference		Total	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Providing relevant advices	3	20.0	1	6.7	7	46.7	4	26.7	**15**	**100**
Planning of extension activities to be performed	5	33.3	2	13.3	4	26.7	4	26.7	**15**	**100**
Technical knowledge and competency	4	26.7	1	6.7	8	53.3	2	13.3	**15**	**100**
Knowledge and skills	3	20.0	3	20.0	5	33.3	4	26.7	**15**	**100**
Communication with farmers	4	26.7	0	0.0	7	46.7	4	26.7	**15**	**100**
Relationship with farmers	6	40.0	1	6.7	6	40.0	2	13.3	**15**	**100**
Credibility amongst farmers	4	26.7	2	13.3	6	40.0	3	20.0	**15**	**100**

6.4.5 Conclusion

The findings in this chapter clearly illustrates that extension staff benefitted much more from the ERP programme than the farmers. The farmers did not perceive improvement of extension service delivery, although they have indicated an improvement in on farm production since the introduction of ERP.

CHAPTER 7

CONCLUSION AND RECOMMENDATIONS REGARDING EXISTING EXTENSION SERVICE IN FEZILE DABI DISTRICT

7.1 INTRODUCTION

The purpose of the research was to determine the effectiveness of agricultural service delivery as perceived by both extension officers and farmers and also to determine the impact of Extension Recovery Plan tools towards service delivery. The hypotheses set for the study were:

H1. Differential expectations, perceptions and attitudes between extension officers and farmers exist with regard to agricultural service delivery

H2. Effective extension service delivery is enhanced through the implementation of Extension Recovery Plan.

This chapter summarises the major findings and also states the conclusion and recommendations based on the findings. Over the past two decades, significant efforts have been made to reform extension services in South Africa with reference to the "National Extension Recovery Plan", "Norms and Standards for Extension and Advisory Services in Agriculture (2005)" and the "Integrated Growth and Development Plan (2012)". However the lack recurrent funding for extension services, lack of monitoring and evaluation of staff performance, farmer to extension ratio and limited capacity of extension services across South Africa to address the needs of newly settled farmers are among the most pressing challenges this study investigated.

7.2 CONCLUDING REMARKS

7.2.1 Farmers profile and perceptions towards extension service delivery (Objective 1)

The study focussed on the analysis of the effectiveness of agricultural service delivery as perceived by both extension officers and farmers in the Fezile Dabi District of the Free State

Province and how successful the Extension Recovery Plan was introduced in the district. Given that the district experiences socio-economic constraints such as high unemployment rates, high prevalence of poverty in the area the smallholder agriculture sector has great potential to contribute to the growth in the area. Extension refers to a systematic process of working with farmers or communities to help them acquire relevant and useful agriculture or related knowledge and skills to increase farm productivity, competitiveness and sustainability (DoA, 2010). Therefore for the smallholder farmer to reach its full potential, the availability and quality of extension services is very important.

The main findings of the study were that 87% of farmers perceived extension agents as critical important sources of agricultural information. However, (20.5%) farmers are not satisfied with the current frequency of interaction with extension officers and are of opinion they could have more impact if there was a close working relationship. The preferred extension method indicated by farmers is to have regular contact with extension officers through farmer group meetings (70%), while 28% preferred on farm visit. 80% of the farmers are affiliated with a farmer organisation. A very concerning fact is that a huge proportion of farmers (46%) never interacted with their extension officer after a specific farmer group was established.

In Fezile Dabi district a number of agricultural support programmes have been launched i.e CASP, ILIMA/Letsema, Re Kgaba Ka Diratswana, Massification (crops and livestock) and Land Care. However, 80% of farmers indicated they are not participating in these agricultural support programmes. This illustrates the serious lack of appropriate funding for the implementation of these agricultural support programmes.

93% of the farmers perceived extension officers to be competent in performing extension service. Therefore it was no surprise to find that 92% of respondent farmers also perceived their extension officers to be credible and trustworthy, as credibility and trustworthy of extension agents are mainly resulting from the competency expressed by extension officers. Farmers in general perceived the status of extension officers to be relatively high in comparison to other agricultural professionals operating in the district, which is a very positive reflection on the Department. The major constraints that influence the extension service delivery to farmers as perceived by farmers are:

- Availability of funds for extension services and for agricultural projects (93%)
- Planning of farm business with extension / research (21%)
- Frequency of interaction with extension officer (20%)
- Poor communication skills of extension officers (9%)

A great number of farmers (79%) agreed they have benefitted from the training provided by extension officers although only 34% farmers are satisfied with their current agricultural productivity. Only 47% of the respondent farmers rely on agricultural income as their main source of household income. A total of 54% of respondent farmers indicated they want to improve the farm production within the next two years, while 35% indicated they also want to increase the profitability and access to new markets in the following years.

7.2.2 Extension officers profile and their perception and attitude towards extension delivery (Objective 2)

There are 15 extension officers deployed in the district of which 10 are males. A statistical difference exist in the education level of extension officers older than 40 years who mainly obtained an Agricultural Diploma, while extension officers younger than 40 years obtained qualifications like BTech and higher qualifications. 60% of the officers employed received formal training in Agricultural Extension, which is encouraging since it implies a *cadre* of well-trained extension staff in agricultural extension. 53% of the extension officers are associated with professional bodies like South African Society for Agricultural Extension which is a condition for professional registration with SACNASP. 93% respondent extension practitioners prefer farm visits as the actual extension method to interact with farmers, which is substantially different to what farmers prefer. 46% of extension officers indicated they interact with farmers once a week, while in comparison only 20% of farmers experienced this weekly interaction with extension staff. In general extension officers are of opinion they have the necessary technical and extension competencies (86%) to help farmers to reach their farming potential. Extension officers are of opinion that you need to be stationed at a specific ward or area between two to four years before being able to understand farmers needs, and to be in a position to make valuable contributions towards farmer development. 67% of extension officers are satisfied with their general visibility

in the area, while they also expressed their satisfaction with the number of training conducted (60%) and the quality of training provided (86.6%). Extension officers (93%) agree that comprehensive conceptualisation of farmer needs and problems are key before intervention plans can be drafted. Needs of farmers are mainly identified through individual interviews with farmers (67%) while farmer group meetings and discussions with farmer leaders are also important sources of information. Extension staff in general is over rating their ability to listen carefully what farmers are saying, with 100% of the extension staff indicating that they are good listeners and therefore skilful in communication to farmers. In comparison 20% of farmers indicated that poor listening skills by extension staff is hampering effective communication between parties. Only 7% of extension staff perceived themselves to have low credibility and trust among farmers, and the majority are of opinion they experience a relative high status in comparison to other professional agricultural advisors operating in the area.

Hypothesis 1 is rejected since findings from the study illustrated that farmers and extension officers share similar expectations, perceptions and attitude with regard to extension services. In Fezile Dabi district public extension sector is very much relevant and farmers perceive it to be trustworthy and effective.

Extension staff identified the following issues to be critically for the improvement of services delivered to farmers:

- Funding system of newly or existing projects to farmers should be improved and revised where applicable
- Extension should be geared to improve establishing of proper linkages with formal markets
- Communication between stakeholders in existing projects should be better coordinated to prevent the current “silo approach” followed
- Lack of the critical resources and operational funding like vehicles and budgets for cell phones should be addressed to enable extension to service farmers effectively
- Farmers require proper training and support regarding farmer group functioning especially within a project and how to deal with conflict when it occurs

- Empowerment of extension staff with regard to technical skills and competencies (especially crop and livestock).

7.2.3 Impact of the Extension Recovery Plan towards service delivery (Objective 3)

The Extension Recovery Plan (ERP) was initiated by DAFF in response towards the needs expressed to revive extension service delivery to farmers. The ERP was implemented through five pillars:

- Ensuring visibility
- Improving image and professionalism
- Recruitment of new extension staff
- Training and reskilling
- Provision of information and communication technology equipment (ICT)

Due to the importance and centrality of extension and agriculture services as a support mechanism to farmers in the Fezile Dabi district, one of the objectives of the study was to assess the general awareness and outcomes of ERP amongst farmers and extension staff. In Chapter 6 farmers and extension revealed the following aspects summarised in Table 7.1 regarding their awareness and experience with rollout of the plan:

Table 7.1: Farmers and extension staff differential perceptions and experiences of core activities under the five ERP pillars

Pillar 1: Ensure accountability and visibility of extension		
Core activities	**Farmer (%)**	**Extension staff (%)**
Awareness of ERP and its objectives	4.5	93.9
Improved accessibility through provision of cell phones	6.5	4.04
Use of Farmer Green Book to improve service delivery	7.0	40.0
Satisfaction with visibility of extension support	70.0	67.0
Pillar 2: Promote professionalism and improve image		
Professional image of extension and advisory service staff	50% farmers perceived professional status of extension higher in comparison to other agricultural professionals in the community	• 53% of extension staff belong to a professional body like SASAE • 77.7% of extension staff received formal training in agricultural extension • 80% extension officers perceived their professional status higher to other agricultural professionals
Satisfaction with current performance management	N/A	66.0

system in recognition of service excellence		
Satisfaction with current frequency of contact between subject matter specialist and extension officer	N/A	80.0
Pillar 3: Reskilling and reorientation of extension		
Improved service delivery due to upgrading of qualifications	93.0	86.0
Quality training offered due to enrolment of extension staff in competence based skills programs	79.0	N/A
Pillar 4: Provision of ICT infrastructure and resources		
Improved service delivering after laptops were supplied	3.5	53.5
Improved access to decision support systems and internet with 3G cards	3.0	20.0
Use of Extension Suit on Line to assist with decision making and improved service delivery	4.0	40.0
Improvement of accountability and service delivering with smart pen	3.5	20.0
Pillar 5: Recruitment of extension staff		
• New extension staff was appointed in the district since the induction of ERP, especially to attend to service delivering of female farmers. No extension officer is serving more than 500 farmers, and therefore the proposed farmer extension ratio proposed in Norms and Standards (DoA, 2005) • 80% of employed extension officers indicated they have made the correct career choice in becoming an extension advisor.		

Table 7.1 illustrates a daunting picture with regard to the rollout of ERP in the district as far as improved service delivery. Although 70% farmers perceived improved visibility of extension officers since the introduction of ERP, very few experienced improved service delivery because of the provision of ICT tools (laptops, internet access, Extension Suit on Line, etc.) and accessibility of extension staff through cell phones. In comparison, extension staff benefitted much more from the ERP program than farmers. It can therefore be concluded that Hypothesis 2 which states that effective extension service delivery is enhanced through the implementation of Extension Recovery Plan cannot be supported as farmers in general did not perceive improved extension delivery because of ERP.

Re- training of all extension officers in the province on the use of Smart Pen and the filling of different forms was conducted again in July 2015. New tablets were issued to all extension officers and smart pens to those who were employed after the introduction of ERP and to extension officers who lost theirs.

7.3 POLICY IMPLICATIONS AND RECOMMENDATIONS

Currently the extension footprint in Fezile Dabi district is mainly focused on small scale commercial farmers. Given the character of agriculture in the district the question that arises from the study is what should the key objectives and focus of government extension be? Should extension primarily focus on the commercial small scale for the market or should it also focus on the subsistence smallholders in a bid to reduce poverty and improve livelihoods through food gardening activities. The following policy implications and recommendations are made based on the results of the study conducted in an effort to improve effectiveness of agricultural services.

- **Land**

Inadequate and unavailability of land has been identified by farmers and extension officers as a major constraint in improving the farming productivity. The Department of Rural Development and Land Reform and the local municipality are the custodians of land. Farmers are operating only from the commonages and communal lands and it is very challenging for both farmers and extension to ensure sustainable agricultural production under a system where there is no ownership. One of the symptoms of such a system is where carrying capacity of grazing in these

commonages and communal lands are not taken into account by farmers and no controlled grazing through proper camp systems can be incorporate. The recommendation is that the municipality should make a request to the Department of Rural Development and Land Reform to purchase land as it is their mandate to avail land to farmers. The issue of land should be seriously taken as it is a policy matter.

- **Farming Systems Research and Extension**

Farmers are not just the recipients of the information and technology, but the linkages between the extension officer, farmers and research should be strengthened as farmers are the one who have knowledge about his/her farm for appropriate technologies to be adapted to the prevailing situation. Research should play a very important role with the extension officers and the farmers. Farmers indicated they would like to see improved involvement in the planning of their farm activities together with extension and researcher. The creation of on-farm trials and demonstration plots are recommended as one of the approaches to be used for the adoption of new technology or innovations. Results showed that there is a lack of adaptive research to develop innovations and farming systems which are acceptable and profitable to the farmers.

- **Financial support**

Inadequate funding or no funding at all is a challenge for the promotion of sustainable agriculture as perceived by both the farmers and the extension office. The current allocation of funding to projects should be reviewed taken into consideration small number of respondent farmers that are currently participating and benefitting from government aid support programs like ILIMA/Letsema and CASP. The top down approach followed in identification and funding of agricultural projects on different enterprises is not addressing the needs of farmers in the district. Extension should also play a more important role in advising farmers on inputs, marketing and producer prices. Extension is critical for the development of farmers and where extension officers lack some of these required capacities proper skills training should be provided.

- **Interaction between extension and farmers**

Findings suggested that although farmers had access to extension the number of visits and interaction between extension and farmers were not satisfactory. Farmers were in general displeased with the number of meetings held with regard to their activities and follow up meetings after a farmer group was established. A reality is that smallholder farmers are miles away when compared to commercial farmers and to bridge the gap requires a serious review of the current extension policy and funding of extension in the district.

- **Performance management**

It is imperative for the government to establish a national policy for effective and efficient delivery of extension and advisory services in South Africa, which ensures the motivation of extension officers. Currently the performance management criteria used for assessment of extension officers is not accepted by many of the extension staff in the district, and therefore it is not rewarding deserving extension staff that is willing to put in additional effort to support and enhance farm productivity and efficiency.

- **Strategies to improve extension service delivery**

Clear policies and strategies should be developed for extension services in a participatory manner and put coordination and quality assurance in place. When systematically and effectively provided, extension is known to enhance social and economic development. Currently, the general feeling in Fezile Dabi district is that extension is over-extended, and therefore not enough focus and emphasis is placed on the sustainable development of farmers.

- **The use of Information and Communication Technology (ICT)**

The results on the rollout of the Extension Recovery Plan which aims at assisting extension officers to become more effective and efficient were somewhat surprising, especially with regard to the perceived benefits experienced by farmers on the use of ICT tools. ICT is a potential force that extension can use to become more relevant and accountable in provision of services to farmers, but as yet seems to remain untapped by extension. The majority of farmers did not experience improvement of extension services because of this investment, and serious internal

investigation within the district is required. From the results it is clear that communication between farmers and extension is a serious problem and should be attended to.

- **Training of farmers and extension officers**

The results showed that there is a need to provide orientation to extension officers in agricultural extension through in-service training. Extension officers need both technical and soft skills to perform their work effectively and efficiently. Re-skilling and re-orientation of extension service is one of the recommended pillars of Extension Recovery Plan.

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APPENDIX A

Farmer's questionnaire

Please answer the questions by marking the most applicable answer by a cross (X) or writing in the space provided.

Official use only

Farmer questionnaire

1. Farmer Number :_____ V1 ☐

2. Municipality: V2 ☐

Mafube	1
Moqhaka	2
Ngwathe	3
Metsimaholo	4

3. Town: V3 ☐

Cornelia	1
Villiers	2
Frankfort	3
Tweeling	4
Steynsrus	5
Kroonstad	6
Viljoenskroon	7
Vredefort	8
Heilbron	9
Parys	10
Koppies	11
Edenville	12
Sasolburg	13
Deneysville	14
Orangeville	15

4. Gender:

V4 ☐

Male	1
Female	2

5. What is your age?

V5 ☐

<20 years	1
21-29 years	2
30-39 years	3
40-49 years	4
50-59 years	5
>60 years	6

6. What is your level of education?

V6 ☐

No education	1
Grade 1-7	2
Grade 8-12	3
Diploma	4
Other, please specify	5

_____

7. Are you the head of the household?

V7 ☐

Yes	1
No	2

8. For how long have you been farming?

< 3 years	1	V8 ☐
3-5 years	2	
6-10 years	3	
>10 years	4	

9. Indicate whether you are a full or part time farmer

Full time	1	V9 ☐
Part time	2	

10. Which of the following sources contribute to your household income?
(Rate it :1-5 in order of priority).

Pension	V10.1 ☐
Child grant	V10.2 ☐
Farm produce	V10.3 ☐
Off farm wages/ salaries	V10.4 ☐
Other, please specify	V10.5 ☐

_____

11. At what level do you produce currently?

Household producer	1	V11 ☐
Small scale farmer	2	
LRAD farmer	3	
Commercial farmer	4	

12. How big is your farm?

<2ha	1	V12 ☐
2-5ha	2	
6-20ha	3	
21-50ha	4	
>50ha	5	

13. Which agricultural enterprise are your main enterprises?

Crops	1
Livestock	2
Crops and livestock	3
Other, please specify	4

V13 ☐

_____

14. Where do you get agricultural information and advice?

From the extensionist	1
From neighbouring farmers	2
From research stations	3
From private companies	4
Other, please specify	5

V14 ☐

15. How often do you interact with your extensionist?

Once a week	1
Once in two weeks	2
Once in a month	3
Never	4
Other, please specify	5

V15 ☐

_____

16. How do you prefer to interact with your extensionist?

Individual farm visit	1
Group contact	2
Other, please specify	3

V16 ☐

_____

17. Which extension method do you use to contact the extensionist when you need information?

Farm visit	1	V17 ☐
Farmer group meetings	2	
Other, please specify	3	

---

18. a) Are you currently engaged in any extension programme/ project with the extensionist?

Yes	1	
No	2	V18 ☐

b) If yes, what is the main aim of the programme/project in your own words?

_____

_____

19. In your opinion, do you find the extensionist competent in his/her work?

Yes	1	V19 ☐
No	2	

20. When did you last meet your extensionist?

A week ago	1	
Two weeks ago	2	
A month ago	3	V20 ☐
Six months ago	4	
Other, please specify	5	

21.Indicate your level of satisfaction with regard to the following statements with the current situation in your ward (1=not at all satisfied and 4 extremely satisfied)

		Not at all satisfied 1			Extremely satisfied 4	
a)	Your current level of Production	1	2	3	4	V21a
b)	Extension service delivery in your ward	1	2	3	4	V21b
c)	Overall farming level in your ward	1	2	3	4	V21.c
d)	Visibility of extension service in your ward	1	2	3	4	V21.d
e)	Number of training events you attended	1	2	3	4	V21.e
f)	Quality of training events you attended	1	2	3	4	V21.f
g)	Your technical competency in doing your farm work	1	2	3	4	V21.g
h)	Extensionist competency in servicing farmers	1	2	3	4	V21h

22.Are you a member of farmer organisation

Yes 1
No 2

V22

b) If yes, please indicate the name of the organization?

_____

23. How often does your farmer organization meet?

Once a month	1	V23 ☐
Quarterly	2	
Annually	3	
Never	4	
Other, please indicate	5	

24. What are the **TWO** most pertinent constraints that you think should be addressed to improve agricultural service delivery?

Availability of funds	1	V24.1 ☐
Number of trainings offered	2	V24.2 ☐
Frequency of visit by the extensionist	3	
Planning of activities with the extensionist and the researcher	4	
Communication between farmer and extensionist	5	
Other, please specify	6	

_____

25. a) How do you usually identify your farming needs and activities?

On my own	1	V25a ☐
Talk to farmer leaders	2	
Talk to fellow farmers	3	
Discuss it with farmer group executive committee	4	
Discuss it with the extensionist	5	
Other, please specify	6	

b). Rate your satisfaction with the current way you identify farming needs and activities by using a four point scale (1=very dissatisfied and 4=very satisfied). V25b ☐

Very dissatisfied	Very satisfied
1	4

26. Whom do you prefer to work with? V26 ☐

Female extensionist	1
Male extensionist	2

27. Indicate your perception with regard to the following statements.

a)Trustworthiness and credibility of extensionist	Very low 1	Very high 4
b) Technical competency of extensionist	Very Incompetent 1	Highly competent 4
c) The extensionist status as compared to other professionals in your ward	Very low 1	Very high 4
d) Your attitude towards your extensionist	Negative 1	Very positive 4
e) Extensionist attitude towards you	Negative 1	Very positive 4

28. In your opinion, what constrains the adoption of technical advice from extensionist? (Please mention THREE main constrains).

V28.1 ☐

Lack of communication skills	1
Information not clearly presented	2
Lack of trust in extensionist	3
Negative attitude of extensionist	4
Not able to help farmers with the practical application of information	5
Other, please specify	6

_____

29. In general, what are the FOUR main agricultural problems in your area? Please list it in order of priority.

V29. ☐

_____
_____
_____
_____

30. Are you aware of the Extension Recovery Plan (ERP)? V30 ☐

Yes	1
No	2

31. To what extent are the following tools supporting better extension service rendering to you as a farmer?

Tools Received	**Not at all**			**Extremely better**	
	1			**4**	
Laptop	1	2	3	4	V31 ☐
3G Card(internet)	1	2	3	4	
Smart Pen	1	2	3	4	
Blackberry Cellphone	1	2	3	4	
Farmer Green Book	1	2	3	4	
Extension suite on line					

32. Have you experienced any improvement of extension services support since the implementation of ERP? V32 ☐

Yes 1
No 2

33. Have you experienced any improvement of farming level since the implementation of ERP? V33 ☐

Yes 1
No 2

34. What are the **FOUR** main problems that you experience with regard to the current extension support rendered? List it in order of priority.

V34 ☐

35. What is your MAIN expectation with regard to extension service delivery in the next two years? V35 ☐

To improve my farming production level	1
To increase my farming profit	2
To improve sustainability on my farm	3
Other, please specify	4

_____

APPENDIX B

Please answer the questions by marking the most applicable answer by a cross (X) or writing in the space provided.

Official use
Official use only

Extensionist questionnaire

1. Questionnaire Number :_____ V1 ☐

2. Position:_____ V2 ☐

Extension officer	1
Agricultural Advisor	2
Agricultural Technician	3
Agricultural Development Officer	4
Other, please specify	5

_____

3. Municipality: V3 ☐

Mafube	1
Moqhaka	2
Ngwathe	3
Metsimaholo	4

4. Town: V4 ☐

Cornelia	1
Villiers	2
Frankfort	3
Tweeling	4
Steynsrus	5
Kroonstad	6
Viljoenskroon	7
Vredefort	8
Heilbron	9
Parys	10
Koppies	11
Edenville	12
Sasolburg	13
Deneysville	14
Orangeville	15

5 Gender:

Male	1
Female	2

V5 ☐

6 What is your age?

<20 years	1
21-29 years	2
30-39 years	3
40-49 years	4
50-59 years	5
>60 years	6

V6 ☐

7 What is your highest tertiary qualification?

Diploma in Agriculture	1
B Tech	2
BSc	3
Honours	4
Other, please specify	5

_____

V7 ☐

8 What is your area of specialization in the highest qualification mentioned above?

Crops	1
Livestock	2
Crops and livestock	3
Extension	4
Other, please specify	5

_____

V8 ☐

9 a) Have you attended any formal training with regard to Agricultural Extension? V9.1

Yes 1

No 2

b). If YES, what formal training did you obtain in Agric. Extension? V9.2

Extension course: Certificate programme	1
Extension course: Diploma programme	2
Extension course: B Tech programme	3
Extension course: B Agric programme	4
Extension course: BSc Programme	5
Extension Course: Advance Diploma/Post Graduate Diploma	6
Extension course M programme	7

10 For how long have you been employed in the Department of Agriculture? V10

<2 years	1
2-5 years	2
6-10 years	3
11-20 years	4
>20 years	5

11 For how long have you been stationed at your current extension ward? V11

<2 years	1
2-4 years	2
5-10 years	3
>10years	4

12 How many years of experience do you have in Extension? V12

<2 years	1
2-4 years	2
5-10 years	3
>10years	4

13. a) Do you belong to any professional body?

Yes 1

No 2

V13.a ☐

b) If Yes, name the organizations or societies.

_____

14. In your opinion, for how long should one work in a specific area before one really understand the needs of farmers to serve them purposefully?

<2 years 1

2-3 years 2

4-6 years 3

7-10 years 4

>10years 5

V14 ☐

15. What are your TWO main responsibilities in the ward you serve?

To provide scientific and technical advice to my farmers	1
To provide support to implement government funded projects	2
To form and manage farmer groups	3
To perform administrative and related functions	4
To facilitate the involvement of stakeholders in agric. projects	5
Other, please specify	6

V15.1 ☐

V15.2 ☐

_____

16. What are the TWO main issues that you think should be addressed to improve agricultural service delivery in your ward?

_____

V16.1 ☐

_____

V16.2 ☐

17. Which method do you usually use to make contact with farmers?

On farm visit	1
Farmer group meetings	2
Telephonically	3
e- mail	4
Invite farmer to office	5
Farmer days	6
Other, please specify	7

_____

V17 ☐

18. How often do you interact with your farmers?

Once a week	1
Once in two weeks	2
Once in a month	3
Other, please specify	4

_____

V18 ☐

19 Indicate your level of satisfaction with regard to the following statements with the current situation (1= very dissatisfied and 4 =very satisfied).

	Very dissatisfied			Very satisfied	
	1			4	
a) Number of farmers you currently have to serve.	1	2	3	4	V19.1 ☐
b) Extension service delivery in your ward.	1	2	3	4	V19.2 ☐
c) Overall farming methods in your ward.	1	2	3	4	V19.3 ☐
d) Visibility of extension service in your ward.	1	2	3	4	V19.4 ☐
e) Number of training events offered to your farmers.	1	2	3	4	V19.5 ☐

f)	Quality of training events offered to your farmers.	1	2	3	4	V19.6
g)	Number of farmers who contact you for further support after training.	1	2	3	4	V19.7
h)	Your ability to do your work.	1	2	3	4	V19.8
i)	Ability to mobilise farmers to form and work in groups.	1	2	3	4	V19.9
j)	Your technical competency in doing the work.	1	2	3	4	V19.10
k)	Your extension competency in doing the job.	1	2	3	4	V19.11

20. Please indicate your level of agreement to the following statement (1=strongly disagree and 4 =strongly agree).

		Strongly disagree			Strongly agree	
		1			4	
a)	My main task is to help farmers to conceptualise and prioritise their farming situation.	1	2	3	4	V20.1
b)	Recognition of farmer aspiration in the planning of farm plans is important.	1	2	3	4	V20.2
c)	Farmers have the potential to improve their situation.	1	2	3	4	V20.3
d)	I am able to perform my extension work unsupervised.	1	2	3	4	V20.4
e)	I have good listening skills	1	2	3	4	V20.5
f)	I am always available to assist my farmers.	1	2	3	4	V20.6
g)	I have a high credibility and	1	2	3	4	V20.7

trustworthiness amongst farmer.

h)	My status in the farming community as compared to other professionals (teachers, NGO workers, etc.)	1	2	3	4	V20.8 ☐
i)	Farmers in my area are positive towards the support received from the extension services.	1	2	3	4	V20.9 ☐

21. In your opinion, what are the TWO major reasons why farmers are hesitant to adopt technical advice provided by the Department of Agriculture?

Farmers are not sure about the end results	1
Lack of trust in competence of extensionist	2
Lack of resources by the farmers to implement advices	3
Not aligned to farmer's experience based knowledge	4
Other, please specify	5

V21..1 ☐

V21.2 ☐

_____

22. In your extension ward, how do you usually assess farmer's needs?

Talk to individual farmer	1
Through farmer group meeting	2
Talk to farmer leaders	3
Other, please specify	4

V22 ☐

_____

23. a) Which extension approach are you currently using in your extension ward?

Participatory extension approach	1
Project approach	2
Training and Visit approach	3
Other, please specify	4

V23.1 ☐

_____

b) Indicate your satisfaction with the level of training in extension methods you receive as part of tertiary training. On a four point scale, please indicate (1=very dissatisfied and 4 = very satisfied)

V23.2 ☐

Very dissatisfied	Very satisfied
1	4

24. What are **your three main sources** for technical information? Please specify them.

V24.1 ☐

_____

V24.2 ☐

_____

V24.3 ☐

_____

25. Rate your current level of technical competency in serving your farmers on a four point scale (1= very low and 4=very high).

	Very low			Very high	
	1			4	
a). Your technical competency in serving your farmers	1	2	3	4	V25.1 ☐
b). Your extension competency in serving your farmers	1	2	3	4	V25.2 ☐

26. Do you work according to extension programme?

Yes	1	V26.1 ☐
No	2	

b) If Yes, how often do you need to deviate from the planned course of your programme? (1= not often and= 4 very often).

Not often	Very often	
1	4	V26.2 ☐

27. Reports are submitted weekly. Rate how important is it to ensure a better extension service delivering to farmers by using a 4 point scale (1=not important and 4=very important). V27

Not important	Very important
1	4

28. Are you aware of the Extension Recovery Plan (ERP)? V28

Yes 1

No 2

29. Indicate your level of satisfaction with regard to the use of the following Information and Communication Technology tools received by the extensionist (1= very dissatisfied and 4= very satisfied).

Tools Received	**Very dissatisfied**			**Very satisfied**	
	1			**4**	V29.1
In service training offered	1	2	3	4	V29.2
Laptop	1	2	3	4	V29.3
3G Card	1	2	3	4	V29.4
Smart Pen	1	2	3	4	V29.5
Blackberry Cellphone	1	2	3	4	V29.6
Farmer Green Book	1	2	3	4	V29.7
Extension suite on line	1	2	3	4	

30. What difference has the implementation of ERP made to the way you deliver extension services to farmers? Rate each of the following statements on four point scale(1=No difference and 4=Great difference).

		No difference			Great difference	
		1			4	
a)	Providing of relevant advices and information to farmers	1	2	3	4	V30.1

b)	Planning for extension activities to be performed	1	2	3	4	V30.2
c)	Technical knowledge and competency	1	2	3	4	V30.3
d)	knowledge and skills	1	2	3	4	V30.4
e)	Communication with farmers	1	2	3	4	V30.5
f)	Relationship with farmers	1	2	3	4	V30.6
g)	Credibility amongst farmers	1	2	3	4	V30.7
h)	Other, please specify	1	2	3	4	V30.8

33. What specific further training do you require to improve your current extension service delivery to farmers? (Please list in order of preference **FOUR** aspects/ topics)

._____ V31.1

_____ V31.2

_____ V31.3

_____ V31.4

32. As an extensionist, do you think you have made the right choice?

Yes	1	V32
No	2	

33. How often does your supervisor visit your area?

Weekly	1	V33
Fortnightly	2	
Monthly	3	
Quarterly	4	
Every six months	5	
Annually	6	
Never	7	

34. How often do you have district extension meetings?

Weekly	1
Fortnightly	2
Monthly	3
Quarterly	4
Every six months	5
Annually	6
Never	7

V34 ☐

35. On four point scale, please indicate your level of satisfaction with the current frequency of visits by your supervisor (1=Very dissatisfied and 4= very satisfied).

Very dissatisfied	Very satisfied
1	4

V35 ☐

36. a) How often are you assessed?

Monthly	1
Quarterly	2
Every six months	3
Annually	4
Never	5

V36.1 ☐

b) On four point scale, please indicate your satisfaction with the current performance assessment use b the Department (1=very dissatisfied and 4 very satisfied).

Very dissatisfied	Very satisfied
1	4

V36.2 ☐

37. a) Do you have regular contact with subject matter specialist?

Yes	1
No	2

b). If No, why?

V37.1 ☐

_____

38. Please list THREE aspects that should be addressed to help you perform your work more effectively.

V38.1 ☐

_____

V38.2 ☐

_____

V38.3 ☐

_____

39. a) Do you know the mission statement of the Department of Agriculture and Rural Development?

V39.1 ☐

Yes 1

No 2

39. b) If Yes, what is the mission statement?

_____

_____

_____

_____