THE IMPACT OF DECENTRALISED AGRICULTURAL EXTENSION SERVICE ON STOCK-RAISING IN DÂURES CONSTITUENCY OF THE ERONGO REGION: A CASE STUDY OF THE OKOMBAHE SETTLEMENT

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ELIPHAS !OWOS-OAB (9503471)

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MAIN SUPERVISOR: PROFESSOR P. H. VAN ROOYEN

ABSTRACT

The research used a qualitative case study based on an agricultural extension organisation in Okombahe Settlement Area. The pressure on the public agricultural extension organisation to improve its responsiveness to meet the stock-raising needs of communal farmers has increased after Namibia attained her independence in 1990. Extensive livestock farming remains the main land-based economic activity in the communal farming area of the Okombahe Settlement. To improve agricultural productivity and the livelihood security of communal farm households, the Ministry of Agriculture, Water & Forestry resolved to decentralise its extension services in 1995. Although this was a critical stage in agricultural policy, the extension service has struggled to implement this policy effectively. The decentralised agricultural extension was introduced with the aim of eventually developing a demand-driven extension support to the farming community in general and communal farmers in particular. Although viewed as successful, it has yet to achieve the level of farmer participation (e.g. self-mobilisation) that is required for a demand-driven extension system. Despite government's commitment to developmental efforts and resources towards smallholder farmers in the impoverished and under-developed communal areas, the agricultural extension support has been inadequate towards farmers' needs in the Okombahe Settlement Area. Currently, the level of farmer participation can be classified as somewhere between receiving information and consultation. The farmer participation in extension processes will require putting farmers first or giving them real ownership and accountability of public extension management through collaboration and self-mobilisation. The role of an extension agent must shift from top-down dissemination of technological packages, towards providing farmers with the knowledge and understanding with which to solve their own location-specific problems. The findings suggest that an important factor that can contribute to the success of a local level extension organisation is its ability to coordinate its activities,

in close collaboration with communal farmers through active involvement and self-mobilisation.

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DEDICATION

This intellectual work of mine is humbly dedicated to the repose souls of my late Dad, Reinhardt ≠Kharib !Owos-ôab and my Grandmother, Magrietha Luise Goses néé !Owos-ôas who prepared me well for the challenges life now presents. They remain inspirational in whatever I do in life. *Ara //Ĩra /Omra ≠Khîb !Nâ Sâre* (Loosely translated: May their souls rest in eternal peace). AMEN.

DECLARATION

I, Eliphas !Owos-oab, declare hereby that this study is a true reflection of my own research, and that this work, or part thereof has not been submitted for a degree in any other institution of higher education.

…… Date: 31 January 2014

Eliphas !Owos-oab

KEY WORDS

Agriculture extension, Communal Farmers, Okombahe Settlement Area, Decentralisation, Stock-raising

LIST OF ACRONYMS

ADC's	Agricultural Development Centres
AgriBank	Agricultural Bank of Namibia
AKIS/RD	Agricultural Knowledge and Information Systems for Rural Development
AKS	Agricultural Knowledge System
AMA	Agricultural Management Association
APRU	Animal Production Research Unit
AU	African Union
BATAT	Broadening of Access to Agriculture Thrust
CAADP	Comprehensive Africa Agriculture Development Programme
CASP	Comprehensive Agricultural Support Programme
CBLs	Communal Land Boards
DART	Directorate of Agricultural Research and Training
DEES	Directorate of Extension and Engineering Services
FAO	Food and Agriculture Organisation of the United Nations
FFS	Farmer Field School
FOs	Farmers' Organisations
FSRE	Farming Systems Research Extension
GRN	Government of the Republic of Namibia

ISRDS	Integrated Sustainable Rural Development Strategy
LRAD	Land Redistribution for Agricultural Development
MAWF	Ministry of Agriculture, Water and Forestry
MCA-Nam	Millennium Challenge Account Namibia
MDG	Millennium Development Goals
MRL	Ministry of Regional and Local Government
MoU	Memorandum of Understanding
MRL	Ministry of Lands and Resettlement
MTEF	Medium Term Expenditure Framework
NamLITs	Namibia Livestock identification and traceability system
NDP	National Development Plan
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organisation
NPM	New Public Management
OECD	Organisation for Economic Co-operation and Development
OKFC	*Om-Khâibasen* Farmers' Co-operative
PoN	Polytechnic of Namibia
RDP	Reconstruction and Development Programme
SLA	Sustainable Livelihood Approach

SSA	Sub-Saharan Africa
TA's	Traditional Authorities
T&V	Training and Visit System
TOT	Transfer of Technology
UN	United Nations Organisation
UNAM	University of Namibia
UNDAF	United Nations Development Framework
USAID	United States Agency for International Development
WB	World Bank

CHAPTER 1

INTRODUCTION

1.1 Orientation of the Study

Since Namibia's independence in 1990, development in the agriculture sector has been constrained by the absence of a clear and coherent agricultural policy framework especially with regard to the communal farming sector (Government of Namibia, 1995, p. *i*). In the mid-1995s, things began to change as it was realised that much of agricultural support services were not benefiting the mass of communal farmers and, in any case, were often best provided by the private sector at cost and thus inaccessible to many (ibid). In October 1995, the government introduced the National Agricultural Policy to help realise the national objectives of reviving and sustaining economic growth, creating employment opportunities, alleviating poverty and reducing inequalities in income (Government of Namibia, 1995, pp. *i-ii*). With the introduction of the National Agricultural Policy, the extension has been playing more of a facilitating role relating to a range of rural livelihood issues, but primarily livestock breeding and crop production.

Namibia is a vast country with a predominantly arid climate, and largely in need of improved and more diversified agricultural production systems to optimise land productivity. Owing to Namibia's aridity and low unpredictable rainfall patterns, the country is mostly focusing on stock farming rather than crop farming. The arid nature of the landscape means that very little of the area has agricultural potential. Only 10 km² of the Erongo Region is cleared for cultivation (National Planning Commission, 2007, p. 67); this includes the area of small-scale farming in the Swakop River bed, as well as small areas at Omaruru and Okombahe. Communal land makes up about one third of the Erongo region and small stock farming is the

most important agricultural activity in the region. This is mostly practised on the communal land described above, where goats and sheep are run on the conservancy land. The country's aridity and limited water resources further hamper its agricultural productivity. Namibia is located in the south-western part of Africa as illustrated on the map below (Figure 1.1). The climate of the Erongo Region, located in the central western part of Namibia and targeted by this study, is characterised by aridity.

Figure 1.1 Map of Namibia (Ministry of Agriculture, Water & Rural Development, 2001).

The research probes the impact of decentralised agricultural extension service delivery in the Okombahe Settlement Area. In doing so, it seeks to investigate the influence yielded by service delivery programmes on farmers' behaviour in terms of awareness, understanding and adoption of improved farm management technologies and organisational practices. The study further aims to investigate whether the farming community in the Okombahe Settlement Area

get any form of support or what form/s of support they get, and how sufficient such has been in addressing their developmental needs. The study ultimately draws from the lessons of the New Public Management (NPM), which emphasises output-oriented and outcomes-based service delivery as one of key ingredients necessary to customer satisfaction.

1.2 Statement of the Problem

In terms of the National Agricultural Policy, the agricultural extension services aim to help farmers to develop and adopt improved farming technologies and practices, to organise themselves into self-help groups and to better interact with regional, national and global agricultural markets, services, infrastructure, laws and policies in which they operate.

A baseline survey undertaken on the 'Impact of Agricultural Extension Services' in the Erongo Region suggests that the government's agricultural extension services were focussed mainly on "providing subsidised agricultural services (e.g. ploughing, farming input sales, the development and maintenance of farm infrastructure), and the administration of government programmes such as drought relief and credit schemes". The said survey concludes that the Agricultural Extension Services exist to promote the adoption of improved agricultural technologies and practices in order to increase agricultural production, empower farmers and facilitate sustainable improvement in living conditions of rural communities (Ministry of Agriculture, Water & Forestry, 2011, pp. 45-6). In terms of this survey, no specific data exist in respect of Tubusis, Okombahe, Omatjete and Spitzkoppe settlements, with regard to the type of support provided, extent of service delivery programmes and change of farmer behaviour. Since the 2003 baseline survey referred to above, no further study has yet been undertaken. The question that is yet to be answered is whether the agricultural extension services, through the Agricultural Development Centre, located in the Okombahe Settlement Area, serves the needs of the farming community in that area.

There has been very little analysis on the output and policy options for improving outcomes-based service delivery within the Namibian public sector. This study seeks to provide a better understanding of new governance architecture and reform practices within the concept of decentralised agricultural extension support services to communal farmers in Okombahe. Ultimately, the study seeks to establish the forms and nature of assistance provided to the Okombahe Settlement Area. This study further seeks to establish what support Okombahe communal farmers do receive from the Regional Agricultural Extension offices. Engaging with the beneficiaries will enable the researcher to get the information from "inside". It is doing so by detailed review of literature on agricultural support and analysis of particular segment of the farming community and in this case the communal farmers. The intended research brings forth a new perspective, as it will serve as a benchmark for future research on settlement-specific stock raising in Namibia, as no previous study of this magnitude exist. Other empirical studies undertaken in Namibia and most notably the 2003 survey on the impact of agricultural extension in the Erongo Region have been rather region-specific and general on both crop and stock farming activities.

1.3 Objectives of the Study

The general objective of this case study is to investigate the impact of decentralised agricultural extension service on stock-raising in the Okombahe Settlement Area.

The specific objectives of the study are:

1.3.1 To investigate and determine the scale of subsidised agricultural services provided to the Okombahe Settlement Area by the Agricultural Extension Office of the Ministry of Agriculture, Water and Forestry in the Erongo Region.

1.3.2 To examine the causal linkage between the work of extension services and changes in farmer behaviour and welfare.

1.3.3 To provide empirical data, in a systematic and comparable form, on livelihood impacts and agrarian structure in the post-independence land reform setting.

1.4 Research Question

The research question will be to establish how the Decentralised Agricultural Extension Service of the Erongo Region influenced the improvement of the stock-raising activities of the farming community in the Okombahe Settlement Area.

1.5 Significance of the Study

The state of public service delivery in Namibia, in the main, has been a relatively under-researched area. This study is important in many respects.

First, it addresses the impact of agricultural extension service delivery to communal farmers in the Okombahe Settlement Area. A better understanding of the interaction between government agencies and citizens is an absolute necessity if the intended reforms are to elicit improvements in the direction of responsive service delivery, efficiency and accountability. It is anticipated that the findings of this study will contribute towards responsive, efficient and accountable agricultural services within the communal setting of Namibia**.**

Second, the study helps to illuminate the contemporary debate of New Public Management (NPM), which emphasises the outcomes-based and output-oriented service delivery approach within Public Administration as an academic discipline. The challenges faced within the levels of the political-administrative machinery, and their relationships with urban, village and community-based groups, are particularly relevant from a broader efficiency, accountability and service delivery perspective.

Third, the findings deriving from this study will influence the decision-making in terms of the outreach of the agricultural extension services to the intended beneficiaries and serve to guide improvements in future.

Finally, this research has strong scholarly significance in that it will contribute to the existing body of knowledge on decentralised agricultural extension practices in Namibia.

1.6 Limitations of the Study

The understanding of the possible limitations to this study is imperative because the success of any potential agricultural extension project in Okombahe Settlement Area on the basis of the findings of this study would be as strong as knowing its weakest points. Therefore, though the findings of this study may yield positive outcomes, generalising the findings of this study should be taken with caution, because of the sample size of the respondents and the sampling techniques used for this study compared to the general population of the study area of the Okombahe Settlement.

The long distance travelled between Windhoek and Okombahe Settlement Area presented a major limiting factor in terms of time and costs. Since many of the small-scale farmers in this area do not have telephones, making prior appointment presented a challenge. The main aim of the study is to generate qualitative information aimed at explaining and describing perceptions of farmers in the designated settlement of Okombahe with regard to the processes of decentralised Agricultural Extension Service in their area. An important element of this research, therefore, is to gauge how beneficiaries perceive the benefits or otherwise of the agricultural extension service.

The most direct way to measure impact is to relate the supply of extension services to farm productivity and the improvement of the livelihood of the communal farmers in the study

area. Changes in stock-raising productivity can occur through improved adeptness or technical change. Effective extension involves adequate and timely access by farmers to farm management advice, with appropriate incentives to adopt new technology suited to their socio-economic and agro-ecological circumstances. This include educating them on how to make better decisions and stimulating desirable agricultural development (Van der Ban and Hawkins, 1999), as cited in Anderson and Feder (2004, pp. 41-60). Measuring impact to fit above outcomes has been a limitation of this study as extension and the level of outreach cannot be expected to reach every farmer targeted by this analysis. A fuller discussion on the limitations of this study and its findings is presented in the conclusion chapter (Chapter 6).

1.7 Organisation of the Study

The Research Paper is divided into six main Chapters.

CHAPTER 1 sets the scene and provides a brief introduction and orientation of the study. The problem statement briefly informs of the gap identified by the researcher between the general service delivery of the agricultural extension service in the Erongo Region of Namibia and the Okombahe Settlement Area of the Dâures Constituency as well as the research gap that exist on impact of service delivery in the said settlement area. It is the central idea in the study. The research objectives and questions form part of this chapter. Furthermore, the significance of the study provides a rationale for conducting the study. The limitations of the study are outlined at the end of this chapter.

CHAPTER 2 contains theoretical framework, shares with the reader the results of other studies closely related to the study and further relates the study to a larger on-going dialogue in the literature about the topic. It also introduces and relates the New Public Management notions to the context of the study and provides a framework for establishing the importance of the study as well as a benchmark for comparing theory and practice. It further deals with

the national policy analysis relevant to the agricultural extension in Namibia and informs the reader of international best practices relevant to agricultural extension and the impact of this service on poverty reduction and rural development. This section further elaborates on the policy implications should Namibia benchmark on international best practices.

CHAPTER 3 provides the roadmap of the methodology used in conducting the study in terms of the research design, population and sample, as well as the instruments used in data collection, validation thereof before conducting actual research and conclude informing on the proposed method of data analysis. The ethical considerations are discussed in this chapter.

CHAPTER 4 covers the presentation of data collected and actual data analysis. The questionnaires are analysed and described in a text format.

CHAPTER 5 discusses the findings of the study, compare, and contrast the findings with the literature.

CHAPTER 6 comprises of a clear summary of the findings and deductions made from the findings. It suggests recommendations for policy change and future research and draw conclusions, interpreted within the original problem framework and research objectives.

1.8 Conclusion

The research probes the impact of decentralised agricultural extension service delivery in the Okombahe Settlement Area. It seeks to investigate how sufficient the extension support is in addressing the developmental needs of the communal farmers engaged in stock-raising. The intended research serves as a benchmark for future research on settlement-specific stock - raising in Namibia, as no previous study of this magnitude exists. It has a strong scholarly significance and aims to contribute to the existing body of knowledge on decentralised agricultural extension practices in Namibia. The study is structured into five main chapters.

CHAPTER 2

THEORETICAL FRAMEWORK

'*We must study the present in the light of the past for the purposes of the future.'*

John Maynard Keynes (1883-1946)

2.1 Overview

This chapter reviews the relevant literature sources on decentralised agricultural policy in general and agricultural extension specifically. It begins with a detailed description of the Okombahe ADC, hereinafter referred to as the case organisation. The context within which the case organisation operates is important to understand the framework of support, facilitation, conduct of operations, processes and programmes. In particular, reference to agricultural extension practices locally, regionally and internationally is made. Furthermore, a brief reflection is given on the pre-independence agricultural service delivery approaches and post-independence policy reforms of inherited agricultural extension, with particular emphasis on communal farming sector in Namibia. This comparative pre- and post-colonial data on agricultural extension work in Namibia will help the researcher to draw comparison in the data analysis and presentation of this study. The researcher has very little experience on the concept of agricultural extension and drawing lessons from these sources will make him familiar with some of the numerous challenges faced during colonial era and after Namibia's independence. One of the objectives of this study is to provide empirical data, in a systematic and comparable form, on the livelihood impacts in the post-land reform setting. To this effect, it is important to make a comparative study of agricultural extension programmes and processes to determine the extent such interventions have had on the improvement of livelihoods on communal farmers of the Okombahe Settlement Area. The chapter also draws from international experiences in decentralised agricultural and rural extension, including

new paradigms in New Public Management discourse and their respective implications for decentralised agricultural extension services in the specific context of the developing world.

2.2 Description of the Study Area

2.2.1 Geographical Background

The Okombahe Settlement is situated in the north-western part of the Dâures Constituency in the Erongo Region of Namibia with its geographical coordinates of 21° 22' 0" South, 15° 23' 0" East (Figure 2.1). The said Region comprises the Swakopmund magisterial district up to the Ugab River and includes the enclave of Walvis Bay, former Damaraland south of the Ugab River, and the Omaruru and Karibib magisterial districts. The Erongo Region has been named after the Erongo Mountains (*!Oë-≠Gâgu*[1]), a well-known landmark in Namibia and found in the south-eastern part of the study area. The small villages of Spitzkoppe to the west, Omaruru to the east, Omatjete to the north, Uis to far northwest and Tubusis to south respectively border the Okombahe Settlement Area (Ministry of Agriculture, Water & Forestry, 2011, p. 17). These villages are all situated in a semi-arid farming region and have a homogenous farming pattern, which is customarily stock- raising. The Dâures Constituency is the largest constituency in the Erongo Region with an area of 13,490 km². It has a population of 11,300 people (National Planning Commission, 2011, p. 36). This constituency is divided into centres, which constitute individual farms. The Dâures Constituency office is located at Okombahe and governed by a council of senior headmen. This office facilitates a political link between the Agricultural Extension Office and the farmers. The Dâures Constituency, compared to other constituencies in the same region, is having the most

[1] *!Oë-≠Gâgu* originates from the *Khoekhoegowab* (Damara/Nama) dialect and refers to the Erongo Mountains, hence reference to Damara tribe living in the areas of Karibib, Usakos, Sandamab, Spitzkoppe, Tubusis, Omaruru and Okombahe as the *!Oë-≠Gân* tribe under the *!Oë-≠Gân* Traditional Authority.

Agricultural Development Centres (ADC's), namely the Omatjete ADC, Uis ADC, Okombahe ADC and Spitzkoppe ADC respectively. The Okombahe settlement is sparsely populated and the distances between the farms are vast. Okombahe is traditionally regarded as the capital of the ǂ*Nûkhoen*[2] (Damara) tribe.

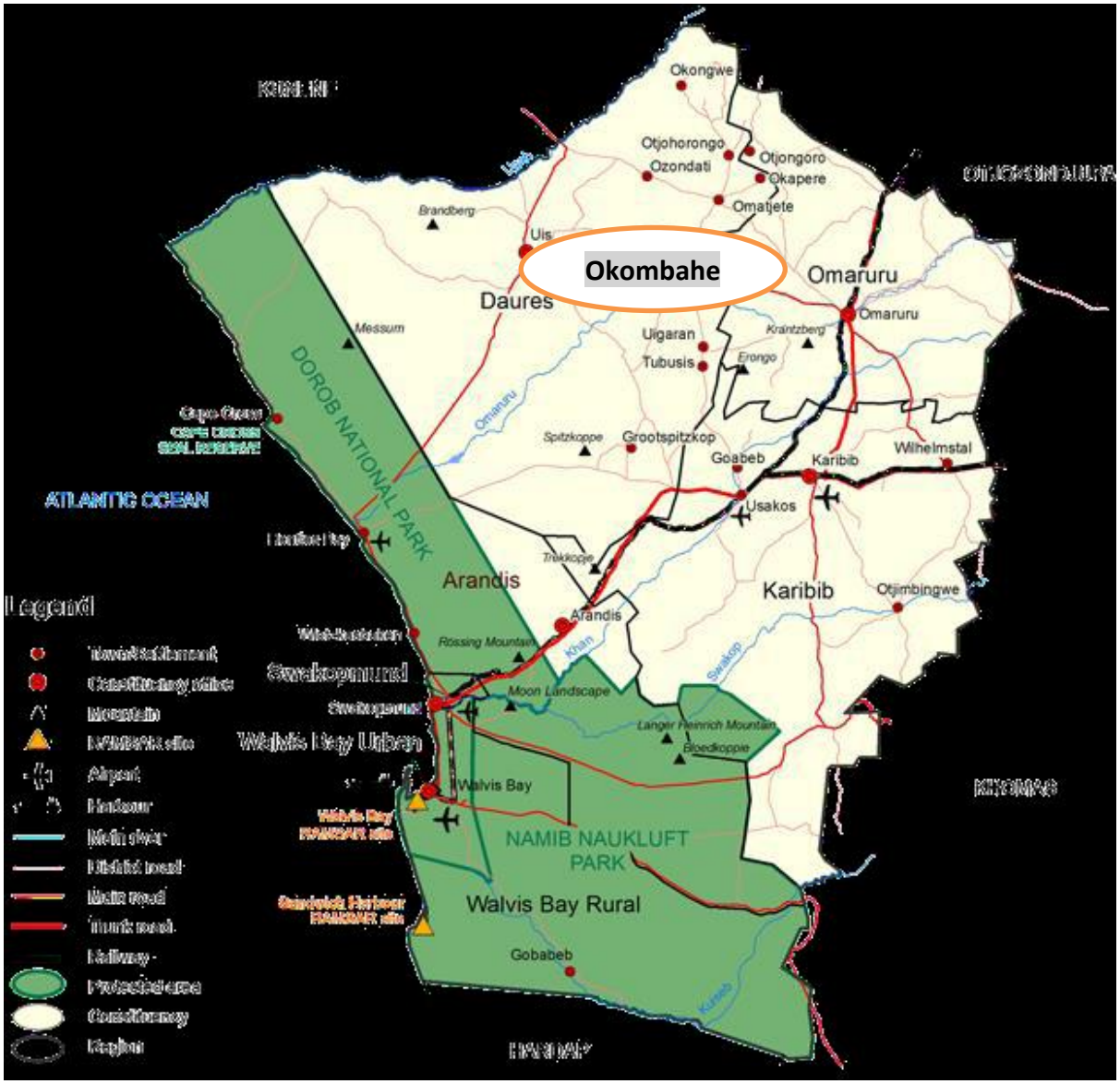


Figure 2.1 Location of the Okombahe Settlement in the Erongo Region (National Planning Commission, 2011).

[2] ǂ*Nûkhoen* means 'Black People', originates from the *Khoekhoegowab* (Damara/Nama) dialect and refers to the Damara Tribe in Namibia.

The annual traditional King's Festival, in memory of the fallen Damara Kings, is held at the King's (*Gaob)*[3] Memorial Stadium located in Okombahe (Hartmann, 2010, p.6). According to a report by the National Planning Commission (2011, pp. 5-7), only 10 km² of the Erongo Region is cleared for cultivation. The cleared area includes a small-scale farming in the Swakop River bed, as well as small areas at Omaruru and Okombahe settlement respectively. Poverty is pervasive in Okombahe and highest among farmers, especially those in crop farming (!Kharuchab, 2013, p.3).

2.2.2 Historical Background

The Okombahe Settlement Area came into being because of the impact of merchant capital and colonial expansion on pastoral societies, made up of small, interrelated, kin-based clans (Rohde *et al*., 1997, pp. 34-36). This area was originally set aside for Damara rural communities by the colonial authorities and was largely neglected in the pre-independence period. During the creation of 'Damara homeland' in 1960 as part of the Grand Apartheid Scheme, Damara farmers began moving into the new "homeland" during the late 1960s and early 1970s (ibid). During the early years of resettlement, white commissioners, under the existing pass-laws, issued permits that allowed Damaras access to communal farming areas on an ad-hoc basis.

According to Rohde *et al*. (1997, p. 35), with the abolition of Namibian pass-law legislation in 1976, Damaras willingly "immigrated" or were forcibly resettled to various parts of the

[3]*Gaob* means 'King' in one of the Namibia's indigenous languages, the Damara/Nama dialect, also referred to as the *Khoe-Khoegowab*. More than hundreds of Damara people come to Okombahe in order to commemorate the death of the former Damara King, Dawid Goreseb who died in 1976 and buried in Okombahe on November 6, 1976. The festival is held under the leadership of King Justus //Garoëb, who was personally appointed by the former king [Dawid Goreseb]. The festival takes place once in a year to celebrate and embrace the Damara peoples' tradition (Dâusas, 2012, pp. 3-4).

country, and notably in areas of Okombahe, Otjimbingwe, Spitzkoppe and Tubusis, all of which are in the Erongo Region of Namibia. In this respect, the little planning, which then existed was based on trying to disperse the population as evenly as possible by restricting the numbers of farmers at each settlement according to an imaginary "carrying capacity." Consequently, no formally codified, "traditional" land-allocation systems were in place, unlike in most other communal areas of Namibia. It took until 1978, Rohde *et al*. submit, to set up a "second-tier authority" in the former Damaraland and only in 1985 did the Damara Council, which was assigned to administer the tribal affairs, codify the structure of a "tribal authority" in accordance with the ethnic requirements of the apartheid state. During the communalisation of Damaraland, the process of establishing settlement rights was facilitated through the administrative framework of extension officers working within the Damara Council's Department of Agriculture (pp. 36-38).

For many Damara farmers, including the farmers of Okombahe, the opportunity of a greatly expanded communal land base was highly attractive, especially given the severe lack of economic and political freedom within Namibia as a whole. This communal expansion provided scope for renewed subsistence livestock farming after the demise of the dairy industry for which the Okombahe area was famous in the early 1960s (Rohde *et al.*, p. 36). It also provided some relief to the heavily stocked reserves, such as Okombahe, which nevertheless had recovered from the 1958–62 droughts to an all-time high stocking-rate by 1979 (ibid, p. 37). The early optimism that accompanied the communal settlement of Damaraland was soon reversed after 1979, when one of the most severe and prolonged droughts struck western Namibia, with devastating effects to the area now known as the Erongo Region. The expanded communal area made "traditional" coping strategies involving the migration and dispersal of herds possible, but regrettably, the processes of impoverishment continued to affect Okombahe as only a few wealthier stockowners moved

to better grazing in higher rainfall areas of the north and east. While livestock numbers have never recovered to pre-drought levels in the ward of the Okombahe Settlement Area, the rebuilding of herds across Damaraland, as a whole, was nevertheless accomplished in less than 10 years (ibid).

According to Fuller (1993, p. 56), the communalisation of Damaraland and the process of establishing settlement rights were nominally carried out through the administrative framework of extension officers working within the former Damara Council's Department of Agriculture. In practice, rights of access to land were negotiated on an informal basis, and disputes were rarely taken above the level of the ward leadership. Furthermore, it was common for headmen to consult their councillors and community before granting or denying rights of residence to incomers. Incomers generally descended toward farm settlements where relatives already stayed, thereby minimising social resistance to the sharing of water and grazing. Refusal of applicants was uncommon. Membership of a specific largely ethnically defined community (Damara), conveyed automatic rights to land (ibid). In cases where disputes developed over access to grazing and water, arbitration would in the first instance be undertaken by councillors, then headmen, and finally, if consensus could not be reached, through the Damara Council in consultation with agricultural extension workers.

Namibia's independence in 1990 brought about a repeal of laws that constituted the so-called "second-tier authorities." All property under the control of the Damara Representative Authority reverted to the government of Namibia, and the "homelands" officially ceased to exist. Communal resources were theoretically 'thrown open' to all and sundry, although in practice resource-allocation procedures based on ward leadership survived. Agricultural extension officers also retained the strong mediating role in conflicts over resource use, which had been one of their functions within the homeland government.

Shortly after independence, the drought of 1991–92 affected the farmers of former 'Damaraland' who, in response, adapted a loose, unplanned system (similar to that which had operated during the homeland era). This system enabled farmers to migrate to areas of better grazing in northern 'Damaraland' in 1994. In the same year, this pattern was reversed when drought affected this area, and once again, mass movements of people and livestock were accommodated in previously drought-affected areas in the southern part of this area (Behnke, 1994, p. 66). According to Behnke, these movements of people and livestock across "this expanded communal landscape was chaotic and a desperate scramble for scarce resources." However, communal farmers were able to accommodate substantial influxes of livestock from drought-affected areas with a minimum of conflict in the absence of strict regulation of pastoral resources. Behnke observes that this "do-it-yourself" system has its roots in Damara social order according to which livestock farmers are able to respond quickly and intelligently to unforeseeable challenges and opportunities.

2.2.3 Socio-Economic Background

Namibia, like South Africa in the Southern African Region is characterised by a dualistic agricultural sector, where a strong commercial sector exists alongside a sector comprised of households in freehold or non-freehold areas. This dualistic agriculture sector was an inheritance of the past, where white farmers gained mostly marginal land (unproductive) for grazing and were assisted by the State to become commercially viable (Kirsten and Van Zyl, 1998 as quoted in Phororo, 2001, p. 9). According to Phororo (2001, pp. 10-11), during the apartheid era, the communal areas were sealed off from the commercial economy and the only way of earning cash income was through subsistence farming. The commercial farmers received subsidies for settlement, wells, dams, and breeding stock and cash loans. All the communal farm holdings are very small, when compared with the areas farmed by

commercial farmers, thus indicating the deliberate strategy of the colonial legacy to keep communal farming at a subsistence level.

The need for a cash income, which subsistence farming could not provide, forced an increasing number of men to flock to urban centres and commercial farms to seek employment. As early as 1990, very little or none of the cash income from migrants remittances was being invested back into crop agriculture in terms of purchasing new equipment or inputs (Phororo, 2001, pp. 12-13). The lack of reliable water supplies and severe overcrowding did not make stock farming a viable option. Although there were some farmers with large herds of stock, the colonial system did not permit them to become livestock farmers and to purchase farms away from the communal areas. For other farming households, other sources of income such as wages, remittances and pensions supplement the incomes earned from farming (National Planning Commission, 1999, p. 24).

However, the social and cultural importance of livestock for black Namibians must also be considered. Owning livestock is an imperative, not only for farmers, but also for those in urban areas, and not only for poor people, but also for wealthier black Namibians. Owning animals in Namibia, as in many other African societies, does not necessarily mean that one devotes one's life to ranching. Livestock is much more of a social requirement than an economic input. According to various studies conducted in Southern Africa, communal farmers keep livestock for a variety of purposes and this is expressed in the large variation in herd size and in multiple ownership (Shackleton *et al*., 2000, pp. 23-26). In the first place, milk and meat are important elements in household food security. Secondly, sheep and goats provide capital storage (e.g.to pay for school fees, medical emergencies etc.), while in many cases, donkeys are utilised for transport and cropping operations. In Southern African communal farming sector, some black farmers keep cattle for prestige and pleasure (ibid). To

express it in a Namibian clerk's words: "Not owning a herd in Namibia means being poor among the poor" (MAWRD, 1991, p. 19). Finally, one statistical figure should not be overlooked, which suggests, "in Namibia, 70 percent of the people still rely on agriculture and livestock breeding as the main source of income" (MAWRD, 1995, p. 11).

2.2.4 Farming Practices

In the longer term, farming practices in communal Okombahe aim largely at the maintenance of flocks, the production of lambs and maximising their growth to a marketable size. However, the day-to-day practices are mostly geared towards finding suitable grazing, supplying water and protecting livestock against predators. Two costly assets do much to facilitate these needs, namely water points and fences. Both are relatively well provided and maintained on freehold farms, but poorly developed in the study area. Freehold farms are generally divided into camps, each with access to a water point normally fed from a nearby source or using extensive pipelines from boreholes further away. Farming revolves to a great degree around the availability of water. Homesteads and kraals are sited closer to water sources, which are generally boreholes using windmills or diesel pumps to supply water to reservoirs and drinking troughs.

According to the Ministry of Agriculture, Water and Forestry (2005, pp. 3-4), there are fifty-three (54) farms and two-hundred-and-five (205) communal farmers in the Okombahe Settlement Area. This number excludes those who have settled in the area through the customary land registration process, which commenced in 2012. Goats predominate in the communal farming district of Okombahe and Damara sheep predominate in the flocks of communal farmers in the Erongo Region (ibid, p.6). The number of small livestock (sheep and goats) according to the Stock Census conducted in 2012 was estimated at 93 013, whereas cattle were 7 418 during the same period (Meat Board of Namibia, 2012, p. 24).

The same census suggests that the area had 392 horses, 4 351 donkeys, 6 112 poultry and 713 pigs (ibid). According to /Uises (2012), stocking rates in Okombahe between 1970 and 1994 ranged from 16 to 100 hectares per livestock unit, with an average of 32 hectares per livestock unit. The main environmental resource to make small stock farming possible is the presence of relatively abundant shrub vegetation, which forms the mainstay food for sheep and goats. The plants are perennial, unlike most grasses that are only abundant after sporadic good rains (Ministry of Agriculture, Water and Forestry, 2005, p. 4). Moreover, in the absence of regular rainfall, farmers can never depend on a reliable supply of grass, as would be needed, specifically for the cattle.

The Ministry of Agriculture, Water & Forestry has been encouraging communal farmers in Erongo and southern Kunene to farm with Karakul since they do well under arid conditions and because pelt prices are rising on account of a high demand in the global market (New Era, 2012, pp. 2-3). The sheep and goats in the study area are sold in several ways: at auctions, directly to local buyers or abattoirs and butcheries, and seldom on an ad hoc informal basis. The auction sales in the communal areas have evidently declined in recent years, and many farmers now prefer to sell directly from their farms (!Kharuxab, 2013). This mode of stock sales, according to !Kharuxab, saves transport costs to auction pens and commissions charged by intermediaries. Local buyers, often called speculators, buy up animals and keep them until prices are sufficiently attractive to sell to local abattoirs or to export the animals to neighbouring South Africa (/Uises, 2013).

Mendelsohn (2006, pp.15-17) recounts some of the challenges faced by communal farmers. Given the high density of people historically forced to live in the communal areas, most farm enterprises are confined to pieces of land too small to make a decent living, or to make a profit that might be used to improve living standards. As a result, most families go to great

lengths to obtain other, non-farming incomes. The areas outside the small enclosures of fields known as 'commons' offer resources to be used by everyone, but managed by none. This had led to a classic example of what Mendelsohn refers to as the "tragedy of the commons" whereby wealthier farmers use and/or enclose larger areas of the commons for their exclusive use, at the expense of the struggling poor farmers. This leaves poorer farmers with little, and in effect, gradually squeezed into greater reliance on the meagre resources inside their own tiny enclosures. The result is that the poor get poorer, while the wealthier exploit natural resources maximally and destructively (ibid, p. 16).

Another challenge highlighted by Mendelsohn relates to the fact that communal farmers have no legal tenure over land allocated to them. Consequently, they have little access to credit such as bank loans. In the absence of legal ownership, farmers also have limited incentive to develop their farms into a meaningful business/commercial venture (2006, pp. 16-17).

2.3 Case Description and Context

In a case study research, it is important to describe the case distinctly and in detail so that it can be compared to other cases, which may or may not have those characteristics of interest (Ragin, 1992, p. 17). The context within which the case organisation operates may be best described using the framework suggested by Peterson (1997, pp. 21-26). Peterson argues that for extension organisations to better manage their services, it is important for them to examine and understand the factors in the external environment that can influence their actions. He identifies five elements of the environment that could have an influence on how an agricultural extension organisation in a developing country is likely to operate. These elements relate to 1) agro-ecological, 2) economical, 3) sociocultural, 4) infrastructural, and 5) institutional environments. The following sections discuss these elements in brief detail.

2.3.1 Agro-Ecological Factors

According to Peterson, the agro-ecological conditions (i.e. temperature, rainfall and soil type) of any location strongly influence extension operation, especially those decisions about the type of agricultural technologies and delivery approaches required to meet the needs of that particular agro-ecological environment (p. 22). The case organisation is situated in the Okombahe Settlement Area, in the north-western part of the Dâures Constituency in the Erongo Region of Namibia. Namibia has two seasons for rain, both in summer season. The small rainy season lasts from about September to November. During the three-month period, small showers fall from time to time across most of the country (Ministry of Agriculture, Water & Rural Development, 2004, p. 16). The main rainy season in Namibia lasts from January to April and it can be extremely hot. The major rainy season is also the main farming season in the district during which farmers spend most of their time on stock farming. Violent thunderstorms accompanied by flash floods particularly in the northern parts of Namibia are common. However, this type of floods is not experienced in the Erongo Region (ibid, p. 17). The area under authority of the case organisation (Okombahe Settlement Area) is semi-arid and has ever since 2012, and during conducting of this research, been plagued by severe drought.

2.3.2 The Socio-Cultural Factors

Sociocultural factors, which may include language differences, illiteracy, settlement patterns, cultural diversity, land-use arrangements and type of faming, can adversely affect the effectiveness of extension (Peterson, 1997, p. 16). As a social group, the communal farmers in the study area believe that they are part of the larger Damara clan and are traditionally governed by chiefs usually from a specific royal clans dictated by tradition. The people of the Okombahe Settlement Area generally speak *Khoekhoegowab* (Damara/Nama). The rural

population is dispersed in the communal and freehold areas, and concentrated in small settlements such as Tubusis, Sandamab, Spitzkoppe, Otjimbingwe and Okombahe. The communities in the latter areas are predominantly from the Damara tribe. It is worth mentioning that the Otjiherero speaking tribe (north of Okombahe) predominantly inhabits a settlement adjacent to the Okombahe Settlement Area, namely the Omatjete Settlement Area.

2.3.3 Economic Factors

The economic conditions of farmers, in terms of the level of poverty, the proportions of resource-poor/rich or scale of farm holdings determine the type of technologies to be transferred to farmers, and the extent (scale) of the extension services (Peterson, 1997, p.17). The district economy in the Okombahe Settlement Area is based on stock farming, which is the basis of livelihood. Assessing the poverty situation in the area is very difficult due to a lack of reliable reported data.

According to the Report released by the Namibia Statistics Agency (2012, p. 5), the lowest incidence of poverty is found in the Erongo Region where only 7.1 percent of the population is poor compared to the national poverty rate of 28.7 percent. However, the same report suggests that poverty is highest among pensioners and subsistence farmers (p. 23) in terms of their access to and use of government services, and their living standards in terms of access to schools, public health facilities, and drinking water, electricity and sanitation facilities. The changes in poverty and inequality are key indicators of economic progress and social inclusion (Peterson, 2012, p. 9).

2.3.4 Infrastructural Factors

Infrastructure, particularly the conditions of transport, market and communication facilities affects both farmers and extension work. Peterson (1997, p. 17) argues that the capacity to

move people, inputs and to send and receive information influences extension activities and capacity. The Okombahe Settlement Area has no tarred roads and all roads linking communal farmers with the case organisation are gravel and need constant maintenance.

2.4 A Brief Historical Perspective of the Agricultural Extension Service in Namibia

Agriculture extension is not a new phenomenon in Namibia. During the pre-independence era, the agricultural extension has been designed to support farmers to make their own production and marketing decisions by providing appropriate information on a wide range of alternatives available to these farmers throughout the province. During the colonial era, starting from the German to the South African occupation, the indigenous Namibians were forced into arid communal areas, which were poor for agricultural production, while the colonialists allocated themselves the productive arable land (Legal Assistance Centre, 2005, p. 32). Because of Namibia's aridity and low unpredictable rainfall pattern, the country is mostly focusing on stock farming rather than crop farming. Its aridity and limited water resources further hamper Namibia's agricultural productivity. In addition, bush encroachment remains a factor that severely affects agricultural productivity. Yet, a huge number of Namibians are dependent on agriculture for their livelihood. Agriculture is thus a very important form of economic activity, although it has more limits than gains to the country. The little productive land available for agricultural purposes is not being sustained and may be depleted, through unproductive and unsustainable agricultural practices. A study undertaken by the Legal Assistance Centre (2005, p. 32) suggests that, before independence, government agricultural services mainly entailed provision of subsidised agricultural services (e.g. development and maintenance of farming infrastructure, farming input sales and ploughing), and administration of government programmes such as drought relief and credit schemes (ibid). In the mid-1990s, the scenario began to change as it was realised that these

services were not benefiting the majority of farmers, and some were of the opinion that the private sector could provide certain services more effectively than the public sector (ibid, p.34).

In terms of the Five-Year Plan for the Development of the Native Areas (Wolfgang & Odendaal, 2012, p. 22) and subsequent recommendations made by the Odendaal Plan in the mid-1960s, specific interventions for improving agricultural production in the communal areas had to be complemented by an agricultural extension programme. These interventions were based on transforming the traditional subsistence farming pattern into one conforming to the requirements of a market economy (ibid, pp. 22-23). They argue that extension work "should be aimed at improving livestock production, more specifically at controlling disease and to provide the necessary amenities for rational livestock farming" (ibid). Hence, agricultural extension services was a vital component of rural development in Namibia and thus perceived to provide support to farmers and farmer organisations to bring about changes in agricultural production and raise rural living standards. Therefore, it makes sense that intensive and sustainable use of productive land can help in addressing the problem of enough food for household consumption and income generation. In order to achieve this, farmers, in terms of above interventions had to be given an opportunity to access agricultural education, necessary information on appropriate food production technologies and markets information. However, with limited resources, extension officials in Namibia find themselves not delivering to these expectations as suggested by the study of the European Commission (2010, p. 59). The comparative pre- and post-colonial data on agricultural extension work in Namibia is useful to draw comparison in the data analysis and presentation of this study. The researcher has very little experience on the concept of agricultural extension and drawing lessons from these sources made him familiar with some of the numerous challenges faced during colonial era and after Namibia's independence. One of the objectives of this study is

to provide empirical data, in a systematic and comparable form, on livelihood impacts and agrarian structure in the post-land reform setting. To this effect, it is important to make a comparative study of agricultural extension programmes and processes in order to determine the extent that such interventions have had on the improvement of livelihoods on communal farmers of the Okombahe Settlement Area. The study specifically takes a comparative look at stock-raising activities in the target area.

The government plays an important role in agricultural and rural development. Even when agricultural extension is farmer-led, government, at whatever level, must be concerned with production, the impact of agricultural practices on the environment, regulations governing quality standards, food safety, and in general the well-being of the people.

According to the report released by the European Commission (2010, p. 47), the Namibian agricultural sector is said to have a dual system comprising of a well-developed, capital intensive and export-oriented commercial sub-sector and a subsistence based communal farming sub-sector, low in technology and external inputs which are highly labour intensive. This report informs the basis of the theoretical perspective regarding stock farming, especially taking into account the dualistic nature of the farming systems in the Okombahe Settlement Area. The data contained in the said report is of assistance to the researcher to gain knowledge needed to understand and analyse stock-farming problems and opportunities for change in commercial and communal setting. Both commercial and communal sectors contribute to the achievement of the country's national agricultural development goals that include the long term Vision 2030, the Millennium Development Goals and the short term National Development Plans (NDPs). Agricultural development hinges on the proper use of information and agricultural extension services (a vital component of rural development) are

at the centre of cooperation amongst farmers, researchers, farmer organisations and community developers (Kaurivi, 2008, p. 1).

The government agricultural extension services mainly provide subsidised agricultural services and the administration of government programmes such as drought relief and credit schemes.

The primary goal of Namibia agricultural extension services is to help farmers develop and adopt improved farming technologies and practices, organise themselves in cooperatives as well as have access to information (i.e. markets and policies) and infrastructure. To achieve this goal, the MAWF created the Directorate of Extension and Engineering Services (DEES) to provide agricultural extension services to farmers, agro-based industries and other stakeholders in the form of information communication, advisory and training services. The government attempt to implement a policy of decentralisation aiming at bringing services closer to the farmers has encountered a series of difficulties since in many remote areas, extension offices are the only government offices the people rely on. Many farmers live and farm far away from the Agriculture Development Centres (ADC's) making it difficult to be reached by extension agents or for farmers themselves to travel to the ADC for assistance with agricultural advice and services. The MAWF is organised such that research and extension activities are performed under two separate directorates, namely the Directorate of Extension and Engineering Services (DEES) and Directorate of Agricultural Research and Training (DART). Different directors or managers "making the research-extension linkage less evident and coordination of programmes more difficult" manage these offices (Thomas *et al*., 2011, p. 44). The urgent need to connect research and extension to farmers prompted the Ministry of Agriculture, Water and Fisheries to develop a strategy to facilitate the flow of information in both directions between research, extension and farmers. In 1997, the Farming

System Research and Extension (FSRE) characterised by a holistic, participatory, demand driven, multidisciplinary and problem solving approach was officially adopted as a development strategy. While it is unclear whether the FSRE approach actually lived up to its mandate of bringing researchers, extension specialists and farmers together in the design, implementation, monitoring and evaluation of agricultural programmes, new strategies have emerged recently to improve collaboration among all actors in the agricultural extension system.

The government's commitment to developing an agricultural extension system starts with the development of human capital to deliver agricultural extension services to farmers. Staff development including in-service training is essential for the health of agricultural extension. In-service training for existing staff aims at improving professionalism leading to the greater effectiveness of the service. According to Elkan *et al.* (1992, p. 4), many extension agents who operate at the grass-root levels in Namibia are non-professionals with little knowledge about extension work, let alone participatory approaches. The University of Namibia (UNAM), Polytechnic of Namibia (PoN) and other agricultural colleges play an important role in capacity building by offering degree and diploma courses in agriculture and other related disciplines.

Elkan *et al* (1992, p. 5) examine the agricultural development in Namibia in the context of the economic environment, with a view to providing policy perspectives which may assist in the process of reform towards a more equitable and dynamic economy. This study concludes that the improvement of smallholder incomes provides the only means of improving the position of the majority of poor Namibians. The authors, in their working paper entitled "Namibian Agriculture: Policies and Prospects" looked at how best to raise agricultural output without endangering the large-scale farmers who are vital to the economy.

Commercial agriculture is practised on some 4 000 very large, mostly white-owned farm enterprises in the southern and central part of Namibia where a system of freehold land tenure prevails and production is for the market. In the north of Namibia, and the former reserves of central and southern Namibia, the tenure system is communal (ibid, p. 17). It is here that 70 percent of the black Namibian population live. The majority derive their livelihood from small-scale farming using traditional methods of cultivation and producing almost exclusively for self-consumption. The most commonly grown crop is millet and in some areas maize. Sorghum is grown to brew a nutritious alcoholic beverage called *omalondu*[4]. In addition, most farmers have a few head of cattle, goats and sheep. Government's extension services in Namibia's communal areas were mainly involved in the provision of agricultural services, including ploughing services, the sale of farming inputs, the maintenance of farm infrastructure, and the administration of non-extension activities including a number of drought relief and credit schemes (ibid, pp. 19-20). The communal area of Erongo has a reasonable number of cattle but small stock, and particularly goats, predominate in the area because of the poor grazing conditions (Government of Namibia, 2003, p. 23).

The Erongo Baseline Survey undertaken in 2003 looked at the impact of extension activities on the broad range of farming activities and not specifically at stock-raising, which is a major activity of subsistence farming in the settlement under study. The study informs that livestock improvement scheme is available at Daweb-West under the management of the *Omkhâibasen* Community Farmers' Co-operative (OKCFC), which is a registered entity to provide farmers with improved quality breeding stock of selected breeds, especially Boer goat rams, and Damara sheep rams. This survey is important to find out what information is already available from previous studies and to establish data collection methods and techniques used

[4]The traditional alcoholic beverage made from sorghum by the indigenous *Oshivambo* Tribe in the northern Namibia.

in respect of the said survey. This baseline study will also help to determine how the shortcomings pointed out by this survey were addressed or mitigated in the Erongo Region and more specifically in Okombahe Settlement Area.

A study which was commissioned by the Namibia Agricultural Bank (AgriBank) in 2004, as cited in the New Era (2005, pp. 8-9) indicates that 77 percent respondents in Oshikoto, Otjozondjupa, Kunene, Erongo, Omaheke, Hardap and Karas regions received no support from the extention officers for their farming operations. The same study further suggests that 70 percent "did not know the name of the agricultural extension officer responsible for them", while only 17 percent indicated to have benefitted from these services. The said study was more region-based and there is no particular reference in the findings as to the nature of any support and how Okombahe settlement Area benefits from the extension services provided in the Erongo Region. The AgriBank study will form the basis of the theoretical perspective regarding the impact of agricultural extension on farming community in the Erongo Region.

Agricultural extension services in Namibia are managed by the public sector through the Ministry of Agriculture, Water and Forestry (MAWF). The role of non-state agents including private sector firms, NGOs and other donors is limited in scope and the bulk of extension service is provided by public sector.

2.5 The Namibia Agricultural Policy and Communal Land Administration

The ultimate goal of the 1995 National Agricultural Policy was to sustain and increase the levels of agricultural productivity, real farm incomes and national and household food security, within the context of Namibia's fragile ecosystem (Ministry of Agriculture, Water and Forestry, 2005, p.1). Agricultural policies are typically perceived as types of State intervention in the agricultural sector. In Namibia, the agricultural sector is divided into a

commercial farming subsector, where farms are privately owned, and a communal farming sub-sector, where farmers operate on land held under a communal tenure system.

The Ministry of Land and Resettlement (MLR) is the principal administrator of land in Namibia. Its Directorate of Land Reform is responsible for ensuring that land registration takes place in all communal areas. The historical background to land registration in Namibia, according to the study undertaken by the Namibia Institute of Democracy (2009, pp. 3-5) proves quite complicated. The study concludes that most people may not know that there were two very important factors that influenced how current communal areas were first delineated (marked out). The first factor is the historical distribution and movement of individual ethnic groups in the country. The second is the privatisation of what used to be communal land and the declaration of state land (parks, mining areas etc.) by the pre-independence colonial regimes (ibid, p. 5). Today, the land in Namibia is divided into three categories, namely state land, communal land and freehold commercial areas (ibid). There are different laws and regulations that apply to each of these categories. Most of the communal areas are situated in the north, northeast and north-west of Namibia. These communal areas contain the highest concentration of the rural population, and it is estimated that about half of Namibia's rural population live there (ibid, p.7). The land in communal areas belongs to the State (the Republic of Namibia), but people are given rights to use parts of these communal lands for as long as they live, and to pass on those rights to their descendants (ibid).

Before the enactment of the Communal Land Reform Act, 2002 (Act No. 5 of 2002), the chiefs and traditional authorities (TAs) used to allocate land use rights to their people. They did this by following their traditional tenure systems. These allocations were mostly not documented (recorded by being written down) and could therefore only be transferred orally. This resulted in many land-related disputes, such as double allocations (where the same

parcel of land is alleged to have been allocated to different people), boundary disputes, unauthorised extensions of allocated land and illegal fencing. The Government of the Republic of Namibia (GRN) also did not regulate the allocation of land, resulting in reported cases of unequal land distribution in all communal areas. The result was that some people were allocated huge pieces of land, whereas others were getting less. Similarly, some people were allowed to fence their land, whereas others were not. This inevitably led to a lack of trust in the entire customary system of land tenure. As a result, in 1995 the Ministry of Lands and Resettlement (MLR) drafted the Communal Land Reform Bill in order to regulate the management and administration of communal land (Namibia Institute of Democracy, 2009, p. 9).

2.5.1 National Agricultural Policy and its Emphasis on the Rural-Poor

Namibia's land implementation shows a disjuncture in that poverty in Namibia is primarily a rural phenomenon, with 85 percent of the consumption-poor households located in rural areas (National Planning Commission, 1999, p. 23). It is often stated that processes of decentralisation and land reform are central challenges for rural development. Namibia developed a vision of its own, known as Vision 2030. The vision defines the role of all stakeholders in the economic development of the country at various moments in time over the span of the Vision. To achieve this vision, it is estimated that agriculture will have to contribute approximately 25 percent to the overall growth of the national economy (ibid). Access to economic resources such as land is seen as a crucial imperative in the attainment of the Vision 2030 goals. However, the investment resources required for purchasing and developing the land, rehabilitating the physical infrastructures, and enhancing the capacity of the resettled landless to use the land productively, far outstrips government's capacity of allocating the resources required. Despite the aspirations enshrined in Vision 2030, it is

imperative to note that the government's approach to poverty alleviation strategies often lacks a clear emphasis on the role of land reform in such initiatives. The Agricultural Land Reform Act provides for the acquisition of freehold land on a willing buyer/ willing seller basis, although the government has a preferential right to acquire agricultural land that comes on the market before it can be sold to individuals outside the land reform process. The Affirmative Action Loan Scheme provides subsidised Agribank loans to full-time and part-time communal farmers who meet certain conditions, with the broad objective of resettling well-established and strong communal farmers on commercial farmland to minimise the pressure on grazing in communal areas. While the Resettlement Programme targets the poorest, the loan scheme is aimed at the emerging black middle class (National Planning Commission, 1999, pp. 21-23).

2.5.2 The Funding of Agricultural Extension in Namibia

In terms of the Medium Term Expenditure Framework (MTEF) for the periods between 2012/2013 and 2014/2015, under Vote 20, the Namibian Government has budgeted for an amount of N$ 73,844 million for the livestock production, improvement and animal health control (Government of Namibia, 2012, p. 271). An amount of N$ 14,840 million was provided for the 2012/2013 budget cycle, whereas amounts of N$ 22,433 million and N$ 36,611 million are being projected for budget cycles 2013/2014 and 2014/2015 respectively (ibid).

The main activities of this programme are, *inter alia*, livestock production and improvement, which includes research on livestock breeding. The improvement of livestock is achieved as they are reared on-station while the adaptability is through thorough selection of animals (ibid, p. 284). The focus is, according to MTEF, to avail breeding material to formerly disadvantaged Namibians and farmers in general. Livestock plays an essential role in the

Namibian economy, and there is a need to improve the livestock herds of the communal farmers. This is achieved through the provision of improved well adapted livestock breeding material to emerging commercial and communal farmers through various platforms namely public auctions, special schemes, co-operative requests, donations as well as personal request by individuals. Similarly, the government has committed itself to provide small stock to vulnerable groups so as to bring these groups to the economic mainstream. In this respect, a special scheme targeting the vulnerable groups was designed. Activities include among others: identification of beneficiaries, training them on appropriate animal husbandry practices, developing of contract agreements and availing small stock to the beneficiaries (p. 284-5). In order to ascertain that beneficiaries comply with the signed contract, agreed continuous monitoring and evaluation is essential.

Another activity of the programme relates to the provision of technical services and diffusion of livestock production technologies, through timely agricultural information and advice to all stakeholders in both commercial and communal sectors. The DEES has been assigned to disseminate and promote new livestock technologies and practices to farmers and stakeholders for improved production (Government of Namibia, 2012, p. 286).

The third activity relating to livestock that the government committed itself to relates animal disease control and management. This is achieved through a variety of processes ranging from animal disease surveillance, investigation of all animal disease outbreaks, and inspection of animals at farms, auctions and shows to vaccination of animals to prevent diseases of economic importance. The treatment of sick animals, management and maintenance of quarantine facilities and providing of in-service training to Veterinary staff and training of Community Animal Health workers are other activities provided for in the MTEF.

In 2001, the government launched the Namibia Livestock Identification and Traceability system (NamLITs). The system involves the identification of cattle by means of two ear tags, a radio frequency (RFID) ear tag on the left ear and a visual ear tag in the right ear, to augment the hot-iron branding system, which is based on registered brand marks. The system is supported by a decentralised computerised database in which animal records are maintained and permits for the movement of animals are recorded. The database also captures information on animals sold, exchanged, slaughtered, imported and or die on the farm (New Era, 2001, pp. 1-2).The Ministry undertook to tag and register cattle in the northern communal areas with support from the Millennium Challenge Account Namibia (MCA-Nam) (ibid).The NamLITs has been introduced to maintain animal disease information database as well as a national traceable herd system, which includes the movement control and issuing of movement permits. The system contributes evidence towards declaration of disease freedom countrywide and form basis for negotiating favourable conditions for trade (ibid). The system, according to New Era, was in response to some requirements of the country's trading partners in Europe and in the country's endeavour to access other high value markets, such as the United States of America.

Within the MTEF, the government committed itself to capacitate agricultural extension services to advise farmers on marketing opportunities and marketable animal products. The training of emerging and resettled farmers on good practices in livestock production and farming is a projected objective.

It is to be established through this research as to what extent these government programmes and initiatives are being decentralised to the ADC's in the Erongo Region and how accessible it is to the communal farmers in the Okombahe Settlement Area.

2.5.3 The Post-Independence Review of Extension Services

A new extension strategy was adopted in 1994, which stresses the provision of advisory, information communications, and farmer training services, and emphasises participatory Farming Systems Research Extension (FSRE) approaches (Vigne and Whiteside, 2007, pp. 60-62). This is probably the only example of a Government extension service that has tried to adopt FSRE approaches as a national extension strategy in Africa. It came about because of the perceived need for an explicit change of direction, and because of the influence of a new extension management team that had only relatively completed training and was open to new ideas. Key activities addressed in the proposed strategy include, among others, participatory situation determination and problem diagnosis; the localised development and adaptation of improved technologies and practices; the dissemination of information on improved technologies and practices; the co-ordination and facilitation of farmer support services; and monitoring and evaluation.

2.5.4 Communal Land Reform

The Communal Land Reform Act, 2005 (Act No. 5 of 2002) was passed in 2002 and signed into law in 2003. In broad terms, the Act provides for the registration of all rights to residential and arable land held in communal areas. Property rights to communal grazing areas are not covered by the said Act. The Communal Land Reform Act deals with access to rural land in communal areas. It distinguishes two different kinds of rights to be recognised, namely the customary land rights and the rights of leasehold (Government of Namibia, 2002, pp. 3-4). Customary land rights cover the right to a residential unit (an area where a person can have her/his house) and the right to a farming unit (an area on which a person can farm). These rights are for non-commercial practices. The right of leasehold, on the other hand,

gives the right to carry out a specific commercial activity on the parcel (as described on the certificate) (Namibia Institute of Democracy, 2009, p. 13).

The Communal Land Reform Act aims to improve the system of communal land tenure by creating Communal Land Boards for specific communal areas. These Boards will control the allocation and cancellation of customary land rights by the Chief or Traditional Authority of a particular communal area (Legal Assistance Centre, 2005, p. 11).

2.5.4.1 Customary Tenure

With regard to customary land tenure, the Act recognises and confirms the powers of traditional leaders to allocate and revoke rights in land. However, customary land administration will be formalised. Communal Land Boards will control customary allocations and revocations of land rights. Future applications for new customary allocations of land will have to be addressed in writing to Traditional Authorities. After approval, the latter will have to inform Communal Land Boards about new allocations and furnish particulars with regard to such allocations to the Board. Once Land Boards have satisfied themselves that a particular allocation does not infringe on the land rights held by another person, does not exceed the maximum area prescribed (currently set at 20 hectar), and does not fall into an area reserved for common usage, such a right will be registered by the Communal Land Board and a certificate of registration will be issued to the applicant (Legal Assistance Centre, 2009, p. 14). In this way, customary land rights will be legally protected. Existing customary land rights holders will have to apply to their respective Land Boards for recognition and registration of their land rights. The same criteria used in new allocations will be applied to assess the legitimacy of such allocations. Should there be reason to doubt the validity of a claim or in event of conflicting claims, the Land Boards will have to initiate a hearing. The Act provides for the inheritance of customary allocations through the Traditional Authority of

a particular area. These provisions are aimed to ensure that rights to land will remain in a particular family for as long as a family wishes to keep them. Any other transfers of customary rights can only occur with the written consent of the Chief or Traditional Authority of a particular area (ibid).

2.5.4.2 Leasehold

The Communal Land Reform Act seeks to make 'unused' communal land available to individuals under leasehold with a view to promote agricultural development. This will effectively reduce the areas of jurisdiction of traditional leaders by bringing customary land under the control of the state. The Act empowers the Minister of Lands and Resettlement to designate portions of a particular communal area after which long-term leases may be granted for agricultural development purposes within such designated area. Designation has to be preceded by consultations between the Minister and the Communal Land Board and Traditional Authority under whose jurisdiction the proposed designation falls. Communal Land Boards are only authorised to grant rights of leasehold if Traditional Authorities have consented to this. Should the latter refuse, the Land Boards will submit the matter to arbitration. Grantees of leaseholds may be required to survey their land at their own expense. Once surveyed, the leasehold will be registered in the Deeds Office under the Deeds Registries Act, 1937.The Act also provides for the legalisation of enclosures of communal pastures and prescribes an elaborate procedure for assessing such applications. This procedure affords members of traditional communities who feel aggrieved by enclosure to contest these. Finally, persons who are aggrieved by a decision of a Traditional Authority and/or Land Board will be able to appeal against such a decision to an appeal tribunal appointed by the Minister of Lands (Legal Assistance Centre, 2009, pp. 14-17).

2.5.5 Challenges of Communal Land Tenure

In Africa, more than 90 percent of the rural population's access to land is through indigenous customary mechanisms, and around 370 million of them are definably 'poor' (Kariuki, 2009, p. 14). With exceptions, customary access to land has been no more than permissive and often remains so. Kariuki argues that the reform of communal tenure in eastern and southern Africa has been one of the least areas of success. Tenure reform is, in most cases, a complex and uncertain undertaking. Within southern Africa, laws involving arbitrary racial distinctions have been repealed, but land in the former reserves continues to be registered in the name of the State (pp. 15-16). Tenure reform must grapple with overcrowding in the communal areas and overlapping land rights, as well as cases of exploitation by traditional leaders, officials and politicians. Poor people's land and resource rights are insecure and inadequately recognised in law, especially the rights of women, the youth, and minority groups. The sharp divide between customary and statutory law further exacerbates inequity and vulnerability (ibid).

In Namibia, one of the major contemporary problems in the communal areas is the increasing enclosure of land through private fencing, which most probably started because of increasing pressures on resources from rising human and livestock populations. There is no law that explicitly forbids the fencing of land in communal areas, as pointed out by the study of the Legal Assistance Centre (2009, p. 17). The problem with such a situation is, the study continues, that "it gives some farmers exclusive access to resources, while others cannot gain access to vital resources such as water." In respect of communal land reform, although it is seen as significant in respect of poverty reduction, land rights in the communal farming areas have received less attention than their commercial farmland counterparts, despite the political significance they hold in terms of power structure in the communal areas (ibid). The

Communal Lands Act of 2002 provides for Communal Land Boards to be established to allocate and manage land (Government of Namibia, 2002, pp. 23-25). These boards are responsible for registering land claims, maintaining regional land registries, land use planning and settling disputes. The general impact of the Communal Land Reform Act on land tenure security and land administration is difficult to assess. The registration of land rights is proceeding slowly, as most Communal Land Boards are faced with human and financial resource constraints. A major issue in the successful implementation of the Communal Land Reform Act is that the majority of customary land rights holders seems to be unaware of their rights in terms of the Act, and hence cannot claim these rights. Awareness of the roles and functions of Communal Land Boards appears to be equally poor. For as long as land rights holders are unaware of their rights, customary laws, particularly with regard to gender, are likely to take precedence over statutory law. A key theme to note in the tenure reform is the establishment of conservancies, which are hailed as Namibia's most successful programme, for returning rights have benefited from long-term support including training in basic organisational skills and research to support policy and legal advice (ibid).

2.6 Agricultural Extension as a Concept

Agricultural extension was once known as the application of scientific research and new knowledge to agricultural practices through farmer education. Allahyari (2009. p. 781) hypothesises that the field of extension now encompasses a wider range of communication and learning activities organised by professionals from different disciplines. According to Allahyari, proper management of information sets a foundation for the delivery of efficient and effective extension services by providing accurate information to those who need it, when they need it. Therefore, identifying extension organisational characteristics of supporting agriculture is one of the major approaches to be carefully thought and accurately

implemented for the extension system development (pp. 782-783). In addition, measuring attitudes of farmers towards the extension services they receive is crucial in providing sustainable agricultural extension services. Other important issues include increase in farmer participation in sustainable agricultural development programmes and agricultural extension services, decentralising from activities and facilitating to apply local groups are the most important approaches for agricultural extension in future (ibid, pp. 784-786).

Swanson *et al*. (1997, p. 226) argue that agricultural extension methods encompass "a diverse range of socially sanctioned and legitimate activities, which seek to enlarge and improve the abilities of farmers to adopt more appropriate and often new practices and to adjust to changing conditions and societal needs". Ultimately, agricultural extension, as Sinkaiye (2005, p. 33) contends, must bring about changes through education and communication in farmers attitude, knowledge and skills. The role of agricultural extension involves dissemination of information, building capacity of farmers using a variety of communication methods and help farmers make informed decisions (ibid).

Different authorities have defined the extension in agriculture. Maunder (1972), as quoted in Godbold (2005, p. 2) defines extension as a "service system which assists farm people through educational procedures in improving farm methods and techniques, increasing production efficiency and income, bettering levels of living and lifting the social and educational standards of rural life". Agricultural extension is a non-formal type of education that provides advisory services by the use of educational approach in acquiring knowledge and skills to deal with the growing needs of global world. According to Das (1988, p.18), extension was viewed as an economic instrument based on agrarian production but was also seen as having a notion of duty in that it alluded to an effort to achieve an improvement in the material well-being of the rural family and community. However, Fay (1962), as cited in

Godbold (2005, pp.13-14) claims there was agreement on the fundamental principles: "it assists people engaged in farming to utilise more fully their own resources and those available to them, in solving current problems and in meeting changing economic and social conditions" (pp. 2-3).

Adams (1982, p. ix) describes it as "an assistance to farmers to help them to identify and analyse their production problems and to become aware of opportunities for improvement". In contrast, Röling (1988, p. 269) defines extension as "a professional communication intervention deployed by an institution to induce change in voluntary behaviours with a presumed public or collective utility". Röling construes the concept to mean "a specialist management institution that uses communication as its instrument to induce learning and change in the behaviour of farmers". According to him, the intervention would take any of the four approaches: *Informative extension*, where the emphasis of the institution is to provide information to clients to help them make good decisions to achieve their goals; *Emancipatory extension*, where extension is used as an instrument of emancipation of the poor; *Human resource extension*, where the emphasis is placed on the development of extension clients to enhance their capabilities to learn and fend for themselves; and *Persuasive extension*, where an organisation uses extension as a policy instrument to achieve societal (governmental) objectives (pp. 269-274).

The term extension has also been interpreted to mean "the transfer of technical information to farmers; the provision of market information; management and consultancy service; and collection of information on producers' needs and concerns (Scrimegeour *et al.*, 1991, p. 44).

A more frequently cited definition of extension is that of Van Den Ban & Hawkins (1996, p. 9), which refers to extension as "the conscious use of communication of information to help farmers form sound opinions and make good decisions". The conceptualisation of extension

as highlighted above is somewhat paternalistic in nature. The relationship within the context of Van Den Ban & Hawkins definition can be viewed as being similar to a teacher/student or parent/child relationship (Leeuwis & Van den Ban, 2004, p. 64). There is growing realisation that successful extension requires, and puts emphasis on input from farmers.

Extension, in general terms, is a *function* that can be applied to various areas of society. The concept of extension generally, according to Godbold (2005, p. *vii*), is a function of providing need- and demand-based knowledge and skills to rural men, women and youth in a non-formal, participatory manner, with the objective of improving their quality of life (pp. 23-24). The function of extension may be applied to several subjects, both agricultural and non-agricultural, such as health; when it is applied to agriculture, it is called agricultural extension (Qamar, 2005, p. *vii*). The players in the extension function, besides government extension departments could be private extension service companies, private extension advisors, non-governmental organisations (NGOs), universities, farmers' associations and research institutes.

In Zimbabwe, according to Qamar (2005, p. 22), many NGOs, private companies and semi-autonomous bodies are to be found engaged in delivering extension advice to farmers. Similarly, in Honduras, where extension services are being privatised and small farmers are unable to pay, "70 NGOs reach about 50,000 farmers living mostly in remote areas" (ibid). However, in Indonesia, some projects have not only encouraged NGOs and the private sector, but also agricultural research institutes, agricultural universities and farmers' associations, to participate in the delivery of extension services (ibid). However, the main challenge in introducing a proper pluralistic agricultural extension mechanism is the effective coordination among various agencies, the absence of which could lead to conflicting technical recommendations and creating confusion among the farmers. The governments should take the responsibility for coordination, technical supervision and quality control.

According to Qamar (2005), who mainly draws lessons from the concepts in the developed world, and notably the experience of the United States of America, the delivery methods of extension may include oral advice to individual farmers or to groups of farmers on their farms or at homes, supplemented by demonstrations of applying recommended technologies in farmers' fields and their good results (p. 5). The awareness and transfer of technology, and possible adoption by farmers, according to Qamar (2005, pp. 5-6) was then further facilitated by other communication channels such as printed material, radio and, recently, television and video. In most countries, the extension agents are also involved in the distribution of agricultural inputs, notably chemical fertilizers, pesticides, insecticides and herbicides.

Agricultural extension also operates within a broader *knowledge system* that includes research and agricultural education. The Food and Agriculture Organisation of the United Nations (FAO) and the World Bank (WB) refer to this larger system as AKIS/RD (Agricultural Knowledge and Information Systems for Rural Development). The OECD countries refer to it simply as the Agricultural Knowledge System (AKS) (Rivera, 2001, pp. 6-7).

Others describe the three pillars of this system, namely research, extension and agricultural higher education as the agricultural knowledge triangle and suggest that since the three pillars involve complementary investments, they should be planned and sequenced as a system rather than as separate entities (Eicher, 2001, pp. 17-18). Linking the triangle's institutions with their common clientele, namely the farmers, and with each other, also requires systematic planning.

This research focuses on the first-mentioned concept, viewing agricultural extension as a function, at all times emphasising stakeholder, and particularly end-user participation in the approaches employed in a communal setting. Agricultural extension is one of the main institutional components of agriculture as it promotes the transfer and exchange of

information that may be converted into functional knowledge. According to Ponniah *et al*. (2008, pp. 68-9), the functional approach considers four different but inter-related roles for extension. These roles are:

- *Empowerment:* The extension workers' role is to help farmers and rural communities organise themselves and take charge of their growth and development. "Telling adults what to do provokes reaction, but showing them triggers the imagination, involving them gives understanding, and empowering them leads to commitment and action" Chamala (1990), as cited in Ponniah *et al.* (2008) advises. The term 'empower' means to "enable, allow, to permit and can be viewed as both self-initiated and initiated by others" (ibid). For extension workers, empowering is an act of helping communities build, develop, and increase their power through cooperation, sharing and working together.
- *Community organising*: The extension workers need to learn the principles of community organising and group management skills (Chamala and Mortiss, 1990 as cited in Ponniah *et al*, 2008, pp. 221-223) so they may help the community, especially the poor or weaker sections, to organise themselves for development. In this regard, adequate understanding of the structures, by-laws, rules and roles will help leaders plan, implement and monitor their programmes and perform this new role effectively. Skills in conflict resolution, negotiation and persuasive communications help develop leaders and members of farmer organisations, the authors argue.
- *Human resource development*: The development of technical capabilities must be combined with management capability. The entire philosophy of human capacity building is to encourage rural communities understand their personal and group styles of managing themselves and to improve their planning, implementation and monitoring skills (ibid).
- *Problem solving and education*: This aspect is changing from prescribing technical solutions to empowering farmer organisations (FOs) to solve their own problems. This is

achieved by helping them identify problems and seek solutions by combining their indigenous knowledge with improved knowledge and using their resources properly. Further, there is a shift in the extension workers' role in education: from lectures, seminars, and training to learning-by-doing, and encouraging farmers and FOs conduct experiments and undertake action-learning projects (ibid).

The time is indeed ripe for policy-makers in Namibia to challenge and revisit the discipline of extension within a global context, and to let the extension function performing with excellence in line with the global challenges to its agriculture sector. In Namibia, there are both ethical and technical questions about whether it makes sense to let the communal farmers continue as they have been doing for generations, or to allow their operations to be transformed into agri-business, rural enterprise, rural industries or other commercial ventures, or whether very poor farmers of remote, marginal areas should be encouraged to migrate elsewhere. For the latter, investing in development for them is not cost-effective. These questions are valid in light of the evidence that rural poverty has persisted, if not worsened in many countries, and that rural young people, unlike their parents, are less inclined to stay in villages to continue farming.

Anderson & Feder (2004, p. 19) contend that the evolution of extension, as a practice, must be sustained by a parallel development of the agricultural policy aimed at empowering human capital and farms' attitude towards innovation.

The most elaborate and recent definition which is more relevant to decentralised agricultural extension is that of Leeuwis and Van den Ban. They define extension as:

> "a series of professional interventions that is amid related interactions that is meant among others, to develop and/or induce novel patterns of co-ordination and adjustment between people, technical service and natural phenomena, in a direction

that supposedly helps to resolve problematic situations, which must be determined by different actors involved" (2004, p. 27).

In this definition, extension is seen as a professional activity and an obvious intervention, which draws on communication between extension agents and the stakeholders. In the following sections, an overview of models based on decentralised extension is provided.

2.7 Models of Decentralised Agricultural Extension

2.7.1 Transfer of Technology

The transfer of technology (TOT) extension was used as a decentralised approach to rural development during the 1960s and 1970s (Borlaung, 1995, p. 14; Pretty, 1995a, p. 111; Chambers, 1997, p. 22). Under this model, technical knowledge is perceived to be generated by research organisations only, transferred by extension organisations and utilised by farmers (Katz & Levin, 1963, pp. 237-252). The TOT approach is therefore driven by the philosophy of positivism (Pretty, 1995b, pp. 1247-1263) in which researchers identify the problems of farmers without the consent or input of farmers and design technologies for farmers to solve the identified problems. The assumption behind this approach is that once the information is transferred by the extension organisation, it will begin to spread (diffuse) among farmers as they interact among themselves. In Sub-Saharan Africa, the TOT was applied through a training-and-visit (T&V) extension strategy, and through which the extension agents were provided with regular in-service-training by subject specialists to develop the technical skills that they would in turn transfer to farmers (Benor *et al*., 1984, p. 2). However, this approach was not successful in Sub-Saharan Africa, mainly because the exclusion of farmers from the initial design of technologies. Several authors (Röling, 1991, p. 15; Horton, 1991, pp. 218-236; Chambers, 1997, p. 111) argue that scientists or extension agents may not know the exact needs and problems of farmers and to gain more accurate and up-to-date knowledge,

involvement of farmers in design of technologies is a necessity. Hence, farmer empowerment, bottom-up development and the integration of farmers' indigenous knowledge assumed importance, evolving into what became *farmer first* idea in the extension literature towards the end of the 1980's and early 1990's. These ideas precipitated the concept of community participatory approaches in extension and rural development (Russel & Ison, 1991, p. 211; Van Beck & Coutts, 1992, pp. 1047-1054).

2.7.2 Community Participation Model

The reported shortfalls of the TOT model brought about a change in the worldview of those involved in research and rural development. As earlier noted, the TOT approach presented problems because scientists and extension agents developed the technologies and extension programmes in isolation from farmers, which often resulted in a gap between farmers and agricultural extension agents. This led to participatory approach where farmers were actively engaged in technology and extension programme planning processes (Pretty & Chambers, 1993; Scoones & Thompson, 1994). This approach was based on the assumption that, if farmers are engaged in the process, they are more likely to adopt the extension support. Thus, the focus, through this approach shifted to put the farmer 'first' phenomenon (Chambers *et al.*, 1989). The aim of the community participation process was to shift the power balance from working for farmers to working with farmers for them to solve their own problems (Van Beek & Coutts, 1992).

The community participatory models emerged during the 1980s and 1990s in response to the limitations of the TOT approach (Black, 2000, pp. 493-502). Typical among such models are: Farming Systems Research and Extension (Shaner *et al.*, 1982, p. 23); Agro-ecosystems Analysis (Conway, 1985, pp. 31-55); Agricultural Knowledge and Information System (Röling, 1986, pp. 269-290); Rapid Rural Appraisal (Beebe, 1995, pp. 42-51); Farmer-first

and beyond farmer-first (Scoones & Thompson, 1994; Chambers, 1997); Farmer Participatory Research (Bunch, 1989, pp. 55-61); Participatory Rural Appraisal (Chambers, 1994a, 1994b); and Participatory Technology Development (Hangman *et al*., 1998, p. 33). In-depth discussion of each of these models is beyond the scope of this study. However, the general argument made by a range of authors about these models is that they present advantages for rural development when compared with the TOT approach.

Cornwall *et al*. (1993, p. 77) argue that participatory approaches draw on local knowledge and experience in identifying community problems and developing appropriate solutions. Carr (1997, pp. 201-215) who points out that participatory approach do acknowledge the value of farmers sharing ideas and information among themselves rather than relying simply on 'expert' advice, supports this claim. According to Marsh & Pannell (2000, p. 101), the community participation models are aimed to give farmers a greater sense of ownership and commitment to their problems and solutions. This approach, they continue, "enhance the development of local capabilities which is essential for ensuring sustainable development." Finally, Sara & Katz (1997, p. 56) confirm that participatory approaches have enhanced the sustainability of development programmes where implemented, even though it is conceded that participation often entails higher costs and time due to the need for frequent consultations and lengthy decision-making processes. Toner (2003, p. 39) observes that under such circumstances, participation will be nominal and may not empower farmers. However, Fisher (1993, p. 123) argues that farmers are innovators who are able to learn and improve their own situations and should be given the opportunity to do so. Similarly, Coldevin (2001, p. 221) argues that even in participatory approaches, farmers require a level of knowledge and skills to participate effectively. This has contributed to a shift in emphasis from simply 'involving farmers' in extension programmes to the use of adult learning principles in facilitating rural development in the 1990s.

2.7.3 Adult Learning Model

Röling & Pretty (1997, p. 180) emphasise adult learning model in agricultural extension and assert that adults are responsible for their own learning and decision-making. As such, Ramirez & Stuart (1994, p. 4) make the point that "farmers are indeed the ones who must control the learning process and be able to access information according to their specific needs, times and means." Similarly, Röling & Pretty (1997, p. 183) maintain, "…it is important to recognise that local people are always involved in active learning, in (re)inventing technologies, in adapting their farming systems and livelihood strategies." The adult learning model extension is considered relevant and important in facilitating more sustainable rural development (Ramirez & Stuart, 1994, p. 6; Coldevin, 2001, p. 44). In this approach, rural development is viewed as an adult educational process where the extension specialist's roles were that of a facilitator and a partner in a learning process, as well as a driver behind the Farmer Field School (FFS) concept in the 1990's (ibid). An FFS is a form of non-formal training where extension agents, as facilitators, meet periodically with groups of farmers during a crop and animal production cycle to build their expertise through experiential learning (ibid). In this process of collaborative learning, extension institutions provide farmers with non-formal education with the assumption that it will assist them to understand their situation and make better choices that can improve it. Servaes and Arnst (1992, pp. 18-20) argue that it is wrong to believe that experts have more knowledge than local people unless the experts, through cooperation and learning with local people, can apply their knowledge in the local context to the benefit of the farmers.

The adult learning model has its shortcomings, amongst them, the commitment of farmers to go through a unilaterally designed programme of training by the extension agents. This point has been raised by Prain (2001, p. 37), who argues strongly in favour of a bottom-up

approach, involving the indigenous in the training planning process. Chambers (1995, 1997) makes a similar point, but argues that it is difficult to involve the poor in rural development programmes because they are often dispersed, anxious and have limited time to spend out of their daily routine. He advocates the need for a poverty reduction and livelihood security focus to extension in his book entitled: *Whose Reality Counts*? Here, he contends that the poor must be placed at the centre of rural development interventions. These latter views contributed to a shift in the focus of extension personnel from the earlier approaches to a pro-poor sustainable livelihood approach, also in the 1990s.

2.7.4 Sustainable Livelihood Approach

Molua (2005, p. 199) suggests that extension can no longer focus only on food production and income from stock farming, but should rather emphasise sustainable rural development in order to realise rural peoples' full potential and be responsive to their daily developmental needs. The argument advanced by Molua is that household food security is not simply a function of household food production and income, which has been the traditional focus of agricultural extension. To the contrary, the sustainable livelihood approach (SLA) requires agricultural extension to expand its agenda from focusing on food and livestock production to a more holistic sustainable livelihood and development orientation. In this approach, there is a broader view of agricultural extension that encompasses: (a) the development of people rather than resources, structures or physical areas; (b) learning, rather than information transfer; and (c) the human dimension of agricultural and natural resource management rather than the provision of production of production technologies alone (ibid). It is to be stressed, however, that such a broad view of agricultural extension institutions needs to integrate all the extension approaches in their service delivery for specific needs and situations (Ingram *et al*., 2002, p. 331; Molua, 2005, p. 334). The TOT approach, for example, is useful in

situations where farmers lack technologies to solve some problems (e.g. disease outbreak) and improved practices (technological innovations) must come from outside. This is more important, especially, when the initiative comes from farmers who may realise and indicate that they need specific technologies to improve their situations – a shift from 'supply-driven' technology transfer to 'demand-driven' technology transfer (ibid). Similarly, adult education principles and community participation approaches are relevant for facilitating social learning and negotiation among farmers and actors to stimulate favourable change. This is particularly important where there are actors (farmers, scientists, extension agents, etc.) who are willing to cooperate and coordinate their efforts in rural development (Van den Ban *et al.*, 1996, p. 66).

The new SLA to rural poverty reduction is so recent that a coherent critique is yet to emerge (Carney, 1999, pp. 34-37). However, it is believed that capacity building of staff in extension, especially in government institutions for poverty will require considerable time and money. None of the above models and approaches reviewed above may yield expected outcomes, for as long as farmer participation in decentralised agricultural extensions is considered as key to success.

2.7.5 Stakeholder Participation

There is a general agreement that stakeholder participation is an essential component in decentralised agricultural extension systems (World Bank, 2000a, p. 23). Stakeholder participation is "a process through which those who are affected by a programme or its outcome, influence or share control over setting priorities, making policies, allocating resources and ensuring access to public goods and services (ibid). Stakeholders who participate in agricultural extension are essentially farmers and other public, private sector

organisations, groups or individuals (ibid). The review of stakeholder and farmer participation in this Chapter is categorised in the following sections.

2.7.5.1 Participation of Stakeholders in Decentralised Agricultural Extension

It is believed that for decentralised extension organisations to succeed, they must actively involve other stakeholders besides farmers in their activities (World Bank, 2000a, p. 82). Ananda & Herath, 2003, p. 221) define stakeholder as "any individual or group of organised people, who share a common interest or stake in a particular issue or system." Nagel (1997, pp. 17-19) identifies relevant organisations within an extension system to include research institutions, commercial organisations, public service organisations, support or donor organisations (NGO's) and sponsors of extension.

The agricultural knowledge generation for effective extension programmes is a multi-functional process that requires participation by all major stakeholders. Sulaiman (2003, p. 29) argues that in the planning of agricultural extension programmes, it is crucial to include stakeholders from both the public and private sectors of the community to solicit diverse views, skills and resources for programme implementation. The inclusion of stakeholders in extension management process in general generates knowledge that reflects the value and realities of participating stakeholders, and the motivation and support necessary to implement outcomes from the management process. Pretty (2003, p.77) considers stakeholder participation as a contributing factor to extension operational sustainability and development. Leeuwis & Van den Ban (2004, p.33) argue that a successful means of ensuring the participation of stakeholder organisations in extension process is to foster open dialogue and ensure that frequent interactions occur between the extension organisation and the stakeholder organisations. They advocate the need to involve a wide variety of organisations in the planning process to increase the chances of having a wider spectrum of spectrum of

people to represent diverse interests and objectives of the farmers and organisations with which they work. To achieve this, Leeuwis & Van den Ban suggest that extension organisation must establish contact with relevant organisations through public workshops, seminars, newsletters, direct contact and other forums as a means of gaining stakeholder input into extension planning decisions. Direct contact will assist extension organisations to gather other critical information that they would not normally obtain from workshops and group discussions.

2.7.5.2 Participation of Farmers in Decentralised Agricultural Extension

According to Chambers (1997), farmer participation in extension will require putting farmers first or giving them real ownership and accountability of public extension management. It is advocated that to function successfully, decentralised extension organisation must give farmers control over programme activities (World Bank, 2000a). Richardson (2003, pp. 8-10) discusses this in context of participative extension, where farmers are involved in all extension programme activities. Leeuwis and Van den Ban (2004, pp. 38-44) describe five ways through which farmers participate in extension programmes, as illustrated in Table 2:1.

Table 2:1. A Typology of Farmer Participation

Typology		Characteristics of each type
i)	**Receiving Information**	Participants are informed or told what a project will do after it has been decided by others.
ii)	**Passive Information Giving**	Participants can respond to questions and issues that interventionists deem relevant for making decisions about projects.
iii)	**Consultation**	Participants are asked about their views and opinions openly and without restrictions, but the interventionists unilaterally decide what they will do with the information.
iv)	**Collaboration**	Participants are partners in a project and jointly decide about issues with project staff.
v)	**Self-Mobilisation**	Participants initiate, work on and decide on the project independently with interventionists in a supportive role only.

Source: Leeuwis and Van den Ban (2004)

The first is termed passive information giving where farmers are simply asked for their views and opinions to inform the decisions made by extension organisation. One level up from this is "consultation" where most of the key decisions are made by the extension organisation and discussion with farmers to gather information. However, the information gathered is used by extension organisation for unilateral decision-making. The next step is "collaboration" where farmers and extension organisations jointly initiate and work on extension projects. In terms of the "self-mobilisation" concept, there is, therefore, need for a more farmer participatory approach in working out the system description, problem diagnosis, search for appropriate technology, designing the process of implementation, monitoring and evaluation, and feedback. The extension agent is no longer seen as the expert who has all the useful information and technical solutions; the indigenous technical knowledge of farmers and their ingenuity, individually and collectively, are recognised as a major source; and solution to local problems are to be developed in partnership between the extension agent and farmers. The role of extension agent shifts from top-down blanket dissemination of technological

packages, towards providing farmers with the knowledge and understanding with which to solve their own location specific problems (Ministry of Agriculture, 2011, p. 23). Through this participation model, farmers are involved in setting the extension agenda.

2.8 Agricultural Extension in Global Perspective

Živković, Jelić & Rajić (2009, pp. 2-3) describe agricultural extension activities as "important agrarian-political instruments of the State which stimulates the development of agricultural production." Agricultural extension service has to be competent in agricultural skills, to communicate efficiently with producers and stimulate them to acquire new knowledge. They describe the objective of agricultural extension as that of helping the farmers to gain new information and develop new abilities, as well as to apply the latest scientific knowledge as opposed to the traditional farming methods and techniques (p. 5). The capacity of communal farm households to take advantage of these innovations depends on many factors. These may include the educational level of men and women farmers; their household resources (e.g. land, labour and capital), local agro-ecological conditions that affect their farming systems, their access to markets, the availability of local producer organisations, and the willingness of farmers to collaborate with these new producer groups. In the past, public agricultural extension systems in developing countries were assigned the difficult task of supplying large numbers of poor, uneducated farmers with recommended new agricultural technologies (Swanson, 2008, pp. 13-14). According to Swanson, the largest and most difficult farm group for agricultural extension and advisory systems to reach is small-scale, subsistence farmers. He outlines three areas of concerns, which state institutions may encounter.

First, these farmers tend to have the least education and lack the self-confidence to seek out new information, which makes communicating with them more problematic. Their

knowledge is often limited and most lack the cognitive skills necessary to utilise technical and management information. *Second,* most of these subsistence farmers have smaller and more marginal land resources that are frequently located farther from villages, paved roads and even water resources. *Third,* because these farmers have limited physical and economic resources, they tend to be "risk averse" in trying new technologies or products. In the light of above, Swanson observes, "most of these farmers will pursue subsistence food production strategies so that their families will have sufficient staple food crops, especially during periodical 'hunger season' occasioned by drought."

The State institutions may further be constrained by inadequate numbers of properly trained staff, inadequate operational/programme resources at the field level and other structural issues, such as being too "top-down." If public extension systems are going to be effective in improving rural livelihoods, then they must change their focus, structure and approach.

In contrast to Swanson's concerns above, the Food and Agriculture Organization (2011, p. 7) views agricultural extension as "an informal educational process directed toward the rural population, which offers advice and information to help them solve their agricultural production problems." It also aims to increase the efficiency of the family farm, increase production and generally changes farmers' outlook toward their difficulties. Extension is concerned not just with physical and economic achievements but also with the development of the rural people themselves. It stands thus to reason that extension is a process of working with rural people in order to improve their livelihoods. This involves helping farmers to improve the productivity of their agriculture and, at the same time, developing their abilities to direct their own future development. Although farmers already have a lot of knowledge about their environment and their farming system, extension can bring them other knowledge and information, which they may not have. The data derived from the Food and Agriculture

Organization (FAO) was helpful to the researcher to determine whether the methods used by the agricultural extension services in Namibia indeed meet benchmarks set by the United Nations (UN). A comprehensive outline of functional, conceptual and methodological framework as well as recommendations and suggestions for future research was drawn from this source to explicate how agriculture extension interventions ought to function in a communal setting (Chapters 5 & 6). Namibia, as a member of the UN, gets technical assistance through the United Nations Development Framework (UNDAF). This is important to examine Namibian government's resolve to agricultural and rural extension reform in accordance with UN Standards.

The government plays an important role in the agricultural and rural development and when agricultural extension is farmer-led, it must be concerned with production, the impact of agricultural practices on the environment, regulations governing quality standards, sustainable farming practices, and in general the well-being of the people. The Namibian government is facing new extension challenges, in terms of meeting the need to provide food for all, raising rural incomes and reducing rural poverty. This being so, the State must take a centre-stage in providing rural communication infrastructure, and developing human resources. Globally, agricultural extension services are under increasing pressure to become more effective and expected to be more responsive to clients, and less costly to government. In a rural setting, it should aim to alleviate poverty, increase productivity and income as well as provide food security.

As Yonggong as cited in Rivera (2001, p. 19), suggests, one way of reducing rural poverty is to generate incomes through the training and information sharing that agricultural and rural extension services can provide. In the final analysis, a number of policy questions will need to be addressed again, among others: Can smallholding communal farmers such as those in

the Okombahe Settlement Area pay for such services as agricultural and rural extension? Who can best deliver these services to farmers in the Okombahe Settlement Area? Equally important: Who is to be served? How will they be served and, for what purpose? At this juncture, assisting resource-poor farmers with appropriate advice, training and technology may provide the opportunity for rural households to increase their productivity and incomes. In this context, the new opportunities offered by government through agricultural extension may slow down rural-urban migration. This report offer options for institutional reform in the developing countries, and will be helpful to researcher in terms of suggesting policy options, which Namibian government may consider in mitigating rural poverty and rural-urban migration.

Bembridge, as cited in European Commission (2010, p. 48) defines agricultural extension as "a system of non-formal education for adults in rural areas which is based on relevant content derived from agricultural, social and communication research synthesised into a body of concepts, principles and operational procedures." Extension is therefore, a process of working relationship between the extension agents and farmers in order to bring about appropriate technology and change in agricultural production to raise rural living standards. The agricultural extension service therefore becomes a basic tool, as part of government programmes and projects for the empowering of farming communities in sustainable land utilisation practices. This definition will assist the researcher to identify appropriate methods of gathering and interpreting data and similarly to clearly explain the meaning to be assigned to it in the context of this specific investigation. Standardising on Bembridge's definition of 'agricultural extension' as the core concept of this study is important for methodology so as to avoid ambiguity and ensuring that procedures and conclusions are properly understood by participants in this study and reading audience.

Until very recently, the agricultural extension has according to Rivera (2007, pp. 29-38), been the responsibility of the public sector, both in terms of funding and delivery. In Israel, the agency responsible for agricultural extension is the Joint Centre for Extension run jointly by the government and the Settlement department (ibid). In a developing world, when agricultural extension is used to achieve rural development goals, it must function for a wider purpose, with the fundamental objective to develop rural people. The specific objectives that have been developed over time are categorised by Rivera are as follows: 1) the dissemination of useful knowledge and information relating to agriculture, including the use of improved technologies and cultural practices in a variety of farming practices; and 2) the improvement of rural standard of living within the framework of the national development policies and people's need for development. Rivera further advises on the basic working principles, which are necessary in an extension support. These principles suggest that extension be based on the knowledge, skills, customs, traditions, beliefs and values of people. Extension encourages people to take action and work out their own solutions to their problems rather than receiving ready-made solutions. Success of extension education has to be measured by the level of satisfaction of the people, i.e. the extension beneficiaries; and be based on constant evaluation. The effectiveness of the work is measured in terms of the changes in knowledge, skills and attitudes of changed behaviour of the people and not merely in terms of achievement (ibid, pp. 30-32).

2.9 Agricultural Extension within the Context of New Public Management (NPM)

2.9.1 Decentralisation and Service Delivery

Good public management and administration with emphasis on accountability and responsiveness to customer needs has been seen as an aspect of good governance. The New Public Management (NPM) places particular emphasis on outcomes-based and output-

oriented public service delivery. In addition, NPM favours decentralisation as an appropriate service delivery mechanism. The argument is that being closer to the people, authorities will easily identify peoples' needs and thus supply the appropriate form and level of service delivery (Enemuo, 2001, pp. 23-24). The NPM further advocates decentralisation of responsibilities in its various forms as a means of achieving public service effectiveness and ensuring that public administrators are more responsive to citizens' needs. The current state of literature on administrative reform as advocated by the NPM guided the researcher in analysing the impact of the agricultural extension service delivery processes of the Okombahe Settlement Area. The time is indeed ripe for policy-makers in Namibia to challenge and revisit the discipline of extension within a global context, to let the extension function performed with excellence in line with the global challenges to its economy and especially to the communal farming sector. It is important, for sustainable farming to succeed, that policy formulation arise in a new way. In this respect, Röling and Pretty (1997, p. 85) appropriately advise that policy processes must be "enabling and participatory, creating the conditions for sustainable development based more on locally available resources and on local skills and knowledge." What is required, they contend, is the development of approaches that put participation, negotiation, and mediation at the centre of policy formulation, to create a much wider common ownership in the practices. This is a central challenge for sustainable agriculture. Extension has long been grounded in the diffusion model of agricultural development, in which technologies are passed from research scientists via extensionists to farmers (Rogers, 1983 as cited in Röling and Pretty, 1997, p. 56). This approach is performed through the training and visit (T&V) system that was first implemented in Turkey in 1967 and later widely adopted by governments (Benor, 1987; Roberts, 1989 as cited in Röling and Pretty, 1997, pp. 56-57). The T&V was designed, they continue, to be "a management system for energising extension staff, turning desk-bound,

poorly motivated field staff into effective extension agents." The extension agents receive regular training to enhance their technical skills, which they then hope will pass to all farmers through regular communication with small numbers of selected contact farmers. However, the contact farmers are usually selected based on literacy, wealth, readiness to change, and "progressiveness," and so this sets them apart from the rest of the community (ibid). The secondary transfer of the technical messages, from contact farmers to community, has been much less successful than predicted, and adoption rates are commonly very low among non-contact farmers. Without any doubt, the T&V is now widely considered as ineffective. A new approach to agricultural extension is needed to accommodate the new developments and trends suggested. However, it must emerge from an analysis of the successes and failures of existing operations. This is obviously no easy task. The reason is that the success of extension programmes must be gauged over the long-term. The main benchmarks must be their impacts on agricultural output, the welfare of rural communities and environmental sustainability, but consumers' interests must not be left out of the equation (Neuchâtel Group, 1999, p.10).

Worldwide emphasis on sustainable development, including in rural improvement and agricultural advancement, as well as developments such as globalisation, market liberalisation, decentralisation, privatisation and democratisation, are creating new learning requirements for both subsistence and commercial farmers in developing countries. These requirements, especially when seen within the context of the revolution in information technology, are challenging decades'-old mandates and operations within traditional extension systems.

2.9.2 Forms of Decentralisation and Challenges

There is no single accepted or unambiguous definition of decentralisation, mainly because decentralisation can vary substantially in scale and scope across countries (Steiner 2006, p.

20). Decentralisation has been defined as the transfer of authority and responsibility from a higher level of government to subordinate or quasi-independent government organisation or from government to non- governmental organisations or the private sector (Rondinelli, 1983, p. 133; Collins and Green 1994, p.16). As such, reforms, which aim at the privatisation of service delivery, are sometimes based on a cooperative approach and cooperatives in the area of rural service delivery are one out of many other possibilities of decentralised service governance. Where this is the case, general arguments in favour of decentralised resource and service governance also apply to cooperatives. Several categories of decentralisation have been identified in the literature. Rondinelli (1983, p.141) describes four main types of decentralisation: fiscal, political, administrative and economic decentralisation. Drawing distinctions between these various concepts is useful for highlighting the many dimensions to successful decentralisation and the need for coordination among them. Nevertheless, there is clearly overlap in defining any of these terms and the precise definitions are not as important as the need for a comprehensive approach (Neven, 2002, p. 2).

Fiscal decentralisation refers to the set of policies designed to increase the revenues or fiscal autonomy of sub-national governments. Fiscal decentralisation policies can assume different institutional forms. An increase of transfers from the central government, the creation of new sub-national taxes, and the delegation of tax authority that was previously national are all examples of fiscal decentralisation. Fiscal decentralisation implies that local authorities become more responsible for local revenue and expenditure assignment (Steiner, 2006, p. 21).

Political decentralisation consists of a set of constitutional amendments and electoral reforms designed to open new or activate existing but dormant or ineffective spaces for the representation of sub-national polities (Falleti, 2004, p. 8). Political decentralisation policies

are also designed to devolve electoral capacities to sub-national actors and make them and the citizens more influential in political decision-making at the local level.

Economic decentralisation refers to the transfer of certain functions from the public to the private sector (Steiner, 2006, p. 21).

Administrative decentralisation comprises of the set of policies that transfer the administration and delivery of social services such as education, health, social welfare, or housing to sub-national governments (Falleti, 2004, p. 7). There are three major forms of administrative decentralisation, namely: deconcentration, devolution and delegation. *Delegation* refers to transfer of functions to the local level but the ultimate responsibility lies with central government. *Deconcentration* is the transfer of functions from central ministries to their field agencies while *devolution* refers to transfer of both functions and decision-making authority to legally incorporated local government (Litvack, 1998, p. 1)

Central governments often ignore the preferences and differing spatial characteristics or might not be well informed about clients and hence might supply a uniform package. As Bruno and Pleskovic (1998, p. 298) put it, "a 'one size-fits-all' approach does not deliver a basket of public goods that is optimal for all citizens". Decentralisation processes have been argued to have both positive and negative aspects. Advocates for decentralisation have argued that decentralisation has the advantages of enhancing high level of political participation (Ribot, 2002, p. 11; Crook and Manor 1998, p. *iii*). In addition, decentralisation has been claimed to strengthen accountability making officials more accountable to the locals needs (Seabright, 1996, p. 20).The idea is that by means of decentralisation local citizens can hold their elected officials accountable if their activities and output do not meet the intended goals and standards. Another benefit of decentralisation is increase in public service performance (Rondinelli, 1988, p.146). As Bardhan (2002, n.d.) puts it, in matters of service

delivery, devolution of powers to local authorities and communities with the requisite information, incentive and who bear the responsibility for the consequence of their decision is vital. He however cautions on the importance of bearing in mind the poor accountability in many developing countries and local elite capture hampering achievement of public delivery goals. According to Bardhan, for decentralisation to be effective there is the need to change the existing structures of power within local communities and improve opportunity for the poor to participate and have a voice in political processes.

Successful results in implementing a decentralisation policy will not be achieved in situations where the channel of accountability is not well established. Locals should be able to hold their elected representatives accountable for the output of their activities. If there are proper mechanisms in place, elected officials will bear in mind the consequences of under producing the desired output. For accountability to be effective, structures such as monitoring, auditing and evaluation by a third party, competitive elections and procedures for recalls should be well established (Steiner 2006).Where accountability is low, other problems are believed to emerge, namely *elite capture, corruption, clientelism and patronage*.

Corruption simply put as – funds for development being directed to the pockets of public officials for their private gains. *Elite capture* refers to the influence of local elite (economic, social or political elites) on policy-making, administrative and political decision making for their own benefit. *Patronage* is defined as the politically motivated distribution of favours, such as the special treatment of a particular geographical area in the provision of public goods and services to certain groups of people, often of the own kin. *Clientelism* refers to the exchange or brokerage of specific resources and services, such as land or office, to individuals, who are not necessarily of the own kin (Steiner 2006).

These four mentioned problems challenge governments that have adopted decentralisation policy especially in the developing countries. Thus, decentralisation will be a successful strategy to meet the preferences of locals only if the challenges mentioned above are carefully considered.

According to Smith (1997, p. 22), the main reason why governments decentralise agricultural extension services is the belief that democracy is best served through devolved functions with enhanced participation at local level.

2.10 Agricultural Extension within the Framework of New Partnership for Africa's Development (NEPAD)

The Southern African agriculture encompasses both extensive and intensive arable and pastoral farming practices. The agriculture sector of most countries in Southern Africa remains strongly dualistic, with a relatively small number of large commercial farms and a large number of diverse smallholder farms. Historically, commercial farms occupied the most favourable areas, were highly mechanised, and received subsidised inputs (particularly in apartheid and colonial eras) (Bernstein, 1996, as quoted in Twyman, *et al.*, 2003, p. 70). Conversely, smallholders typically occupied communal areas in more fragile and marginal environments, with poor extension services and reduced levels of subsidies (Whiteside, 1998).

It is widely acknowledged that a well-performing agricultural sector is fundamental for Africa's overall economic growth, as well as for addressing hunger, poverty, and inequality. Throughout world history, increases in agricultural sector productivity have contributed greatly to economic growth and the reduction of poverty. However, in most countries of Sub-Saharan Africa (SSA), agricultural productivity and production growth are not very high (Zimmermann *et al.*, 2009, p.1). The NEPAD's economic programme of the African Union

(AU), officially established in 2001 recognised both the importance of agriculture for development and poverty reduction on the continent and the weaknesses of member countries' agricultural policies. It developed a special initiative, namely the Common Africa Agriculture Development Programme (CAADP) to improve agricultural policies on the continent. The envisaged goals, ultimately, are sustainable (agricultural) growth and poverty reduction and to "help African countries reach a higher path of economic growth through agriculture-led development, which eliminates hunger, reduces poverty and food insecurity" (Zimmermann *et al.*, 2009, p. 34). It is one of NEPAD's seven broad sectoral priorities. NEPAD's initiative, one may argue, is a manifestation of African commitment to address issues of growth in the agricultural sector, rural development, and food security and has been instrumental in bringing agriculture back to the centre stage of economic development and poverty alleviation. Based on this initiative, Ghana, Kenya and Uganda had already developed national development frameworks for poverty reduction and agricultural sector development in their respective communal farming sectors (ibid, p. 22).

South Africa, in pursuit of the NEPAD framework has designed the Land Redistribution for Agricultural Development (LRAD) programme (2000) to provide financial assistance to black South African citizens, and particularly the communal farmers to access land specifically for agricultural purposes. The strategic objectives of LRAD include "contributing to the redistribution of the country's agricultural land; improving nutrition and incomes of the rural poor who want to farm on any scale; reducing congestion in the overcrowded areas in the former homelands; and expanding opportunities for women and young people who live in rural areas" (OECD, 2006, pp. 67-68). In support of LRAD, the Comprehensive Agricultural Support Programme (CASP) was introduced in 2004, and is currently being implemented at the provincial level. The aim of CASP is to enhance the provision of support services for agricultural development. CASP targets beneficiaries of the Land Reform and Agrarian

Reforms programmes, dealing with the allocation of agricultural support to various groups of beneficiaries including the hungry and vulnerable, subsistence and household food producers, communal farmers engaged in stock-farming, agri-business and entrepreneurs (p. 68). Similarly, the South African Reconstruction and Development programme (RDP) and its specific application to agriculture under the Broadening of Access to Agriculture Thrust (BATAT), together with the White Paper on Agriculture (1995), address both agricultural and regional development objectives.

Furthermore, South Africa's Constitution delegates certain regulatory competencies in some areas, including agriculture, to the provinces. The main objective of BATAT is to improve access to agriculture to the previously excluded citizens. The overall focus of the Integrated Sustainable Rural Development Strategy (ISRDS) is to "attain socially cohesive and stable rural communities with viable institutions, economies and universal access to social amenities, able to attract and retain skilled and knowledgeable people, who are equipped to contribute to growth and development." More specifically, the ISRDS objectives are to eradicate poverty and under-development (ibid).

In Botswana, and quite differently from Namibia and South Africa, the Arable Lands Development Programme and the Tribal Grazing Land Policy are government programmes designed to help farmers in communal areas. To address the issues of grazing control and better range management in the communal areas, the Animal Production Research Unit (APRU) was directed to establish twelve communal grazing units using communal area cattle, and a further two control units stocked and managed by APRU. The objectives of the communal area-grazing units were twofold: firstly, to provide a practical demonstration of improved range condition and cattle performance through grazing management and control of stock numbers; secondly, to enable a comprehensive evaluation of different grazing systems

for rehabilitation of degraded rangeland (Sweet, 1987, p. 12). The basic concept of a grazing cell was a peripheral fence around a water source, with all management facilities located at the centre. The model cell would have 3kilometre sides, enclosing an area of 2340 hectares, and accommodating a maximum of 300 head of cattle. The grazing cells are communally owned and operated, stocked with cattle from the community. The cells are intended for small cattle owners without sufficient cattle numbers or mobility to participate in the group ranching scheme. A prerequisite for funding of a grazing cell was the registration of the participants as an Agricultural Management Association (AMA) to give the group 'body corporate' status with limited liability. A communal grazing cell was therefore defined as "a ranching unit that is communally grazed, operated and owned by registered members of an Agricultural Management Association, and which has the objective of improving range condition and animal production"(Sweet, 1987, pp. 12-13).

It is worth noting that the purpose of agricultural extension service in Botswana has always been to assist all farmers regardless of their socio- political status and presently, with more emphasis on group extension approaches than individual (Kimaro *et al.*, 2010, p. 5).

2.11 Agricultural Policies for Raising Rural Incomes

If broader based progress on the Millennium Development Goals (MDG) is to be attained, then average incomes will need to increase much more rapidly in the next few years than they have done in the past twenty-two years. The rural poor in Namibia primarily depend on agricultural income and there is a particular need for faster development of rural support. Many farmers rely on cattle production for their economic livelihoods, however overuse of the communal grazing areas and suboptimal grazing practices threaten the long-term viability of the land and contribute to persistent poverty. Increasing grazing pressure, associated not only with large livestock like cattle, but also with small stock like goats and

sheep, when combined with human activity on natural forests are challenges faced in communal setting. This requires carefully thought out agricultural and rural development policies and a specific consideration of what to do about smallholders. The African Union (AU) 2003 Common African Agricultural Development Programme (CAADP) framework sets a target of six percent for agricultural growth while under the Maputo Declaration its members are committed to allocate at least ten percent of public expenditure to agricultural and rural development. A key focus should be on policies towards smallholders, as they constitute a large part of rural poor in sub-Saharan Africa. Namibia signed up to both the CAADP framework and Maputo Declaration in 2003 (Zimmerman, *et al.,* 2009, pp. 51-52). The CAADP initiative takes a continent-wide view, but builds on national and regional plans for the development of agriculture. It is a manifestation of African commitment to address issues of growth in the agricultural sector, rural development and food security. It has been instrumental in bringing agriculture back to the centre stage of economic development and poverty alleviation. By signing the Maputo Declaration, African Heads of State and Government (HSG) endorsed and accepted CAADP as a vision for the restoration of agricultural growth, food security, and rural development in Africa. As a programme of the AU/NEPAD, it is perceived to have emanated from, and led by African leaders. More specifically, the Maputo Declaration sets key principles and goals to be achieved by the year 2015. These are to: a) improve the productivity of agriculture to attain an average annual growth rate of six (6) percent, with particular attention to small-scale farmers, especially focusing on women; b) allocate ten (10) percent or more of their budget to agriculture; c) have dynamic agricultural markets within countries and between regions; d) have integrated farmers into the market economy and have improved access to markets to become a net exporter of agriculture products; e) achieve a more equitable distribution of wealth; f) be a strategic player in agricultural science and technology development; g) practice

environmentally sound production methods and have a culture of sustainable management of the natural resource base (ibid, 53).

The African governments, in exception of Ghana, Kenya and South Africa, did not fully sign up to this NEPAD initiative. Participation in the APRM is open to all member states of the African Union but to date, only twenty-seven countries, including Namibia, have acceded by signing the Memorandum of Understanding (MoU). However, only twelve (12) have completed the full review cycle to date (Algeria, Benin, Burkina Faso, Ghana, Kenya, Lesotho, Mali, Mozambique, Nigeria, Rwanda, South Africa, and Uganda); several others are well underway, though programmes are not yet implemented at a substantial level (Zimmerman *et al*., 2003, p.73).

2.12 Policy Implications for Agricultural Extension Delivery in Namibia

Policy implementation and service delivery are critical for both the public and private sectors. Currently there are also ample examples in both these sectors in the media. However, the focus, from the perspective of the media is predominantly on service delivery and not so much on policy implementation. The specific usage of concepts like, policy, strategy and service delivery might also have different meanings in the public and private sector. In this study, the emphasis will mainly be on the public sector perspective and interpretation. Service delivery, it is held, can only be seen to be successful if policies are properly implemented and executed.

Brynard (2005, p. 5) contends that the "policy sciences may be characterized as having a long history (if they are defined in terms of advice to rulers) and a short past (if they are defined as a systematic, institutionalized approach to improved governance)". This general observation is even truer for policy implementation. Bardach (1977, p. 3) as cited in Brynard remarks:

"It is hard enough to design public policies and programmes that look good on paper. It is harder still to formulate them in words and slogans that resonate pleasingly in the ears of political leaders and the constituencies to which they are responsive. And it is excruciatingly [painful] hard to implement them in a way that pleases anyone at all, including the supposed beneficiaries or clients" (2005, p. 7).

Namibia, in a policy context, is going through a major review of policies since independence in 1990. This is the so-called 'White Paper Era'. Namibia's independence saw the development of strongly centralised Government institutions in an effort to impose control on the previously disparate Bantustan administrations of the apartheid state. Although Government policy statements recognise the need to devolve control over rural development and land management decision making and structures back to the local level, progress in key areas has been limited to vigorous debate. While an impressive battery of policy statements relating to natural resources management has been produced since independence, numerous issues of policy failure, policy contradiction and the slow pace of implementation remain. This is illustrated by the case of the National Agricultural Policy, where there has been no prioritisation of policy statements, and no overall strategy has been particularised to date. As a result, Vigne & Whitesand (2007, p. *vi*) in their study entitled "*Agricultural Services Reform in Southern Africa: Encouraging Sustainable Smallholder Agriculture in Namibia*" argue correctly that "policy implementation remains vulnerable to whim" in Namibia. The most common meaning of implementation, they maintain, "is to carry out, to accomplish, to fulfil, produce or to complete." This meaning could easily be equated with service delivery and as long as implementation of policy has not taken place, service delivery cannot be said to have been realised. The purpose of public policies is to change, regulate, improve or preserve the conditions of society or the lifestyles of individuals (Cloete, Wissink & de Coning, 2006, p. 203).

A sustainable and dynamic approach to agricultural development remains of great concern to the government and priority for discourse in the policy arena. The extension establishments are projected as crucial sources of innovation and knowledge to trigger development in the agricultural sector. Viewing the actors in the agricultural extension and farmers system as equal partners, whose interaction determine the innovative performance of the economy, demands that the government re-examines the polices that determine the statutory position, *modus-operandi* and management style of the actors. Government should enact policies commensurate with action to create enabling environment for wider stakeholders' participation in agricultural extension delivery in Namibia, most specifically focussing on the communal farming community.

There is currently little effective co-ordination of rural development efforts either at the national, regional or village levels. Although a number of institutions have been set up at the national level to co-ordinate different sectoral and cross-sectoral interest, they remain weak, partly because they are themselves not co-ordinated (Vigne & Whitesand, 2007, pp. *vi-viii*). At the regional level, government structures are even weaker as central government's outreach of human and financial resources effectively starves them. The inevitable result is duplication and competition between different development agencies, and ultimately a significant waste of resources. At the village level, there has been a proliferation of groups set up by different agencies (including Water Point Committees, Farmer Extension and Development Groups, Literacy Groups etc.). This means duplicating effort aimed at group mobilisation, and causes confusion amongst community members. The obvious answer is to work through existing group structures (e.g. traditional leadership or churches) or multi-purpose groups which co-ordinate the activities of several agencies (ibid).

One area of reform which is being debated amongst communal farmer associations, but which has yet to impinge on the thinking of the Government's extension planners, is the question of how to make extension services more answerable to farmers. Extension services are run in a highly centralised way, with little influence being exerted on the extension staff at the regional, let alone the community level. Farmer associations (and other local bodies such as Regional Councils) are vociferous in their views that, partly because of this, extension services are failing to meet farmers' real needs. A number of farmer associations claim that, because they represent and are accountable to farmers directly, they will be in a good position to manage extension services. In the context of the Government's overall policy of contracting-out services to the private sector, and in support of the advantages to be gained from a diversity of service providers, it is recommended that this suggestion be taken seriously, and that the extension service consider contracting-out to a few well established farmer associations to provide specific extension services in their areas of jurisdiction.

According to the National Agricultural Policy, the government is cognisant of the fact that "farming in the communal agriculture sub-sector offers the greatest potential for growth and diversification" (Government of Namibia, 1995, pp. 23-28). Furthermore, the said policy suggests that extension service will be relieved of direct responsibility for providing those farmer support services which can be supplied more effectively by the private sector. Increases in productivity will be facilitated through an agricultural research programme, which will follow a multi-disciplinary farming systems approach, incorporating decentralised adaptive research and on-farm trials. Here too, attention and resources will be focused on communal agriculture. "The Government will continue to develop an agricultural education and training system which will provide the human resources required at all levels in the agricultural sector. To ensure that its activities are both cost-effective and relevant to the needs of all of the farming community, the Government's agricultural research, extension and

training services will be closely coordinated" the said policy suggests. However, despite these assurances, the plight of the communal farming community in Namibia is much to be desired.

In the process of policy agenda setting, two types are generally distinguished, namely systemic agenda and institutional agenda. According to Cloete, Wissink & De Coning (2006, pp. 118-119), systemic agenda is a broader set of issues facing society…and not all the issues raised in the systemic agenda receive government attention. Government officials are literally overwhelmed with a broad range of problems from the public and are expected to act on all of them. Regrettably, only a small proportion of these issues on the systemic agenda receive serious government intervention. The institutional agenda, on the other hand, is where problems receive formal attention by government. Whereas the systematic agenda is the government's way of acknowledging the problem, but do nothing about it, the institutional agenda comes with government action in the form of resources, legislation and timeframes for action. Howlett and Ramesh (1995, p. 113), as quoted in Cloete, Wissink & De Coning, (2006, p. 120) put it eloquently: "the public agenda (i.e. systemic agenda) [*sic*] is an agenda for discussion with the institutional agenda as an agenda for action…"

As observed earlier, the government's funding of agricultural extension in Namibia in terms of the Medium Term Expenditure Framework (MTEF) 2012/2013 to 2014/2015 is commendable, but it is yet to be established as to what extent the communal farmers in the Okombahe settlement Area benefitted from the intended resources. The central government has allocated required resources in keeping with its institutional agenda setting. Central to understanding agenda setting is the meaning of the term *agenda.* An agenda is defined by Birkland (2006, p. 63) to mean "a collection of problems, understandings of causes…, solutions, and other elements of public problems that come to the attention of members of the public and their government officials. He continues to suggest, "An agenda may be as

concrete as a list of bills that are before a legislature, but also includes a series of beliefs about the existence and magnitude of problems and how they should be addressed by government…" (p. 66).

If decentralisation improves farmer participation and feedback by giving farmers, and especially small-scale farmers, more of a voice in setting agendas, then the outcomes will be positive, including the development and dissemination of technologies that more closely fit farmers' needs.

2.12.1 Extension Programme Planning

In general, extension program planning is seen as a process and a social practice (Cristóvão, Koehnen, & Portela, 1997, pp. 66-69). As a process, Cristóvão, Koehnen, and Portela describe it as a dynamic effort of identifying farmers' problems and the taking of decisions and actions to address them. From a social practice view, extension programme planning is seen as a negotiation process and a working platform involving different stakeholders. Programme planning is considered an essential process of an extension organisation's operation. This is because it provides direction for the organisation, contributes to learning and development among planning participants, allows for selection of relevant extension activities and management of programmes, and ultimately facilitates the social and economic progress of rural communities and families (ibid).

Extension programme planning involves specific activities and steps. These may include: identification of the basis for programming – philosophies, policies, and procedures; situation analysis of community and clientele; identification of desired outcomes; identification of resources and support; design of an instructional plan; design of programme of action – calendar of events and activities; and evaluation – accountability of resources (ibid). Bennett and Kay (1995, p. 112) put the programme planning process into three major steps: selecting

needs, delivery methods, and targets for programme accomplishments. The more participatory the decision-making process, the more legitimacy it acquires in the eyes of the communities served.

2.13 Decentralised Agricultural and Rural Extension within the Context of New Public Management (NPM) Paradigm

2.13.1 The Context of the NPM: Public Centred Approach

Since the 1980s, the new public management (NPM) has been entrenched in theory and practice across the world. Indeed, the NPM offers important lessons and analyses for public management throughout the world and Namibia is no exception to the process of implementation of efforts aimed at achieving the outcomes embodied in the said NPM.

Other practical justifications for the NPM have also evolved along the lines of the New Public Service (NPS) being a mutually reinforcing and normative model of managing and service delivery in the public sector where values such as efficiency and productivity should be placed in the larger context of democracy, community and the public interest. Denhardt and Denhardt (2000, pp. 553-557) summarise these values as follows:

a) *Serve, rather than steer*: Public servants should help citizens articulate and meet their shared interests, rather than attempt to control or steer society in new directions;
b) *The public interest is the aim, not the by-product*: Public managers should contribute to building a collective, shared notion of the public interest which should result in the creation of shared interests and shared responsibility;
c) *Think strategically, act democratically*: Policies and programmes meeting public needs can be most effectively and responsibly achieved through collective efforts and collaborative processes;

d) *Serve citizens, not customers*: Public servants should not merely respond to the demands of "customers" but focus on building relationships of trust and collaboration with and among citizens;

e) *Accountability isn't simple*: Public servants should be attentive not only to the market but also to statutory and constitutional law, community values, political norms, professional standards, and citizen interests;

f) *Value people, not just productivity*: Public organisations and the networks in which they participate are more likely to succeed in the long run if they are operated through processes of collaboration and shared leadership based on respect for all people; and

g) *Value citizenship and public service above entrepreneurship*: The public interest is better advanced by public servants and citizens committed to making meaningful contributions to society rather than by entrepreneurial managers acting as if public money were their own.

All of the foregoing features of the NPM are being applied around the world, as governments use the management reform process to reshape the role of the State and its relationship with the citizenry.

Decentralisation, through devolution, provides a mechanism that enables the population to participate in the process of governance, as well as a framework for allowing the community's interests to be represented in government decision-making structures (Smith, 2001, p. 88). It is therefore a key element of NPM-type reforms.

2.14 Conclusion

There have been significant developments in the approaches adopted by agricultural extension organisations in developing countries in the past four decades. Agricultural extension services in developing countries, including Namibia are becoming more complex

because there is increasing acknowledgement that the farmer needs are diverse, complex and challenging. In response to this acknowledgement, there is a change in view of agricultural extension from top-bottom to bottom-up participatory decision-making. The review shows that the purpose of decentralised agricultural extension shifts its focus in favour of the rural-poor. These developments have major implications for extension management and imply that the operational responsibilities of agricultural extension services need to be devolved away from central governments to the communities where the poor reside and earn their livelihoods. This strengthens the case for decentralised agricultural extension management in developing countries. Although Namibia has adopted the decentralisation policy to improve extension delivery, the agricultural extension remains centrally controlled in terms of funding and resourcing of the function. The regional and international perspectives and concepts relevant to agriculture extension and which could serve as best practises have been reviewed and described in this chapter.

CHAPTER 3

METHODOLOGY

3.1 Overview

This Chapter shed some light on the research methodology, which is a blueprint of the research activities that the researcher has carried out. It provides an explanation and discussion of the research design, methods and techniques, sample size, sampling procedures, data collection and analysis processes. The methodology of research study provides a path to researcher how to complete the process of collection, analysing and interpretation of data. Research into the operation of public organisations such as extension services in developing countries is limited (Horton & Mackay, 2003, p. 127). The general objective of this research is to investigate the impact of decentralised agricultural extension service on stock-raising in Dậures Constituency of the Erongo Region, with specific focus on the Okombahe Settlement Area. Owing to a limited empirical research into this topic, a qualitative research approach was adopted for this study. First, the choice of research strategy is discussed, followed by the reason for choosing the simple-case study. Secondly, the case study is then defined and case study design described, where after the methods of data collection and analysis are specified.

3.2 Choice of Research Strategy

According to Yin (2003, p.13), there are five strategies that may be used to undertake research: experiment; survey; archival analysis; history; and case study. He suggests three criteria a researcher should consider when deciding upon which research strategy to adopt: (a) the type of research question posed; (b) the extent of control an investigator has over events; and (c) whether or not the focus is on a contemporary phenomenon within some real-life context (Table 3.1).

Table 3.1. Conditions for Selecting Appropriate Research Strategy

STRATEGY	FORM OF RESEARCH QUESTION	REQUIRES CONTROL OVER BEHAVIOURAL EVENTS	FOCUSES ON CONTEMPORARY EVENTS
EXPERIMENT	How, Why	Yes	Yes
SURVEY	Who, What, Where, How Many, How Much	No	Yes
ARCHIVAL ANALYSIS	Who, What, Where, How Many, How Much	No	Yes/No
HISTORY	How, Why	No	No
CASE STUDY	How, Why	No	Yes

Source: Yin (2003)

A careful analysis of the criteria above, the case study is the one that is best suited for this study. The criteria under which Yin (2003) would recommend a case study research strategy is where a researcher wants to answer 'how' and 'why' questions, does not 'require control over the behavioural event', and wants to 'focus on contemporary events'.Yin (2003, p.13) defines a case study in general as *"an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and the context are not clearly evident".*

3.3 Research Design and Instruments

Qualitative research methods such as participant observation and in-depth interviews as well as questionnaires are used in conducting the study. Participant observation was chosen in an

effort to get close to the data in a natural setting and to best reflect the experience the everyday life of an individual communal farmer. Creswell (2003, p. 21) opines that qualitative research is used "to gain insight into people's attitudes, behaviours, value systems, concerns, motivations, aspirations, culture or lifestyles" (p.74). The research seeks to describe, interpret, and obtain a deeper understanding of agricultural extension support and its effects on the success or failure of stock-raising. The potential literacy issue in survey research was avoided by the use of oral interviews to gather the study data. The use of the participants' local language contributed to the researchers' success in obtaining the trust of the respondents. The face-to-face conversation explaining the purpose of the study and answering questions provided the opportunity to assure the respondents of the need for their input. The descriptive research method is the most suitable design structure for this study. An open-ended questionnaire compiled by the researcher, validated by the researcher's supervisor served as a principal research instrument. A covering letter accompanied the questionnaires to explain the purpose of the study. This served as a proof that the researcher is indeed a registered student doing research with the University of Namibia. Other unstructured methods include interview transcripts and recordings, notes and photos.

3.4 Population

The target population for this study included the officials working within the Agricultural Development Centre (ADC) at Okombahe (2), the *Omkhâibasen* Community Farmers' Co-operative, *!Oë-≠Gan* Traditional Authority, Extension Veterinary Services Cooperation and the *≠Eseb* Farmers' Association. These categories selected play a prominent role in the communal service delivery in the study area and were assumed most central to provide fairly representative and meaningful information, views and opinion on the subject under study. The researcher used an informant selection team (IST) made up of the Senior Agricultural

Extension Technician of the Okombahe ADC, a traditional leader attached to the the *!Oë-≠Gan* traditional authority, and one staff member of *Omkhâibasen* Co-operative at Dawib-West. Drawing on their rich understanding of the case organisation, district and farmers' needs, this team was tasked to prepare a list of farmers and stakeholders who had in-depth knowledge of the agricultural extension programmes in the study area. The criteria, which the team was asked to use when drawing up the list, were to ascertain that: (1) the selected members had in-depth knowledge of the case organisation, (2) they would be willing to participate in the research, and (3) they would provide a cross-section of views on the agricultural extension to stock farming activities in the study area. Following this process, the target population referred to above emerged. The selected target population is thus perceived to be fairly representative of the broader stakeholder community in the study area for the purposes of this research.

3.5 Sampling

A convenience sampling method will be used in selecting the public officials, community members and traditional leaders, whereas a cluster sampling method will be used in selecting communal farmers. Convenience sampling is used in exploratory research where the researcher is interested in getting an inexpensive approximation of the truth. The Okombahe communal farming community is organised under the *Omkhâibasen* Community Farmers' Co-operative, which divided the farmers into three (3) units. Unlike traditional cluster sampling, clustering here will be based not on actual individuals but on the strength of each of these units.

Depending on the cluster size determined by the researcher, clusters will be allocated to each unit according to the strength that unit holds. To illustrate, the *Omkhâibasen* Community Farmers' Co-operative units was used to determine the cluster size.

Table 3.2: Farming Units as demarcated by *Omkhâibasen* Community Farmers' Co-operative

Unit	No. of Communal Farmers	Clusters Allocated
A	**52**	**10**
B	**82**	**16**
C	**70**	**14**

In this example, the cluster size is decided to be five. To determine the number of clusters to be allocated, communal farmers' strength is rounded to the nearest 10s and divided by 5. For example, Unit A has 52 farmers and is allocated 10 clusters. Unit B is allocated 16 clusters and Unit C is allocated 14 clusters following the same logic.

The total sample size is forty-six respondents comprising forty communal farmers, four officials from the stakeholder organisations, namely the *Omkhâibasen* Community Farmers' Co-operative (1), *!Oë-≠Gan* Traditional Authority (1), Extension Veterinary Services Cooperation (1) and the *≠Eseb* Farmers' Association (1) as well as two officials from the Okombahe ADC (case organisation).

3.6 Research Procedure

A large part of the data will be derived from secondary sources, such as books, government documents, legislation and policies, research papers, media reports and the e-resources. The primary data will be gathered through structured questionnaires, interviews with relevant sources and field visits that the researcher will undertake, to at least have an insight on what is actually taking place in the settlement area. A very important source of the study will be the observation that the researcher made during the field visits.

3.7 Research Ethics

Throughout this study, the researcher made a deliberate effort to free himself from the prejudices, biases and sentiments that might impede objectivity and neutrality and remained cautious to advocate for certain beliefs, values or ideals. Although there is a great concern as to whether there can be objective social research, the researcher is ethically bound to reflect information and/or data obtained in this research accurately. Thus, the findings are presented honestly and without distortion. In this respect, the researcher ensured not to omit data that has the potential to affect the interpretation of findings, neither were views be twisted nor the experiences of participants changed. The study observed the highest possible ethical and professional codes of conduct. The researcher would like to cite some ethical issues, which are taken into consideration for this study. In this respect, the researcher takes cognisance of four important ethical issues considered to be vital in this research undertaking, namely:

The right to remain anonymous and confidentiality: All participants have the right to remain anonymous and were not be required to indicate names on the questionnaire. The participants have the right to insist that data collected from them be treated with confidentiality. In the structured questionnaire, there is a built-in mechanism to protect the participant's confidentiality.

The right to expect researcher's responsibility: The participants have the right to insist that the researcher explains the findings of the study to them after it is completed. The researcher would be at liberty to do so at request.

The right to privacy and non-participation: A person has the full right not to participate in the study at all. The right to privacy refers to the right of a participant targeted by the study to withhold certain information. It is recognised that some questions in the questionnaire may not draw required responses as such relate to providing additional comments. This, in the

opinion of the researcher, was not perceived to be tantamount to information withholding. The respondents were given an option to provide comments only if they deem that necessary.

Informed consent: Informed consent is a mechanism for ensuring that people understand what it means to participate in this particular research study so they can decide in a conscious, deliberate way whether they want to participate. Informed consent is one of the most important tools for ensuring respect for persons during research. Formal permission had to be sought from the community leaders or gatekeepers before research commenced and the social benefits of the research were highlighted. As most of the communal farmers in the Okombahe settlement Area are conversant in Damara/Nama and Afrikaans languages, the interviewing was done in any of these vernaculars, where appropriate. The researcher is fluent in both languages.

3.8 Conclusion

This Chapter provided the roadmap of the methodology used in conducting the study in terms of the research design, population and sample, as well as the instruments and approaches used in data collection, validation thereof before conducting actual research and conclude informing on the method of data analysis. The ethical considerations are discussed in this chapter.

CHAPTER 4

PRESENTATION OF RESULTS

"Go to the people, Live with them, Love them, Learn from them, Work with them, start with what they have, Build on what they know, And in the end, When the work is done, The people will rejoice: We have done it ourselves!" (Burkey, 1993).

4.1 Overview

The previous Chapter provides the roadmap of the methodology used in conducting the study and described the methodology in terms of design, population, actual sample and the instruments used in data collection. In this chapter, the manner of data collection processes and the results of the study are presented. The basic purpose of the data analysis is to examine the amount of data in the questionnaires and information gathered from the interviews for relationships and to present the results in a clear and comprehensible manner. Data captured in this study are categorically divided into three sections. The first emanates from the communal farmers, the second from the case organisation (Okombahe ADC), and the third from the selected stakeholder organisations.

To understand the total environment in which the agricultural extension services operates, it is vital to analyse the biographical characteristics, human capital endowments, functioning of the extension services in terms of planning and implementation as well as how it helps farmers to improve their livelihood.

4.2 Outline of the Research Process

The research process has three distinct phases – (1) planning, (2) data collection and analysis, and (3) reflection. The planning phase commenced with the development of a theoretical framework from the literature. The literature review was on-going throughout the period of

data collection and analysis so that the theoretical framework could be updated as new elements were highlighted by the data. Secondly, an appropriate case was carefully selected and a data collection protocol was designed to mark the end of the research-planning phase. In the next phase, fieldwork was conducted and research data were collected. The data were then analysed and a study report was written. In the final phase, the report was reflected upon in the light of the theoretical framework and theoretical implications were drawn. The following sections provide a detailed description of the process.

Table 4.1 The research process (Adapted from Cepeda & Martin, 2005)

PLAN	DATA COLLECTION AND ANALYSIS	REFLECTION
1. Select a Case 2. Develop Theory 3. Design Data Collection Protocol	4. Conduct Case Study 5. Analyse Case 6. Write Case Report	7. Discuss Case Report and Conclude Within the Theoretical Framework 8. Formulate Theoretical Implications
ONGOING REVIEW AND DEVELOPMENT OF THEORY		

4.2.1 Case Selection and Data Collection

Case selection is a critical step in the research process because the type of case that is selected influences the conclusions reached and the level of confidence one has about such conclusions (Miles & Huberman, 1994). It was therefore important for appropriate case to

maximise the opportunity to engage the problem, address such and draw conclusions that can be relied upon. Marshall & Rossman (1999) argue that "an ideal case should be accessible; offer the researcher the opportunity to encounter many of the processes, people, programmes, interactions, and/or structures that are relevant to the research question; and to provide credible data for the analysis of the phenomenon." Yin (2003, p. 14) agrees and similarly opines: "it is better to get a case which is more convenient and easy to access so that the researcher can have more time and a close relationship with the interviewees in order to gather the information needed".

The first criterion the researcher specified was the location. The researcher wanted to select a case from the Dâures Constituency in the Erongo Region communal farming area, because of ease of access and because he speaks the local language used in that area, the *Khoe-khoegowab* (Damara/Nama. After explaining the purpose of the research and obtaining permission from the the *!Oë-≠Gan* Traditional Authority to undertake the study, the researcher contacted the Senior Agricultural Extension Officer at Omaruru Agricultural Extension Office in July 2012. The purpose of the study was then explained and rapport developed with key staff of the Okombahe ADC as well as the *Omkhâibasen* Co-operative. The latter is closer to the Okombahe Settlement Area and located within 52 kilometres south on the District Road D 2306. The ADC and the Cooperative assisted the researcher in categorising the communal farmers into three unit categories (Units A, B & C) from which the samples were drawn. In mid-October 2012, the case organisation (Okombahe ADC) was notified that it was to be the focus of the research. During the same period, the *Omkhâibasen* Co-operative was contacted to assist with the mobilisation of communal farmers in the Okombahe Settlement Area, engaged in stock farming.

The aim in the study was to investigate the impact of decentralised agricultural extension on the stock-raising activities in the Dâures Constituency. To achieve this aim, a data collection protocol was developed. The data collection protocol consists of a set specific topic areas that were set out as questions and those were developed from the literature review. These topic areas cover agricultural extension programme planning, implementation and evaluation, communal farmers' participation, capacity building and support responsive to the farmers' needs. This set of broad questions guided the data collection process, but the researcher also used probing and clarification questions to obtain further detail about the various topic areas. Case studies allow the use of several data gathering techniques and multiple sources of evidence (Hartley, 2004, p. 322). The sources of data that can be gathered for a case study include documents, archival records, interviews, direct observation and participant-observation. In this study, the primary source of data was interviews. Secondary data were obtained from documents and field observations. The data collection was undertaken over a six-month period between April and September 2013 (Table 4.1).

4.2.2 Interviews

Interviewing is considered an important source of information in qualitative research and is highly recommended for case studies (Patton, 2002, p. 66). Interviews can be structured, unstructured or semi-structured (Brewerton & Millard, 2001, p. 231). Structured questions have fixed questions with restricted options for informants to choose from, whereas unstructured questions uses flexible means to elicit as much information as possible to address one or a number of topics of interest to the researcher (ibid). In semi-structured interviews, fixed questions are used but these are open-ended so that interviewees can provide answers they consider important without restriction (Patton, 2002, p. 66). Semi-

structured questions were therefore adopted for this case study to ensure flexibility and to reduce the possibility of influencing the interviewees.

4.2.2.1 Selection of Key Informants

A key issue with a study such as this is how to obtain a "true" perspective of what is happening on the "ground", given the fact that only two agricultural agents serve over 53 farms[5] in the study area, in collaboration with three stakeholder organisations and one Cooperative. A qualitative study involving interviews often requires a considerable time and resources of travelling, interviewing and transcribing, and data analysis. Hence, the use of key informants becomes necessary. Influenced by the constraints mentioned here, the researcher used an informant selection team (IST) made up of the Senior Agricultural Extension Technician of the Okombahe ADC, a traditional leader attached to the the *!Oë-≠Gan* traditional authority, and one staff member of the *Omkhâibasen* Co-operative at Dawib-West. The Senior Agricultural Extension Officer at the request of the researcher selected the team members. Drawing on their rich understanding of the case organisation, district and farmers' needs, this team was tasked to prepare a list of farmers and stakeholders who had in-depth knowledge of the agricultural extension programmes in the study area. The criteria, which the team was asked to use when drawing up the list, were to ascertain that: (1) the selected members had in-depth knowledge of the Okombahe ADC, (2) they would be willing to participate in the research, and (3) they would provide a cross-section of views on the agricultural extension to stock farming activities. The team was further tasked to select a cross-section of suitable informants from the two main groups, namely the farmers and

[5]The number of farms may be more than 53, given the ongoing communal land allocation process by the *!Oë-≠Gan* traditional authority. The 53 farms are as per the records of the case organisation during the study.

stakeholder organisations. The two-pronged selection process is discussed in the following sections.

The first informant selection dilemma was to select key informants from the farmers within the area, which comprises of over 100 individuals. Consultation with the IST suggested that the best means of obtaining a useful cross-section of farmers' views was to select from the three units A, B & C (see Chapter 3) mainly engaged in stock farming. In consultation with the Senior Agricultural Extension Technician, the researcher contacted each farmer group. This process was facilitated though the use of farmer logbook held by the case organisation containing communal farmers' contact detail. Each group was requested to nominate representatives who they believed, had in-depth knowledge of the case organisation's operations and programmes in the study area and could represent the views of the designated group. Ultimately, the groups nominated ten (10) farmers from Cluster A, sixteen (16) from Cluster B, and fourteen (14) farmers from Cluster C. This brings the total farmers selected to a total of forty (40).

The second selection dilemma was the choice of key informants from the stakeholder organisations with which the case organisation and the communal farmers interact daily. The first step in the process was to draw up a list of the relevant stakeholders with the assistance of the IST. There were seven stakeholder organisations in the list, which fell into four major groups: The *!Oë-≠Gan* traditional leadership, Extension Veterinary Services Cooperation, the *≠Eseb* Farmers' Association and the *Omkhâibasen* Community Farmers' Co-operative respectively. In terms of the Communal Land Reform Act, 2005 (Act No. 5 of 2002), traditional authorities facilitate the process of the registration of all rights to residential and arable land held in communal areas. The *!Oë-≠Gan* traditional leadership fulfil this role in the study area. The Extension Veterinary Services Cooperation provide support to the case

organisation (ADC) and performs the matters relating to animal vaccination, NamLITs applications, issuing and inspection of stock registers and health inspections. The *Omkhaibasen* Community Farmers' Co-operative empowers rural communities through responsible farming in the study area. Consultations with the IST suggested to select one representative from the said four key organisations as these were people who the IST believed, had requisite knowledge of the operation of the agricultural extension and farmer's needs in the area. Two officials from the Okombahe ADC (case organisation) formed part of this category of key informants.

Drawn from the two groups (farmers and stakeholder organisations), forty-six (46) key informants had been selected for the study. As indicated earlier, forty (40) informants were drawn from communal farmers, four (4) from stakeholder organisations and two (2) from the case organisation.

4.2.2.2 Conducting the interviews

Interviewing commenced on 25 May 2013 as soon as the list of key informants had been finalised. Prior to each interview, the researcher contacted the selected informants through the IST. A consultative meeting was arranged to brief them on the purpose of the study, seek permission for participation in the study, arrange a time for each interview and to build rapport. It was discovered during this consultation session that the informants were enthusiastic to participate in the study. Each informant was then provided with a copy of broad questions in the data collection protocol and permission was obtained to tape the interviews. The logic of the questioning was tailored to meet specific groups and individual situations. Interview questions for key informants who were neither members of the case organisation nor farmers themselves were made general (Table 4.2), to allow them to feel at ease about expressing their opinion. Patton (2002, p. 67) emphasises the need to frame

interview questions in ways that will ensure that informants are relaxed throughout an interview.

Table 4.2 Broad questions for informants who were not members of the case organisation or farmers themselves.

1. What do you know about the operations of the case organisation with reference to:
a) Stakeholder participation in agricultural extension programme planning, implementation and evaluation.
b) Accountability to government, farmers and stakeholders.
c) Institutional capacity building for effective extension programme implementation.
d) Resource mobilisation for effective programme implementation.
e) Types of support provided to farmers in the study area.
2. What factors do you believe are important in the way the case organisation operates?
3. In which areas does your organisation assisting the case organisation in goal identification?
4. How do you think the activities could be strengthened through stakeholder involvement?

At the commencement of each interview, the key informant was given a brief overview of the research objectives and an assurance that his/her responses to answers would be kept confidential. This was important to ensure that respondents do not withhold information vital to the research. An audio tape recorder was used and some notes were taken as back-up to the recorder in case of any recording problems. Informants were asked to verbally describe their experiences to the phenomenon under study, and were allowed to speak at length so that the researcher could gain a broader understanding and the context from which they were speaking. Probing questions were asked to clarify issues, which were not clear, and to ensure that responses were comprehensive as possible. Other specific enquiry was in respect of age, farming experience, age and level of education as well as all aspects raised in the questionnaires.

4.2.3 Documents

King (2004, pp. 11-22) points out that interviews solely may not be sufficient to ensure accuracy in explaining organisational processes and programmes. Documents provide useful additional information to interviews in identifying aspects of the phenomenon under investigation (Yin, 2003, p. 122).Documents provide a rich source of insight into organisational behaviour because they represent one of the major by-products of how organisations operate (Forster, 1994, p. 147). In line with this understanding, secondary data in the form of documents were collected from the case organisation as a means of triangulating the data from the interviews. With permission from the management of the organisation, informants of the case organisation were requested to supply documents to provide the researcher with a greater understanding of the case organisation's operation. The documents supplied by informants were analysed for evidence that would support (or refute) what was being said in the interviews. Information from the documents was also useful for providing information about the context and for providing additional data about topics covered in the interviews. The documents collected by the researcher included annual reports, annual work plans, area activity reports, staff records, area profile on livestock farming, minutes of meetings and circulars.

4.2.4 Observations

In an effort to gain first-hand knowledge of how the case organisation operates, the researcher made a number of field observations. Field observations are important because relying on interviews and documents is inadequate, and as such, this method serves to triangulate data. Yin (2003, p. 124) argues that observations serve to supplement data collection techniques in case study research. The observations helped the researcher to capture important activities, behaviours and organisational characteristics that informants

may not have wished to share with the researcher. Within the data collection period, and as circumstances and time permitted, some key observations were made: 1) one planning session of the case organisation was attended to obtain evidence of the decision-making processes and level of staff interaction; 2) two farmer-case study demonstration sessions were attended to obtain evidence of farmer participation in extension delivery through demonstrations; 3) one farmer-case organisation group meetings to obtain evidence of farmer participation in extension activities; 4) one week at the office of the case organisation to obtain evidence of the nature of extension delivery processes and activities through the centre; 5) two days at the *!Oë-≠Gan* traditional office and the *≠Eseb* Farmers' Association at Okombahe respectively to obtain evidence of their interaction with livestock farmers in the area; 6) two days at the communal farms *!Gâi-//Naes*, */Ui-Krens* and *Hobatere* to obtain evidence of livestock farming activities and state of the environment (water supply, boreholes); 7) one general meeting and farmers' day at the *Omkhaibasen* Community Farmers' Co-operative to obtain evidence of collaboration between farmers, case organisation and the cooperative.

No structured data collection protocol was used to record the field observations; instead, field notes were taken about the relevant activities that were being observed.

4.2.5 Questionnaires

The survey questionnaires included the following main sections: (a) the biographical characteristics of farmers; (b) forms and methods of agricultural extension support; (c) effectiveness of extension methods; (d) the effectiveness of government support to stock-farmers; (e) needs and expectations of farmers and the impact of extension services on farm productivity and farmers' income and other socioeconomic aspects; and (f) the level of farmers' participation in agricultural extension programmes.

The questionnaires were tested before conducting the final surveys. Eight communal farmers outside the study area (Omatjete Settlement Area) were selected for pre-testing. Necessary modifications were made before proceeding to the final surveys. The data were collected in two phases. In the first phase, farmers were interviewed, either in groups or individually, using the structured questionnaire. In the second phase, field extension agents and officials attached to the stakeholder organisations personnel were interviewed. The two phases included collecting data and/or information on how the agricultural extension systems actually influenced the operation of extension work for satisfying the problems and needs of stock farmers. The questionnaires were used as supplementary instruments to the interviews and were meant for respondents who could not be available for interviews or were not available for the reason of busy schedules and rather opted for questionnaires. The questionnaires were made available at the case organisation (Okombahe ADC) and selected stakeholder organisations, namely the *Omkhâibasen* Co-operative and the *!Oë-≠Gan* Traditional Authority respectively.

4.3 Data Collected Through Questionnaires and Interviews

A total of forty (40) questionnaires were designed and placed with the *Omkhâibasen* Co-operative (30), the Okombahe ADC (5) and the *!Oe-≠Gan* Traditional Authority (5). The *Omkhâibasen* Co-operative returned all the questionnaires completed, the Okombahe ADC returned only two (2), whereas the *!Oë-≠Gan* Traditional Authority returned only three (3). The remainder of the questionnaires (5) could not be administered, as four (3) farmers did not keep to the appointment with the researcher, whilst two (2) could not, though willing, participate as they were not able to communicate neither in Afrikaans, English, nor the Damara/Nama (*Khoekhoegowab*) language in which researcher is conversant with, and no interpreters were available to assist. This brings the total communal farmers who participated

through questionnaires at thirty-five (35), which represents 88% participation. Of these thirty-five (35) participating farmers, ten (10) live in Farming Unit A, sixteen (16) in Unit B, whereas nine (9) farmers were from Farming Unit C. Farming Unit C is more distant from the Okombahe Urban Area within which the case organisation and the traditional authority is located. It is also far from the cooperative. Farmer participation in Units A and B represents 100%, whereas only nine (9) out of the selected fourteen (14) farmers in Unit C participated, which yields 64% participation.

The interviews were arranged in such a way that each of the units was scheduled for two sessions of interviews. Unit A was scheduled for interviews on 25 May 2013 and 06 July 2013 respectively, whereas Unit B was allotted interview slots on 01 June 2013 and 20 July 2013. Unit C was scheduled for interviews on 31 August 2013 and 14 September 2013 respectively. Follow-up visits were undertaken by researcher from 01 October 2013 to 13 October 2013 to reconfirm and follow-up on outstanding issues that required clarification as well as to meet respondents for the purposes of collecting completed questionnaires, administering new questionnaires, and to interview respondents who were not available during formal appointments. In terms of the established sampling projection (see Chapter 2), Unit A was allocated 10 clusters whereas Units B and C were allocated 16 and 14 clusters respectively (Table 4.3).

Table 4.3 Depicting Farmer Participation Rate in the Study

Unit	Clusters Allocated	No. of Communal Farmers Participated	Percentage of Farmer Participation
A	10	10	100%
B	16	16	100%
C	14	9	64%
Total	**40**	**35**	**88%**

In addition, interviews were held with two (2) staff members of the ADC Okombahe, one (1) staff member of the following stakeholder organisations, namely: the *!Oë-≠Gan* traditional leadership, Extension Veterinary Services Cooperation, the *≠Eseb* Farmers' Association and the *Omkhâibasen* Community Farmers' Co-operative. These interviews were structured along the broad question areas as illustrated Tables 4.1 and 4.2 above.

Table 4.1 covers the broad question areas for the case organisation's staff members. These responses required lengthy and comprehensive explication, and hence, a tape recorder had to be used to capture needed information. This was complimented by documents such as work plan reports, annual evaluation reports, quarterly reports and activity schedules of the case organisation.

Table 4.2, on the other hand, covers broad question areas for the stakeholder organisations selected for this study. These are the *!Oë-≠Gan* traditional leadership, Extension Veterinary Services Cooperation, the *≠Eseb* Farmers' Association and the *Omkhâibasen* Community Farmers' Co-operative respectively.

During the process of administering questionnaires and interviews, the researcher made brief introduction to each participant before starting the dialogue and interview processes. As most farmers in the study area speak Damara/Nama (*Khoe-khoegowab*), they were greeted in the

local way, where after the purpose and objective of the study was explained and clarified, including the ethical issues established in this study. Each question was clearly and patiently asked until the farmer understood and the questionnaires were completed according to the farmers' direct reply. The researcher attempted not to use technical terms during the data collection process. The *!Oë-≠Gan* traditional authority leaders, the Okombahe ADC officials and the *Omkhâibasen* Co-operative members were very helpful in introducing the researcher to the farming units and the farmers themselves.

4.4 Results (Communal Farmers)

4.4.1 Biographical Characteristics

The biographical characteristics discussed here comprise farmers' personal position, including age, gender profile, academic qualification, language proficiency and farming experience. The data is described in qualitative terms.

4.4.1.1 Farmers' Personal Position

Twenty-eight (28) farmers (80 percent) of the thirty-five (35) farmers who participated in this study are full-time farmers in the Okombahe Settlement Area. The other seven (7), which constitute 20 percent, are part-time or weekend farmers. It is interesting to note that all of the female farmers (4) interviewed are full-time farmers.

4.4.1.2 Age Profile

The age of farmers in the study area varies from 24 to over 54 years. The results show that the majority of sample communal farmers (31) engaged in active farming are older people, representing 89% (ranging between 36 and older than 54). The younger farmers (4) range between ages 24 to 35, representing but 11 percent. The farmers are grouped into the age categories with intervals of five years (Table 4.4 & Figure 4.1). The age of farmers is

significant as it influences the acceptance of agricultural extension technologies, as older farmers, as pointed out earlier may be unwilling to adapt quickly to modern farming methods. This is based on the fact that, given the socio-economic objective of farming, older farmers are inclined to clinging onto traditional farming methods.

Table 4.4 Age Profile of Farmers

Age Category (Years)	Number of Farmers	Male	%	Female	%
18-23	0	0	0%	0	0%
24-29	1	1	3%	0	0%
30-35	3	2	6%	1	25%
36-41	4	2	6%	2	50%
42-47	10	9	29%	1	25%
48-53	6	6	19%	0	0%
> 54	11	11	35%	0	0%
Total	**35**	**31**	**100**%	**4**	**100%**

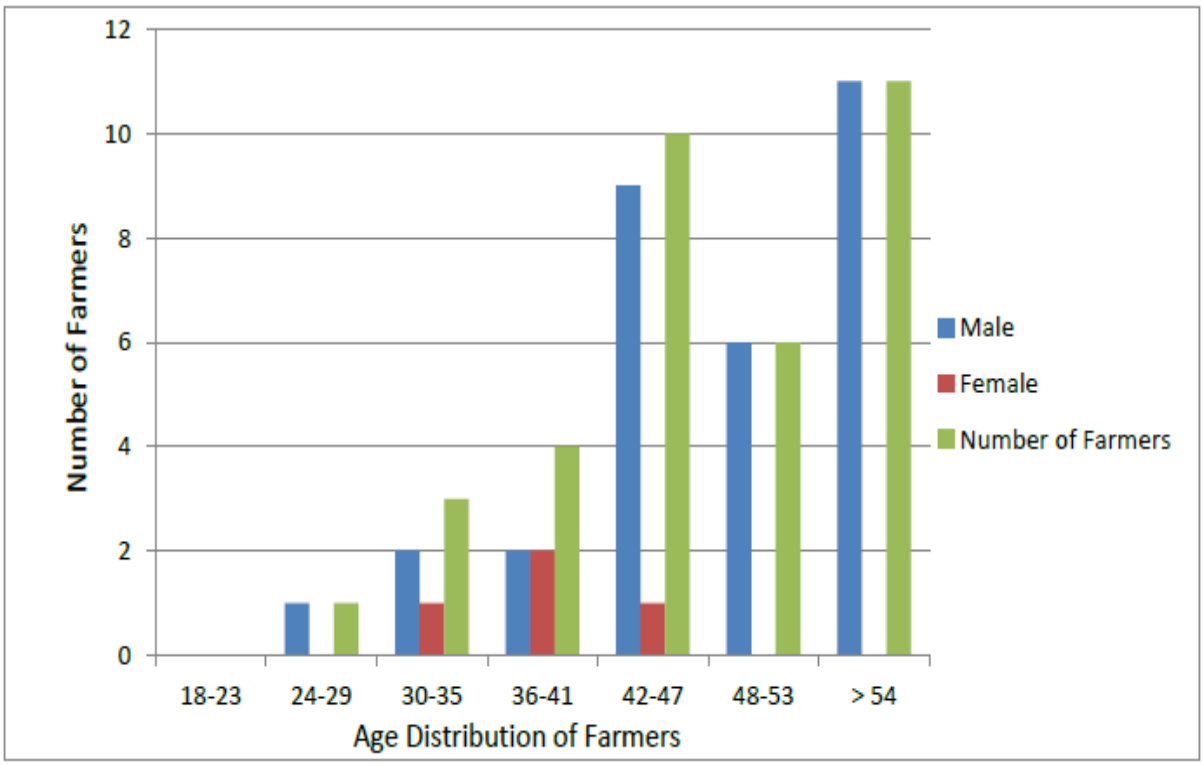


Figure 4.1 Age Profile of Communal Farmers

4.4.1.3 Gender Profile

Out of the 35 communal farmers interviewed, 89 % (31) were male and 11 % (4) female. The fact that a substantial number of communal farmers in the study are male shows that women still perform traditional roles, that of household functions, in communal setting. The negative impact of gender discrimination on productivity is more obvious in the livestock sector than in most other areas of agriculture. With the increasing commercialisation of agriculture, the dominant position of men is changing gender roles – in men's favour. In Namibia, it is still common (despite legislation to prevent it) for a husband's family to take livestock from a woman at her husband's death. Male livestock keepers also have far better access to training and technology. Extension programmes are usually oriented towards men's livestock, and extensionists lack the incentive and communication skills needed to work with often-illiterate women. Low-cost investments in small animal production, which is easily managed and has a quick rate of growth and return, may provide women with new income generating activities.

Poor rural women spend most of their income on buying food and paying school fees; their engagement in small animal production can do more to improve family welfare than expanding men's cattle herds.

4.4.1.4 Language Proficiency

Language differences and illiteracy can impede the communication of extension work. All the 35 farmers interviewed are proficient[6] in Damara/Nama (*Khoekhoegowab*), 31 (89%) in Afrikaans language, and only 12 (34%) can speak, read and write English language. It is interesting to note that all the female respondents (4) are proficient in local dialect as well as Afrikaans and English languages. It was further noted that 16 (46%) of the male respondents are fluent in German and *Otjiherero*[7] languages, besides Afrikaans and local dialect, *Khoekhoegowab*. The agricultural extension officers of the case organisation are both proficient in the local dialect Damara/Nama (*Khoekhoegowab*) and there is no communication barrier between the farmers and extension staff.

4.4.1.5 Level of Education

Education is one of the important variables, which increases farmer's ability to acquire process and use agricultural related information. Low level of education and high illiteracy rate is typical in Namibia. In fact, the education level of farmers is assumed to increase the ability to use agriculture related information in a better way. Therefore, in this study, educational level is a variable helping exposure to information and its utilisation. The sample farmers have an average of only lower primary schooling, but they seem to have considerable

[6]'Proficient' here means ability of an individual to speak, write and read.

[7]*Otjiherero* language is spoken by the *Ovaherero* and *Ovambanderu* tribes in Namibia

farming experience. The level of education and farming experience are depicted in Table 4.5 below.

Table 4.5 Academic Qualification of Farmers

	Male	%	Female	%
No School Education	4	13%	0	0%
Primary Education	18	58%	1	25%
Secondary Education	4	13%	1	25%
Technical/Vocational School	0	0%	0	0%
College	2	6%	1	25%
University Graduate	3	10%	1	25%

4.4.1.6 Farming Experience

Farming experience is certainly the most important yardstick for sustained and responsible farming. The 58% of the male respondents have farming experience of more than 26 years, 32% between 22-25 years, whereas 18% have farming experience ranging between 6 and 21 years. Only 10% of the male farmers are inexperienced as they are in this activity for 2-5 years. Only one of the four female farmers interviewed has farming experience between 2-5 years, whereas three female farmers have farming experience between 6-9 years. Cattle, goats and sheep were the main livestock with which the farmers of the Okombahe Settlement Area are farming. While only a few are inexperienced with these livestock, the majority are seasoned cattle, goat and sheep farmers.

4.4.1.7 Farm Management Knowledge and Practices

An assessment of production management knowledge and practices revealed the following animal husbandry practices: 87% of the respondents indicated that production records are kept, yet with follow-up visits, respondents were not able to produce records or furnish information from records readily. Records of stock numbers and number of animals bought and sold are more readily kept (93% of farmers), but records of production performance (reproduction, weights, etc.) are kept to a lesser degree. All farmers use ear tags or ear markings. These are mainly for stock identification purposes and are not being used for management purposes. No pro-active drought planning were evident from farmers – those that expressed concern about drought incidence focused more on emergency feed purchases than on veld management and stocking rates.

The 73% of farmers indicate that they maintain financial records. However, respondents were not able to produce evidence of such records, or provide reliable information of financial performance indicating the absence of basic general management information systems. Accountants or lawyers seem to assist with basic accounting services. A common practice is to accumulate invoices and receipts as a source of financial information. No planned practices of financing and debt repayment scheduling are evident. Lenders and banks determine most debt repayment practices. There is little evidence of cash flow planning. Only 53% of farmers report that profits are calculated annually, which accountants and/or lawyers (80%) mostly do. Of all the farmers interviewed, 60% were in a position to sufficiently explain the concept "profit", but over 90% of respondents were unable to explain any of the financial statements needed in a business.

Table 4.6 Farming Experience

	Male	%	Female	%
2-5 Years	3	10%	1	25%
6-9 Years	1	3%	3	75%
10-13 Years	1	3%	0	0%
14-17	2	6%	0	0%
18-21	2	6%	0	0%
22-25	4	32%	0	0%
26 and More	18	58%	0	0%

4.4.2 Forms and Methods of Agricultural Extension Support

Extension field officers use a variety of extension methods for effective dissemination of agricultural knowledge and skill to the farmers. Some of them are individual, some are group and some are mass contact methods. These methods increase the credibility of AES in the eyes of farmers. The way through which information is disseminated within the farming community is considered the main organisational vehicle.

4.4.3 Effectiveness of Extension Methods

Agricultural extension work requires many methods, teaching and capacity building tools. Farmers are influenced to make changes in their contact with several different methods. Extension workers must be able to use as many different methods of extension techniques as possible to get their message to the farmers. The extension methods are categorised as individual contact, group contact and mass contact respectively. The respondents were asked questions about the effectiveness in using these methods through decentralised agricultural extension. The data in this regard is given in Table 4.7 below.

In *individual contact methods*, the rating showed that farm and home visit was 'very poor' as perceived by 71% of the respondents, office calls was 'very poor' as reported by 57% of the respondents. Office calls here refer to calls made by farmers to the ADC in Okombahe relating to enquiries, feedback and follow-ups on extension promises, much of which is about cattle branding and ear tagging applications. The respondents claim that the office line is most of the time busy because of enquiries and feedback is not helpful as the agricultural extension technicians are not readily available. The ADC is equipped with three telephones but calls may only be made to one number of the office clerk, who transfer calls to the other two. The office clerk, the respondents claim, is not technically inclined and unable to handle enquiries of technical nature to great frustration of farmers. Telephone calls equally fell in 'very poor' category as perceived by 57% of the respondents. Telephone calls here refer to direct calls made by farmers to the extension officials. These two officers spend most of the time in the field with farm visits and cannot be reached in areas where the telecommunication network is poor.

In *case of group contact method*, 43% of the respondents reported both method and result demonstration meetings also 'good', and lecture meetings 'very good' as reported by 54% of the respondents. Demonstration is a way of teaching new practices by showing evidence of success. This evidence is delivered by application of the new methods in practice. Extension activity of a demonstrative nature may be sub-divided in result and method demonstrations. Result demonstrations is where the farmers are shown the results of applying one or more related practices, whereas the method demonstrations teach farmers how a certain practice is carried out, e.g. how to eliminate diseases.

68% of the respondents reported that farmer training meetings were 'very good', 57% said that group discussion was 'good', seminar/workshop was observed as 'good', as reported by

64% of the respondents, and equally, field days were ‘very poor’ as reported by 80% of the respondents.

In *mass communication category*, circular letters were rated between ‘average’, ‘poor’ and ‘very poor’ category as reported by 85% of the respondents. As extension work developed beyond individual and group methods, circular letters may serve as information sources to alert farmers about group meetings, upcoming events, seasonal practices and important announcements. Radio, television and the print media had become powerful means of education and technology dissemination. In particular, the use of television and radio with their massive penetration as a vehicle could be exploited for the purpose of extension. They have the advantage of reaching a wide audience at a very low cost. The electronic media will therefore, need to be made a part of the strategy being adopted for delivering farm level extension services. In mass contact methods, only print media fell in the category of ‘very poor’ as reported 61% of the respondents, radio fell in ‘average’ category as viewed by all respondents (100%). Radio is an excellent medium for doing extension work in rural areas and most rural people value radio for its two great functions: as a source of current news and information sharing, and as a source of entertainment and communication.

Radio broadcasting programmes cover a wide spectrum of topics in agriculture and related fields, with special focus on isolated areas and marginalised population in rural areas. Repeat broadcasts at different time slots suit the listener’s convenience of different segments of rural population and these broadcasts are facilitated in local dialects. What farmers appreciate most is the live programming with phone-in feature, enabling the listeners to interact and participate in the on-going broadcasts and to raise concerns and receive instant feedback. It is also used as a medium through which the case organisation informs farming community about its programmes, visits, meetings, workshops, envisaged training and animal vaccination

schedules and any extension-related announcements. Remote rural farming communities can use rural radio to improve the sharing of agricultural information. Participatory communication techniques can support agricultural extension efforts especially using local languages and rural radio to communicate directly with farmers and listeners' groups. Radio Damara/Nama undertakes regular pre-recorded capacity building and training programmes to help upgrade the knowledge and expertise of programme executives, extension workers, field-level officials and farmers.

Television fell in 'very poor 'category as reported by71% of the respondents. The NBC television network coverage is not adequate in the study area and only those farmers closer to Okombahe Urban, Tubusis and Spitzkoppe have access to it. Hence, respondents rate this communication method between 'poor' and 'very poor'.

In respect of the print media (local newspapers), there is no circulation in the area and the nearest centres these are available are urban centres of Omaruru and Usakos, distant from the farms. Farmers will greatly benefit from getting information from the newspapers and thus, it is possible for the extension service to communicate farming-related issues in the newspapers with large readership, like *Die Republikein, New Era* and *the Namibian*.

Table 4.7 Perceived effectiveness of extension methods used by AES

Extension Methods	Very Poor	Poor	Average	Good	Very Good
Individual Contact Methods					
Farm & Home Visits	25(72%)	0 (0%)	0 (0%)	5(14%)	5(14%)
Office Calls	20 (57%)	9(26%)	6 (17%)	0 (0%)	0 (0%)
Telephone Calls	20 (57%)	9 (26%)	5 (14%)	1 (3%)	0 (0%)
Group Contact Methods					
Method Demonstration Meetings	0(0%)	0(0%)	5(14%)	23(66%)	7 (20%)
Result Demonstration Meetings	0(0%)	0(0%)	5 (14%)	23(66%)	7 (20%)
Lecture meetings	0 (0%)	0(0%)	0(0%)	10 (29%)	25 (71%)
Farmer Training meetings	0 (0%)	22(63%)	0 (0%)	4(11%)	9(26%)
Group Discussion	0(0%)	0(0%)	7(20%)	28(80%)	0 (0%)
Seminars/Workshop	3 (9%)	0 (0%)	10(28%)	22(63)	0 (0%)
Field Days	28(80%)	0 (0%)	0 (0%)	0 (0%)	7(20%)
Livestock Marketing	6 (17%)	9(26%)	20 (57%)	0 (0%)	0 (0%)
Mini-Shows & Auctions	25 (71%)	0 (0%)	10 (29%)	0 (0%)	0 (0%)
Mass Contact Methods					
Circular Letters	11(31%)	8 (24%)	11 (31%)	5(14%)	0 (0%)
Print Media	29(83%)	6(17%)	0(0%)	0 (0%)	0 (0%)
Radio	0 (0%)	0 (0%)	0(0%)	0(0%)	35(100%)
Television	14(40%)	11(31%)	10(29%)	0 (0%)	0 (0%)

4.4.4 Government support in respect of stock farming

4.4.4.1 Pre-Independence Era

The respondents were asked questions about the type of support they receive from the government before independence in respect of their stock-farming activities in the target area.

Specifically, the respondents had to describe the support twenty-four years ago. This question was relevant to 18 farmers only, which represented 58 percent of the respondents. The data in this regard is given in Table 4.8a below.

Table 4.8a Government support in respect of stock farming (Pre-Independence)

	Excellent	Good	Average	Poor
Drought Relief	**18 (100%)**	**0 (0%)**	**0 (0%)**	**0 (0%)**
Animal Health	**18 (100%)**	**0 (0%)**	**0 (0%)**	**0 (0%)**
Small/Large Stock Subsidy	**0 (0%)**	**0 (0%)**	**0 (0%)**	**18 (100%)**
Animal Marketing	**0 (0%)**	**0 (0%)**	**0 (0%)**	**18 (100%)**
Advice	**18 (100%)**	**0 (0%)**	**0 (0%)**	**0 (0%)**
Livestock Management Training	**18 (100%)**	**0 (0%)**	**0 (0%)**	**0 (0%)**
Exchange Visits	**18 (100%)**	**0 (0%)**	**0 (0%)**	**0 (0%)**
Co-operative Development	**0 (0%)**	**0 (0%)**	**0 (0%)**	**18 (100%)**

The pre-independence government support was 'excellent' in respect of drought relief (e.g. livestock feedstuff, vaccinations, lick, as well as household food), animal health inspections and monitoring, exchange visits, livestock management training and advice. The government provided, as part of the *drought relief* scheme, animal feed and subsidies in the form of cash, which would have enabled the farmers to acquire animal supplies of their choice. The *animal health* management (vaccinations) was the sole responsibility of the government in order to combat animal diseases and thus, farmers were not expected to acquire these supplies at own costs. The exchange visits by government officials in the 'reserves' were regular and aimed to enable government to monitor animal diseases and establish farmers' needs. Furthermore, if the needs assessment required that farmers needed training, formal training platforms would be created to train or advise farmers in areas they lacked expertise. The *cooperatives* did not exist in this era. The *small/large stock subsidy* did not exist and breeding material was not provided. The *ear tagging system*, similar to the current NamLITs did not exist and

farmers were only required to brand their livestock. The *branding* of livestock was the responsibility of the government at no costs to farmers.

4.4.4.2 Post-Independence Era

The respondents were asked questions about the type of support they receive from the government after independence in respect of their stock-farming activities in the target area. The data in this regard is given in Table 4.8b below. In respect of government's support of drought relief, 63% of the respondents are less impressed with government's commitment towards struggling communal farmers affected by severe drought and thus perceive this support to be 'poor'. The government provides transport for only a distance of 16 kilometres in case the farmers wishing to move their livestock to areas with better grazing potential. The farmers claim that this was not helpful as the area within 40-50 km radius of their respective locations is drought-stricken. Most of the farmers did not heed the government's call to sell livestock while such are in good condition. During June 2013, four-hundred bags of maize meal, boxes of canned fish among others were distributed to 322 drought relief beneficiaries at Okombahe to alleviate the worst effects of the severe drought in the study area (New Era, 2013, pp. 4-5). The farmers expected farm input supply (e.g. livestock feedstuff, vaccinations, lick) from the government as opposed to household food. The support in respect of animal health support is well received by farmers in the target area, as the overwhelming number of the respondents (94%) is happy with the current state-of-affairs and perceives this support to be 'excellent'. The type of support provided by the Veterinary service is advisory in terms of imminent animal health threats and prescribed vaccinations. Farmers acquire these vaccinations at own cost. The farmers are required to keep an updated file of stock levels and vaccination records and Veterinary service do random inspections to ensure compliance. In event of non-compliance, farmers are blacklisted and may not offer their

livestock for sale privately or at auctions. The farmers are not happy with the fact that this office is located at Omaruru, as they have to travel long distances to apply and acquire stock registers and permits. This office operates separately from the case organisation and has no branch in the study area.

The small/large stock subsidy provided by the government is happening at a small scale and 69% of the respondents perceive this category of support to be 'poor'. The government's subsidy of livestock breeding material directly to communal farmers (bull scheme) is perceived to be inadequate, conditional and came under harsh criticism. The main aim of the Scheme is to assist communal livestock farmers to improve the quality of their herds. The government, under the auspices of the Ministry of Agriculture, Water and Forestry (MAWF) sells bull, boars, goat bucks and rams to pre-selected communal farmers at subsidised prices. The number of animals are limited, only two (2) Bonsmaras, two (2) Sanga/Nguni, one Simmentaler four (4) Damara sheep and two (2) indigenous goat rams are available for the Erongo Region, and four (4) boars for communal farmers south of Veterinary Cordon Fence per annum (/Uises, 2013). Farmers are required to apply for the scheme provided they meet the following conditions: 1) applicants should own minimum of 10 and maximum of 30 cows/ewes/does or minimum of 5 and maximum of 10 sows to qualify for one breeding male; 2) he or she must farm in communal area of Kunene South and must be between the ages of 18 and 70 years; 3) applicant must have sufficient water, grazing and suitable infrastructure. This scheme is contrary to the government's resolve as envisaged in the Medium Term Expenditure Framework (MTEF) 2012/2013 and 2014/2015, under Vote 20 (See Chapter 2, 2.5.2). The focus is, according to the MTEF, to avail breeding material to formerly disadvantaged Namibians and farmers in general. This would have been achieved, according to the MTEF through the provision of improved well adapted livestock breeding material to emerging commercial and communal farmers through various platforms namely public

auctions, special schemes, co-operative requests, donations as well as personal request by individuals.

Selected farmers for this scheme are required to attend livestock management courses offered by the MAWF or provide evidence that he/she recently attended such courses. They are further required to sign an agreement with the Ministry that they will not sell or slaughter received animals without authorisation of Ministerial officials in the region, allow Ministry officials to visit and inspect the Scheme animals and their offspring, make full payment before collecting the animals, and transport their animals from the Omatjene Research Station to their farms at own cost. One respondent remarked:

…this arrangement is not suited to our elder and illiterate group of farmers and only best suited for young and educated elite who have ready access to communication media. We have occasional access to these media and do not always have cash available to purchase these stocks. To my knowledge, no farmer in this area has ever benefited from this scheme. Besides, the scheme is not widely marketed over NBC[8] Damara/Nama Radio and we only hear news of it at handover ceremonies (Personal communication, July 19, 2013 paras. 3-4 follow-up).

[8]'NBC' stands for Namibia Broadcasting Corporation and Damara/Nama *(Khoekhoegowab)* is one of the indigenous languages broadcast on this platform.

Table 4.8b Government support in respect of stock farming (Post-Independence)

	Excellent	Good	Average	Poor
Drought Relief	**2 (6%)**	**3 (9%)**	**8 (22%)**	**22(63%)**
Animal Health	**33(94%)**	**0 (0%)**	**2 (6%)**	**0 (0%)**
Small/Large Stock Subsidy	**5 (14%)**	**6(17%)**	**0 (0%)**	**24 (69%)**
Animal Marketing	**16 (46%)**	**13 (37%)**	**6 (17%)**	**0 (0%)**
Advice	**0 (0%)**	**9 (26%)**	**0 (0%)**	**26 (74%)**
Livestock Management Training	**0 (0%)**	**5 (14%)**	**2 (6%)**	**28 (80%)**
Exchange Visits	**0 (0%)**	**9 (26%)**	**3 (9%)**	**23 (65%)**
Co-operative Development	**0 (0%)**	**8 (23%)**	**27(77%)**	**0 (0%)**
Animal Branding & Tagging	**0 (0%)**	**0 (0%)**	**0 (0%)**	**35 (100%)**

The 46% of the respondents reported that animal marketing under government initiative is 'excellent' as provided by the Meatco Corporation through the case organisation. The cooperative and the farmer's association, according to the respondents play vital roles in this regard. The 74% of the respondents are not happy with the advice government provides through the ADC in terms of farming skills, technical advice and general advice on farming practices. This is confirmed by 80% of the respondents who view the support in respect of livestock management training to be 'poor'. It has been established that these interventions are provided away from farms at pre-selected venues and farmers cannot stay away from farms for period longer than 3-5 days. Most respondents are in favour of on-farm advice and training, but this is impossible because there are only two agriculture extension technicians for the 53 farms and 205 farmers. Aligned to concerns above, exchange visits by agriculture extension technicians are not regular and have been graded 'poor' by 65% of the respondents. The overwhelming majority (94%) of the respondents rate the support to animal health care

'excellent'. However, this support is not provided by the ADC, but by the Veterinary Office based in Omaruru. They visit farms on a regular basis and provide animal vaccinations and advice farmers on imminent and potential animal health concerns. Cooperative development, though strongly encouraged by government, is not facilitated by it and 77% of the respondents rate this support 'average'. Some of the farmers are organised in the *Omkhâibasen* Community Farmers' Cooperative (OKFC). From a small organisation, the OKFC has grown in leaps and bounds, and has become a very important organisation for the farming community in Erongo. Communal, commercial and resettled farmers share their farming experiences and challenges through the cooperative. This Cooperative is registered, well managed and receives funding from the AgriBank. It has a training facility at the Daweb-West Station, latter being under the direct control and management of the Cooperative. It arranges auctions and farmers' days through which communal farmers sell and market their livestock. As Isak ≠Ouseb, the chairperson of the co-operative remarked:

…at our platforms, the Ministry of Agriculture's extension experts conduct various presentations across all spectrums of farming including farm management, direct marketing skills, vaccination programmes, farm pharmacy, and importance of lick supplement, judging and selection of small stock rams as well as all other ethical norms(Personal communication, July 20, 2013 paras. 5-7 follow-up).

All respondents (100%) claim that ear tagging and branding do not receive government support as they acquire these at own cost. The ear tags and branding equipment are acquired and only available at Agra outlets at Omaruru and Karibib and not made available at the case organisation at Okombahe. NamLITs (Namibia Livestock Traceability System) applications initiated through the case organisation are routed through Omaruru and the waiting period varies between a minimum of three weeks to one month, whereas in some cases farmers wait

up to three months to receive their ear tags, if applications are processed through the case organisation.

The NamLITs requirements dictate farmers to submit the registration cards which are delivered together with the ear tags within 14 days after applying for the ear tags to the nearest veterinary office; submit movement permits together with the register to the nearest veterinary office within 7 days after movement; ensure that these documents be submitted each time animals are acquired; and ensure that the animals are registered on the NamLITS database before they are slaughtered at an export abattoir.

4.4.5 Farmers Needs and Expectations of Extension Service

The respondents were asked as to whether they need extension support and advice from the case organisation, and follow-up questions were asked about the type of support they need and expect from the government in respect of their stock-farming activities in the target area.

Viewing from the mixed responses received from the respondents, there is growing uncertainty about what role extension is supposed to play in addressing the needs of farmers. Farmers need extension on a diverse range of rural development options including information on markets, rural industry and other income opportunities. Ultimately, they expect government, as communal farmers, to facilitate access to markets through which they sell animals at competitive prices and to subsidise input supplies they cannot afford.

4.4.6 Level of Farmers' Participation in Agricultural Extension Programmes

The respondents were asked to indicate their level of participation in agricultural extension programmes. The data in respect of typology of farmer participation is depicted in Table 4.9 below. The case organisation has a dual focus in its approach to farmers in the area, as it provides support to on-farm crop production as well as stock farming through regular

exchange visits. The focus of this study primarily addresses the farmers engaged in stock farming (goats, sheep and cattle). In terms of their participation in agricultural extension programmes, 57% of the farmers interviewed claim that they are simply informed or told what a project will do after it has been decided by the extension officials. The 31% claim that their views and opinions are considered without restrictions, but further maintain that the interventionists unilaterally decide what they will do with the information so obtained. This outcome suggests that the level of farmer participation can be classified as somewhere between receiving information and consultation. Farmer participation in extension will require putting farmers first or giving them real ownership and accountability of public extension management through collaboration and self-mobilisation. They express benefits derived from being members of the Cooperative in that they see themselves as real partners in a project as they jointly decide about issues with cooperative staff. They initiate, work on and decide on the project independently with cooperative interventionists in a supportive role only. One respondent observed:

…if the extension office can join hands with the cooperative and put farmers in charge of identifying needs, initiate solutions and we receive needed support from the extension office, we the farmers will feel in charge of our own destiny (Personal communication, August 30, 2013a para. 9 follow-up).

Table 4.9 Typology of Farmer Participation

Typology	Characteristics of each type	Level of Participation
Receiving Information	Participants are informed or told what a project will do after it has been decided by others.	**20(57%)**
Passive Information Giving	Participants can respond to questions and issues that interventionists deem relevant for making decisions about projects.	**4 (11%)**
Consultation	Participants are asked about their views and opinions openly and without restrictions, but the interventionists unilaterally decide what they will do with the information.	**11 (31%)**
Collaboration	Participants are partners in a project and jointly decide about issues with project staff.	**0 (0%)**
Self-Mobilisation	Participants initiate, work on and decide on the project independently with interventionists in a supportive role only.	**0(0%)**

4.4.7 Farmer's Perception of Extension

4.4.7.1 Perception of Farmers towards Livestock Extension

The study depicted in Table 4.10 revealed that 26% of the farmers perceived that extension services were timely available while 63% of farmers answered that the case organisation's extension services were available, but always delayed. The study also reported that 11% of the respondents perceived that extension services were totally unavailable. This may be due to lack of information about the various programmes undertaken by the case organisation. Though the case organisation conducted training programmes and educational tours, they were not on regular basis and were only theoretically oriented (scheduled but not undertaken). About 40% of the respondents had low perception of livestock production

technologies while 51% of them were aware of these technologies. Farmers obtained all information through friends and family members. Their inability to have contact with extension agents affected their perception and awareness of the technologies.

Table 4.10 Perception of Farmers towards Livestock Extension

On Time Availability		**Delayed Availability**		**Not Available**	
No.	**%**	**No.**	**%**	**No.**	**%**
9	26	**22**	63	**4**	11
Satisfaction Level of Farmers towards Extension Services					
Satisfied		**Partly Satisfied**		**Not Satisfied**	
No.	**%**	**No.**	**%**	**No.**	**%**
6	17	**11**	31	**18**	51

The interview about extension services pointed out that 17% respondents were satisfied and 31% of the farmers were partly satisfied. This was observed due to ineffective extension services, which included scheduled but cancelled training programmes, advisory services, field visits and educational tours organised by the case organisation for the farmers. A large number of farmers (51%) are not satisfied with extension service delivery in the area and claim there is no benefit they derive from the service. Farmers prefer farm visit as the best method for accessing and delivering of extension programmes. This is almost impossible given the lack of staff and budgetary constraints experienced by the case organisation.

Since the majority of the farmers were not satisfied with extension services, there is an urgent need to improve upon the quality of extension services to make the farmers more content and satisfied with the services of case organisation.

Almost 95 % of the respondents claim that the agricultural support provided by the case organisation no impact on the improvement of the stock-raising activities of the farming community in the Okombahe Settlement Area. One farmer observed:

…the office has done nothing to get us out of poverty…look, we have severe drought and have little water for our animals…we struggle on our own and benefit more from the cooperative through advice and better practices of farming and get introduced to markets we can sell our livestock at competitive prices (Personal communication, August 30, 2013b para. 9 follow-up).

This correlates with the Agribank study as cited in the literature(New Era, 2005, pp. 8-9), which reported that seventy-seven (77) percent respondents in Oshikoto, Otjozondjupa, Kunene, Erongo, Omaheke, Hardap and Karas regions received no support from the extention officers for their farming operations. The case oganisation is located in the Erongo Region.

4.4.7.2 Perception of Farmers about the benefits of the Cooperative

As noted earlier, some of the farmers are organised in the *Omkhâibasen* Community Farmers' Cooperative (OKFC). They pay a monthly membership fee of N$ 150-00[9]. In return, they become shareholders and receive numerous benefits ranging from reduced livestock purchases at auctions initiated by the cooperative, to receiving small livestock under the goat and sheep scheme of the cooperative. It arranges auctions and farmers' days through which communal farmers sell and market their livestock. The 83 % (29) of the interviewed farmers (35) are members of the cooperative and the remaining ones indicated that they are eager to join soon. Membership is open to communal, commercial and resettled farmers to share their farming experiences and challenges through the cooperative. This cooperative is registered, well managed and receives funding from the AgriBank. It has a training facility at Daweb-

[9]N$ (Namibia Dollar) is the local currency of Namibia.

West Station, the latter being under the direct control and management of the cooperative. Sample respondents were asked about their perception on the actual benefits they receive from cooperative extension services and the response was overwhelming in that most respondents (95 %) would want to see more of the similar cooperatives created and existing one strengthened.

The interview with the group members of the cooperative revealed that cooperative played a significant role in disseminating livestock related information to its members in the form of various extension activities. The study showed that significant number of competent and reliable human resource team delivered extension services in the form of training, advisory service, farmers educational tour, farm visits, exhibitions etc. The cooperative staff provide proper livestock related advisory services and undertake proper quantity and quality control of members supply. The cooperative also provides continuous training on improved animal husbandry practices at primary society level and area level. Sample respondents were asked about their perception on the actual benefits they receive from cooperative extension services and the results are indicated in Table 4.11 below.

The results indicate that about 63% of the sample respondents had acquired knowledge and skills in improved livestock management. Almost 46% farmers improved knowledge about health care and disease management while about 51% farmers improved knowledge about selection of breeds and 46 % farmers improved knowledge about vaccination and deworming of livestock. The study depicted that about 8% farmers had better access to dairy products preparation information while the same percentage (80%) of the respondents had better access to market and marketing information. About 63% of the farmers were exposed to advanced green fodder production practices after joining the cooperative. In the study,

49%farmers perceived that educational tours had improved the knowledge and 69% farmers gained skills on record maintenance at farm.

Table 4.11 Perception of farmers about benefits of cooperative extension services

Benefits	Strongly Agree		Agree		Disagree		Strongly Disagree	
	No.	%	No.	%	No.	%	No.	%
Acquired knowledge and skills in improved livestock management	4	11	22	63	5	14	4	11
Improved knowledge about selection of breeds	8	23	18	51	4	11	5	14
Improved knowledge about health care and disease management	2	6	16	46	8	23	9	26
Improved knowledge vaccination and deworming of livestock	2	6	16	46	8	23	9	26
Access to dairy products preparation information	2	6	28	80	2	6	3	9
Better access to market and marketing information	7		28	80	0	0	0	0
Educational tours have improved the knowledge and skill	2	6	17	49	14	40	2	6
Exposure to advanced green fodder production practices	8	23	22	63	3	9	2	6
Knowledge about record maintenance	6	17	24	69	0	0	5	14

4.5 Results (Case Organisation)

4.5.1 Organisational Structure within which the case organisation operates

The case organisation (Okombahe Agricultural Development Centre) is a decentralised local level agricultural extension unit representing the Ministry of Agriculture, Water and Forestry (MAWF) in the Okombahe settlement Area. It resorts under the Directorate of Extension and Engineering Services (DEES). Its mission is to promote sustainable agriculture and

agribusiness through research and technology and provide support services to farmers for improved human livelihood. The specific objectives of the case organisation is summarised by Somseb (2013):

…to address the specific needs of communal farmers, help reduce poverty, ensure that farmers adopt environmentally sustainable methods, increase agricultural productivity, and creating an enabling environment for private sector participation in extension provision (Personal communication, May, 2013 para. 4).

The case organisation operates under direct control of the Omaruru Agricultural Extension Office, which serves as the Erongo regional headquarter. The latter directs policy planning, provides technical support and ensures monitoring and evaluation of extension work in the study area (Somseb, 2013).

4.5.2 Factors relating to Resourcing

World Bank (2000a, p. 111) suggests that resource availability is considered as one of the critical issues that can influence the implementation process of decentralisation in developing countries, because the decentralisation reform requires adequate resources – human, financial and physical – to succeed. In the following sections, the human resources, physical resources and funding situation of the case organisation are described.

4.5.2.1 Human Resource

The case organisation has five personnel, comprising one Senior Agricultural Extension Technician, two Agricultural Extension Technicians, one Office Clerk and one Cleaner.

The Senior Agricultural Extension Technician is the manager of both the technical and support staff of the case organisation. He manages and coordinates agricultural extension

activities within the study area and is accountable to the Chief Agricultural Extension Officer based at the Omaruru Agricultural Extension Office, which serves as the headquarter of the case organisation. The Chief Agricultural Extension Officer oversees the preparation of the ADC's agricultural extension plan and ensures its implementation. The Senior Agricultural Extension Technician is ultimately responsible for coordinating and directing field operations and provides technical support to the field officers. He is 42 years of age and has work with the case organisation for 8 years. He holds a National Diploma in Agricultural Science.

The Agricultural Extension Technicians' (technical staff) primary responsibility is to initiate, plan and implement extension programmes that can meet the development goals of farmers in the study area within the national agricultural policy guidelines. They are specialists in specific areas of agriculture and extension. Their task is to be in direct contact with farmers on a daily basis and translate extension plans into action in consultation with farmers and other stakeholders. They assist farmers in the diagnosis of farm and farming-related problems and provide advice on solutions to such problems. Each technician is designated to work with a specific group of farmers on a six-month rotational basis. Both are holders of National Diploma in general agriculture, having more than 10 years' field experience.

4.5.2.2 Physical Resources

The office of the case organisation is centrally located at Okombahe and serves as an agricultural information centre for farmers in the study area. The organisation has two modern computers for information management and word processing, but lacks internet facilities. The office is equipped with three telephones and has a fax facility. The case organisation has two four-wheel Toyota pickups that are in good working condition. These vehicles are mainly used for field visits and extension related activities in the study area. The staff interviewed reported that building space, computer facilities and transport are

inadequate for meeting their expectations, given the high number of farmers and farms they need to serve.

4.5.2.3 Funding

As a public sector organisation, the central government funds the case organisation. It receives budgetary support from the government through the MAWF.

4.5.3 Factors relating to extension delivery

According to interviewees, the case organisation has an estimate of over 205 farmers settled at 54 farms in the study area. This means that each field officer is expected to provide extension services to over 102 farmers. This low extension agent to farmer ratio was identified as a major obstacle in terms of extension information dissemination efforts in the study area, according to the Agricultural Extension Technician:

…we are overwhelmed by the number of farmers we need to serve as well as the vastness of the area. Besides that, on account of limited funds, there is a limitation on kilometres we need to travel per month, to the extent that it is impossible to carry out all planned activities (Personal communication, May 11, 2013, para 8).

The very low field staff to farmer ratio, a resourcing issue, limits the impact the case organisation can make in the study area. This situation, according to the interviewees is often compounded by delays in release of mandatory funds from central government, or, in some instances, the inability to provide funds for the full amount specified in the budget. This invariably limits the extension delivery processes of the case organisation. The Agricultural Extension Technician bemoans:

…look, we are still waiting for the release of the allocated funds since April this year, and due to lack of funds, we sit idle here unable to perform field trips (Personal communication, June 07, 2013, para 17).

The following section describe the planning, implementation and evaluation of the agricultural extension programmes by the case organisation and is structured around the broad question areas as depicted in Table 4.11 above.

4.5.4 Extension Programme Planning

The case organisation is required by government policy to operate with a more holistic focus in its provision of agricultural extension services in the study area. Field officers work with groups of farmers, run demonstrations at farms, transfer information and new technologies relevant to farmers' needs. Typical examples of technologies being promoted by the case organisation in the study area include improved livestock housing and feeding management techniques that use animal pens, bedding, salt licks and simple livestock water supply systems. At the beginning of each year, the field staff develop mini-plans in line with case organisation's priorities and the needs of the stock farmers. These mini-plans are regularly reviewed to check whether they meet the needs of the farmers and, if need arises, adjusted at regular intervals. Farmers and stakeholder organisations have no input into the said plans.

Prior to decentralisation in 1997, and still currently, the case organisation uses a top-down (i.e. non-inclusive, non-consultative) planning process to develop its annual extension programme. The case organisation is required by the Ministry (MAWF) to compile an area extension plan, which provides the basis for extension activities for the following twelve months. This plan is expected to be developed through a consultative planning and review process that comprises a series of workshops that the case organisation ought to organise.

This is based on the planning methodology of the case organisation. Due to staff shortages and funding constraints, the prescribed guidelines are unachievable.

In terms of this prescribed methodology, the planning and review process comprises three main phases, which are: 1) the situation analysis phase; 2) the needs prioritisation and role identification phase; and 3) the action development phase (Figure 4.3). These conceptual phases are illustrated in Figure 4.3 below and processes relating to planning and implementation further discussed in detail. The planning process as per the methodology should be inclusive and involve consultation with a much wider range of stakeholders. The multi-stakeholder planning process not only fosters case organisation's networks with farmer groups and stakeholder organisations, but also provides a platform for forging tripartite working relationship between the case organisation, farmers and stakeholder organisations. Furthermore, the involvement of all field staff in the planning process fosters greater ownership of the plan by staff and contributes to their commitment and motivation. Ultimately, they will have a better understanding of farmers' needs.

An obstacle observed was that due to a large number of farmers in the area and only two Agricultural Extension Technicians, individual farmers do not participate in the planning process, hence, the lack of consultation.

Table 4.12 Broad question areas for members of the case organisation

1. Programme Planning
a) How is the extension programme planned?
b) How is stakeholder and farmer participation ensured?
c) Why is the programme planned in this way?
2. Programme Implementation
a) What key measures are taken to implement extension programmes?
b) How is the institutional capacity built to ensure effective extension programme implementation?
c) How is stakeholder and farmer participation in the extension programme implementation ensured?
d) Why is the extension programme implemented in this way?
3. Programme Evaluation
a) How does the case organisation evaluate its extension programme?
b) How does it ensure accountability or report to government, farmers and other stakeholders?
c) Why is the extension programme evaluated in this way?

4.5.4.1 Situation Analysis Phase

The first step in the situation analysis phase commences in September each year, a month prior to the consultative planning and review workshop. In this phase, the case organisation through its field staff is expected to establish the needs of farmers and the capabilities of other key stakeholders. This requires a thorough analysis of case organisation's capabilities as well. In this process, the field staff have to hold general community forums with farmers, and meet with their regular farmer groups to discuss their needs related to livestock farming. The field staff should then bring this information to the consultative planning and review

workshop, which is organised in October each year. This is an important departure from what used to happen prior to the decentralisation process when field staff had little input into the identification of farmer needs for the development of the area extension plan.

At the consultative and review workshop, representatives from local and regional organisations and farmer groups must be invited to attend the workshop. These include public and private organisations, key among them, organisational representatives like the *!Oë-≠Gan* traditional leadership, Extension Veterinary Services Cooperation, the *≠Eseb* Farmers' Association and the *Omkhâibasen* Community Farmers' Co-operative as well as the Erongo Regional Council.

In terms of the established methodology, the case organisation must use farm enterprise type and geographical location to decide upon which farmer groups to invite to attend the planning and review workshop, to ensure it receives a cross-section of farmers' views.

4.5.4.2 The Needs Prioritisation and Role Definition Phase

The second phase in the consultative planning and review process is the needs' prioritisation and role identification phase. Similar to the first phase, this phase could take 2-3 workshop days to complete during which the case organisation identifies the most pressing farmer needs in the area as well as the most suitable roles it can play to assist farmers address these needs.

The criteria by which the farmer needs are ranked are based on their impact on farm livelihood security. The case organisation would then seek to identify which of the prioritised needs it is capable to address.

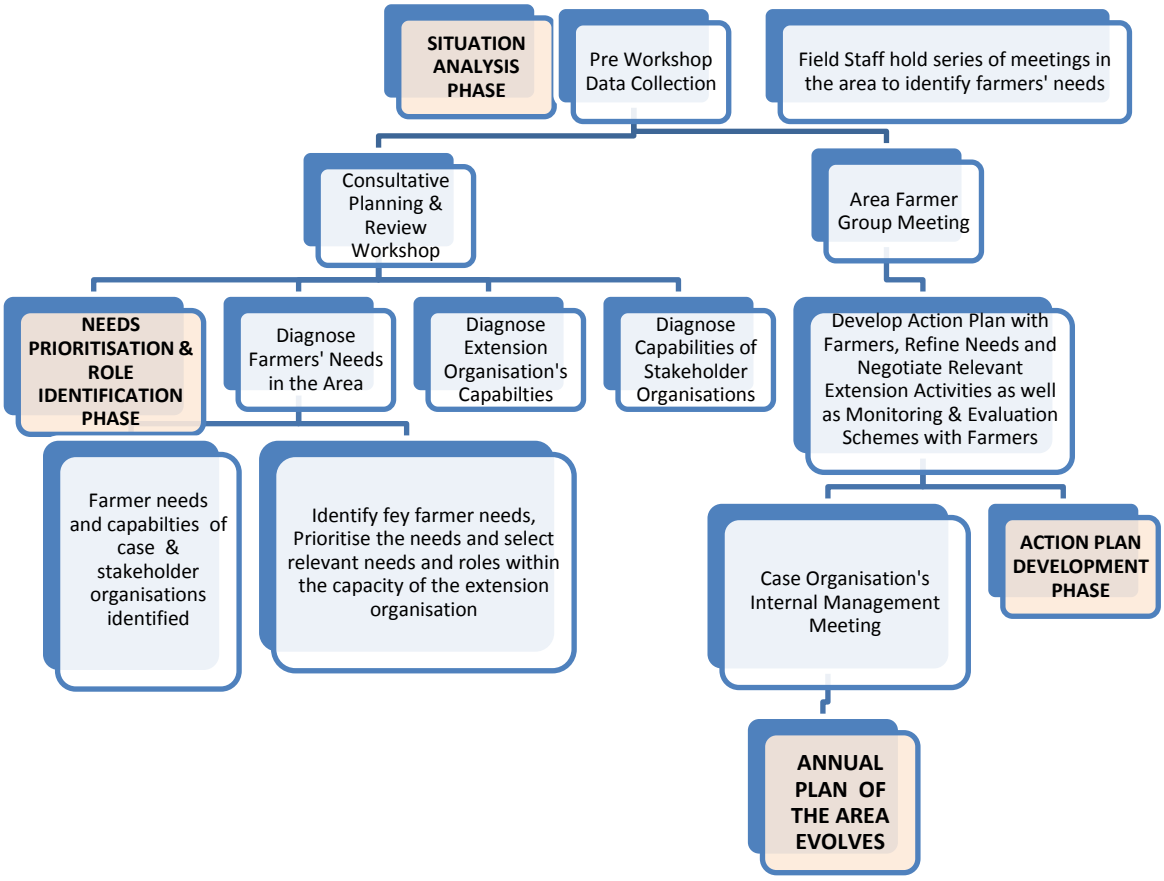
Finally, the roles the case organisation can play in meeting the needs are determined. To avoid duplication of efforts, the case organisation is required to identify the resources and capabilities of other stakeholders it collaborates with in the area.

4.5.4.3 The Action Development Phase

The final phase of case organisation's planning process is the action development phase. The action development phase starts after the end of the consultative planning and review workshop. This phase allows the case organisation to refine their priorities by involving those who will be directly affected by the extension programme in the area. The aims in this phase are threefold: 1) to ensure that extension activities are based on local needs, 2) to develop an annual area plan driven by the real needs of farmers in the area, and 3) to encourage ownership of the extension programme by the farmers who will benefit from it. The drafting of the plan is an internal process, where-after the plan is shared with the farmers and stakeholder groups for inputs and finally adopted as an annual extension programme.

As noted earlier, the prescribed planning and implementation methodology has not yet been operationalised owing to lack of human resources and funding.

Figure 4.2 Theoretical Consultative Planning and Review Methodology of the ADC



Source: Okombahe ADC (2012)

4.5.5 Extension Programme Implementation

The case organisation work mainly with geographical discussion groups – that is, groups formed within the reach of the case organisation. In addition, it reaches other farmers through group meetings at designated locations, majority of which are farms in the area. This approach seems to have proven ineffective, as majority of the farmers, strained by means of transport do not attend these meetings. As Somseb notes:

…our approach to arrange meetings at designated points has not been successful, as these meetings are not well attended. We only see the same few faces every time we have information sessions at these fixed points. We use NBC Radio Damara/Nama to announce meetings and meeting venues, but farmers do not turn up in numbers. But what can we do?

We cannot reach out to all…we are limited on kilometres we need to travel and travel budget is limited (Personal communication, June 07, 2013, paras17- 18).

To overcome this problem, the case organisation has decided to implement its extension programme through needs-based groups and capacitation farmer cooperatives though which it now integrate its extension activities. The case organisation defines a needs-based group *as a collection of farmers in the area who have come together voluntarily because they have a common need or face similar problems relevant to livestock farming.* These needs-based groups are known in the study area as 'farmer leagues'. The case organisation encourages farmers to organise themselves into needs-based groups that could demand extension services and negotiate their own markets in the future.

The needs-based groups have common needs and extension staff spend less time discussing and identifying those needs and are thus in a better position to concentrate their resources and efforts to achieve better results. However, performing extension activities through these groups still exclude other farmers who are not members of needs-based groups.

The second means used by the case organisation to establish its farmer groups is by training of farmers into group management and cooperative practices. To this end, the case organisation collaborates with organisations like the *≠Eseb* Farmers' Association, *Omkhâibasen* Community Farmers' Co-operative and Namibia National Farmers' Union (NNFU). These organisations help provide training for the farmer groups. The case organisation has realised that more farmers take up membership of the *Omkhâibasen* Community Farmers' Co-operative, which regularly hold farmers' days, auctions, livestock shows and on-farm demonstrations. The case organisation's approach of establishing needs-based groups is claimed to have been successful as more and more farmers are now organised in farmer leagues. The groups are gradually being developed into co-operative units where

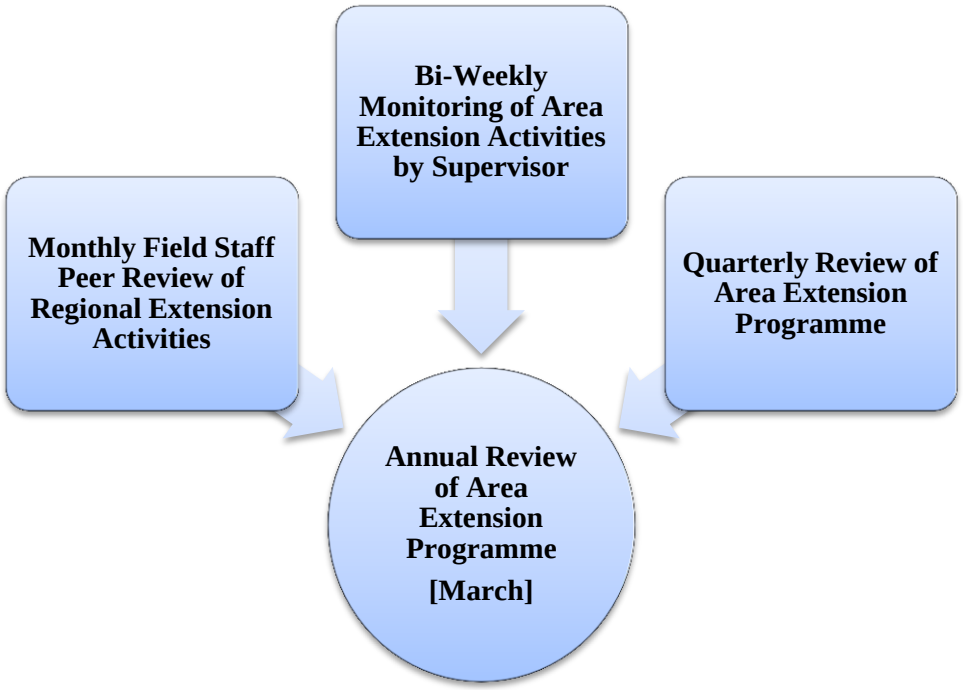
group members jointly contribute or seek funding, work together and manage affairs democratically.

4.5.6 Extension Programme Monitoring & Evaluation

The case organisation initiates annual evaluation of its programmes under the auspices of the Omaruru Extension Office. The evaluation and planning workshop involves other ADC's in the region and takes place during March each year. The field staff are monitored based on outputs (e.g. number of farmers' groups they are working with, number of visits, number of training sessions conducted, number of on-farm demonstrations, level of farmer participation, number of field days). The Senior Agricultural Technician meets with his field officers on a bi-weekly basis to reflect on their successes and failures as a form of self-evaluation and to assess extension outputs. A major aim of this part of the monitoring system is to support the field staff to achieve their targets and make their activities relevant and useful in meeting the needs of farmers. Regrettably, the case organisation does not involve farmers and stakeholder organisations in its evaluation workshops, as is the case in planning workshops. As the feedback from farmers and the stakeholder organisations is lacking, the case organisation cannot claim that its extension programmes indeed meet the needs of farmers in the area.

The case organisation has developed an evaluation system that is integrated with its monitoring system (Figure 4.4).

Figure 4.3 Monitoring and Evaluation Techniques of the Okombahe ADC



Source: Okombahe ADC (2012)

4.6 Results (Stakeholder Organisations)

It is realised that there are advantages in collaborating with other organisations to ensure there is greater impact within the area of this study. Collaboration with other organisations within the study area, as previously noted, is a major contributor to the success of extension programmes.

A level of coordination exists between the case organisation and the selected stakeholder organisations (i.e. the *!Oë-≠Gan* traditional leadership, the Extension Veterinary Services Cooperation, the *≠Eseb* Farmers 'Association and the *Omkhâibasen* Community Farmers' Co-operative as well as the Erongo Regional Council). The field officers of the case organisation occasionally integrate these groups of organisations into their farmer extension meetings, training workshop, field visits, mini-shows and other outreach programmes that may be beyond the capability of the case organisation. Some organisations work with farm

households in areas of agricultural production and livestock management programmes in which the case organisation lacks expertise. An example of this is case organisation's collaboration with Extension Veterinary Services Cooperation on animal health interventions. The level of collaboration by the case organisation with other organisations varies depending on the extent to which the efforts are similar to those that are a focus for the case organisation's extension work. Farm guidance is one of the most important activities of the *Omkhâibasen* Community Farmers' Co-operative, which provides member farmers with guidance to improve their farm management and livestock management and improvement techniques. Farm advisors of the said cooperative offer such guidance particularly through producers' groups who are organised in consultation with the case organisation. With a view to contributing to better farming of member-farmers, these advisors promote many activities of farmers such as joint marketing of their livestock. The cooperative also offers training and orientation programmes at its Daweb West Breeding Station for extension officials, its members and members of other agricultural cooperatives in order to strengthen livestock production vis-à-vis relationship with the consumers. These advisors transfer their technical knowledge to the farmers and pass on the reactions of farmers to the agriculture extension office. The cooperative helps farmers to improve their breeding herds as well as market access. In consultation with ADC's in the Erongo Region, which includes the case organisation, it conducts various annual presentations on breeding quality, feeding management, proper livestock management, judging and the selection of individual animals for marketing. The agriculture extension technicians use these platforms to reach out to farmers.

Extension Veterinary Services Cooperation based at Omaruru performs a variety of services to the case organisation and farmers in the study area. The issuing of the animal registration cards, livestock movement permits, application of traceability system (ear tags) for livestock

movement are all administered by this office. It also administers the registration of stock brands and captures livestock data during farm inspections, community visits and vaccination campaigns. Most of these inspections, visits and campaigns are done in collaboration with the case organisation and reports on animal health risks are timeously shared with the case organisation.

The Communal Land Reform Act[10] provides for the establishment of Communal Land Boards in communal areas. The function of these boards is to exercise control over the allocation of customary land rights by Chiefs or Traditional Authorities. The decision to empower traditional authorities to allocate customary land rights to the maximum of 20 hectares in communal areas was arrived at to protect the commonage from being fenced off by a few individuals for their personal and individual use and to protect the commonage from being depleted through over grazing. It was established through the study that the *!Oë-≠Gan* traditional authority office based at Okombahe does not fulfil this role in collaboration with the case organisation, although it claims to consult farmers and the community in the study area. The respondents interviewed, of which the majority are established farmers in the area were critical of the consultation process and claim that the carrying capacity, water availability and grazing potential are not considered when allocating land in the study area. This creates conflict between the farmers in the area and the new resettled ones. One respondent (farmer) observed:

…the traditional office here allocates land to newcomers in an area that has huge shortage of water and grazing. We only see people moving in with livestock in an area threatened by drought and inadequate water (boreholes). But what can we do? They have valid certificates to settle here! Why are we not consulted or does the traditional authority takes cognisance of

[10]The Communal Land Reform Act (2005), Act No. 5 of 2002.

the fact that this is a drought-stricken area? Where do they think these animals will get grazing and water? (Follow-up interview, June 22, 2013).

The *≠Eseb* Farmers' Association is a new institution and is still in a recruitment drive for new membership. The basis for its establishment is to forge a working relationship with the case organisation. If there is one lesson farmers can draw from history, it is the following: that, when farmers are not strong, many sections and sectors of the society are ready not only to tell the farmers what they should do, but even worse, to speak on their behalf. As observed during interview:

…an effective farmers' voice is not only the basis of mutual respect and democracy, but it is also the true basis for agricultural and rural development (Personal communication, June 07, 2013, paras 21).

As noted earlier, the major finding of this study is that the stakeholder organisations are not involved in the planning, implementation of the extension processes, which would have provided a unique forum where knowledge and experiences could be shared. The coordination discussed above is more *ad-hoc* and informal and no formalised working relationship is in place.

4.7 Conclusion

In this chapter, the position of farmers in terms of personal and farming experience and their perceptions as well as the means by which a public sector extension organisation operates to assist farmers to improve their livelihood have been described. Some key factors have been identified as significant to the success of the case organisation in improving the contribution agricultural may make to the livelihood security of stock farmers in the area. The extension service delivery of the case study has been discussed in terms of planning, implementation

and evaluation. Farmers and stakeholder organisations have no input into the said processes as the prescribed planning and implementation methodology has not yet been operationalised owing to lack of human resources and funding. The case organisation creates and partakes in informal *ad-hoc* platforms for stakeholder interaction to encourage the coordination of extension activities of organisations in the area. In the following chapter, the means used by the case organisation to assist farmers to improve their stock farming activities are discussed and compared with those discussed in the theoretical framework.

CHAPTER 5

DISCUSSION

5.1 Overview

In the previous chapter, the manner of data collection processes and the results of the study were presented. The focus of this Chapter is on the identification and description of the factors that influence the performance of agricultural extension support to stock farmers in the Okombahe settlement Area. The case organisation (Okombahe ADC) and support it provides to the designated farmers are critically assessed based on the outcomes of the case study. The critical outcomes and processes of this case organisation are presented in a logical sequence of what are important, and why and how they are achieved, rather than being driven by themes as presented in the theoretical framework. For the purposes of discussion, the chapter is separated in two major parts.

First, the chapter starts with the classification of the case organisation (Okombahe ADC). This part deals with organisational and external factors, which influence the extension delivery of the case organisation.

The second part of the chapter deals with discussion of the key factors that influence the performance of the case organisation and comparing such with the literature reviewed. These factors are discussed in the following sequence:

First, the methods used by the agricultural extension staff to coordinate the extension system in the study area as well as effectiveness of these methods are described. *Second*, the types of government support to communal farmers and how such impact livestock activities in the area are described. *Third*, and most importantly, the perceptions of farmers in respect of agricultural extension service delivery programmes and how such influence their on-farm

productivity and livelihood are described. *Fourth*, the needs-based approach that has been adopted in extension provision is described. *Fifth*, a description of the agricultural extension coordination, collaboration, planning, programming, implementation and evaluation is described. *Finally*, the level of stakeholder participation and its impact of the decentralised extension service delivery are described.

5.2 Part 1: Classification of the Case Organisation

The purpose of this section is to describe the distinct characteristics of the case organisation to provide the context in which the results can be interpreted and compared with those of other studies (Hartley, 2004, pp. 322-323). As suggested by Ragin (1992, p. 17), a case must be described distinctly, based on its context and major features, so that it can be compared with other cases.

5.2.1 Organisational Factors

Several theoretically important internal organisational factors can be used to classify the case organisation. The internal organisational factors here describe the important characteristics of the organisation that can influence its operations, processes and programmes. The case organisation is a public sector organisation created to fulfil its responsibilities to government by delivering public goods. Public goods are services provided to improve the quality of life of people in a community without private profit motive (Lawton, 2005, p. 231). In line with the literature, the case organisation is a public agricultural extension provider, and as such, involved in public community development and extension provision. The organisation works at the village level, which is the lowest level of government administration in Namibia.

A critical element of this case is that the organisation operates in a decentralised extension policy environment. As a decentralised government unit, the literature (World Bank, 2000a)

describes this type of decentralisation as deconcentration. Deconcentration is "a form of administrative decentralisation where the organisation has administrative or operational responsibilities and authority from central government for extension programme planning, implementation and evaluation with the involvement of farming communities" (ibid). However, general agricultural extension policies are formulated at the regional and national levels and passed on to the organisation at the village level (Amezah & Hess, 2002, p. 12). Furthermore, the organisation does not have fiscal decentralisation, nor does it recruit its own staff. Rather, financial and human resources are provided by the central government though the Ministry of Agriculture, Water and Forestry. The case organisation is dependent on government for its funding, which funding is variable as funds released from government are sometimes delayed or fall short of what the organisation has budgeted for. Similarly, the case organisation has inadequate extension agents (3) for the number of farmers (205) and a large geographical area (1700 km^2) to cover. The case organisation can be described as an organisation that is in transition from a centralised to a decentralised extension organisation since the decentralisation policy is relatively new and many of the key operational factors of this organisation are still unfolding.

Similarly to the views expressed in the literature (World Bank, 2000a; Minoiu, 2003; Richardson, 2003; Vannasou, 2006),the case organisation is moving away from the single public sector approach to a multi-sector approach to promote increased and sustainable agricultural production. *First*, it is important to note that a pluralistic extension environment is already available in the Erongo Region where extension support services are provided by cooperatives, input providers, and some government departments. The case organisation has realised that it can make use of this pluralistic environment by taking a coordinating role so that the resources it and other organisations put into extension are used more efficiently for sustainable agricultural development in the district. *Second*, it has realised that it does not

have the capabilities to meet the broader livelihood security needs of farm households in the district where it operates; therefore, it has sought input from extension providers and other organisations. Thus, it is attempting to coordinate cross-sector extension provision.

Even though the pluralistic extension system is not covered extensively in the extension literature, some authors (Röling, 1991; Qamar, 2000; World Bank, 2000; Rivera & Alex, 2004) suggest the need to have a mechanism for coordinating stakeholder activities for an effective pluralistic extension system involving NGOs, professionals, and private institutions in extension provision. Qamar (2000) made the point that the key challenge in adopting a pluralistic extension system is the coordination of the various organisations. In Qamar's view, the absence of such coordination can lead to conflicting outcomes, which can create confusion for farmers.

To promote coordination between the organisations that work with farmers in the district, the case organisation provides platforms (fora) where organisations from different sectors can interact. Several authors (Röling, 1991; Pretty, 1995; Chambers, 1997) have underscored the importance of creating a platform for stakeholder interaction for the provision of extension services that reflect the needs, values, and realities of stakeholders. The case organisation uses two types of fora to promote this coordination.

First, as part of its planning methodology, a theoretical strategy exists which provides for stakeholder consultative planning workshop to create a forum where the extension capabilities of various extension providers are identified and this information is used to plan its extension activities and the ways in which it will collaborate with other extension providers. As noted earlier, this noble goal is yet to be realised.

Second, the case organisation conducts issue-focused fora where it brings together farmers and organisations that have an interest in the issue to develop a coordinated approach to deal

with the issue. These interactions provide opportunities for the organisations to build relationships and to understand each other's aims, roles, activities, and capabilities. Such information is necessary for fostering a cross-sector pluralistic extension system in the district. This approach aligns with the views of Röling (1991), Rivera and Alex (2004) that rural development is complex and requires the provision of differentiated –but interrelated - extension services from several organisations.

The findings from this study also support the emerging view that no one organisation can promote broad-based sustainable development without coordination with, and support from, other stakeholders. This again, is also consistent with the views of key authors in extension and rural development (Röling, 1991; Pretty, 1995; van den Ban & Hawkins, 1996; Scarborough, *et al*. 1997; Rivera & Qamar, 2003; Rivera & Alex, 2004). They suggest that extension is no longer a unified public sector service, but rather a multi-institutional network of knowledge and information support for rural people. More importantly, the finding supports the views of Rivera and Alex (2004) and Cristóvão, Koehnen and Portela (1997) that government extension organisations can play an important "coordination" role in the development of a pluralistic extension system, where different organisations can work concertedly along individual lines or in collaboration to provide extension, to meet a variety of farmer needs in community.

Collaboration with other organisations within the area, notably the Extension Veterinary Services Cooperation, the *≠Eseb* Farmers' Association and the *Omkhâibasen* Community Farmers' Co-operative is a major move by the case organisation towards establishing a cross-sector pluralistic agricultural extension to ensure sustainable development and farm household livelihood security. The term 'collaboration' here means working together or in association with others for common aim. Because the knowledge and information needs of

farmers are diverse, there are benefits from having a range of stakeholders collaborating in the delivery of extension services in a decentralised extension environment (Rivera & Alex, 2004). The collaboration referred to above is taking place in an informal ad-hoc setting and not based on established formal relationship. The Asian Productivity Organization (2003), using Asian countries as examples, indicates that a major problem of decentralised extension systems in developing countries is their weak and non-formalised collaboration with farmer organisations, NGOs, and the private sector in service delivery. To succeed, it is suggested that decentralised extension organisations in developing countries would need to establish and maintain ongoing collaboration with farmers and other stakeholders (World Bank, 2000a; Madukwe, 2003; Rivera & Qamar, 2003; Garforth, 2004; Rivera & Alex, 2004; Swanson & Samy, 2004). Interestingly, there is limited empirical information in the extension literature on mechanisms and forms of collaborations that can inform theory, policy, and practice in decentralised extension organisations, especially those in Africa for sustainable agricultural development.

The study also found that there is currently little effective co-ordination of rural development efforts between the case organisation and the traditional leaders (*!Oë-≠Gan* traditional authority). The allocation of communal land is not a coordinated effort between the case organisation and the traditional authority in the area. The result is that some areas are overcrowded with livestock in areas with no grazing potential. This creates enormous friction and conflict between the established farmers and newly settled ones.

5.2.2 External Factors

External factors include those factors, which are outside the control of the organisation but have the likelihood to affect the operation of the organisation. The policy environment has a number of attributes that influence the operation and performance of extension organisations.

The case organisation operates in a politically decentralised context where it has deliberative powers to plan and implement its own development programmes within general government policy guidelines. The case organisation is part of the regional government and receives political support through the Erongo Regional Council based in Swakopmund. The Omaruru Agricultural Extension Office provides administrative and technical support. This arrangement aligns with the literature that suggests that local extension organisations can be more effective if they are strongly supported by the local [regional] government (World Bank, 2000a). The organisation works in an environment where other government organisations are decentralised, which makes it easier for it to collaborate at regional level as suggested by World Bank (2000a). A key characteristic in the policy environment is that government, through the MAWF has provided a legal framework that clearly defines the roles, functions and coordination mechanisms for the case organisation. This supports the view in the literature (World Bank, 2000a) that a clear legal framework is critical for improving extension decentralisation reforms.

For the purpose of describing the case organisation, the classification scheme developed by Peterson (1997) has been adopted. These are agro-ecological, political-economical, socio-cultural and infrastructural factors (Table 5.1).

A key factor that can influence the performance of extension organisations at the local level is its agro-ecological zone. The area under authority of the case organisation (Okombahe settlement Area) is semi-arid and has ever since 2012, and during conducting of this research been plagued by severe drought. This condition does not support livestock farming.

Political-economic factors influence the performance of extension operations at the local level. The case organisation works in an environment where the land is government-owned, and whereby traditional leaders administer the allocation of land and the land tenure

arrangement believed to be inimical to tenant farming. The economic conditions of farmers, in terms of the level of poverty, the proportions of resource-poor/rich or scale of farm holdings determine the type of technologies to be transferred to farmers, and the extent (scale) of the extension services (Peterson, 1997, p.17). The district economy in the Okombahe Settlement Area is based on stock farming, which is the basis of livelihood. Assessing the poverty situation in the area is very difficult due to a lack of reliable reported data. According to the Report released by the Namibia Statistics Agency (2012, p. 5), the lowest incidence of poverty is found in Erongo Region where only 7.1 percent of the population is poor compared to the national poverty rate of 28.7 percent. However, the same report suggests that poverty is highest among pensioners and subsistence farmers (p. 23) in terms of their access to and use of government services, their living standards in terms of access to schools, public health facilities, and drinking water, electricity and sanitation facilities. Changes in poverty and inequality are key indicators of economic progress and social inclusion.

Socio-cultural factors, which may include language differences, illiteracy, settlement patterns, cultural diversity, land-use arrangements and type of faming, can adversely affect the effectiveness of extension (Peterson, 1997, p. 16). As a social group, the communal farmers in the study area are part of the larger Damara clan and traditionally governed by chiefs usually from a specific royal clans dictated by tradition. The people of the Okombahe settlement generally speak Damara/Nama (*Khoekhoegowab*). The rural population is dispersed in the communal areas, and concentrated in small settlements such as Spitzkoppe, Tubusis, Sandamab, Otjimbingwe and Okombahe.

Infrastructure, particularly the conditions of transport, market and communication facilities affects both farmers and extension work. Peterson (1997, p. 17) argues that the capacity to

move people, inputs and to send and receive information influences extension activities and capacity. The Okombahe Settlement Area has no tarred road and all roads linking communal farmers with the case organisation are gravel and need constant maintenance. There are no input suppliers, markets, telecommunications and banks in the area and the nearest centres where farmers may obtain these are distances away from the location of the case organisation (Usakos, 65 km and Omaruru, 70 km). Peterson argues that farmers' access to inputs is critical to the success of extension recommendations. The organisation operates in an environment where there are no agricultural research and extension training organisations. Accessibility to such organisations can have a significant impact on extension organisations, particularly in relation to staff training and their managerial and technical capacity (Peterson, 1997).

Table 5.1 Key External Factors of the Case Organisation

Characteristic	Case Study Classification
○ **Policy** ○ Decentralisation System ○ Other Decentralised Agencies ○ Level of Political Support ○ Focus on Livelihood Security	 Yes Yes Low No
○ **Agro-ecological Zone** ○ Type ○ Predominant Farming Practice	 Semi-Arid Livestock
○ **Political-Economic** ○ Level of Poverty ○ Scale of Farming ○ Type of Farming ○ Land Ownership	 High Among Pensioners and Subsistence Farmers Mainly Small Scale Livestock Farming at Subsistence Level Communal
○ **Sociocultural** ○ Cultural Diversity ○ Diversity in Language ○ Illiteracy Rate	 No No Low
○ **Infrastructure& Institutional Factors [Existence of Well-Developed Institutions at Village Level]** ○ Roads ○ Markets ○ Post & Telecommunication ○ Banking Organisations ○ Input Suppliers ○ Agricultural Research ○ Schools ○ Police ○ NGO's ○ Farmers' Organisations	 Poor, Gravel No No, only in adjoining major towns No, only in adjoining major towns No, only in adjoining major towns No Yes, Primary & Secondary Yes Yes Yes

5.3 Part 2: Key Factors Influencing the Performance of the Case Organisation

5.3.1 Extension Methods

There are several methods used in extension work. Some of these include individual/household extension, group methods mass media. None of these methods can be singled out as the best one. All of them have their advantages and disadvantages. The choice of methods depends on various factors such as the tenure system in the area, community organisation, and resources available for extension. A combination of extension methods is more effective than just one method. For example, in an area where tenure is communal, or land management is based on communal efforts, a group approach is likely to be more effective than an individual approach. In communities where group work is common, and groups have already been organised for various tasks, a group approach may also be more feasible than an individual approach.

The case organisation applies all of the three methods to reach out to farmers.

5.3.1.1 Individual Contact Methods

This approach is most effective for activities undertaken by or within the full control of the individual farmer or household. In this regard, discussion with the individual farmer and household highlights more problems, and more experience is brought to the discussion. Advantages of the individual method include: 1) unclear messages that have not been fully understood can easily be clarified; 2) the extension officer is able to secure cooperation and inspire confidence in the farmer through personal contact; 3) it facilitates immediate feedback on the effectiveness of the measures discussed and; 4) it may be the best way to ensure that farmers participate in decision-making.

Disadvantages of the individual method are that it is expensive in terms of time and transport, and only a few farmers may be visited and all the effort is concentrated on a few farmers.

The findings suggest that the case organisation has not been very successful in its application of individual contact method. The home and farm visits, office calls and individual calls to field extension staff have been rather disappointing. Another aspect complicating this extension method is the extension officer/ farmer ratio (1: 103) and a large geographical area that the case organisation is responsible for. This is compounded by limitation on kilometres to be travelled by field officers because of limited funds available for fuel.

Usually decisions have to be made communally, and the best entry point may be through established decision-making systems, such as community meetings. Knowledge of traditional systems for making decisions is essential, particularly in pastoral areas where such systems are often still of great importance.

5.3.1.2 Group Contact Methods

This approach involves working with groups or the community at large. It is suitable when discussing matters related to the whole community (such as grazing, drought relief, input supplies, livestock marketing, animal health concerns) and when there are activities to be undertaken by a group (e.g. collective bargaining). The direct target group may be a cooperative society or the community in general. Extension work can be carried out at meetings, organised specifically for the selected purpose or by making use of meetings that were already organised for some other purpose. Meetings are effective venues for receiving information from the community, for discussing issues of communal or individual interest and for spreading new ideas. Field days and demonstration are best organised on individual farms. Two kinds of demonstration can be used: Result and Method demonstration. Result demonstration shows farmers the results of a practice that has been in use for some time and

is intended to stimulate the farmers' interest in the practice. This can also be used to compare older practices or techniques with new ones. Method demonstrations show farmers how a particular activity or task is carried out. It is among the oldest and effective methods of teaching since farmers can practice, see, hear, and discuss during the demonstration.

An important extension delivery approach for the case organisation is the use of a group-based extension delivery approach. It is evident from the study that group extension has been very much successful in areas like method & result demonstrations, lecture meetings, group discussions, seminars and workshops and field days. Even though the case organisation's contribution towards organisation of auctions and livestock marketing as well as the mini-shows has been reported to be poor, it has attracted a large number of farmers when these are organised by stakeholder organisations (the *≠Eseb* Farmers' Association; the *Omkhâibasen* Community Farmers' Co-operative; NNFU) and private sector organisations (Agra, Meatco). The case organisation seems to have adopted this extension delivery approach to compensate for the high ratio of farmers to field extension officials. River & Qamar (2003, pp. 77-79) prescribe the use of group-based extension approaches in situations where there is a high ratio of farmers to extension agents. The effectiveness of extension delivery is enhanced because the case organisation uses needs-based groups rather than geographic- or location-based groups, something not highlighted in the literature. With limited resources, the case organisation does not have the manpower to justify the formation of groups that are likely to disband after a short period. As such, it has moved to the use of needs-based groups. The case organisation has formed groups around a common need so that they are more likely to be effective, cohesive and stable. The needs that form the basis for the groups are most commonly livestock-based. This is consistent with the description by Rouse (1996) of sustainable and successful farmer organisations as those with similarities in terms of backgrounds, interests and common problems experienced by all members.

These findings support the notion that people organise best around a problem or need that they consider most important (Botchwey, 2001, p. 135). Similarly, Gordon (1999, p.33), in a general rural development context, argue that to facilitate and broaden the provision of technical assistance to rural people, it is critical for a development organisation to work with small groups with identical needs.

The case organisation has equally been actively working to develop a core of farmer-based organisations from its pool of needs-based groups, a practice supported by some authors (World Bank, 2000a; Smith, 2001; Tossou & Zinnah, 2005) for decentralised systems. These farmer-based organisations (FBOs) are farmer cooperatives that have a constitution and operate as a business enterprise. Although the formation of the cooperatives has been slow in the area, one such well-functioning cooperative drawing a large number of members is the *Omkhâibasen* Community Farmers' Co-operative at Daweb West, 65 km from the case organisation.

Although working with this cooperative offers the case organisation opportunities for more cost-effective use of limited resources and participation of farmers in extension planning and implementation, it will take time to reach out to all farmers in the area. This is because the FBOs represent only a small percentage of farmers in the area. Within the public extension model adopted by the case organisation, all options for reaching large numbers of farmers and serving their needs in terms of quality information and assistance, appear to be a definite problem. This is characterised by lack of basic operating funds and human resources.

5.3.1.3 Mass Contact Methods

This method involves the use of the mass media (e.g. radio, posters, drama, television, newspapers, circulars) to inform the public. Mass media are mainly used to create awareness. These methods can increase the impact of extension staff through rapid spread of information

and many people can be reached within a short time, even in remote areas. On the other hand, the disadvantages of mass extension methods may be that the amount of information that can be transmitted is limited. Radio and television reception is poor in some areas and the target group may not own sets, particularly the television sets. It is difficult to evaluate the impact since there is no immediate feedback. Furthermore, production of both programmes and printed materials is costly and requires special skills.

The findings suggest that almost all the farmers interviewed have access to the radio services provided by the national broadcaster (NBC) in an indigenous language (Damara/Nama alias *Khoekhoegowab)* commonly spoken in the study area. In respect of access to television, only those that can afford to buy television sets with enhanced reception quality have access to this medium. The case organisation does not widely distribute newsletters (circulars), and does so at group sessions. The newspapers are only available at the nearest urban centres of Usakos and Omaruru and only a few of those that have the means of transport have regular access to these media of mass communication.

5.3.2 Types of Government Support

In line with the third objective of this study, the government's support in respect of extension services during both the pre-independence and the post-independence eras was investigated.

The pre-independence government support was 'excellent' in respect of drought relief (e.g. livestock feedstuff, vaccinations, lick, as well as household food), animal health inspections and monitoring, exchange visits, livestock management training and advice. The government provided, as part of the *drought relief* scheme, animal feed and subsidies in the form of cash, which would have enabled the farmers to acquire animal supplies of their choice. The *animal health* management (vaccinations) was the sole responsibility of the government in order to combat animal diseases and thus, farmers were not expected to acquire these supplies at own

costs. The exchange visits by government officials in the 'reserves' were regular and aimed to enable government to monitor animal diseases and establish farmers' needs. Furthermore, if the needs assessment required that farmers needed training, formal training platforms would be created to train or advise farmers in areas they lacked expertise. The *cooperatives* did not exist in this era. The *small/large stock subsidy* did not exist and breeding material was not provided. The *ear tagging system*, similar to the current NamLITs did not exist and farmers were only required to brand their livestock. The *branding* of livestock was the responsibility of the government at no costs to farmers.

The literature suggests that in terms of the Medium Term Expenditure Framework (MTEF) 2012/2013 to 2014/2015, under Vote 20, the Namibian Government committed itself for the livestock production, improvement and animal health control (Government of Namibia, 2012, p. 271). An amount of N$ 14,840 million was provided for the 2012/2013 budget cycle, whereas amounts of N$ 22,433 million and N$ 36,611 million are being projected for budget cycles 2013/2014 and 2014/2015 respectively.

The main activities of this programme are, *inter alia,* livestock production and improvement, which includes research on livestock breeding. The focus is, according to MTEF, to avail breeding material to formerly disadvantaged Namibians and farmers in general. Livestock plays an essential role in the Namibian economy, and there is a need to improve the livestock herds of the communal farmers. This, according to the literature had to be achieved through the provision of improved well adapted livestock breeding material to emerging commercial and communal farmers through various platforms namely public auctions, special schemes, co-operative requests, donations as well as personal request by individuals.

Similarly, the government has committed itself to provide small stock to vulnerable groups so as to bring these groups to the economic mainstream. This scheme is administered contrary to

the government's resolve as envisaged in the Medium Term Expenditure Framework (MTEF) 2012/2013 and 2014/2015, under Vote 20 (See Chapter 2). The focus is, according to the MTEF, to avail breeding material to formerly disadvantaged Namibians and farmers in general. The literature further suggests that a special scheme targeting the vulnerable groups had to be designed. Activities include among others: identification of beneficiaries, training them on appropriate animal husbandry practices, developing of contract agreements and availing small stock to the beneficiaries (pp. 284-285). Another activity of the programme relates to the provision of technical services and diffusion of livestock production technologies, through timely agricultural information and advice to all stakeholders in both commercial and communal sectors. The DEES has been assigned to disseminate and promote new livestock technologies and practices to farmers and stakeholders for improved production (Government of Namibia, 2012, p. 286). None of these activities is visible in the study area in the post-independence dispensation.

The third activity relating to livestock that the government committed itself to relates to the animal disease control and management. This is achieved through animal disease surveillance in order to detect diseases, instituting early response measures for control of animal diseases, investigation of all animal disease outbreaks, inspection of animals, vaccination of animals to prevent diseases of economic importance, treatment of sick animals and eradicate diseases and control of movements of animals. The government support in respect of these activities is rated excellent in the study area. However, the communal farmers are expected to acquire vaccinations at own costs and further required to vaccinate their livestock themselves and provide proof of vaccinations to the Veterinary officials at request.

The Namibia Livestock Identification and Traceability system (NamLITs) launched by government in 2001 involves the identification of cattle by means of two ear tags, a radio

frequency (RFID) ear tag on the left ear and a visual ear tag in the right ear, to augment the hot-iron branding system, which is based on registered brand marks. The system is supported by a decentralised computerised database in which animal records are maintained and permits for the movement of animals are recorded. The database also captures information on animals sold, exchanged, slaughtered, imported and or die on the farm (New Era, 2001, pp. 1-2). The NamLITs has been introduced to maintain animal disease information database as well as a national traceable herd system, which includes the movement control and issuing of movement permits. The system contributes evidence towards declaration of disease freedom countrywide and form basis for negotiating favourable conditions for trade (ibid). The system, according to New Era, was in response to some requirements of the country's trading partners in Europe and in the country's endeavour to access other high value markets, such as the United States of America. The implementation of this government initiative is well underway, despite cumbersome application procedures as this process is not yet decentralised to the case organisation.

Within the MTEF, the government also committed itself to capacitate agricultural extension services to advise farmers on marketing opportunities and marketable animal products. This has to be achieved through training emerging/ resettled farmers on good practices in livestock production and farming. On account of lack of resources in the case organisation, this initiative is best achieved by a cooperative, which is a non-governmental organisation (NGO).

5.3.3 Farmers' Perceptions

The study reported here sought to determine sustainable agriculture farmers' perceived attitude towards extension. An overwhelming majority of the farmers who participated in this study express an unfavourable attitude towards extension and an expression of a great need

for extension support, particularly in respect of field visits, access to markets and improvement of farming practises. Similarly, the study also found that the vast majority of farmers do not feel that extension staff neither understand their needs of sustainable livestock farming nor have the resources to assist them.

The farmers noted that the amount of time the extension officers spent with them in the community was inadequate. The argument is that being closer to the people, authorities will easily identify peoples' needs, and thus supply the appropriate form and level of service delivery as suggested by Enemuo (2000, pp. 23-24) in the literature. In addition, an essential observation by the farmers was that things could have been better if the extension officers visited the community, especially farmers more often. At face value, these data might actually suggest general dissatisfaction with extension service delivery among the respondent farmers. This highlights the fact that, in reality, the delivery of agricultural extension services in Okombahe Settlement Area is inadequate.

Here, the real indicators for the weak extension services are two-fold: First, there is weakness in extension service delivery caused by irregular extension officer visits to farmers, and the associated identification and assessment of farmers' needs. A second indicator is failure by extension workers to keep time, or adhere to extension schedules. These issues may further imply that during most of the farming seasons, extension demonstrations and tours were irregular and often not undertaken, which suggests that there has been little or no identification and assessment of farmers' needs by extension officers, thus serving as a major weakness in extension service delivery in the study community. The proportion of farmers reached by extension officers in the study area is not known. However, it is generally accepted that only a few farmers are reached by the officers.

There is the need to strengthen agriculture through the formation of stronger and more cohesive farmer organisations including one that is well organised with respect to leadership and management. The interview with the farmers and group members of the cooperative revealed that *Omkhâibasen* Community Farmers' Co-operative plays a significant role in disseminating livestock related information to its members in the form of various extension activities. The study showed that a significant number of competent and reliable human resources team of the cooperative delivers extension services in the form of training, advisory service, farmers educational tours, farm visits, exhibitions etc. The cooperative staff provides proper dairy related advisory services and undertakes proper quantity and quality control of members supply. The cooperative provides continuous training on improved animal husbandry practices at primary society level and area level.

Drawing from the findings of this study, there is no evidence, which suggest that the agricultural support provided by the case organisation had an effect, if any, on the improvement of the stock-raising activities of the farming community in the Okombahe Settlement Area. This correlates with the Agribank study as cited in the literature (New Era, 2005, pp. 8-9), which reported that seventy-seven (77) percent respondents in Oshikoto, Otjozondjupa, Kunene, Erongo, Omaheke, Hardap and Karas regions received no support from the extention officers for their farming operations. The case oganisation is located in the Erongo Region. Since majority of the farmers were not satisfied with extension services, there is an urgent need to improve upon the quality of extension services to make the farmers more content and satisfied with the services of the case organisation.

5.3.4 Needs-Based Approach of the Case Organisation

The case organisation, in terms of its strategy, stresses the importance of developing a needs-based extension programme. The weakness of the case organisation is its inability to involve

the farmers to set the agenda for the development of their own needs. Cristóvão *et al*. (1997, p. 65) argue that farmers are more likely to become more confident and empowered to deal with their needs when an extension programme is based on their expressed needs. To develop a needs-based extension programme, the case organisation must use a multi-stakeholder process as proposed by Sulaiman (2003). The multi-stakeholder approach has the advantage of providing a range of perspectives on farmers' needs. This is consistent with the views of Röling (1991) and Garforth (2004) that a multi-stakeholder forum involving farmers and other stakeholders leads to the determination of the real needs of farmers. This further aligns with Chambers (1997) assertion that the inclusion of farmers and stakeholders in extension planning generates both knowledge about the realities (needs) of farmers and the motivation to support the implementation of the plan that emerges. Farmers and stakeholder organisations need to be involved in the needs identification, planning, implementation and evaluation of extension programmes. Viewed from the documents perused, there is a strategy in place, outlining the multi-sectoral needs identification methodology. Regrettably, the implementation is being constrained by a lack of resources as noted earlier.

5.3.5 Description of the Planning Process

The programme planning process developed and envisaged to be used by the case organisation is based on three phases: 1) a situation analysis phase; 2) a needs prioritisation and role identification phase and; 3) an action plan development phase. The planning processes of the case organisation are similar to the functional approaches extensively described in the literature by Ponniah *et al*. (2008, pp. 68-9), viewing agricultural extension as a function, at all times emphasising stakeholder, and particularly end-user participation in the approaches employed in a communal setting. Agricultural extension is one of the main institutional components of agriculture as it promotes the transfer and exchange of

information that may be converted into functional knowledge. The four functional areas highlighted by Ponniah *et al*. (2008) relate to the empowerment, community organising, human resource development and problem solving and education.

The extension workers' role is to help farmers and rural communities organise themselves and take charge of their growth and development. "Telling adults what to do provokes reaction, but showing them triggers the imagination, involving them gives understanding, and empowering them leads to commitment and action" Chamala (1990), as cited in Ponniah *et al.* (2008) advises. The term 'empower' means to "enable, allow, to permit and can be viewed as both self-initiated and initiated by others" (ibid). For extension workers, empowering is an act of helping communities build, develop, and increase their power through cooperation, sharing and working together.

The extension workers need to learn the principles of community organising and group management skills (Chamala and Mortiss, 1990 as cited in Ponniah *et al.*, 2008, pp. 221-223) so they may help the community, especially the poor or weaker sections, to organise themselves for development. In this regard, understanding the structures, by-laws, rules and roles will help leaders plan, implement and monitor their programmes and perform this new role effectively. The entire philosophy of human capacity building is to encourage rural communities understand their personal and group styles of managing themselves and to improve their planning, implementation and monitoring skills (ibid).

The situation analysis phase of the case organisation's planning process is similar to what Cristóvão *et al*. (1997) calls a *situation analysis of clientele and community* or what Bennet and Kay (1995) simply called selecting needs. The literature (World Bank, 2000a; Rivera & Qamar, 2003) suggests that to develop a needs-based extension programme, the needs will have to be identified jointly by extension staff and stakeholders, and to ensure that the

extension organisation participate in the process. The case organisation does not act in accordance with the advice suggested in the literature as the vastness of the area and the number of farmers in the area far outweighs the available human and financial resources of the case organisation. In line with the literature, the study revealed stakeholder participation as advocated by World Bank, 2000a; Ananda & Herath, 2003; Sulaiman, 2003; Pretty, 2003; and Leeuwis & Van den Ban, 2004 is the most preferred model in a decentralised extension delivery and as a contributing factor to extension operational sustainability and development.

5.3.5.1 Monitoring and Evaluation

The case organisation evaluates its inputs (e.g. funds and materials used) and outputs (e.g. number of field days, demonstrations, extension visits). However, the qualitative measures like the degree of participation in extension activities, satisfaction with activities and outputs by stakeholders and the types of benefits received by stakeholders are not measured. This is inconsistent with the view of the World Bank (2000a) that strong evaluation systems and accountability provide management with the information necessary to understand who is benefitting from the programmes and the real impact of the programme. A major factor that has been found to be critical not only to the evaluation, but also to the general operation of the case organisation is stakeholder participation, which is discussed in the following section.

5.3.6 Stakeholder Participation

In keeping with the literature (World Bank, 2000a; Rivera & Qamar, 2003), stakeholder participation is one of the critical factors influencing the operation of the case organisation. A key point that can be drawn from the results is stakeholders' willingness and commitment to collaborate and participate in the activities of the case organisation. There is a variety of benefits for the case organisation in such a relationship.

First, it helps the organisation to develop area level needs-based extension programmes and community-level action plans. By involving a cross-section of farmers and organisations that are involved with farmers in the area, the case organisation gains an in-depth understanding of the needs of farmers as well as the factors that affect the livelihood security of the farm households. This information is used to develop a needs-based extension programme. This supports the view of Garforth (2004) who argues that stakeholder participation is critical for the development of programmes that reflect the needs of farmers.

Second, the stakeholder participation allows the participants to gain an understanding of the needs of farmers and the roles played by various organisations in the area. Such information is helpful to reduce extension duplication and helps identify areas for collaboration. Cristóvão *et al.* (1997) also suggest these benefits in the extension literature.

The *third* benefit of stakeholder participation is that it helps to improve accountability of the case organisation. Creating forums in which stakeholder representatives participate in defining the case organisation's activities demands a level of transparency and accountability consistent with a point made by Pretty (1995b) and World Bank (2000a).

Finally, through stakeholder participation, the case organisation is able to mobilise additional resources for extension service provision. This is consistent with the views of Cristóvão *et al*. (1997) that participation of stakeholders in extension processes can assist in gaining a variety of resources, including skills and material resources for programme implementation.

The results suggest that the case organisation is still in a transition phase from being top-down bureaucratic extension service to becoming a decentralised demand-driven extension service. Although it has created needs-based farmer groups and FBOs, these groups are not representative of the total farming population in the area. The role of these groups is primarily at the level of consultation as defined by Leeuwis and Van den Ban (2004).

5.4 Conclusion

In this chapter, a theoretical description of the case organisation and its external environment has been described. The key characteristics that can influence the performance of a decentralised extension service with a poverty alleviation focus were then compared to the literature. The needs-based programme planning process used by the case organisation was found to be similar to those proposed in the extension and rural development literature. The said planning process is not extended to the broader farming community in the study area and seems ineffective in current practice. The government support provided to communal farmers was compared with the ambitious policy undertakings made by the State. A more detailed programme planning was described. This includes three phases: the situation analysis system phase; needs prioritisation and role identification phase; and action plan development phase. Furthermore, an in-depth understanding of how a decentralised extension organisation can operationalise stakeholder participation and accountability, broaden its extension focus and roles, and foster a cross-sector pluralistic system is described.

Overall, the chapter provides a greater understanding of the critical success factors that can influence decentralised extension delivery in its quest to alleviate rural poverty. In the next chapter, the main conclusions from the study are drawn, the implications of the findings are outlined, the research methodology is evaluated and future research areas are identified.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview

This chapter provides the summary and conclusions of the study. It is presented in four sections. The study is summarised in section 6.2. The major findings of the research are presented in 6.3 as well as the challenges emanating from the findings, while section 6.4 discusses the general policy implications and presents the conclusions and policy recommendations of the study. Section 6.5 makes recommendations for further studies.

The main aim of the study was to generate qualitative information aimed at explaining and describing perceptions of farmers in the designated settlement of Okombahe with regard to the impact of decentralised extension service in their area. An important element of this research, therefore, was to gauge how beneficiaries perceive the benefits or otherwise of the extension service in the study area. The following statement supports deriving findings from the participants: "social enquiry is not assumed to result in the researcher's positivist statements based on right or wrong answers to the research question, but in solutions based on the views and interpretation of the people involved in the enquiry" (Zuber-Skerrit, 1992, p.13).

6.2 Summary

Agriculture in Namibia contributes around 5% of the National Gross Domestic Product (GDP) though 25% to 40% of Namibians depend on subsistence agriculture and herding. Primary products include livestock and meat products, crop farming and forestry (World Bank, 2012).

The main objective of the study was to examine the impact of extension delivery among livestock farmers in the Dãures Constituency, with particular reference to the Okombahe Settlement Area. Specifically, the study sought to: (1) investigate and determine the scale of extension services provided to the communal farmers in the Okombahe Settlement Area; 2) examine the causal linkage between the work of extension services and changes in farmer behaviour and welfare; 3) provide empirical data, in a systematic and comparable form, on livelihood impacts and farming structure in the post-independence land reform setting.

Identification of such factors might support efforts to create the appropriate environment for communal farmers for integration into the mainstream agriculture market. After all, it is in the interest of the government to remove dualism in agriculture by promoting smallholder farmers, which hinges on greater participation in the market. These farmers are generally poor and contribute inadequately to the mainstream market because of a low production and poor access to other options for obtaining a livelihood. These farmers have access to a relatively small area of arable lands, with livestock thriving on communal grazing. The area is semi-arid and severely affected by drought due to poor rainfall.

The effectiveness of agricultural extension activities in Okombahe Settlement Area as such are rendered to communal farmers engaged in stock raising was investigated in this study. The agricultural extension, as suggested by Rivera *et al.* (1997, pp. 194-5) "is not merely occupying a 'bridge position', but facilitates to improve the efficiency and effectiveness of both the farmer and the research, to facilitate transfer of agricultural technologies among the farmers". Extension starts with knowledge management and ends up with human enrichment (ibid). Agricultural extension by its nature has an important role in promoting the adoption of new technologies and innovations (Jamilah *et al*., 2010, p.64). It ought to bring about changes through education and communication in farmers attitude, knowledge and skills. The role of

agricultural extension involves dissemination of information; building capacity of farmers using a variety of communication methods and help farmers make informed decisions. The extension services can also play a crucial role in providing information on sustainable agricultural education. Extension programmes need to involve farmers themselves in the process of extension. Participation, if it is to become part of extension must clearly be interactive and empowering. Any pretence to participation will result in little change.

The central question is "how the decentralised agricultural extension service of the Erongo Region impacted on the improvement of the stock-raising activities of the farming community in the Okombahe Settlement Area."

The study used a case study design and qualitative research methodologies involving the use of questionnaires, documents and interviews. A convenience sampling method was used in selecting the public officials, community members and traditional leaders, whereas a cluster sampling method was applied in selecting communal farmers. Discourse analysis approach was used to evaluate data, as interviews were conversational in style and questions open-ended. This was done to ascertain interviewees' dominant concerns. The majority of the respondents (35) were farmers, some (a small number) of whom are reached by public sector extension officers.

To collect primary data, structured questionnaires-cum-interview questions were designed and used to collect information and data for this study. The first instrument (structured questionnaire) was designed for farmers. Interview questions were designed for administrators of extension organisation concerned (the case organisation) as well as the stakeholder organisations engaged with farmer support in the study area.

The long distance travelled between Windhoek and Okombahe Settlement Area presented a major limiting factor in terms of time and costs. Since many of the small-scale farmers in this

area do not have telephones, making prior appointment presented a challenge. To overcome this challenge, the selection of the key informants was found to be useful. In addition, the use of the informant selection team (IST) to select key informants proved useful in assisting the researcher to select suitable candidates for the investigation. The use of tape recording was indispensable for this study because of the quantity of data involved and the informal nature of the interviewing process. There have been follow-up visits to confirm some of the responses gained through questionnaires for clarity and better understanding. Semi-structured interviews complemented with documents and field observations were found appropriate for the data collection, because this enabled the researcher to triangulate the data and collect additional information that became useful later in the data analysis.

6.3 Major Research Findings

In Namibia, the agricultural extension plays a significant role and farmers perceive extension as a form of assistance to help them improve their technological know-how, efficiency, productivity, profitability, and contribution to the good of their family, and community in general.

6.3.1 Profile of the Case Organisation (Okombahe ADC)

The case organisation (the Okombahe ADC) is a public sector organisation created to fulfil its responsibilities to government by delivering agricultural extension services, which are public goods. The organisation works at the village level, which is the lowest level of government administration in Namibia. It is a decentralised government unit, tasked with administrative and operational responsibilities and authority from central government for extension programme planning, implementation and evaluation with the involvement of farming communities. Consistent with the literature (Smith, 1997, p. 22), the main reason why the government decentralised agricultural extension services is based on the belief that

democracy is best served through devolved functions with enhanced participation at local level.

General agricultural extension policies are formulated at the regional and national levels and passed on to the organisation at the village level. The organisation does not have fiscal decentralisation, nor does it recruit its own staff. Instead, financial and human resources are provided by the central government though the Ministry of Agriculture, Water and Forestry. The case organisation is dependent on government for its funding, which funding is variable as funds released from government are sometimes delayed or fall short of what the organisation has planned for. Similarly, the case organisation has inadequate extension agents (3) for the number of farmers (205) and a large geographical area (1700 km²) to cover. This form of decentralisation is referred to as 'deconcentration' in the literature and entails the mere relocation of execution to the local level with decision-making power remaining at the centre. For as long as this is the *modus operandi*, the extension service delivery will be affected and desired goal, that of serving the needs of the communal farmers will not be realised.

6.3.2 Planning of the Extension Programmes

The study revealed that a theoretical strategy exists which provides for stakeholder consultative planning workshop to create a forum where the extension capabilities of various extension providers would be identified and which outlines the planning methodology of the organisational extension activities and the ways in which it aims to collaborate with other extension providers. However, this noble goal is yet to be realised and the study revealed that farmers and stakeholders are not involved in the extension planning.

It was also established through this study that the case organisation conducts issue-focused fora where it brings together farmers and organisations that have an interest in the extension

activities to develop a coordinated approach to deal with the issue. These interactions provide opportunities for the organisations to build relationships and to understand each other's aims, roles, activities, and capabilities. This is merely a consultative and information-sharing platform and serves to train farmers into group management and cooperative practices. To this end, the case organisation collaborates with organisations like the *≠Eseb* Farmers' Association, the *Omkhâibasen* Community Farmers' Co-operative and the Namibia National Farmers' Union (NNFU). These organisations also help provide training for the farmer groups at this platform. Farmer needs are identified informally through contact between field staff and needs-based groups. Participation at this level moves from consultation to collaboration because the farmers and the case organisation's staff make joint decisions.

6.3.3 Implementation of the Extension Programmes

The case organisation still work mainly with geographical discussion groups – that is, groups formed within the reach of the case organisation. In addition, it reaches other farmers through group meetings at designated locations, majority of which are farms in the area. The study revealed that this approach seems to have proven ineffective, as majority of the farmers, strained by means of transport do not attend these meetings. To overcome this problem, the case organisation has decided to implement its extension programme through needs-based groups and capacitation farmer cooperatives through which it now integrates its extension activities. The case organisation defines a needs-based group *as a collection of farmers in the area who have come together voluntarily because they have a common need or face similar problems relevant to livestock farming.* These needs-based groups are known in the study area as the 'farmer leagues'. The case organisation encourages farmers to organise themselves into needs-based groups that could demand extension services and negotiate their

own markets in the future. The findings support the notion that people organise best around a problem or need that they consider most important (Botchwey, 2001, p. 135).

It is evident from the study that group extension has been very much successful in areas like method & result demonstrations, lecture meetings, group discussions, seminars and workshops and field days. Even though the case organisation's contribution towards organisation of auctions and livestock marketing as well as the mini-shows has been reported to be poor, it has attracted a large number of farmers when these are organised by stakeholder organisations (the *≠Eseb* Farmers' Association; the *Omkhâibasen* Community Farmers' Co-operative; NNFU) and private sector organisations (e.g. Agra, Meatco).

The case organisation has adopted needs-based group sessions and group contact method as its extension delivery approaches to compensate for the high ratio of farmers to field extension staff.

Contrary to the claim made by Kaurivi (2008, p. 1) in the literature, the agricultural extension services does not provide subsidised agricultural services to the communal farmers in the study area and no credit schemes exist in the study area. The government's drought relief programme does not extend to input supplies aimed at sustaining livestock in the study area. In spite of the above-indicated findings, the study failed to explore whether agricultural extension officers and services may play a supportive role during drought periods, considering the fact that the Erongo Region, as a semi-arid region, experiences severe drought in recent times. In connection with this, Rivera (2007, p. 233) has concluded in the literature that the public sector extension alone will be unable to attend to the entire demand for extension services by the world's farmers.

6.3.4 Monitoring and Evaluation of Extension Programmes

The case organisation initiates annual evaluation of its programmes under the auspices of the Omaruru Extension Office. The evaluation and planning workshop involves other ADC's in the region and takes place during March each year. The field staff are monitored based on outputs (e.g. number of farmers' groups they are working with, number of visits, number of training sessions conducted, number of on-farm demonstrations, level of farmer participation, number of field days). The Senior Agricultural Technician meets with his field officers on a bi-weekly basis to reflect on their successes and failures as a form of self-evaluation and to assess extension outputs. A major aim of this part of the monitoring system is to support the field staff to achieve their targets and make their activities relevant and useful in meeting the needs of farmers. Regrettably, the case organisation does not involve farmers and stakeholder organisations in its evaluation workshops, as is the case in planning workshops.

The study also found that there is currently little effective co-ordination of rural development efforts between the case organisation and the traditional leaders and the allocation of communal land is not a coordinated effort between the case organisation and the traditional authority in the area. The result is that some areas are overcrowded with livestock in areas with no grazing potential.

6.3.5 Government Support to Communal Farmers and Impact on Livelihood

The study found that the pre-independence government support was 'excellent' in respect of drought relief (e.g. livestock feedstuff, vaccinations, lick, as well as household food), animal health inspections and monitoring, exchange visits, livestock management training and advice. The government provided, as part of the *drought relief* scheme, animal feed and subsidies in the form of cash, which would have enabled the farmers to acquire animal supplies of their choice. Currently, the government only provides household food and

transport limited to a distance of 16 kilometres in case the farmers wish to move their livestock to areas with better grazing potential. The farmers find this support not quite helpful as the area within 40-50 km radius of their respective locations is drought-stricken.

Before independence, the *animal health* management (vaccinations) was the sole responsibility of the government aimed at combatting animal diseases and thus, farmers were not expected to acquire these supplies at own costs. After independence, and currently, the farmers are expected to acquire these vaccinations and all input supplies at own costs, without any support from the government.

The exchange visits by government officials in the 'reserves' were regular and aimed to enable government to monitor animal diseases and establish farmers' needs. Furthermore, if the needs assessment required that farmers needed training, formal training platforms would be created to train or advise farmers in areas they lacked expertise. The visits by the extension personnel are not regular because of a staff shortage in relation to a high number of farmers in the study area (1:103).

The *cooperatives* did not exist in the pre-independence era. There is only one well-functioning cooperative in the study area, but not all the communal farmers are subscribed members. The *small/large stock subsidy* did not exist and breeding material was not provided. The government's subsidy of livestock breeding material directly to communal farmers (bull scheme) is perceived to be inadequate and conditional. The number of animals are limited, only two (2) Bonsmaras, two (2) Sanga/Nguni, one Simmentaler four (4) Damara sheep and two (2) indigenous goat rams are available for the Erongo Region.

The *ear tagging system*, similar to the current NamLITs did not exist and farmers were only required to brand their livestock. The *branding* of livestock was the responsibility of the government at no costs to farmers. All these issues were formalised after independence. The

farmers are required to ear-tag their livestock and acquire these tags at own costs. Same principle applies to the branding of livestock

6.3.6 Farmers' Perceptions towards Extension Support

The results indicate that the majority of communal farmers (62%) in the Okombahe Settlement Area are unable to have contacts with extension officers for two main reasons. First, the extension officer/farmer ratio (1: 103) and a large geographical area that the case organisation is responsible for remains an inhibiting factor. This indicates that the case organisation is not well resourced and structured to address the needs of the communal areas in the study area. Second, the release of funds by government is often delayed, thus compromising the planning of the extension work in the study area.

The study revealed that 26% of the farmers perceived that extension services were timely available while 63%of farmers answered that the case organisation's extension services were available, but always delayed. The training programmes, advisory services, field visits and educational tours organised by the case organisation for the farmers are among the planned and cancelled activities. The study also reported that 11 % of the respondents perceived that extension services were totally unavailable. Though the case organisation conducted training programmes and educational tours, they were not rendered on a regular basis and were only theoretically oriented (scheduled but not undertaken). The study further reveals that the inability to have contact with extension agents affected farmers' perception and awareness of the technologies. About 40% of the respondents had low perception of livestock production technologies while 51% of them were aware of these technologies. Farmers claim to have obtained this information through friends and family members, whereas the members of the cooperative claim to have benefitted a lot through initiatives of the cooperative in which they participate.

The majority of the respondents (51%) are not satisfied with extension service delivery in the area and claim there is no benefit they derive from the service. Farmers prefer farm visit as the best method for accessing and delivering of extension programmes, but that is almost impossible given the lack of staff and budgetary constraints experienced by the case organisation. Field days were 'very poor' as reported by 80% of the respondents, whereas farm and home visits were rated very poor by 72% of the respondents.

The main findings of this study were that: (1) livestock farmers are aware but had no regular access to extension services in their community; (2) livestock farmers were rarely invited to identify and determine their needs (3) farmers preferred farm visit as the best method for accessing and delivering of extension programmes and (4) farmers were never consulted in planning and initiation of extension programmes in the study area. Only a few farmers who volunteered to align themselves with the needs-based groups were consulted in the planning of extension programmes.

6.4 Conclusion and Policy Recommendations

The study focused on agricultural extension services delivery, noting that many communal farmers engaged in livestock farmers in the Okombahe Settlement Area do not have access to agricultural extension services, which may have an adverse effect on their productivity and livelihoods.

A 2003 baseline survey undertaken on the 'Impact of Agricultural Extension Services' in the Erongo Region and this study seems to point to the fact that rural communities, and specifically the communal farmers, have still not benefitted from the intended outcomes of decentralised agricultural extension services. This study has used empirical findings broadly reflected in Chapters 4 and 5 to show that the decentralised agricultural extension service is not making an anticipated impact. Drawing from the findings of this study, there is no

evidence that suggest that the agricultural support provided by the case organisation had an effect, if any, on the improvement of the stock-raising activities of the farming community in the Okombahe Settlement Area. This correlates with the literature as cited in New Era (2005, pp. 8-9) which reported that seventy-seven (77) percent respondents in Oshikoto, Otjozondjupa, Kunene, Erongo, Omaheke, Hardap and Karas regions received no support from the extention officers for their farming operations. The case oganisation is located in the Erongo Region.

It is concluded that the delivery of agricultural extension services for livestock farmers has major resource constraints, which must be urgently addressed if communal farming is to be revitalised in the study area. The farmers lack adequate access to and benefit from extension services and are unable to derive more knowledge and learning from extension officers in a more innovative and participative manner.

It is recommended that extension services be improved upon to ensure that the required technological advice and information actually be made relevant, available and accessible to farmers on the ground. The extension services should be made more demand-driven and client focused. They should be more pluralist, flexible and responsive to the changing socio-economic environments, particularly in the rural sector including marginalised agro-ecological zones, and ensure the provisioning of services to small-scale and resource-poor farmers. In addition, the extension officers should spend more time in the field with farmers.

The usage of participatory approaches and particularly farmer groups could be vigorously pursued as an aid to gaining explicit and implicit knowledge and information and as a means of generating and acquiring knowledge, in addition to acting as a forum in which farmers will be able to exchange experiences on how to deal with issues related to the complex environment with which they are confronted. The capacity development and logistical

assistance should be strengthened towards improving the current extension services to the rural communities generally and communal farmers specifically.

People's participation and their involvement in the planning, implementation and monitoring of programmes will enhance sustainability of such programmes and promote ownership and commitment. The government, through its decentralised extension agencies need to make concerted efforts to sensitise sceptical farmers to benefit from the services they offer. It is also necessary to ensure that the extensions services offer relevant and high-quality information to their clientele. This, once again, requires redefining of the decentralisation framework of rural agricultural extension services.

This study has been conducted at a time when governments in many developing countries are in different phases of decentralising their extension organisations. However, there is little written on how these organisations with rural development focus can achieve success at the local level. For policymakers, the study indicates the need for political will, full decentralisation (devolution) and a clear legal framework to create local external conditions, which are conducive to the effective operation of a decentralised extension organisation. This calls for policies that will demonstrate a strong political will on the part of government to fully decentralise extension and devolve decision-making power and management to the local level organisation to provide services that meet local needs.

Decentralisation of extension in Namibia is at the level of deconcentration. A policy strategy is needed to move towards complete devolution to allow the case organisation to enjoy the full benefits of decentralisation. This implies having a clear legal framework that specifies the roles and responsibilities of the case organisation and proper mechanisms for internal and external coordination, collaboration and local support.

The research findings have implications for case organisations and staff. The study provides a general model of the key factors crucial to the successful implementation of a decentralised agricultural extension policy. They will be required to adopt a multi-stakeholder approach that would allow them to draw information from a wide cross-section of farmers, field staff and other stakeholder organisations.

Since independence in 1990, land reform has been on the political agenda in Namibia seeking ways of transforming the socioeconomic legacies of apartheid through a restructuring of land ownership. A National Land Reform Conference was convened in Namibia shortly after independence in 1991. This conference resolved to work within the terms of the constitution to bring about just redistribution of private land and to retain the principles of communal tenure in the former homeland areas. Since then, and recently, a lot has taken place in the way of legislation. The Communal Land Reform Act, 2000created a number of (tribal) land boards that will function as the tools of central government to control communal tenure and resource use. This formalised regulation of communal land on a national basis created an opportunity to strengthen regional government and grassroots democracy. The legislation also provides for the granting of 99-year leases at the discretion of the central-government ministers. The latter relates to communal farmers who are resettled at State-owned farms.

The government must move quickly to institute wide-ranging legislation on land reform, within which land tenure reform would aim to provide legally secure forms of land rights with a variety of options as to what form these rights take, ranging from fully individualised, to strong group systems of tenure. This will have potentially major implications for the administration and management of communal land.

Making rural services work for the rural-poor, governance reforms should focus on building the necessary infrastructure and institutions and promoting capacity building. Lack of

capacity and funding within governmental institutions are believed to be definite obstacles for the success of rural agricultural extension development, especially with regard to the successful implementation and management of development plans.

Improving access to farmer support services may require that agricultural extension institutions be transformed to provide good quality services to communal farmers. However, improving the performance of these institutions may only address one of the prime movers of small-scale agricultural development and is thus not a sufficient condition for getting communal farming moving. Other prime movers may include human capital, new technology, rural capital formation and a favourable economic policy environment including the political will and financial backing. This include putting greater emphasis on empowerment of farmers and introducing them to modern farming practices, creating credit options to raise capital within the rural development framework. One possible and under-exploited resource with documented potential is the use of national radio and television to broadcast targeting programmes with extension content.

In the context of the Government's overall policy of contracting out services to the private sector, and in support of the advantages to be derived from a diversity of service providers, it is recommended that the extension service consider contracting a few well-established farmer cooperatives to provide specific extension services in their areas of jurisdiction. Similarly, there is a need for structural reforms to improve functioning of the cooperatives and for ensuring greater efficiency and viability. Cooperatives need assistance in phasing out government financial support with a clear and active guidance to improve financial viability and generate internal resources. Greater empowerment of cooperative institutions and increased professionalism in their management capacity building is needed.

The policy implications of these findings also suggest a need for restructuring of the extension system to favour NGOs and CBOs that have an explicit extension mandate where they have the comparative advantage in providing farmers with pertinent technical advice. In this respect, the efforts of the existing cooperatives and the farmer leagues in the area must be encouraged, supported and strengthened. The continued investments in forming and supporting farmers' groups, is likely to yield high returns as farmers increasingly build their capacity and ability to demand services that are compatible with their needs. However, as the extension efforts of the NGOs and CBOs are largely demand- driven, the government has a crucial role to play in guaranteeing that poor are not deprived of such services, such as in low potential or remote areas. An important step in ensuring that extension resources are efficiently utilised is to create a mechanism for coordinating the extension activities of both the government and private agencies to ensure that each player works to their strengths and efforts are not duplicated. Encouraging partnerships with local farmer organisations would increase awareness and is likely to improve the perceptions that some farmers hold regarding these agencies by actively including them in their activities.

According to the National Agricultural Policy, the government is cognisant of the fact that "farming in the communal agriculture sub-sector offers the greatest potential for growth and diversification" (Government of Namibia, 1995, pp. 23-28). Furthermore, the said policy suggests that extension service will be relieved of direct responsibility for providing those farmer support services which can be supplied more effectively by the private sector. Increases in productivity will be facilitated through an agricultural research programme, which will follow a multi-disciplinary farming systems approach, incorporating decentralised adaptive research and on-farm trials. Here too, attention and resources is not focused on communal agriculture, despite policy assurances suggesting, "…government will continue to develop an agricultural education and training system which will provide the human

resources required at all levels in the agricultural sector." The Agricultural Policy is unambiguous in its resolve to ensure that agricultural extension activities must be both cost-effective and relevant to the needs of all of the farming community (p. 29).

6.5 Recommendations for Further Research

The study concentrated on the communal farmers engaged in livestock farming and the impact of agricultural extension service delivery in the Okombahe communal area. Although the study has highlighted the importance of stakeholder participation, planning, implementation in determining extension outcomes, to the researcher's knowledge, no other study has attempted to measure the impact of proposed institutional changes on farmers' livelihood improvement. Thus, it is recommended that intensive research on sustainable methodologies for undertaking institutional analysis of this nature be conducted.

The emphasis of determining the impact of institutions should, however, be shifted from the traditional assessment of benefits resulting from decentralised agricultural extension support, to assessing the impact of the decentralisation processes on the rural economy of the Erongo Region or all regions of Namibia. Efforts to improve the delivery of rural services in developing countries have revolved around decentralisation policies, which have been seen as a promising approach to increase responsiveness of governments to people's needs by making rural services demand-driven and empowering communities to determine and achieve their development potential.

Given the importance of decentralisation process in determining the outcome of rural agricultural extension development initiatives, it is recommended that government pay more attention to research that will ensure that the decentralisation process satisfies the demands of the people residing in communal farming areas. This may require that different institutions and institutional arrangements be developed through research initiatives than those present in

urban areas. It is furthermore recommended that rural agricultural extension service delivery be used as an interesting case study to further develop the research field. The theoretical arguments for this justification suggest the need for policy review, which will enable the extension service in the study area to work for the communal farmers and more especially the rural household economy. To generate achievable policy strategies and development framework with regard to decentralised agricultural extension service, there is a need for more intensive case studies to allow further assessment of regional dimensions of the subject.

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APPENDIX 1

QUESTIONNAIRE (COMMUNAL FARMERS)

Dear Respondent/s

Thank you for taking the time to complete the following questionnaire. The purpose of this case study is to gain valuable insight from the communal farming community in the Okombahe Settlement Area on the impact of agricultural extension services on stock-raising.

INSTRUCTIONS:

Kindly answer all the questions in this questionnaire. Your honest responses will help to understand the concept under study and will assist the researcher to determine any shortcomings and areas that might require improvement in the provision of extension services in the area.

This research is purely academic, all responses will be treated confidential and individual anonymity will be safeguarded. Please do not write your name on any part of this questionnaire. Unless otherwise instructed, please check the circle that corresponds to the answer category that best describes you and your situation or your opinion. It will take approximately 15-20 minutes to complete this questionnaire. If you have questions or want further information, please contact the researcher hereof or his Supervisor.

Eliphas !Owos-oab (Researcher)

Cell: +264 814 676 084

E-Mail: tetteb1@iway.na

Professor Piet Van Rooyen (Supervisor)

Tel: +264 61 206 3693

E-Mail: rooi@unam.na

I thank you in advance for your help and cooperation.

PART 1: BIOGRAPHICAL INFORMATION

1.1 LOCATION OF COMMUNAL FARM

UNIT A	◯
UNIT B	◯
UNIT C	◯

1.2 AGE (Please tick √ where appropriate)

18-23	◯
24-29	◯
30-35	◯
36-41	◯
42-47	◯
48-53	◯
54 And Older	◯

1.3 GENDER (Please tick √ where appropriate)

MALE	◯
FEMALE	◯

1.4 ACADEMIC QUALIFICATION (Please tick √ where appropriate)

No School Education	◯
Primary Education	◯
Secondary Education	◯
Technical/Vocational School	◯
College	◯
University Graduate	◯

1.5 LANGUAGE PROFICIENCY (Tick √ where appropriate)

	Speak		**Read**		**Write**	
	Yes	**No**	**Yes**	**No**	**Yes**	**No**
English	◯	◯	◯	◯	◯	◯
Afrikaans	◯	◯	◯	◯	◯	◯
Damara/Nama	◯	◯	◯	◯	◯	◯
Other (Specify)……..	◯	◯	◯	◯	◯	◯

1.6 FARMING EXPERIENCE (Please tick √ where appropriate)

2-5 Years	◯
6-9 Years	◯
10-13 Years	◯
14-17	◯
18-21	◯
22-25	◯
26 and More	◯

1.6.1 Are you a part-time or full-time farmer? (Please tick √ where appropriate)

Part-Time	◯
Full-Time	◯

1.6.2 Do you need any extension advice/support? (Please tick √ where appropriate)

YES	◯
NO	◯

If yes, indicate support you require.

……

……

……

PART 2: COMMUNAL FARMER'S PERCEPTION OF THE AGRICULTURAL EXTENSION SUPPORT AND CHALLENGES.

2.1 Overall, how would you rate the quality of agricultural extension in your location?

POOR	◯
AVERAGE	◯
GOOD	◯
EXCELLENT	◯

2.2 What is your level of agreement with the following statements?

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Agricultural Extension promotes farming in communal area	○	○	○	○	○
Extension staff are very helpful to communal farmers	○	○	○	○	○
Stock-raising activities greatly benefit from extension support in this area	○	○	○	○	○
The quality of life in my community depends largely on agricultural extension support	○	○	○	○	○

2.3 How many of the following animals are part of your farming operation? If none, please enter zero.

Dairy cattle (incl. heifers, young stock)	◯
Beef cattle (incl. young stock)	◯
Goats (specify)	◯
Sheep (Specify)	◯
Pigs	◯
Poultry	◯
Other Livestock (Specify)……..	◯

2.4 Indicate the type of support provided by the Agricultural Extension Service in your farming unit (You may choose more than one)

Breeding Stock (Ram/Bull Scheme)	◯
Advice & Monitoring Visits	◯
Genetic Materials	◯
Farming Skills Training	◯
Ear Tagging (NAMLITs)	◯
Animal Disease Control & Management	◯
Provision of Small Stock	◯
Research on Livestock Breeding	◯
Marketing	◯
Other (Specify)…	◯

2.5 Indicate the sources of information you generally use when making following decisions, acquiring information or in need of training. (Tick √ as many as applicable)

	Technical Decisions	Financial Decisions	Marketing Decisions	Animal Health/ Disease Control	Training
Radio	○	○	○	○	○
Television	○	○	○	○	○
Extension Publications (Leaflets/Periodicals)	○	○	○	○	○
Co-Farmers (Neighbours)	○	○	○	○	○
Agricultural Extension Officers	○	○	○	○	○
Co-operative Extension Officers	○	○	○	○	○
Newspapers	○	○	○	○	○
Market Agents	○	○	○	○	○
Traditional Authority	○	○	○	○	○
Veterinary Inspectors	○	○	○	○	○
Farmers Associations	○	○	○	○	○

2.6 Which of the following information sources are readily available to you?

Radio Broadcast	○
Television Connection	○
Farmer Newsletters/Leaflets	○
ADC's	○
Newspapers	○
Other (Specify)……..	

2.7 Five years from now, which statement will best describe your stock farming levels?

About the same as it is today	○
It will be larger	○
It will be smaller	○
I don't know/unsure	○

2.7.1

Motivate……

……

……

……

2.8 Twenty-four years ago, which statement best describes government support in respect of your stock-farming. (This question only applies to communal farmers who have been farming before independence, 1990). (Tick √ as many as applicable)

	Excellent	Good	Average	Poor
Drought Relief	☐	☐	☐	☐
Animal Health	☐	☐	☐	☐
Small/Large Stock Subsidy	☐	☐	☐	☐
Animal Marketing	☐	☐	☐	☐
Advice	☐	☐	☐	☐
Livestock Management Training	☐	☐	☐	☐
Exchange Visits	☐	☐	☐	☐
Co-operative Development	☐	☐	☐	☐

Motivate…….

……

……

2.9 Which are the major farming challenges you experience in your area? (Briefly describe)

……

……

……

……

2.10 Is the support provided by the ADC helpful to your stock farming?

YES ◯

NO ◯

If the answer is yes, how? If no,

why?……

……

……

……

……

2.11 Indicate your level of participation (Tick √ as many as applicable)

Table 2:1. A Typology of Farmer Participation

Typology	Characteristics of each type	Level of Participation
Receiving Information	Participants are informed or told what a project will do after it has been decided by others.	◯
Passive Information Giving	Participants can respond to questions and issues that interventionists deem relevant for making decisions about projects.	◯
Consultation	Participants are asked about their views and opinions openly and without restrictions, but the interventionists unilaterally decide what they will do with the information.	◯
Collaboration	Participants are partners in a project and jointly decide about issues with project staff.	◯
Self-Mobilisation	Participants initiate, work on and decide on the project independently with interventionists in a supportive role only.	◯

2.11 Indicate your level of association in the following agricultural extension processes in your area [At b) simply state whether through Consultation, Participation, Involvement, or Collaboration. You may state more than one]

4. Programme Planning

a) How is the extension programme planned?.....

.....

.....

.....

.....

b) How is stakeholder and farmer participation ensured?.....

.....

.....

.....

.....

c) Why is the programme planned in this way?.....

.....

.....

.....

.....

5. Programme Implementation

a) What key measures are taken to implement extension programmes?.....

.....

.....

.....

.....

b) How is the institutional capacity built to ensure effective extension programme implementation?.....

.....

.....

.....

.....

c) How is stakeholder and farmer participation in the extension programme implementation ensured?.....

.....

.....

.....

.....

d) Why is the extension programme implemented in this way?.....

.....

.....

.....

.....

Programme Evaluation

a) How does the case organisation evaluate its extension programme?.....

.....

.....

.....

.....

b) How does it ensure accountability or report to government, farmers and other stakeholders?.....

.....

.....

.....

c) Why is the extension programme evaluated in this way?.....

.....

.....

.....

.....

THANK YOU FOR YOUR PARTICIPATION

APPENDIX 2

BROAD INTERVIEW QUESTIONS (STAKEHOLDER ORGANISATIONS RESPONDENTS)

1) **What do you know about the operations of the case organisation with reference to:**

a) Stakeholder participation in agricultural extension programme planning, implementation and evaluation.

b) Accountability to government, farmers and stakeholders.

c) Institutional capacity building for effective extension programme implementation.

2) **Resource mobilisation for effective programme implementation.**

a) Types of support provided to farmers in the study area.

3) **What factors do you believe are important in the way the case organisation operates?**

4) **In which areas does your organisation assisting the case organisation in goal identification?**

5) **How do you think the activities could be strengthened through stakeholder involvement?**

APPENDIX 3

BROAD INTERVIEW QUESTIONS (CASE ORGANISATION'S RESPONDENTS)

Programme Planning
How is the extension programme planned?
How is stakeholder and farmer participation ensured?
Why is the programme planned in this way?
Programme Implementation
What key measures are taken to implement extension programmes?
How is the institutional capacity built to ensure effective extension programme implementation?
How is stakeholder and farmer participation in the extension programme implementation ensured?
Why is the extension programme implemented in this way?
Programme Evaluation
How does the case organisation evaluate its extension programme?
How does it ensure accountability or report to government, farmers and other stakeholders?
Why is the extension programme evaluated in this way?