LIVELIHOODS IN THE RURAL AREAS OF BLOUBERG MUNICIPALITY (GEMARKE & EARLY DAWN VILLAGES), LIMPOPO PROVINCE, SOUTH AFRICA

OPPORTUNITIES FOR COMMERCIALISING LIVESTOCK PRODUCTION IN THE COMMUNAL LAND USE SYSTEM

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OPPORTUNITIES FOR COMMERCIALISING LIVESTOCK PRODUCTION IN THE COMMUNAL LAND USE SYSTEM

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ABSTRACT

The possibilities for livestock commercialization by smallholder farmers in communal land use systems of Blouberg Local Municipality (BLM) were evaluated using Agricultural Research for Development (ARD), a holistic approach to collective rural innovation and development. Participatory Rural Appraisal (PRA) tools such as meetings, semi-structured interviews, focus groups discussions and workshops provided a platform for an inter-institutional and inter-disciplinary team of researchers to explore possibilities for commercialization under the communal land use system, and to gather different perspectives of the key stakeholders involved in the challenge.

The aim of this study was to contribute to the development of an efficient and effective approach to better deal with the commercialization aspects of livestock production in communal land use systems. The findings of the study indicate that smallholder farmers are keeping livestock mainly to reach their subsistence objectives, and commercialization is not an eminent issue for these farmers. This is in contrast to the initial view of the Limpopo Department of Agriculture (LDA) that farmers are ready to commercialize.

The main challenge facing the commercialisation of livestock in communal grazing areas is organisation of farmers. The management of the veld, establishment of water points within the veld and building capacity on general livestock management strategies are the most important developmental strategies, which all require communal action. Furthermore, the farmers vary little with regards to their farming objectives (subsistence) and grouping farmers into clusters/typologies may not be necessary for the short-term future interventions.

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LIST OF ACRONYMS

ARD	Agricultural Research for Development
ARC	Agricultural Research Council
BM	Blouberg Municipality
CASP	Comprehensive Agricultural Support Program
CDM	Capricorn District Municipality
CLUS	Communal Land System
IDP	Integrated Development Plan
ICRA	International Centre for Development Oriented
LDA	Limpopo Department of Agriculture
LPS	Livestock Production System
LSU	Large Stock Unit
MOU	Memorandum of Understanding
MRS	Mara Research Station
NAMC	National Agricultural Marketing Committee
NDA	National Department of Agriculture
NERPO	National Emerging Red Meat Producers Organization
NGO	Non Governmental Organization
RDP	Reconstruction and Development Program
R&D	Research and Development
SA	South Africa
SI	Structured Interviews
SOI	System of Interest
SSU	Small Stock Unit
TOR	Terms of Reference
TSCA	Tompi Seleka College of Agriculture

EXCECUTIVE SUMMARY

Background and justification

The study was conducted in Blouberg Local Municipality (BLM) in Capricorn District Municipality (CDM), Limpopo Province in South Africa. **Chapter 1** gives the introduction and background of the study area which covers geographical location, climate, vegetation, demography, infrastructure, agricultural activities and livestock composition.

The Limpopo Department of Agriculture (LDA) is in the process of developing a new mode of operation in service delivery, which is focused at municipality level. The department is planning to use a commodity-based approach that covers infrastructural development and extension support. The BLM has been selected as a pilot area where this new approach will be implemented, monitored and evaluated in preparation for broad based application throughout the province. The focus of the CDM, particularly of the BLM, is on the development of the livestock production sector, concentrating on areas with communal land use system.

BLM has been identified by the LDA as a nodal area where livestock farmers need to be supported for the production of livestock. Livestock numbers in this municipality are considerable, and are complimented by extensive range land. There is difficulty in optimal management of this range land and other natural resources, however. Furthermore, livestock keepers find it difficult to profitably market their livestock produce. In addition, some of the livestock producers are poor and in need of any opportunity that can build their capacity and enhance their economic development.

The 6-week study has been undertaken as a result of the collaboration between the Agricultural Research Council (ARC) and International Centre for oriented Research in Agriculture (ICRA) and was carried out as a joint activity by these institutions together with the Directorate of Research and Extension (DR&E) of the LDA, CDM and the BLM Service Centre (BLMSC).

The study focuses on the social organizations that can contribute to commercialization of livestock under communal land use systems, that is, the potential relevant forms of socio-economic organizations at village level that may encourage better use and management of agro-ecological and those organizations at village, municipal, district and provincial levels that may lead to a more profitable marketing of livestock products.

The objective of the study is that farmers are organized and manage their agro-ecological resources; and are able to profitably market their livestock produce. The purpose is to contribute to the development of an efficient and effective approach to better deal with the commercialization aspects of livestock production in communal land use systems.

Research methodology

Chapter 2 details the research methodology used for the study. The research was conducted by a team of six researchers from various institutions. The team conducted the research by utilizing the ARD procedure which starts with a complex problem or opportunity. A team of different stakeholders with different disciplines who have a stake are organized to tackle the matter. This is followed by a joint analysis, identification of strategies as well as a joint action plan. The ARD approach is inter-disciplinary, inter-institutional, flexible, interactive and emphasizes the involvement of stakeholders who have an influence and of those who are affected by the problem or opportunity.

The methodology followed was divided into two phases. The first phase focused on the synthesis of the Terms of Reference (TOR) which was developed by NARDTT together with the LDA. The field study phase was based on the collection of data and the analysis thereof. The implementation (field study) phase started with an introductory meeting with the monitoring team to inform all stakeholders about the commencement of the study of which they were initially briefed. This was followed by introductory meetings in Gemarke and Early Dawn Villages. These introductory meetings were followed by transect walks to identify agro-ecological resources available and their use, as well as available infrastructure and to observe the current status of the grazing land, fields, crops and water sources. The next step was to explore the necessity of typology.

Primary data was gathered through both formal and informal techniques. Formal techniques involved collection of data from farmers using structured questionnaires. Focus group discussion sessions with livestock owners were conducted (using focus group guiding questions) at Gemarke and Early Dawn to collect information on agro-ecological resources as well as socio-economic resources and the management thereof. Personal interviews in the form of key informant interviews were conducted, using semi-structured questionnaires. The focus of the interviews was on marketing opportunities for livestock production under the communal land use system.

A focus group discussion on current recommended improved practices for communal livestock and veld management was also held with key stakeholders. Participants selected for the focus group included representatives from LDA at both district and provincial level, smallholder farmers from Gemarke and Early Dawn villages, auctioneers, animal scientists, veterinarians, meat inspector, representatives from Institutions of higher learning which included Universities and former Colleges of Agriculture in the Limpopo Province.

A mid-term workshop was held with the monitoring group to present the initial findings of the study. The priority-setting workshop was also held to prioritize the identified development strategies. Participants selected for the priority-setting workshop included representatives from LDA at both regional and municipality level, smallhoder farmers from Gemarke and Early Dawn villages, Extension officers, Animal Scientists/Veterinarian and Tertiary institutions. The final workshop was also conducted to present the findings of the study to all the involved stakeholders.

Resources: availability, trends and current utilization

Chapter 3 explains the availability, trends and current utilization of resources in the study area. It presents the general setting of the villages, infrastructural assets, the types and quality of the soils, vegetation and its quality for grazing, water sources, arable fields and crop production, grazing areas and livestock production, availability and access to information. There is much bush encroachment in the veld especially Acacia species. This veld is good for both cattle and goats' production as goats will be browsing on tree species, whilst cattle will be mainly grazing. In winter or when there is insufficient grazing material, cattle also feed on the leaves and pods of the trees as natural supplement. The veld condition is good in most years, especially when there is enough rainfall. The grazing area is currently underutilized as there are presently few animals relative to the veld's grazing capacity. There are not enough water sources for livestock in the grazing areas and water supply has diminished and is currently highly irregular. Rainfall is considered as one of the crucial limiting factors to agricultural production in the area. Most of the fields have been abandoned because of recurring droughts. Production is mainly rain-fed, with crops such as sorghum, maize, beans, pumpkins, Babala (pearl millet), Jugo beans (Bambara groundnuts) and water melon being the main crops planted. The main types of livestock kept include cattle, goats, sheep, donkeys and pigs.

Exploring the need for a typology of livestock farmers

In **Chapter 4**, an attempt was made to classify the livestock-owning farmers of the two villages into suitable target groups useful for future targeting of interventions by the LDA. Other variables such as age, education, heads of household and sources of income, livestock farmers' objectives for keeping livestock, labour, gender and decision-making, innovation, and access to markets and information were analyzed to verify the tentative typology.

All variables studied indicate that the role of livestock is important but is still mainly related to reaching more subsistence and more secure livelihood objectives. Subsistence orientated reasons (food security, school fees, ceremonies, investment) dominate the household decision making process regarding livestock management. This is the same for all tentative clustered target groups. Commercialization considerations do not play a role yet. The study team therefore concluded that it is not effective and useful for the LDA to structure and target its future interventions according to the need of different target groups. The LDA can still consider the livestock owning farmers as one target group with similar objectives. Chapter 5 provides further support to this conclusion as the constraints and needs of the different tentative clusters are also similar and require more communal action than action by specific target groups or individuals.

Chapter 5 presents the needs and constraints, recent trends and outlooks in agriculture in the two villages. The conclusion is that smallholder livestock farmers in the two villages face a variety of constraints to sustainable livestock production. Lack of fodder, water and inadequate animal health are primary constraints on livestock based livelihoods in the

two villages. The major constraints in livestock production in both villages are theft, drought and diseases. A number of needs for livestock production were outlined by the villagers. These include control of stock theft, repairing of dipping tanks, drilling of boreholes, and market opportunities in order to earn enough income to have a decent livelihood. Stock theft is a big problem that causes high economic losses to farmers. The smallholder farmers in the two villages consider animal disease as the major constraint. Drought was also mentioned by farmers in the two villages as a threat beyond human control and a crucial factor for commercialization. The general constraints faced by farmers in both villages include access to productive natural resources, access to inputs, access to financial services, and access to support services. Farmers in both villages also face constraints and/or challenges in marketing their produce as indicated in Chapter 6.

Chapter 6 explains marketing opportunities for livestock production under communal land use system. It presents the nature of communal farmers and collective marketing, marketing institutional arrangements, challenges facing the marketing of livestock, channels for livestock marketing and main challenges in smallholder livestock commercialization. The study concluded that communal livestock farmers are numerous and operate in small scale. These farmers differ in their farming objectives and sell individually. They sell their animals to speculators, local traders, neighbouring commercial farmers, and individuals depending on the market available at the time of sales. Some marketing channels such as abattoirs require large volumes and high quality animal. It is evident that the current situation of smallholder livestock farmers hinders their ability to effectively market their produce in these channels. Effective marketing requires the availability of institutional marketing arrangements. These include marketing agents/organizers, marketing information and value-adding activities within reach of the producers. However, these arrangements are deficient in most cases. Farmers often sell their livestock below market prices because of lack of knowledge of local, regional and national livestock and meat prices. The two most common channels among the smallholder livestock farmers are private sales and sales through speculators. Niche markets can be the main opportunity for smallholder farmers to commercialize. The popularity of commercial farmers as a niche market for indigenous breeds is slowly growing. Collective marketing of livestock in communal land use system can overcome some of the problems inherent in smallholder farmers and this can happen if farmers organize themselves as discussed in Chapter 7.

Chapter 7 explains social organizations and presents the benefits of forming social organizations, constrains in relation to formation of social organizations, social capital as a resource to collective action, and willingness of smallholder farmers to form social organization. Farmers in the two villages are not well organized. The formation of farmers' organization is one way of reaching optimum benefits by smallholder farmers in the study areas. These can be in the form of farmers associations, commodity groups or cooperatives (long term). Other strategies that can make smallholder farmers reach optimum are discussed in Chapter 8.

Chapter 8 introduces the development strategies for communal livestock production. A number of development strategies were identified from the recommended practices.

These relate to veld and livestock management, along with social organizations. These strategies were prioritized according to their importance in livestock production by farmers and other key stakeholders.

CHAPTER 1 INTRODUCTION

1.1 Background of the study area

1.1.1 Geographical location

The Blouberg Local Municipality (BLM) forms part of the Capricorn District Municipality (CDM) of the Limpopo Province, South Africa. It borders with the following local municipalities: Makhado in the North East, Aganang in the South, Molemole in the South West, Lephalale in the North-West, and Musina in the North and Mogalakwena in the South West. The municipality is composed of 139 villages and covers an area of 454,084 hectares (ha) which forms 26.8% of the CDM (Integrated Development Plan (IDP), 2005/06).

1.1.2 Climate

The CDM is classified as semi-arid area, which makes it prone to drought. Blouberg receives an annual rainfall ranging between 380 and 550 mm. The rainfall is concentrated mainly during summer (November-January). There is one perennial river, Mogalakwena River, which feeds the Glen-Alpine dam (Zwane, 2006).

1.1.3 Vegetation

The dominant veld vegetation types in the Capricorn District include Pietersburg Plateau, False Grassveld and Mixed Bushveld which render the veld suitable for extensive cattle farming (given sufficient water), and the production of cut flowers, vegetables, tobacco and deciduous fruit. The BLM has a mixture of sweet and sour grass. Sweet grasses are more palatable and are often over-grazed, while sour grasses, which are less palatable, grow out and may become moribund.

1.1.4 Demography

The CDM is a commercial farming area, but extensive areas are populated by the Pedi tribe that makes use of the communal land. The estimated population of BLM is 161,322**,** which is 14% of the total population of CDM. In comparison to other local municipalities in the Capricorn District, Blouberg has the lowest level of education. Almost 24% of the population never attended school whereas 39% of the households have primary school education and the rest obtained secondary and tertiary education.

The BLM is composed of 33,939 households which constitutes 4.8% of CDM. It is characterised by a high unemployment rate of 52.6%. Four percent of the population have

disabilities such as deafness, blindness and physical challenges, and rely on government disability grants. On average, 34.7% of the households have no formal income.

1.1.5 Infrastructure

Housing
In Blouberg, 69.7% of the population lives in formal (brick) houses, 18.9% live in traditional houses (huts), 7.5% lives in informal houses (shacks/slumps) and 3.9% stay in other types of houses (rented, joined houses-Malaene).

Sources of water
In BLM, 50.7% of the population have access to piped water, above the Reconstruction and Development Programme (RDP) standards, whereas 49.3% of households rely on communal stand pipes and other sources of water at a far distance. The RDP standards specify that the distance between communal taps and the household should not exceed 200 meters. Details for the BLM can be found in Annex 1.1.

Sanitation
The BLM has a large need for sanitation services with about 80% of households not meeting the Reconstruction and Development Programme standards. Forty percent of households use pit latrines without ventilation whereas the other 40% have no access to any sanitation services.

1.1.6 Agricultural activities in Blouberg Local Municipality

A number of agricultural projects have been initiated in the BLM and some are in the implementation phase, e.g. the Comprehensive Agricultural Support Programme (CASP). This programme involves revitalization of livestock watering units and crush pens, repair and erection of new dip tanks, sales kraals and layer units, establishment of fish production ponds, milk production parlours, and homestead gardens.

1.1.7 Livestock composition

Livestock, especially cattle and goats, play an important role in the lives of the local rural communities. Sheep are less important. This is highlighted by the small number of sheep kept by households as compared to cattle and goats (Annex 1.2).

1.2 Problem definition and justification

The LDA is in the process of developing a new mode of operation in service delivery, which is focused at municipal level. The department is planning to use a commodity-based approach that covers infrastructural development and extension support. The BLM has been selected as a pilot area where this new approach will be implemented, monitored

and evaluated in preparation for broad-based application throughout the province. The focus within the CDM, particularly the BLM, is on the development of the livestock production sector, concentrating on areas with communal land use systems.

BLM has been identified by the LDA as a nodal area where livestock farmers need to be supported for the production of livestock. Livestock numbers in this municipality are considerable, and are complemented by the availability of extensive range land. Optimal management of this range land and of other natural resources is complicated, however. Furthermore, livestock keepers find it difficult to profitably market their livestock produce. In addition, some of the residents are poor and in need of any opportunity that can build their capacity and enhance their economic development.

The literature generally defines commercialization as a categorical concept used to classify farmers according to the portion of their produce taken to the market, and sometimes to reflect their stages of development (Makhura *et al*., 1998). Latt and Niewoudt (1988) define commercialization as any market related activity associated directly with the households' agricultural production. This definition also considers the use of purchased inputs. Von Braun (1992) defines commercialization as a complement to technology and relates it to the volume of produce and household resources that enter the exchange economy using three variables:

- Ratio of value of unmarketed agricultural production to total value of agricultural production
- Ratio of value of unmarketed agricultural production to total income
- Ratio of total value of home produced goods consumed to total household consumption.

Burger (1995) identifies a commercial farmer as one who produces sufficient agricultural products for the market so as to earn an income from the farm that is sufficient to ensure an acceptable standard of living for him and his family. However, commercialization in this study refers to the process of transformation of smallholder farmers from subsistence to a commercial mode of farming.

1.3 Objectives of the study

Goal

The overall goal to which this study contributes, is that farmers are organized efficiently, manage their agro-ecological resources effectively and in a sustainable way, and are able to market their produce profitably, in order to create more sustainable agricultural-based livelihoods.

Purpose
The purpose of this study is to contribute to the development of an efficient and effective approach to better deal with the commercialization aspects of livestock production in communal land use systems.

Expected outputs
The expected outputs of the field study are as follows:

- The current livelihood systems and strategies of the rural population in the Noma village cluster in BLM have been analysed in order to develop an initial household typology for better targeting of future development efforts in the communal livestock sector.
- The past and expected changes among the livestock-owning households have been analysed in the target area. Specific attention will be given to changes affecting the use and management of agro-ecological and socio-economic resources for livestock production purposes.
- Potentially relevant forms of socio-economic organisation at village level have been identified that may encourage better use and management of the agro-ecological resources.
- Promising forms of socio-economic organisation at village, municipal, and district levels that may lead to a more profitable marketing of livestock products have been identified.
- Currently recommended improved practices for livestock production, range management and livestock produce marketing have been screened on their potential usefulness in communal land use systems.
- Relevant development strategies have been identified and prioritised to assist the formulation of future development programmes for livestock-owning target group(s) in the Blouberg area.

1.4 Contextual analysis

South Africa has a dualistic economy with large commercial farming at the one extreme, and small subsistence farming at the other extreme, with the emergent farmers in between. The commercial farming sector constitutes the first economy while the small subsistence farming and emergent farmers compose the second economy (Oni, 2003). The smallholder farmers that are the focus of this study are between subsistence and emergent farmers. Supporting the second economy is a major need and priority in South Africa and in Limpopo Province in particular. The expected influx of emerging and smallholder farmers, and the increased priority given to these farmers, place unique demands on the agricultural services in Limpopo Province.

In an effort to address the needs of the second economy, the LDA is developing a new mode of operation, which is focusing on delivering services at municipality level. The plan of the department is to use the commodity-based approach to take care of infrastructural developments and extension support. In order to work efficiently, the

department encourages farmers to get organized in commodity-based organizations. The Participatory Extension Approach (PEA) builds on or facilitates the development of local farmers' organizations with or according to the needs of the farmers or the local population.

Three clusters of villages have been jointly assigned by LDA, CDM and BLM as the focal points for launching the new program approach: Noma, Gidion and Pax). The ARD team focused only the Noma cluster of villages, which is approximately 35km from Blouberg. In the Noma cluster, two representative though contrasting villages were selected (Gemarke and Early Dawn Villages) in order to enable a comparative analysis. It was intended that to paid special attention to the level of social organization among livestock holders as a criterion for differences between the two villages.

With ICRA and Agricultural Research Council (ARC) realizing that the problem was so complex and beyond the mandate of only one discipline and/or one institution, the LDA together with ARC, submitted a proposal of investigating the livelihoods in the rural areas of BLM along with the opportunities for commercialization of the livestock production in the communal land use system through better management and sustainable use of the agro-ecological and socio-economic resources. The next stage was for the three organizations to develop the terms of reference (TOR) delineating a problem situation, which necessitated collective action.

A team of six scientists with appropriate disciplines (agricultural economics, agricultural, rural sociology, land use planning, family resource management, agricultural extension, crop and livestock production, and development studies) was therefore assigned by ICRA to carry out the research. Its members came from five different tertiary education institutions and the ARC. Exploration of the context of the problem situation revealed the problem to be '*a low level of social and economic organization which resulst in livestock owners finding it difficult to optimally manage their natural resources (herds and rangelands) and profitably market their produce*'.

1.5 Client organizations

The study was carried out as a joint activity by the Directorate of Research and Extension (DR&E) of the LDA, ICRA, ARC, CDM and the BLM Service Centre (BMSC).

Main activities/mandates and interests of clientele group

DR&E: The directorate of LDA responsible for Research and Extension. It is the directorate under which this field study falls.

Capricorn District: The geographic area in which the study area is located. This is a commercial farming area but extensive areas are inhabited by the Bapedi people, who have a communal land use system. The stakeholders in this context must be viewed as the rural communities and people residing in this district. Some of them are poor and require every opportunity for economic improvement.

CDM: The area-bound directorate of LDA responsible for planning and implementation of government agricultural activities within the Capricorn District of the Limpopo Province. The CDM is committed to agricultural development of formerly disadvantaged communities in Capricorn District.
BMSC: The service centre responsible for agricultural services in the BLM. This service centre is committed to the development of sustainable approach for delivery of agricultural services to rural communities in the target area of BLM.
ARC: Represented by its Rural Livelihoods Division coordinating contacts with relevant Research Institutes such as: Soil, Climate and Water (ISCW); Grain Crops Industrial (GCI); Small Grains (SGI), Veterinary (OVI); Animal improvement (AII); Animal Nutrition and Production (ANPI); and Range and Forage (RFI). The ARC conducts research for development in all agricultural aspects according to the needs of the clients and beneficiaries in South Africa. Through its Sustainable Rural Livelihoods (SRL) Division, the ARC is enabled to focus its research, development, and technology transfer activities towards the Resource Poor Agricultural Sector needs. In this process, the SRL provincial coordinators play an important role. They are placed in all nine provinces (including Limpopo) to strengthen and improve the linkages between the different programmes of ARC/SRL and the Provincial Department of Agriculture (PDAs).
ICRA: The international organization founded on the initiative of European CGIAR members. Its purpose is to "enhance human and institutional capacities in agricultural research for development (ARD) and rural innovation processes" through collective action learning rooted in real "field" situations and problems. It focuses on sharing, consolidating and where needed, generating new knowledge and developing new professional attitudes and skills for more effective ARD contributions to stakeholders innovation processes relevant to improving livelihoods of resource-poor farmers and broader needs of society. ICRA's professional training provides participating South African professionals in rural development with an opportunity to acquire new concepts and skills and to apply them in a professional assignment with South Africa partner research and development institutes.

1.6 Beneficiaries

Beneficiaries of the findings will include households of Gemarke and Early Dawn Villages with particular reference to livestock and/or those with an interest in business with livestock as the possible interventions may promote business with livestock. All key stakeholders in and around BLM may also benefit from the study because of the expected increase in interactions, which may lead to more collaboration in the future.

1.7 Focus of the study

The study focuses on the social organizations that may contribute to commercialization of livestock under communal land use systems, i.e. the potential relevant forms of socio-economic organizations at village level that may encourage better use and management of

agro-ecological resources and those organizations at village, municipal, district and provincial levels that may lead to a more profitable marketing of livestock products.

1.8 Research questions

The identified problem is centred on the strategy to change the current system of livestock production in communal land use systems from subsistence to a more commercial mode of production. This central problem was turned into a central question which is: *'what are possibilities for farmers in communal land use systems of Gemarke and Early Dawn Villages to transform from a subsistence system of producing livestock into a viable system of production and marketing livestock through formal markets'*. To be able to answer this central question, a set of secondary research questions were formulated as follows:

- What opportunities are there in the livelihood patterns of livestock owners under communal land use systems which can support commercialization of livestock?
- Are there existing farmer organizations managing agro-ecological resources? Which social organizations are essential to encourage better use and management of agro-ecological resources at village level?
- Are there existing organizations that market livestock at village level? What forms of social organizations are essential for effective livestock marketing at village level?
- Are there existing organizations that market livestock at municipal, district and provincial levels? What forms of social organization at municipal, district and provincial levels are essential for effective marketing of livestock?
- What are the current veld management practices in relation to communal land use? Which currently recommended improved practices for livestock production are useful in communal land use system?
- Which relevant development strategies are important in the formulation of future development programs for livestock owning target groups?

CHAPTER 2 RESEARCH METHODOLOGY

The methodology followed was divided into two phases. The first or preparatory phase focused on the synthesis of the Terms of Reference (TOR, Annex 2.1) which was developed by the LDA together with the National Agricultural Research for Development Task Team (NARDTT). The field study phase consisted of the collection of data and the analysis thereof. The methodology followed is adapted from Anteneh *et al.* (2004).

The study was conducted by a team of six researchers, selected by the NARDTT. The team conducted the study utilizing the ARD procedure (Figure 2.1) which starts with a complex rural development problem or opportunity.

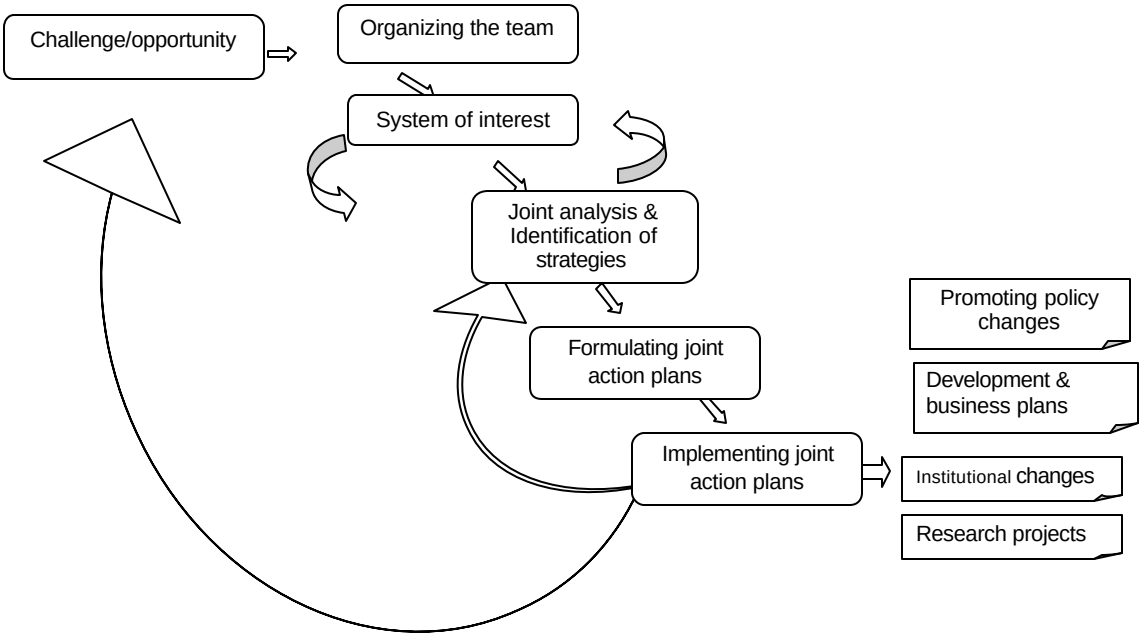

Figure 2.1 ARD Procedure

According to Figure 2.1, after identifying a complex challenge, an inter-disciplinary team with representatives of different stakeholders who have a stake are then organized to tackle the matter. This is followed by a joint analysis, identification of strategies, as well as the drafting of a joint action plan. The ARD approach is inter-disciplinary, inter-institutional, flexible, and iterative, and emphasizes the involvement of stakeholders who have an influence and those who are affected by the problem or opportunity (ICRA, 2006a).

2.1 Field study preparatory phase

In the field study preparation phase, the TOR was handed over to the team with some secondary data. A rich picture (Annex 2.2), which is a tool for exploring complex situations in soft system analysis, was developed. It focused on general livelihood systems and strategies, possible social organizations, relevant stakeholders, type of livestock kept and identification of markets for selling livestock. *This led to the development of a system of interest (the study focus) formulated as 'a change towards commercialization of livestock production in communal lands of Blouberg by taking cognizance of livelihood strategies, capacitating farmers and strengthening farmers' organizations'*. Different stakeholders in relation to the problem were identified, including smallholder farmers, tribal authorities, representatives from the LDA, the municipality and their ward councillors, representatives from farmers' organizations, auctioneers, and commercial farmers.

A research plan (Annex 2.3) was formulated with research questions, potential answers and the type of research methods and tools to be used when collecting data. The research questions developed were in relation to livelihoods, the type and management of agro-ecological and socio-economic resources, social organizations, currently recommended practices in relation to communal land use and development strategies.

An initial hypothesis related to the development of a typology was: *"Blouberg households and farmers are not homogeneous. They differ in terms of the number and type of livestock owned as well as in the degree of arable land ownership. Grazing land is however communally owned"*. The different research activities to be conducted were outlined in a time-table (Annex 2.4) with dates for the different activities stipulated. All the information prepared for the field study was presented to the reviewer before the team left for the field study in South Africa. All comments were incorporated and the documents were adjusted accordingly.

2.2 Field study phase

The implementation phase started with a launching of the study by a meeting held at the Blouberg Municipality. This was followed by introductory meetings to the tribal authorities and to the rural dwellers of the two villages earmarked for the study. An introductory questions guide and a questionnaire on livelihoods (Annexes 2.5a & 2.5b) were developed for the village introductory meeting and for the purposes of being acquainted with the general livelihoods of the villagers. Another questionnaire specifically formulated for typology development of livestock farmers (Annex 2.5c) was made. This questionnaire formed the basis of discussion for the focus groups of which the focal point was on agro-ecological resources and socio-economic organizations for management of agro-ecological resources.

In addition, key informant interviews were held, focusing on socio-economic organization for management of agro-ecological resources and for effective marketing at municipal, district and provincial levels. Key informant interview questions are attached as Annex 2.6. The last focus group discussion dealt with currently recommended practices on veld and livestock management. Development strategies were formulated and prioritized during the priority setting workshop.

2.2.1 Introductory meeting with the monitoring team

An introductory meeting with the monitoring team and relevant stakeholders was held at the Blouberg municipality on the 10th of April, 2006. The objective of the meeting was to inform all stakeholders about the start of the study on which they were initially briefed. The team was informed about the two villages assigned for the study (Gemarke and Early Dawn). They were also informed about a village situated in another cluster (Eldorado) which was apparently better (or well) organized than the other two villages. It was decided by the team that Eldorado Village would be visited at a later stage and could be used as a case in point or illustration for the other two villages. A member of the monitoring team presented a general introduction on the setting of the area, focusing on population, livestock kept and climatic conditions of the Blouberg municipality which forms part of the Capricorn District. A list of fifteen members of the monitoring group was also presented.

In order to acquire a common understanding by all stakeholders, the team presented the TOR focusing on the objectives and expected outputs. The daily activities of the team with milestones were also highlighted, whilst the issues of partnership and cooperation were emphasized amongst all stakeholders. During the meeting, the team enquired about a list of households in the two villages with livestock to be visited. It was brought to the team's attention that the list is available and will be provided in due course. An introductory meeting for the two villages was then scheduled to take place after Easter.

2.2.2 Introductory meetings at Gemarke and Early Dawn Villages

The first meetings at both Gemarke and Early Dawn Villages took place on the 18th of April 2006, which was already the second week of the field study. Before the team visited the two villages, the extension officer had initially informed the tribal authorities and the inhabitants of both villages about the study. During the meetings, the extension officer requested the team members to individually introduce themselves. The study to be conducted and the duration were outlined in the local language. The villagers were also informed that the results of the study will be used by the LDA for adequate implementation of services intended for the two villages. Those present at the meeting were informed that the study is a cooperative effort of LDA, ARC and ICRA. They were also informed that the intention of the introductory meeting was to enlighten the team about the general, daily activities conducted in the villages, i.e. general livelihood systems and strategies. A livelihoods questionnaire was used as a guide to gather the necessary information. Information in relation to access and control of natural resources, sources of income, livestock type and number kept was collected.

2.2.3 Transect walks

Thereafter, transect walks were conducted to identify agro-ecological resources available, their use as well as available infrastructure (e.g. dipping tanks). Information on the current state of fields, crops, grazing land, and water sources was also collected.

2.2.4 Typology formulation of Gemarke and Early Dawn Villages

Gemarke and Early Dawn Villages were revisited to explore the need for a typology of livestock farmers. These meetings took place respectively on the 19th and 20th of April 2006. Due to the unavailability of a list of households in the two villages, a sample was drawn using the livestock record books kept by the chairmen of the livestock mobilization committee of the villages. It must be noted, however, that these lists also did not include all livestock owning households. Whilst utilizing the livestock record books, the team members became aware that most of the livestock kept were goats and not cattle as initially contemplated. In order to have the same units for comparison purposes, the team discussed the issue of converting goats and sheep into large stock units (LSU). The reviewer advised the team to interview all livestock owners even those farming with goats and then convert goats into cattle by using the ratio of one LSU equals six small stock units (SSU).

From the records kept, a part of the population was drawn to come up with a sample, using stratified and subsequently systematic sampling. A stratified sample is a commonly used probability method which uses a subset of the population that shares at least one common characteristic. Livestock farmers were classified according to number of livestock owned, and placed into clusters. The first cluster was composed of livestock owners possessing one to five LSU, the second were from six to 10, the third from 11 to 15, the fourth category was for 16 to 20, whilst the last cluster was for farmers owning more than twenty LSU.

A typology questionnaire was then utilized, for the selected farmers only. Variables used in relation to the study included: *demographic information* e.g. age, level of education, marital status, family type etc; *land, livelihood and agricultural information* e.g. land ownership, decision making with regards to selling, slaughtering or donation of livestock, other sources of income besides livestock; main reason for keeping livestock; markets for inputs and outputs; major constraints in relation to livestock farming etc. The gathered information was then coded and analyzed using Microsoft Excel. Details of the analysis are presented in Chapter 4.

2.2.5 Visit to Eldorado Village

On Saturday the 22nd of April 2006, the team visited Eldorado Village. This village is situated outside the Noma cluster of villages and belongs to another cluster of villages

ear-marked by the BLM. The intention of the visit was to compare the type and extent of social organizations at this village, since the team had been previously informed that the village was better organized than other villages. The meeting was initially scheduled to start at 10:00 hours; at the time of arrival, however, there was a funeral of a high profile person taking place and most villagers, including those who were informed about the meeting, were attending it. The team had to wait for more than two hours for the arrival of the extension officer and the participants of the meeting.

The meeting started around about 13:00 hours. It was initially attended by about ten individuals. A short introduction explaining the objective of the visit was conducted in the local language. An interview guide was used for the discussion on social organizations. During the meeting, more people joined the discussion, which increased the number of participants to an approximate 80-100. There was no common understanding between the villagers and the ARD team as regards the purpose of the meeting. This led to conflict and the team decided to cancel the meeting.

2.2.6 Focus group sessions with livestock owners at Gemarke and Early Dawn Villages

Prior to the focus group discussion, the team selected participants from clusters previously formulated. Within these clusters a systematic sampling method was used to select participants: every third farmer was selected to be part of the focus group discussion. For small clusters a similar method was used: either every second farmer or all farmers were selected.

Focus group sessions were conducted using a focus group guiding questionnaire developed for livestock farmers (Annex 2.5A-C). The questions regarded agro-ecological resources as well as socio-economic resources and the management thereof. There were also questions on the existence, extent, and benefits of being organized and on constraints of livestock production.

2.2.7 Key informant interviews

Due to a public holiday on the 27th of April, all key informant interviews were scheduled for the 3rd and 4th of May. Secondary data regarding livestock marketing was gathered and reviewed prior to the interviews. This information was then incorporated in a key informant interview guide (Annex 2.6). The key informant interviewees selected came from LDA (general manager, research manager, meat inspector, agricultural economist and an animal scientist), and include Vleissentraal and Tirhani Auctioneers, as well as the Manager for CDM. A list on key informant interviewees is attached as Annex 2.8.

The focus of the interviews was on livestock marketing under a communal land use system. Guiding questions dealt with livestock and meat marketing problems, challenges that smallholder livestock farmers face in marketing, standards and grading for livestock marketing, price formation and challenges, and channels for livestock marketing. The

information collected from the key informant interviews was used in Chapter 6, on livestock marketing.

2.2.8 Focus group on currently recommended practices on veld and livestock management

A focus group discussion on currently recommended improved practices for communal livestock and veld management was held on the 5th of May. Participants selected for this focus group included LDA employees at both regional and municipal levels, smallholder farmers from Gemarke and Early Dawn, auctioneers, animal scientist, veterinaries, meat inspectors, extension officers, and representatives of tertiary institutions (Madzivhandila College, Tompi Seleka College, University of Limpopo and University of Venda). A commercial farmer was also invited but due to other commitments he could not attend the meeting.

The first session focused on veld management practices. This included questions on: veld and soil degradation, the kind of veld improvements that can be adopted in communal grazing areas, cultivated pastures/fodder production, grazing management practices suitable for communal grazing lands, veld burning etc. The second session focused on animal production management. This included questions on general management practices, breeding, and feeding systems. The third session concentrated on farmer's organizations. The guiding questions for the focus group are attached as Annex 2.7.

2.2.9 Mid-term workshop

A mid-term workshop was held at the Pietersburg Lodge in Polokwane on the 10th of May. The aim of the workshop was to inform the monitoring group about the initial findings of the study and to incorporate comments suggested into the final report. A presentation on the initial findings expanded on the livelihoods systems and strategies, the need for typology of livestock farmers, sources of income; livestock numbers, reasons for keeping livestock, access to markets, and current social organizations and possible social organizations for veld management practices.

2.2.10 Priority-setting workshop

The priority-setting workshop was held at the Oasis Lodge in Polokwane on the 12th of May. The aim of the workshop was to prioritize the identified development strategies. The information gathered from individual farmer interviews, key informant interviews, focus group discussions and informal interviews with extension officers was used to develop strategies that may enhance the commercialization of livestock in a communal land use system. The prioritized strategies were related to veld management, livestock management and social organizations.

2.2.11 Final workshop

The final workshop was held at the Oasis Lodge in Polokwane on the 18th of May. The workshop was aimed at presenting the findings of the study to all the involved stakeholders. Comments from the workshop were incorporated into the final report. The attendants of the meeting included participants from LDA (general manager, research manager, meat inspector, agricultural economist and an animal scientist); Manager for CDM, farmers, tertiary institutions, extension officers, the monitoring team and veterinary officers.

2.2.12 Village debriefing

After the final workshop, the team decided that it was necessary to report the findings of the study to the Gemarke and Early Dawn villagers. The villagers were provided with information regarding the findings, specific emphasis was on the information that they had initially provided and how it was used in formulating the report. After the discussions, a way forward on how farmers and the LDA would collaborate was discussed.

2.2.13 Limitations of the field study

In order to have a representative sample, a list of households and/or livestock farmers was necessary. The promise to supply the team with such a list did not materialize, however. The team had to devise other means, and stratified and systematic sampling techniques were used as outlined above. The stratified sampling method has certain disadvantages, one of them being that there is no assurance that a sufficient number of cases will be available within each cluster. As not all households and livestock farmers were known in to the team in advance, the results cannot be generalized to the whole village community.

Some of the livestock farmers owned no cattle, but had many goats. Due to the conversion of goats to LSU, they are included in the study. This should be taken into account when the results are interpreted. Results are representative for farmers having animals (LSU) and not for those having cattle exclusively.

All village meetings including the focus group took place at the *kgoro*, which is a village meeting place under a tree. This venue was not conducive as the set-up did not allow for efficient interaction, especially due to windy conditions. Fortunately, four out of six of the team members speak the local language, so that all village meetings could be held without the involvement of translators.

CHAPTER 3 RESOURCES: AVAILABILITY, TRENDS AND CURRENT UTILIZATION

3.1 General setting of villages

The lands on which Gemarke and Early Dawn Villages are located were bought by the forefathers in the early 1920's. They are typical South African villages with randomly located households, spaced about 10-20 meters from each other. The yards are bigger than average township stands. The homesteads are characterized by different types of houses, roundavels being the most common one, accompanied by block brick houses of average size. Kraals can be found around the homestead, as well as gardens. Instead of the common vegetables (cabbages, spinach, carrots, etc), mainly maize, sorghum, beans, pumpkins and water melons (usually considered to be field crops) are grown in the home gardens.

In Gemarke Village, the arable fields are located on the western side of the village. The grazing area is on the eastern side. The wetlands are near the grazing lands and they are being revitalized for aquaculture. As there is limited commercial fishery in Limpopo Province, villagers view this as a viable venture. The grazing area in Early Dawn Village is on and around the mountain area on the northern side, whereas the fields are on the southern side of the village. Both villages are relatively dry, and the natural vegetation is characterized by Acacia and Aloe species. The soils are generally sandy to loamy and dry out quickly. They are susceptible to erosion.

3.2 Infrastructural assets

General infrastructure available includes a pre-school, primary school, secondary school and churches in both villages. There are no clinics nearby. With regards to social networks and organisations, burial societies, women societies for collective casual labour and *stokvels* (money lending schemes) exist in Gemarke whereas in Early Dawn there is only a burial society. The roads leading to and within the villages are gravelly. Certain households have boreholes within their homesteads, whilst other dwellers have access to water through communal taps (stand pipes). The pit latrine system is dominant in the villages. Electricity is accessible to most of the 600 households in Gemarke, but it is not very reliable. In Early Dawn, only 14 out of total of 205 households have access to electricity. Other sources of energy include paraffin, gas, wood, and dry cow dung. There are only two general dealers in Gemarke, and three in Early Dawn. Public transport (buses and taxis) is available in both villages but not reliable. The mode of transport for men is the bicycle. Donkey carts are used by the whole family for fetching water and firewood.

3.3 Soils types and soil quality

Early Dawn Village
Considerable variation in soil types and fertility exist within the area, but a broad classification based on categories derived from farmers is used. The local soil types vary from heavy clay (black and red), to a sandy and sandy loam texture. The heavy clay is found in the cultivated fields while the sandy and sandy loam soils occur in the communal grazing lands along the foot of the mountain. Sandy loam soils are considered to be more fertile and have higher water holding capacities as compared to sandy soils. The clay soils are the best as far as water holding capacity and fertility is concerned. The sandy soils are susceptible to wind and water erosion as particles are loose and they also have a poor water holding capacity.

Soil erosion in the fields occurs as a result of water run-off from the mountain. Villagers build contours to slow down the flow of water to reduce soil erosion. Soil erosion affects yields in the fields as it removes the fertile top soil. The communal grazing areas tend to be on slopes along the mountain, which increases soil erosion. The incidence of soil erosion on communal land is also to some extent the result of improper management practices such as overgrazing. As a result, gullies are more apparent on the grazing lands. Soil erosion is considered to be one of the most common forms of environmental degradation as it results in decline in productivity in the available land and water resources.

Gemarke Village
The grazing areas and fields in Gemarke are dominated by dark loamy and loamy clay soils. The dark loamy soil is susceptible to erosion during heavy rains. As a result, its quality has deteriorated over the past decades, and the trend is expected to continue in the future unless drastic measures are taken to intervene and stop the erosion. Some of the fields are still used for cropping, but no fertilizers are applied, implying that nutrients are removed by crop harvests but not replenished. The only way the soil gets some nutrients is through the cultivation of leguminous crops, e.g. Jugo beans (i.e. Bambara groundnut - *Vigna subterranea*).

3.4 Vegetation and its quality for grazing

Early Dawn Village
The vegetation consists of a mixture of sweet and sour veld. The sweet veld consists of annual and weak perennial grasses which remain palatable and nutritious when they mature. Sour veld comprises of strong perennial grasses that develop lignin early in the season, and as a result become unpalatable. There is much bush encroachment in the veld especially of Acacia species. This veld is good for both cattle and goat production as goats will be browsing on the tree species, whilst cattle will be mainly grazing. In winter or when there is insufficient grazing material, cattle also feed on the leaves and pods of

the trees as a natural supplement. According to the farmers, the veld condition is good in most years, especially when there is enough rainfall. They say the grazing area is underutilized as there are presently few animals relative to the grazing capacity of the veld.

In the past, the condition of the veld was always good as there was regular and sufficient rain. The condition of the veld was largely destroyed in 1955 and 1996 by big bush fires. Drought did great harm in 1993. The condition went back to normal in the year 2000 because of heavy rains. The situation then changed to the worst in the year 2003 because of an extreme drought. Things got better in 2005/6 due to the good rains that fell throughout the whole country. Currently, the condition of the veld is considered to be good, such that it will be adequate to cover the needs during the winter season. According to farmers, it is not necessary to buy additional fodder as the veld can provide enough for the livestock. The farmers are of the opinion that the status of agro-ecological resources will depend on the occurence of rainfall and veld fires. If there is enough rainfall and no fires, the condition of the veld will continue to improve. With the construction of camps, the farmers believe that they will be able to apply rotational grazing which will result in an excellent condition of the veld.

Gemarke Village
The vegetation has changed to a certain degree over the last decades in Gemarke. Undesirable plants such as Aloe and Mphato (*Gymnosporia senegalensis*) increased in the last 20-30 years. In the process, the more desirable plants such as Acacia species and Mohlahla (*Eragrostis plana*) declined in numbers. Other undesirable plants of the pepperous species have also invaded the river banks. The farmers anticipate that the veld condition improves if the grazing area can be fenced. There would be improved control of grazing and bush encroachment, and the vegetation could be better conserved. The farmers believe that since fencing is in progress, the situation will definitely improve in the near future.

3.5 Water Resources

Early Dawn Village
The community accesses water through communal taps and these are shared between three to four households. About fifteen families have boreholes within their compounds and pump water using generators and electricity. However, water from these boreholes is insufficient for a single household as there is not enough groundwater in the village. Furthermore, it is often of poor quality and salty. Even though water in the village is relatively easily accessible to different households, it is considered not to be enough even if the number of boreholes can be increased.

There are not enough water sources for livestock in the grazing areas and their water supply has diminished and is currently highly irregular. Consequently, the drinking water for livestock has to be increasingly provided for by households from their compounds. Although the village has an earth dam, it only holds water during the rainy season. Only

then it can provide the livestock with drinking water. During the dry season, a water pump next to the dam supplies water for animal consumption using troughs. In addition there are two small cemented troughs (*kraps*) near the communal power tap which are also used for livestock drinking. Next to the arable fields there used to be a water pump but it broke down in 2003. Recently two new boreholes have been dug and a third is in the planning phase. However, these boreholes are not operational yet. Rainfall is considered as one of the crucial limiting factors to agricultural production in the area.

Gemarke Village

For the provision of water for human consumption the situation in Gemarke is comparable to Early Dawn. Also here, additional boreholes are used with some providing salty water.

With regard to water for livestock consumption, a river was used in the past. However, the river is now silted with sand. It used to supply good quality water for both human and animal consumption, but it has dried up over the last decade. Currently, the water in the river becomes smelly early in the dry season, rendering it unsuitable even for livestock consumption. In addition, a natural spring, a borehole, and two wells existed that used to be effective in the past. The grazing area included also a dam but currently this dam has become silted and ineffective. There are plans to revitalize these old water sources in the near future.

3.6 Arable fields and crop production

The sizes of arable fields in Gemarke range from 6 to12 ha, depending on the size of the family. In Early Dawn, the sizes range from 0.8 to 6.5 ha. In the past, the livelihoods in these villages used to be mainly based on agriculture, with each household owning at least one field. Villagers state that, because of recurring droughts, most of the fields have been abandoned. These abandoned fields are now weedy and bushy with no sign of cropping in the last 20 years. The fences that used to form boundaries for the fields are now broken. Some of the owners of such fields also moved to big cities to seek for better opportunities. For those who still try to cultivate their fields, problems with animals invading their crop fields is a major constraint due to lack of fences. In addition, fields are often only partially planted, whereas the rest lies fallow and is used for livestock grazing. Some villagers cite the expenses for hiring tractors and other implements as additional obstacles to crop production, even though some villagers use donkeys for animal traction.

Cultivation is mainly rain-fed, with crops such as sorghum, maize, beans, pumpkin, Babala (*Pennisetum glaucum*, pearl millet), Jugo beans and water melons. All these crops are mixed together in one field, year after year, depleting the fertility of the soil. The villagers mention lack of knowledge on crop rotational systems as the cause of this problem, and are willing to receive any advice on more suitable cropping systems.

3.7 Grazing areas and livestock production

The grazing area in the two villages is communally owned. All villagers rely on common lands to graze their livestock. This resource, however, is constantly being diminished in Gemarke because of the increased pressure on land. Even though the grazing areas are currently in a relatively good state, there is a lot of Acacia encroachment. As explained, there are few or no water sources in the grazing areas, and water has to be provided by households. There are also trenches made from the road side that lead into the grazing areas, providing some water for livestock and grass on rainy days. In the past, grazing areas were divided into camps. The villagers allege that with the coming of democracy, the fences were taken down for personal use. There were also rangers, who looked after the camps and repaired fences. The villagers also assert that these rangers were dismissed after the advent of democracy.

Besides providing feed to livestock, the grazing areas are used for collection of fire wood by women and girls, collection of plants for medicinal purposes, and collection of wild fruits by everybody.

The main types of livestock kept include cattle, goats, sheep, donkeys, and pigs. These are kept in the kraals around the homesteads. Sheep are mainly exotic to the area, but their numbers are steadily growing. Villagers indicated their need of advice on sheep production. The need for livestock veterinary services in general, and in particular vaccination, was also mentioned. The villagers stated that the extension services are about 10 km away, and that it is difficult to get help in times of emergency, particularly for livestock medicines.

Vulnerability of livestock to theft and collisions of animals with cars were emphasized. As the grazing area is not fenced, animals walk all over, even to neighbouring villages. Villagers pointed out that they are prepared to start constructing fences as soon as the necessary material is available. These resources were put forward as a request to the LDA.

A number of needs for livestock production were outlined by the villagers. During the introductory meeting, the villagers were asked to mention and prioritize their needs. The prioritized needs are:

- control of stock theft,
- repairing of dipping tanks,
- drilling of boreholes, and
- market opportunities in order to earn enough income to have a decent livelihood.

Lack of fodder and inadequate animal health are additional constraints on livestock-based livelihoods in the two villages, but there is always enough grazing in Early Dawn except during extreme drought periods. Knowledge of animal husbandry and health is insufficient, hence the need for support in these fields.

3.8 Information: availability and access

Early Dawn Village
Annually, a farmers' day organized by the extension officers is held at the village. Not all villagers attend, however, and therefore claim that this kind of information source is not available. According to the farmers, the farmers' day focuses more on crops than on livestock production issues. As far as livestock production is concerned, the extension officers do visit the village regularly to provide necessary information. For all their agricultural activities, the farmers use the indigenous knowledge and skills that have been passed down from generation to generation. Even though farmers have never received any kind of official training related to livestock and crop production, information was emphasized as an important organizational aspect. Farmers indicated the need to join hands to collaborate. There is group of different families who have been working together, sharing information and resources for more than a century. This group has seen their production increase over the years and their management capabilities improve.

Gemarke Village
The farmers exchange information amongst them, and allege that the extension service is not adequate. Similarly to the farmers in Early Dawn Village, the farmers in Gemarke use the indigenous knowledge and skills that have been passed down over generations for their agricultural activities. Most of the villagers have not received any training related to agriculture. The only individuals who received training are those who work on the local poultry project.

In a study by NERPO, it was discovered that farmers in Limpopo prefer to access market information through postal mail and the extension officer, and there was low preference for receiving information through producer organisations. This may be an indication of flaws and ineffectiveness of producer organisation at grass roots levels (NERPO, 2006).

3.9 Conclusion on resources

Water provision especially for livestock is a limiting factor in the two villages as they rely predominantly on rainfall. There is a definite need for water points within the grazing areas.

In both villages, the farmers use indigenous knowledge and farmer to farmer exchange to apply some of the veld and livestock management practices. Training and capacitating farmers in these practices is therefore recommended. The veld condition is a concern, and farmers in both villages showed the willingness to work together with the assistance of the extension officers in improving the condition of the veld.

CHAPTER 4 EXPLORING THE NEED FOR A TYPOLOGY OF LIVESTOCK FARMERS

4.1 Introduction

Rural households are not homogenous. They differ in terms of natural, physical, human, social and financial capital (ICRA, 2006a). Access of households to these resources also differs, resulting in different livelihood strategies. This implies that they differ in the way they perceive and deal with problem situations (ICRA, 2006a). Although it is impossible for the LDA to assist all individual households, it is efficient to group them into rather homogeneous groups that have similar needs regarding the opportunities for commercialization of livestock, and to make better targeting possible of future development interventions by the LDA.

For this purpose the team made an attempt to classify the livestock-owning farmers of the two villages into suitable target groups useful for future targeting of interventions by the LDA. The team's efforts on development of an appropriate typology are presented below.

4.2 Development and testing of the tentative typology

In the development and testing of the tentative typology, a number of steps were identified by the team. These steps show a strong relationship with the purposeful and iterative sampling procedure the team used, and can be described as follows:

- Firstly, a hypothesis for typology was formulated;
- Secondly, a tentative typology was constructed;
- Thirdly, the tentative typology was tested using a set of livelihood related variables;
- Fourthly, the tentative typology was evaluated for its appropriateness.

The hypothesis was formulated based on the results of the reconnaissance survey. The hypothesis to be tested stated the following: "*Blouberg livestock farmers are not homogenous, they differ in terms of numbers and types of livestock owned which influence their interest in commercialization issues*".

The construction of the tentative typology was based on a univariate analysis (ICRA, 2006a) as only livestock numbers were used to describe clustered types of farmers. The team created following five clusters:

- **Cluster 1** represents farmers owning between one and five large stock units (LSU);
- **Cluster 2** encompasses farmers with LSU ranging between six and 10;
- **Cluster 3** represents farmers having LSU ranging between 11 and 15
- **Cluster 4** comprises of farmers owning between 16 and 20 LSU
- **Cluster 5** includes farmers owning more than 20 LSU.

The "large stock units" or LSU are used because the majority of the villagers in Gemarke own goats instead of cattle and in order to make comparisons between villages possible, these have been converted into LSU. In Gemarke only three clusters were relevant as there were no farmers owning more than 15 LSU whereas in Early Dawn all clusters were represented.

The tentative typology was tested during subsequent village-based surveys. The relation between some variables (Table 4.1) and the livelihood strategies, constraints, and needs of livestock farmers belonging to the five tentative target groups was studied. An overview is presented in Table 4.1. The aim was to identify if these variables could further substantiate the need for target grouping. If this need would become obvious, this could imply that the LDA has to address the needs of the individual target groups in future and start structuring its work accordingly.

Table 4.1: A tentative livestock farmer's typology and a list of variables to be analyzed

Farmer target group	Variables
Livestock numbers: • Cluster 1: 1-5 LSU • Cluster 2: 6-10 LSU • Cluster 3: 11-15 LSU • Cluster 4: 16-20 LSU • Cluster 5: > 20 LSU	**Livestock composition:** • Herd size-cattle • Flock size- sheep • Flock size-goat **Farming objectives:** • Status • Food & financial security, • Subsistence • Investment **Demographic factors/ characteristics**: • Age • Level of education • Household head • Sources of income **Human capital:** • Labour , gender and decis ion-making • Innovation **Social capital:** • Access to information **Financial capital:** • Access to markets (inputs, outputs) • Access to credit

The evaluation of the appropriateness of the tentative typology was done at the end of the field study when all data were analysed. The results of this process are presented in the concluding section of this chapter.

4.3 Analysis of variables

4.3.1 Demography

Exploring demographic variables was considered important to aid in understanding the maturity, lifestyles, and livelihood strategies of the targeted farmers. These variables play a major role when planning development projects as they can inflict a positive or negative impact on sustainability of the projects. Demographic factors considered include age, education, household head and sources of income.

Age

Individuals within different age groups have varying objectives and interests, so any developmental intervention should take age into account. This is essential for targeting the relevant beneficiaries. Age distributions within the interviewed farmers in Gemarke and Early Dawn are shown in Tables 4.2 and 4.3 respectively.

Table 4.2: Percentage age distribution amongst clustered farmers in Gemarke

Age	Cluster 1 (n=20)	Cluster 2 (n=10)	Cluster 3 (n=5)
31-40	15	10	0
41-50	30	10	0
>50	55	80	100
Total	**100**	**100**	**100**

The majority of farmers in all clusters are over the age of fifty, followed by farmers belonging to the age group ranging from 41-50. In clusters 1 and 2, a minority of the farmers belong to the age group of 31-40 years.

Table 4.3: Percentage age distribution amongst clustered farmers in Early Dawn

Age	Cluster1 (n=12)	Cluster 2 (n=11)	Cluster3 (n=4)	Cluster 4 (n=3)	Cluster 5 (n=6)
41-50	16.7	10.0	25	0	66.7
>50	83.3	90.0	75	100	33.3
Total	**100**	**100**	**100**	**100**	**100**

None of the farmers in all the clusters are below the age of 40 years. Their age ranges between 41 and 50 and others are over 50 years of age. The majority of the farmers in clusters 1, 2 and 3 are over 50 years of age except for cluster 5. In cluster 4, all farmers are older than 50 years.

This suggests that in both villages livestock production is still regarded as a livelihood option for the mature and older people. A relationship between age and the number of livestock owned (= cluster number) seems to be non-existent, however.

Education

According to Kirsten *et al*. (2002), households' behaviour in agricultural practices can be influenced by the level or status of education. Education plays an important role in accessing information and adopting new innovations. Table 4.4 presents the educational status of the interviewed farmers in different clusters for Gemarke, while those for Early Dawn are presented in Table 4.5.

Table 4.4: Percentage level of education amongst clustered farmers in Gemarke

Level of education	Cluster 1 (n=20)	Cluster 2 (n=10)	Cluster 3 (n=5)
No education	35	40	20
Standard 5 or less	35	50	80
Secondary	20	10	0
Matric	10	0	0
Total	**100**	**100**	**100**

Table 4.4 shows that roughly one third of the farmers in all clusters have no education. Almost half of the farmers in all clusters have received an educational level of standard 5 or less. Few received secondary education or even higher education.

Table 4.5: Percentage level of education amongst clustered farmers in Early Dawn

Education	Cluster1(n=12)	Cluster2 (n=11)	Cluster 3 (n=4)	Cluster 4 (n=3)	Cluster 5(n=6)
No educat.	20	40	0	30	0
Std 5 or less	80	50	50	70	50
Secondary	0	10	50	0	0
Matric	0	0	0	0	30
Post-matric	0	0	0	0	20
Total	**100**	**100**	**100**	**100**	**100**

Table 4.5 shows that a substantial percentage of the farmers in clusters 1, 2 and 4 never attended school while in clusters 3 and 5, all the farmers received some form of education. For clusters 2, 3 and 5, half of the farmers obtained standard 5 or less while a majority of the farmers in clusters 1 and 4 obtained education less than or equivalent to standard five. Only farmers in cluster 5 have matric and post-matric education.

Combined results for both villages show that the majority of farmers have never attended school or have a low educational level. But the relationship between level of education and the number of livestock owned (= cluster number) seems to be weak.

Household head

Within all clusters in Gemarke, most households are headed by males (80%, 70% and 90% for clusters 1, 2 and 3); the remainder is headed by females. It may be argued that female heads took their role due to unforeseen circumstances e.g. widowed or divorced/separated. Other female-headed households are those whose partners have migrated to other provinces and those who have never married.

The majority of households in Early Dawn are also male-headed. For cluster 1, 60% of households are headed by males whereas for both clusters 2 and 5, 80% are male headed. None of the households are headed by children under 16 years of age while only cluster 4 has many (67%) households headed by women. This is not surprising as the cluster consists of 3 observations only of which two are single and widowed, female farmers.

Sources of income

Livelihood strategies of livestock keepers evolve from various activities such as small businesses, remittances, formal and informal employment, agricultural activities and government social welfare grants. Livestock may play an important role for individual livestock keepers but other sources do as well. Some depend on it as a major income generator though. Farmers in respective clusters differed in terms of major income sources, resulting in varying livelihood strategies.

Figure 4.1 illustrates the variety in main income sources mentioned by livestock keepers belonging to the different clusters in Gemarke Village. It should be realised that they could mention more than one source and that prioritisation was not requested.

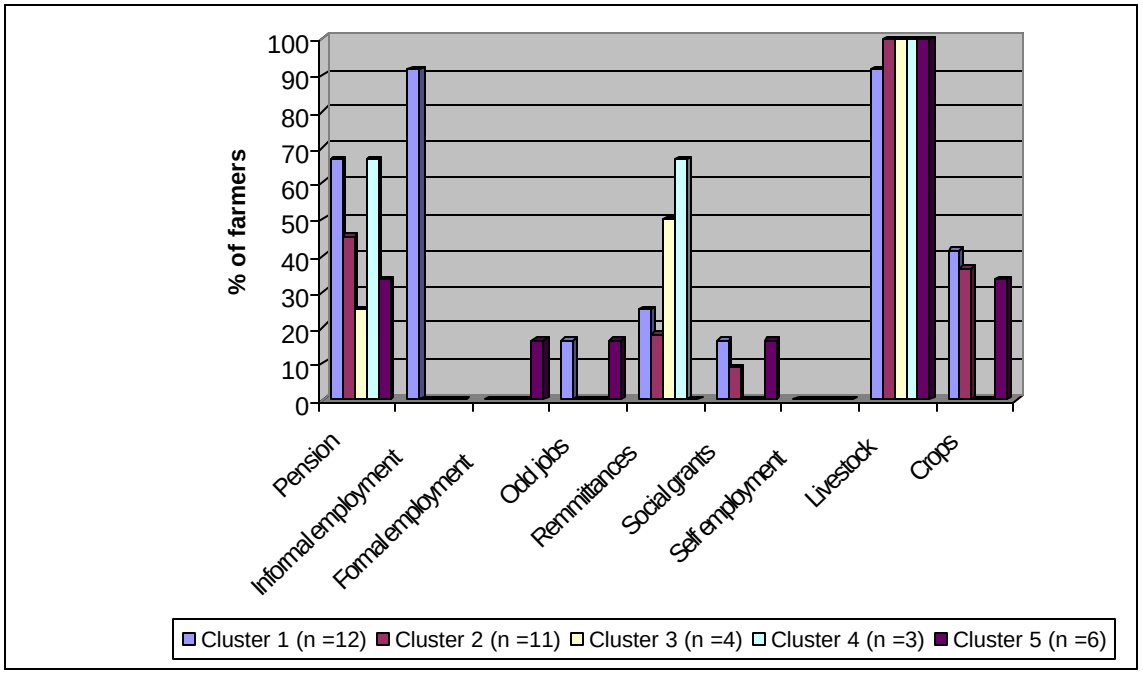

Figure 4.1: Sources of income as stated by clustered livestock keepers in Gemarke

As far as frequency of mentioning is concerned, income sources in cluster 1 diverge from livestock sales, pension, remittances, crop sales, odd jobs, social grants, self employment and formal employment. In cluster 2, the main generating income sources are livestock sales, pension, crop sales, self-, informal- and formal employments, as well as remittances. In contrast to clusters 1 and 2, cluster 3 depends mainly on pension as an income source. These are interesting findings reflected by the clusters as they can suggest certain contrasting results which need further investigation. This is with reference to the

reasons given for livestock keeping (as indicated in Figure 4.3) and the most frequently cited source of income (as indicated in Figure 4.1). For example, the most frequently mentioned source of income in cluster 1 is livestock sales (Figure 4.1); but this cluster indicated ceremonial purposes as the main reason for keeping livestock.

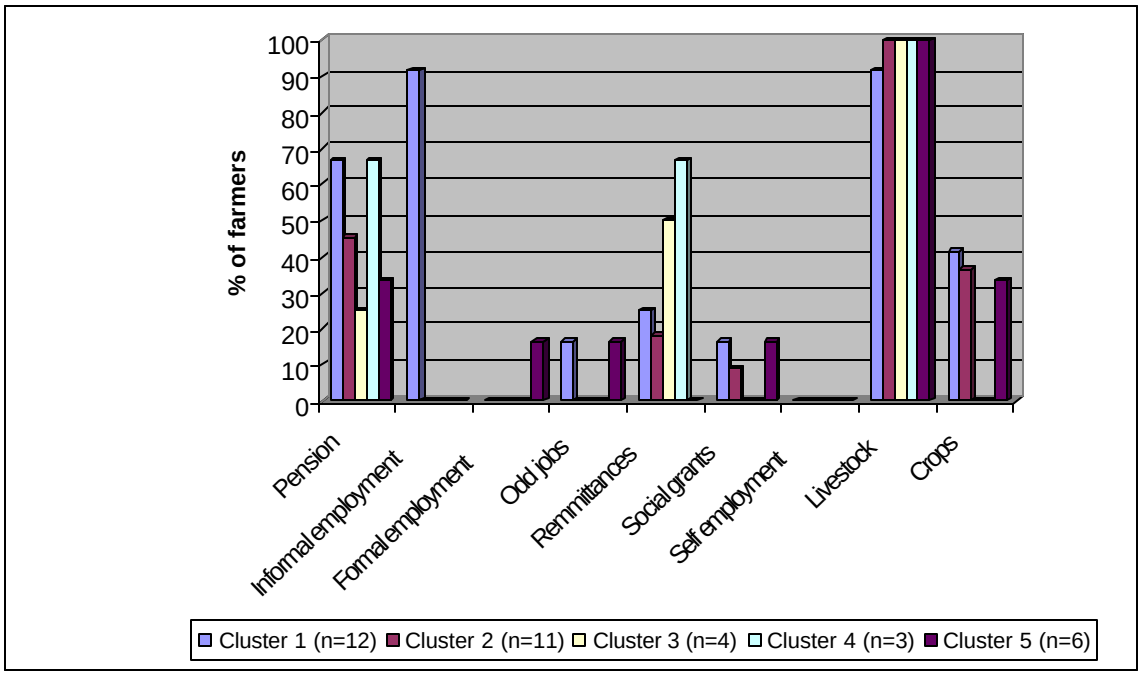

Figure 4.2: Sources of income as stated by clustered livestock keepers in Early Dawn

In Early Dawn livestock sales play an important role in contributing to household income. All farmers in clusters 2, 3, 4 and 5 mentioned livestock sales as a source of income and in cluster 1 this was 90%. The income from agricultural activities does not depend only on livestock sales as in some clusters sale of crop produce was also frequently mentioned. However, income from non-agricultural sources (especially pension and remittances) was very frequently mentioned, reflecting the diversified livelihood strategies of local livestock keepers.

Over 60% of the livestock keepers in clusters 1 and 4 mentioned pension as a source of income while in clusters 2, 3 and 5, this was less than 50%. None of the farmers in the different clusters obtain their income from informal employment, while in cluster 5, some are formally employed. Some farmers in clusters 5 and 1 mentioned odd jobs as a source of income.

Remittances were also cited as a source of income by some livestock keepers in almost all the clusters. This is expected as these farmers live in extended family settings, meaning that the grandparents live together with their grandchildren and the parents may send money to support them. Remittances as sources of income are by nature, irregular and sometimes not fixed and may be, as a result, referred to as unreliable.

Social grants were less frequently mentioned as a source of household income. Only 20% of farmers in cluster 1 mentioned it, while in clusters 2 and 5, this was less than 20%. It is possible that these households are characterized by children over 14 years of age that, according to welfare, do not qualify for social grants. None of the farmers in all the clusters are self employed.

Combined results for the two villages show that income from livestock sales is only one of the sources of income for livestock keepers. Pension, remittances, and crop sales are other sources frequently mentioned. This is reflecting the livelihood strategies of livestock keeping households; they wish to diversify their income sources in order to reduce risk and create a more sustainable livelihood. The team concludes that, among all clusters of livestock keepers, subsistence objectives still dominate the household decision making processes. The relationship between income from livestock sales and the number of livestock owned (= cluster number) is therefore not very clear as it is confounded with other sources of income. Subsistence objectives are still dominating the decision making processes as livestock keepers try to create first and foremost a sustainable livelihood, using the most appropriate strategy in view of their resources.

4.3.2 Livestock farmers' objectives for keeping livestock

The reasons for keeping livestock vary from farmer to farmer. Thus it is important to understand the farmers' objectives. According to Gootjes *et al.* (1992), there are various reasons for keeping livestock and these include food provision and a source of additional income. Livestock production may complement arable farming through provision of draught power and manure thereby enhancing the sustainability of the farming system. Livestock may serve as investment, as security, and as a token of status. Through generation of employment and income, livestock production promotes production and redistribution of wealth and may consequently have considerable impact on rural development (Gootjes *et al.*, 1992).

The team was interested for which reasons farmers in the two villages do keep livestock. Results are presented below.

Motives for keeping livestock

The livestock keepers in Gemarke Village reflected several motives for keeping livestock: Food security, source of income, social status, draught power, investment and fuel/manure were put forward. Figure 4.3 presents the reasons for keeping livestock as mentioned by local farmers according to the cluster they belong to.

Ceremonial reasons (religious, funerals and weddings) and manure and draught power for crop production are most frequently mentioned in cluster 1, but some state that they keep livestock for investment as well as for social status. Farmers in this cluster possess only few heads of livestock, which could mean that they depend very little on it for their livelihoods. Those in the clusters 2 and 3 keep livestock for generation of income, food security, school fees, investment, and manure, in order of frequency of mentioning. This

situation may imply that these farmers depend more on livestock for attaining a sustainable livelihood.

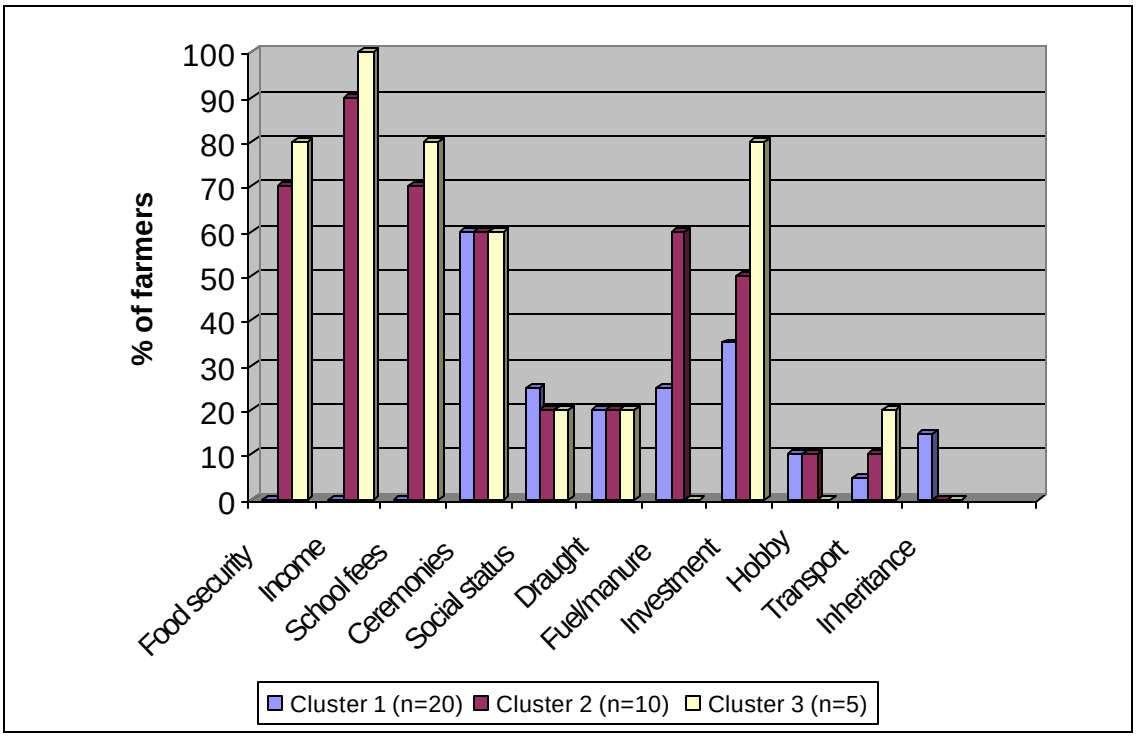

Figure 4.3: Reasons for keeping livestock as stated by clustered livestock keepers in Gemarke

The reasons for keeping livestock in Gemarke do not vary much from those cited in Early Dawn (Figure 4.4). Food security and generation of income are mentioned most frequently as reasons for keeping livestock by the livestock keepers in clusters 1, 2 and 4. For cluster 3 the most frequently mentioned reason is generation of income. This is followed by food security, school fees, fuel/manure and investment combined. For the farmers in cluster 5, generation of income is the most frequently mentioned reason for keeping livestock, followed by food security and ceremonies. Use of livestock for provision of manure (fuel and fertilizer), and draught power (transport) and social status play a less important role. The reason for this may be that the farmers are using their small home gardens only to cultivate field crops and that donkeys and mules are also used for this transport.

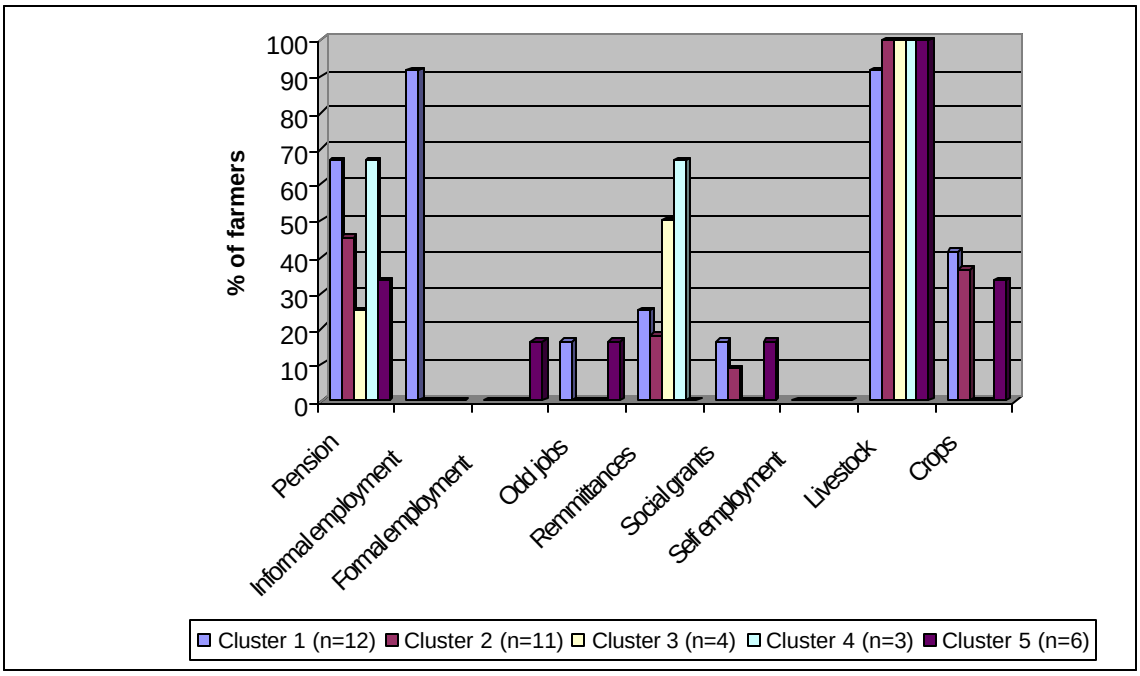

Figure 4.4: Reasons for keeping livestock as stated by clustered livestock keepers in Early Dawn

Livestock numbers

The livestock kept in households varies in types and numbers. The number owned can stimulate interest in livestock developmental projects. Table 4.6 displays the type and the numbers of livestock owned with respect to Gemarke clusters.

Table 4.6: Livestock type and numbers amongst clustered farmers in Gemarke

Cluster	Livestock type	Total	Average	Livestock type	Total	Average
1	Cattle	34	1.7	Goats	145	7.3
2	Cattle	47	4.7	Goats	85	8.5
3	Cattle	57	11.4	Goats	42	8.4

Table 4.6 reveals that the clustering process and sampling procedure was done correctly and representatively. The average numbers of livestock in the clusters exactly match with the intended range for each cluster. In clusters 1 and 2, the average number of cattle is smaller compared to the average number of goats, whereas in cluster 3 the average number of cattle surpasses the goats' average. From these clusters it is clear that the smaller the number of cattle, the higher the number of goats, indicating a probable negative correlation between the two types of animals. One could also argue that as soon as the number of goats surpasses a certain number, the surplus is converted in the purchase of cattle. As small stock dominates in clusters 1 and 2, it can be concluded that the farmers in these clusters are predominantly small stock keepers whereas farmers in

cluster 3 may be regarded as large stock farmers. Nevertheless, the total number of goats in Gemarke dominates that of cattle.

Livestock composition also varies between the different clusters in Early Dawn as shown in Table 4.7

Table 4.7: Livestock type and numbers amongst clustered farmers in Early Dawn

Cluster	Livestock type	Total	Average	Livestock type	Total	Average
1	Cattle	15	1.3	Goats	87	7.3
2	Cattle	59	5.4	Goats	126	11.5
3	Cattle	47	11.5	Goats	17	4.3
4	Cattle	52	17.3	Goats	20	6.7
5	Cattle	171	28.5	Goats	52	8.7

The negative relationship between cattle and goats is also evident in Early Dawn. As in Gemarke, farmers in clusters 1 and 2 can be viewed as small stock keepers due to their higher numbers of goats whereas clusters 3, 4 and 5 are predominantly large stock keepers considering their number of cattle. It is again remarkable that the number of goats is relatively stable across clusters and similar to that encountered in Gemarke.

For both villages, farmers in clusters 1 and 2 (and cluster 5 in Early Dawn) are involved in some form of cropping. Besides cattle and goats, some farmers own donkeys in almost all clusters. Donkeys are kept for provision of traction power in activities as planting and cartage. None of the farmers own mules except for farmers in cluster 5. Some farmers in all clusters have fowls which are mainly used for household consumption. Rearing of pigs in the villages is not common. Only one farmer in cluster 1 (Early Dawn) has three pigs. The reason for keeping such a low number of pigs may be that the costs involved in feeding pigs are high as compared to other species. This is a result of the semi-intensive system practised in the villages to raise pigs. Local pigs are not allowed to roam around and the reasons may be the risk of being bitten by dogs and the spread of diseases. These pigs therefore cannot live on leftovers alone; they need supplementation in the form of maize, germ, or maize meal.

Combined results on motives for keeping livestock and for numbers and type of livestock kept support the conclusion that livestock in all clusters are being kept by farmers mainly for subsistence reasons. The clusters do not differ much with regard to these variables and therefore do not result in deviation of objectives amongst clustered livestock keepers; none of the clusters seems to be willing to change these objectives in the short-term and become more commercially oriented (see Chapter 8).

4.3.3 Labour, gender and decision-making

The amount of labour available in different households may determine the farming practices adopted (ICRA, 2006b). In all dusters in Gemarke, family labour is more commonly used than hired labour. With regards to family types, cluster 1 is dominated by an extended family type (60%) whilst the remaining 40% have nuclear types of family.

Contradictory to cluster 1, clusters 2 and 3 are dominated by the nuclear family type with 70% in cluster 1 and 60% in cluster 2. The remaining percentages from each cluster (30% and 40%, respectively) represent a nuclear family type.
The two types of families may have implications with regards to the amount of labour available. More labour is available in extended families as compared to nuclear families. This may be important as the farmers depend to a great extent on family labour.

Family settings in Early Dawn do not differ much from those in Gemarke. They include nuclear and extended families but there are also some polygamous families. The majority (50, 50, 75 and 70%) of farmers in clusters 1, 2, 3 and 5 respectively, live in extended family settings. Only cluster 4 has a majority (70%) of farm families (headed by females, see section 4.3.1) living in a nuclear family setting. Twenty per cent of farmers in cluster 2 are polygamous.

The activities of women were described as mainly domestic (e.g. child care, cooking and cleaning). With regards to livestock, their interest lies in goats, pigs and chickens. Women may own livestock but have little control over it. They however contribute a great deal of labour in caring for livestock. Decisions regarding planting of the fields are made by both men and women. Since there is insecurity in the fields, more planting is done around the homestead, however, and decisions in this regard are made by women. Women are not free to go to the fields alone as they are afraid of abuse, sexually and otherwise. This, amongst others, serves as a hindrance to field crop production.

With regards to livestock, decisions on slaughtering and selling are done together by husbands and wives. In households where men work outside the village and are away for a long time, women make decisions on behalf of their husbands. For widowed individuals, the party left, whether man or woman, makes decisions individually.

The general set-up at the tribal authority meeting place is such that men and women are separated. Men sit on chairs and stand up when they speak, while women are seated on the floor and kneel when it is their turn to speak. During discussions, men seem to be more verbal than women. Nevertheless, given the opportunity by their male counterparts, some women start to contribute whereas others are satisfied by the statements made by men.

4.3.4 Innovation: cattle breeds and bull introduction

The level of innovation between individual farmers determines to some extent the eagerness to explore new techniques. Gemarke farmers in cluster 1 and 2 only have local breeds while farmers in cluster 3 keep both indigenous and exotic breeds. In all clusters the farmers indicated that improved bulls have not yet been introduced. Most farmers in Early Dawn are keeping indigenous breeds. However, some exotic breeds were also observed including Brahman and Afrikaner cattle.

4.3.5 Access to markets and information

Access to markets and information may differ between households. It plays an important role in livestock farming and marketing (Dapaah *et al.*, 2001). In both villages, the farmers exchange information and allege that the extension service as a source of information is not adequate. The farmers use indigenous knowledge and skills for their agricultural activities. Figure 4.5 illustrates the percentage of farmers from each cluster in Gemarke Village that have access to some resources and input and output markets.

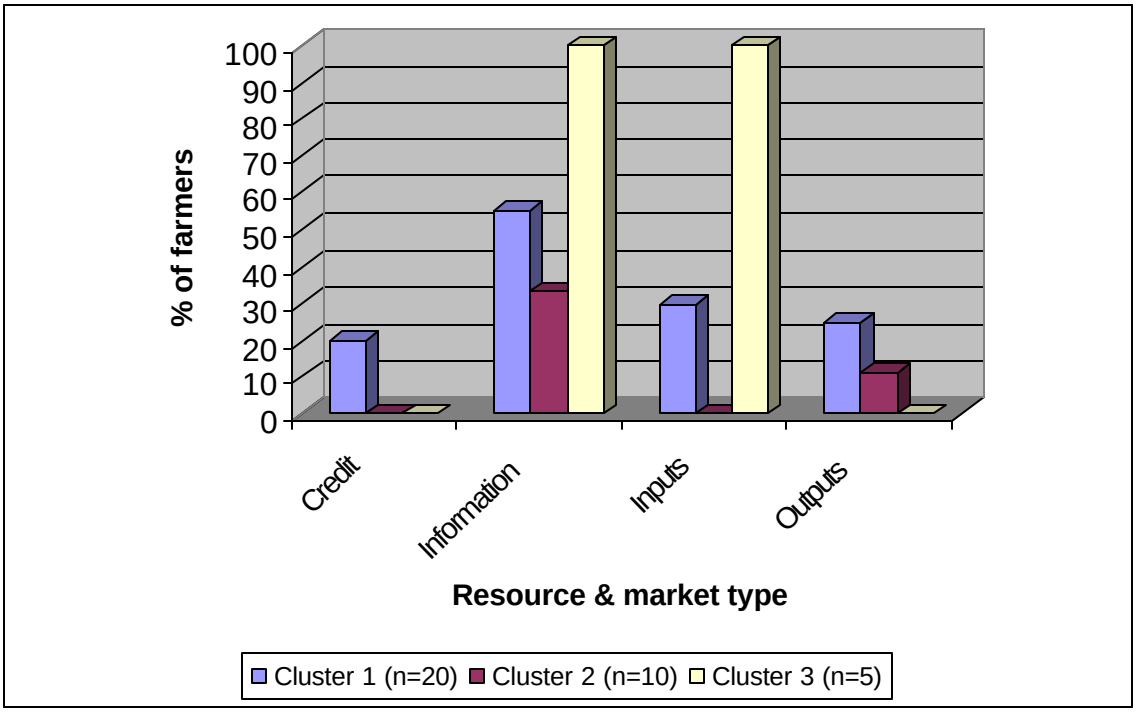

Figure 4.5: Access to resources and markets amongst clustered livestock keepers in Gemarke Village

In terms of markets for inputs such as livestock feed, most livestock keepers state that these are insufficient and inadequate because they are too far away. The market for outputs is only within the village or in neighbouring villages. Here, livestock is mainly sold during funerals and weddings, with no value addition. Next to that, local traders and speculators visit the village regularly to buy livestock. Most farmers object to this form of selling livestock, however, as it is viewed as unfair because prices are unstable and are exclusively determined by the traders or speculators. In terms of medicines, farmers expressed the need to have access to regular and the latest livestock information with regards to the treatment of animal diseases. There are no available credit or financial facilities for farmers in the area and farmers lack the collateral required by formal financial institutions.

Access to resources and markets in Early Dawn is presented in Figure 4.6.

According to Figure 4.6, most farmers in Early Dawn state that they do not have access to credit. Possible reasons may include lack of collateral as most farmers are not formally employed; do not own land and some of their income sources are not recognized by the credit institutions.

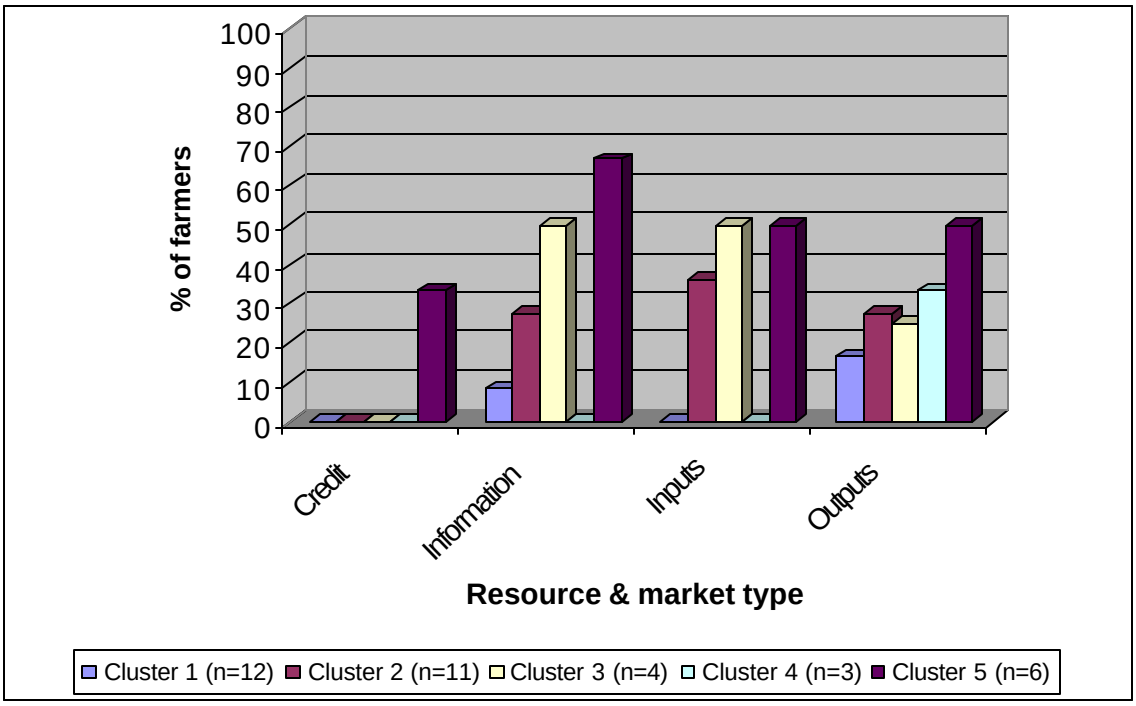

Figure 4.6: Access to resources and markets amongst clustered livestock keepers in Early Dawn

For those farmers who can provide collateral, some credit institutions would require credit referees which some farmers do not have as it may be their first time to apply for credit. Access to markets for inputs is viewed not to be a problem by most farmers. Input suppliers such as co-operatives and pharmacies in Polokwane are used to purchase livestock medicines.

With regard to livestock marketing, most farmers indicate that they do not have access to markets for outputs. Surprisingly, when farmers were asked to indicate where they sell their animals, speculators, neighbouring commercial farmers and the local market were not mentioned as markets available for disposal of livestock. It is possible that the farmers are not happy with the way these market outlets operate and as a result, do not regard them as markets. Access to information also appeared to be a major constraint in livestock production. The government extension services for information are available but the farmers indicated that they do not have access to that information.

4.4 Conclusion on the current need for a typology of livestock farmers

All variables studied indicate that the role of livestock is important but is still mainly related to reaching more subsistence and secured livelihood objectives. Subsistence oriented reasons (food security, school fees, ceremonies, investment) dominate the household decision making process regarding livestock management. This is the same for all tentative clustered target groups. Commercialization considerations do not play a role yet. As livestock keepers in the two villages are still focusing on subsistence objectives, it is important for development intervention to focus on this and build on it as a step towards commercialisation. The study team therefore concluded that it is currently not effective and useful for the LDA to structure and target its future interventions according to the need of different target groups. The LDA can still consider the livestock keepers as one target group with similar, common objectives. Chapter 5 provides further support to this conclusion as the constraints and needs of the different tentative clusters are also similar and require more action by communities than by specific target groups or individuals.

CHAPTER 5 CONSTRAINTS AND OPPORTUNITIES IN SMALLHOLDER LIVESTOCK PRODUCTION

5.1 Introduction

Whereas it is important to recognize the role of smallholder farmers in livestock production and agriculture in general, it is even more significant to identify those factors that prevent them from being efficient and productive farmers. It is often the lack of crucial productive resources such as land and credit, which render the image of smallholder farmers as being marginal and inefficient producers.

The smallholder livestock farmers face a variety of constraints to sustainable livestock production. These constraints can, according to the World Bank (2004), be classified into three basic categories:

- herd and infrastructure acquisition;
- herd and flock maintenance; and
- marketing of livestock products.

Herd and infrastructure acquisition require that households have access to capital and credit facilities so that they can purchase the livestock and pay for the infrastructure. Herd maintenance requires that households maintain the health of their animals and have access to animal production services. To market their livestock products, the smallholder livestock farmers need to have access to reliable markets for off-take (World Bank, 2004).

The team accepts the World Bank findings but is convinced that some important constraints should be added if the situation of Blouberg livestock keepers is to be fully understood. The World Bank findings seem to be more applicable to situations where land has already been privatized and grazing management decisions can be made by individuals. However, this is not the case in the Blouberg area as land and grazing areas are still communally owned and managed. Therefore, the team is convinced that in order to understand the local situation fully, access to land and grazing areas providing fodder should be added to the World Bank list of findings.

These constraints affecting smallholder farmers in agricultural and rural development are not to be ignored if there is to be progress in developing the rural areas and increasing productivity. Without the full involvement of smallholder farmers little progress can be made in rural areas, according to Bembridge (1988).

5.2 Needs and constraints in the two villages

During the introductory meeting, the villagers were asked to mention and prioritize their needs and constraints. A number of needs for livestock production were outlined by the villagers. These include control of stock theft, repairing of dipping tanks, drilling of boreholes, and market opportunities in order to earn enough money to have a decent livelihood. Lack of fodder, water, and inadequate animal health care are primary constraints on livestock-based livelihoods in the two villages. Lack of fodder is strongly related with access to fodder. Due to the limited number of water points, it is difficult to graze certain remote areas, which may lead to overgrazing of the nearby grazing areas. Knowledge of animal husbandry and health is insufficient hence the need for support.

Constraints in Early Dawn

A number of constraints affecting livestock production were raised by farmers in Early Dawn during the focus group meeting. Inadequate water sources were identified as the most limiting factor in livestock production. This is followed by prevalence of diseases and insufficient access to vaccines and medicines. Poor management with regards to proper care of livestock and inadequate knowledge regarding livestock husbandry (which includes management of fodder resources) came third. This was followed by unavailability of markets such as auction centres and abattoirs. The fifth limitation mentioned was determined as inferior bulls which do little to improve the herds. In the sixth, seventh and eighth places are respectively poor infrastructure (dipping tanks, handling facilities, water troughs etc.), lack of fencing and subsequent straying of animals, and theft. Predators of small livestock were identified as the last major constraint that livestock keepers in Early Dawn raised during the focus group discussion. Other secondary constraints mentioned by farmers include veld fires, chopping of trees, soil erosion, and poisonous plants.

On an individual basis during the interviews, farmers stated theft, drought (resulting in shortage of water and fodder for grazing), diseases, predators, inadequate infrastructure, poor management, mortality and low market prices as main constraints. The constraints mentioned during the interviews somehow differ from those stipulated collectively during a focus group meeting. The constraints in livestock production in Early Dawn per cluster are illustrated in Figure 5.1.

As shown in Figure 5.1, the main constraints in all clusters of Early Dawn are theft, drought resulting in lack of fodder and water, diseases and predators. However, the importance of these constraints varies between the clusters.

Sometimes poor infrastructure and poor livestock management were mentioned. None of the farmers in Early Dawn mentioned mortality or the low selling price as a constraint to livestock production. The latter insinuates that the selling price is not an important element in livestock production for these farmers, which seems to be in contrast to the findings presented in Chapter 8 in which the selling price is discussed as an important element in marketing.

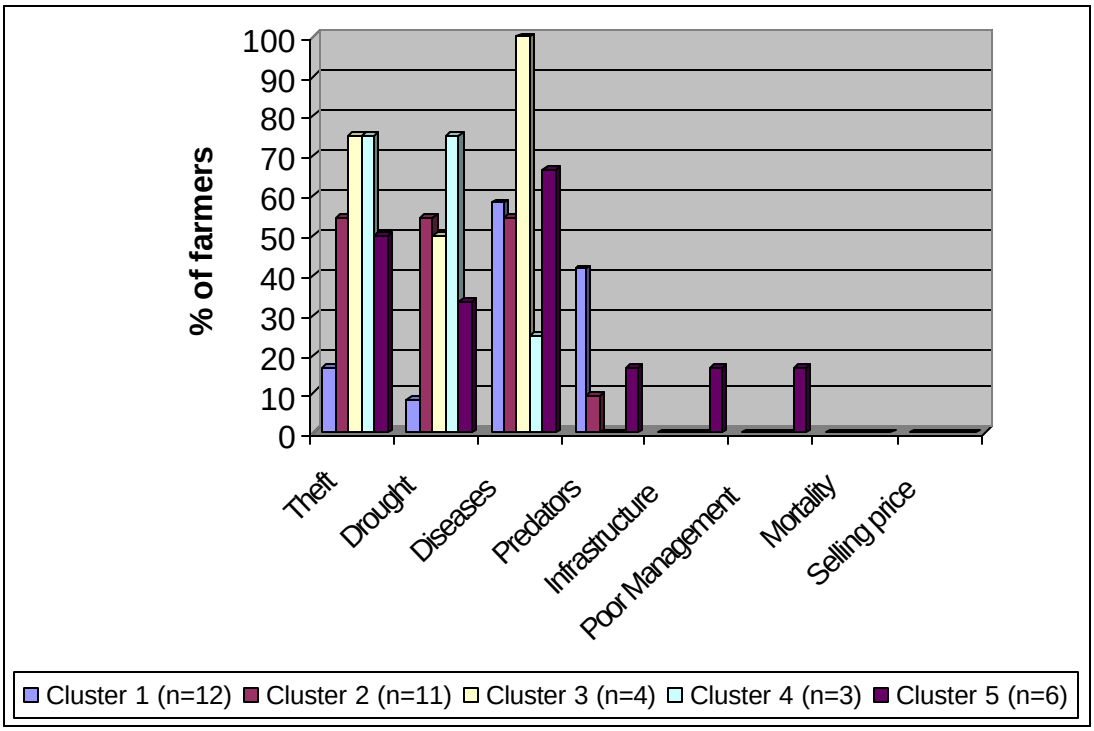

Figure 5.1: Constraints in livestock production per cluster in Early Dawn

Constraints in Gemarke

When constraints were prioritized in Gemarke during the focus group meeting, theft of animals was raised as the most important constraint hindering livestock progression. Diseases, particularly blood disease (Heartwater or *Cowdriosis*), are troubling the farmers and were mentioned as the second most important constraint. This is followed by lack of fencing around the grazing land, leading to the animals straying away. This renders them vulnerable to theft. The other constraints identified in order of importance are inadequate water sources, drought (leading to lack of fodder and water), insufficient training regarding livestock husbandry, lack of dipping tanks, the presence of predators, the occurrence of veld fires, and deficient market possibilities.

When interviewed individually, major constraints mentioned with regards to livestock included diseases as a major concern, followed by theft, drought (resulting in lack of fodder and water), predators, inadequate infrastructure, poor management, high mortality and low selling prices. Cattle are easily stolen because its supervision cannot be practised easily as camps and fences do not exist. Some farmers mentioned that in some instances their cattle are found grazing in other villages far away from their own. The major constraints in livestock production in Gemarke are illustrated in Figure 5.2.

The main constraints in all clusters in Gemarke are similar to those in Early Dawn. Theft, drought (resulting in lack of fodder and water) and diseases are dominating all other constraints. Only very few mentioned predators, management, high mortality and low selling price to be a problem.

Most livestock farmers interviewed in Gemarke stated that the government has to take the leading role in trying to address the above mentioned problems or constraints e.g. diseases, inadequate infrastructure, and high mortality. Currently certain livestock constraints are dealt with at *kgorong* (tribal meetings), where most village dwellers gather regularly to address village problems.

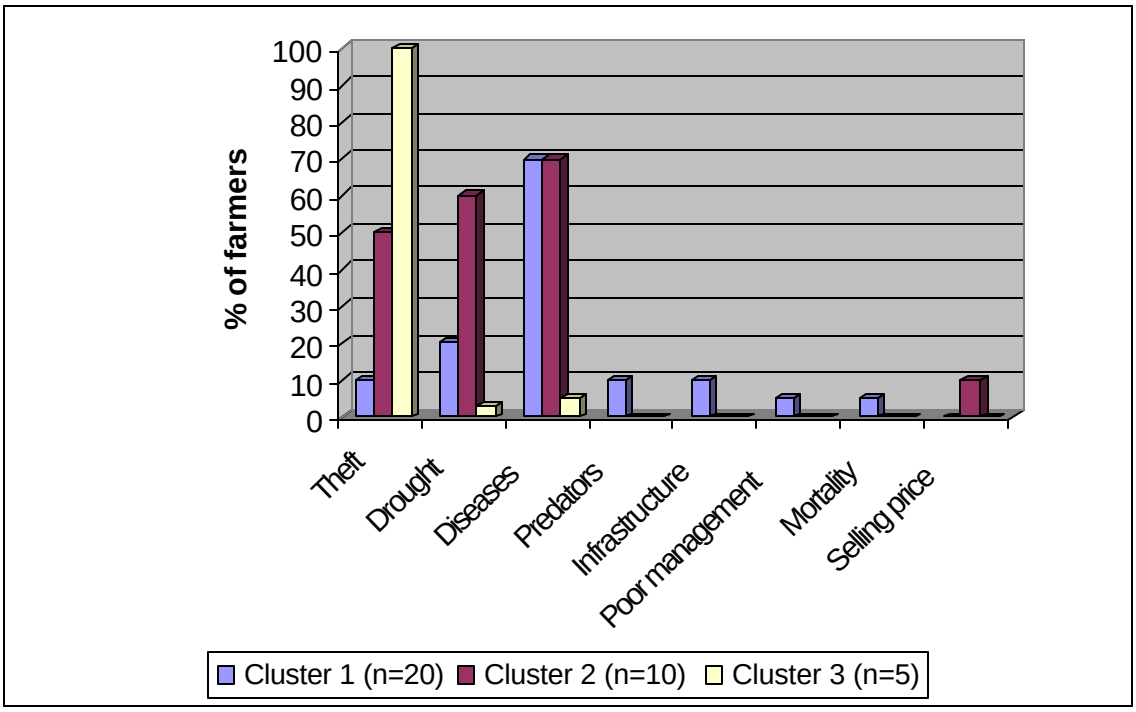

Figure 5.2 Constraints in livestock production in Gemarke

Some of the constraints are currently being dealt with by the LDA through its extension services. In terms of diseases, remedies are bought when necessary, whilst supplementary feeding and the erection of temporal structures for protection of small stock are also being carried out. Improvement of management practices is also considered as a possible way of addressing constraints currently experienced in relation to livestock.

5.3 Access to potential solutions and opportunities

5.3.1 Access to productive natural resources

Economic growth in the livestock sector depends heavily on access to natural resources. However, according to the World Bank (2004), in many parts of the world the productive natural resource base is under increasing pressure. Policies and institutions to secure the equitable distribution of land and water resources are therefore urgently needed.

Land and water are becoming increasingly scarce resources in the two villages. Access to feed resources is a major constraint for smallholder livestock farmers in the dry areas of

Blouberg as many depend on common lands for grazing. Some areas are prone to overgrazing and this is becoming a common cause of land degradation.

In the past, the grazing area of both villages was divided into grazing camps. Fences and additional water points (natural springs, boreholes and wells) were supporting a better management of the veld used for grazing. Rangers were employed for maintenance of fences and control of theft. As described in Chapter 3, since the coming of democracy, the situation has deteriorated tremendously. Camps do not exist anymore, fences have largely disappeared and rangers are not employed anymore. The new government expects the communities to take care of themselves. It will facilitate the communities to develop themselves but it has the intention not to take the lead anymore. The existing "dependency syndrome" needs to be broken. Livestock keepers should get organized in order to address their needs more adequately.

Currently, most local livestock keepers are struggling with the realities of this new political situation. They need camps for rotational grazing and feed conservation for drought periods, they need more dispersed water points to provide sufficient water to livestock, they need theft and disease control. In the past, these needs were provided for by the government (often for free). The government was often managing these measures for farmers. That is not the case anymore. The need for new forms of social organizations is therefore pressing among local communities in order to manage their communal resources in a more effective, efficient and sustainable way.

5.3.2 Access to inputs

Livestock development is often hindered by lack of reliable inputs. The required inputs vary according to the production system, but there are generally four groups: veterinary medicine and vaccines; feed supplements; breeding material and equipment (World Bank, 2004 and Gootjes *et al.*, 1992).

Smallholder livestock farmers in the two villages are farming with poor infrastructure and face significant problems of high costs in accessing inputs. Lack of capital and cash income always places constraints on smallholder livestock farmers in the two villages, so these farmers do not require large investments or expensive inputs. Furthermore, the support services promoting the appropriate technology must be accessible and cost-effective. This also applies to the related equipment. For example, artificial insemination in some cases may seem to be an appropriate technology, but it is often beyond the reach of the smallholder farmers because the equipment is expensive and the inputs are costly.

5.3.3 Access to financial services

According to the World Bank (2004) and Gootjes *et al*. (1992), access to financial services is a precondition for livestock development. Appropriate savings and credit facilities that address the particular needs and constraints of the smallholder livestock farmers are important tools for increasing production among smallholder livestock farmers. Nonetheless, secure savings facilities are often lacking in rural areas; interest

rates on deposits are often lower than livestock yields, and the majority of smallholder livestock farmers often have no access to loans through conventional banks. Banks are oriented towards the bigger loans and require collateral that the smallholder livestock keepers cannot offer. Livestock is often not accepted as collateral (World Bank, 2004).

Even though farmers in Gemarke and Early Dawn do not have access to financial markets, livestock is frequently used as a sort of a "walking bank" in which savings can be invested. As livestock is an easily tradable asset, it is also used frequently as a source of income. It is an investment; and risk management strategy, it can be used to cover bigger expenses such as the cost of agricultural inputs, and it can be converted into cash in times of crisis. However, the more disadvantaged smallholder farmers in the two villages have fewer livestock to draw on in times of crisis. Without these productive assets, they are more vulnerable to risk and have no possibility to invest in new activities. Increasing the productivity of livestock may demand a capital input, therefore easy accessibility of credit is important.

5.3.4 Access to support services

The introduction of new technologies among smallholder livestock farmers does not succeed without securing access to support services such as training and advisory services (World Bank, 2004). The adoption of improved technologies may only be possible if the capacity of smallholder livestock farmers to adopt technologies such as animal husbandry, fodder production and management is improved (Gootjes, 1992).

Advisory services and skills development may have an impact on smallholder livestock farmers in Gemarke and Early Dawn if these services focus on technology and production systems which the target group can easily access and adopt. Until now very little attention has been paid to livestock advisory services in the two villages. Livestock services are handled by a government department, that is, the LDA. However, within this livestock department, animal health is the major concern and the main focus is on veterinary services, while advisory services for livestock production have a low priority.

Livestock production and management advice have been integrated into the extension component of the LDA emphasizing agricultural extension. Staff in this component often lacks expertise in livestock production, however, and there is little focus on the smallholder livestock farmers. There is an overall lack of competent and professionally trained people in this area. Smallholder farmers rated the livestock advisory services provided through government extension services lower than the services in other sectors in terms of quality and availability, although they indicated that livestock production is their greatest interest.

The future strategy should therefore be to rebuild the advisory service system and move towards knowledge and learning systems that can help develop technical skills, while strengthening smallholder livestock farmers own capacity to demand, organize or seek information, training and advice from efficient sources. Because most actual and potential smallholder livestock farmers raise some crops, the challenge is to develop a system that

joins the 'public good' components of animal health service and crop and livestock production advisory services into an integrated advisory system. As long as there are adequate advisors available who are competent in livestock production, integration could properly address the problems of preventive health care, nutrition and scarcity of fodder resources in areas where mixed farming dominates.

Another aspect of importance is the development of business skills. This is often a neglected area, and a new concept of advisory services must build much more knowledge and awareness of the economic dimensions of production systems to make sure that the smallholder livestock farmers in the two villages can profit from livestock activities.

5.4 Recent changes and outlooks to agriculture

Exploration of the recent trends together with farmers may give indications on how they perceive the changes in the agricultural environment to have an impact on their production. They may either express these changes to be positive and stimulating or negative and discouraging. Different types of farmers may experience these changes differently, depending on their risk management strategies and resource endowments. A positive change can to a certain extent stimulate the role played by agriculture in the livelihoods of smallholder farmers.

Among the farmers belonging to cluster 3 in Gemarke, half of them (50%) expressed a positive outlook on recent agricultural changes (Figure 5.3). These farmers were of the opinion that trends in agriculture have improved for the better, which influenced their livestock production positively. For example, the rainfall received the previous year improved the veld condition, leading to enough feeding and an increased calving percentage.

The rest of the positive outlook is shared equally between clusters 1 and 2, each taking only 25%. Most farmers in these clusters criticize the improvement in agriculture as they believe that drought, predators and diseases are hindering the livestock production, thus affecting their income and livelihood negatively.

With respect to Early Dawn, Figure 5.3 shows that only a minority of farmers of all the clusters (varying from 14% to 28%) expressed a positive outlook on the recent agricultural changes.

As for Gemarke, most farmers do not appreciate the changes in agricultural circumstances. The main reasons cited included theft, diseases, drought, predators etc. For the control of livestock theft, the farmers have no solution yet. Attempts to control the disease problem are made through the use of medicines and herbs. Some improved management practices also contribute to solving the disease problem and some others save guard the animals from predators. In times of drought, some farmers buy supplementary feeding such as Lucerne and salt licks.

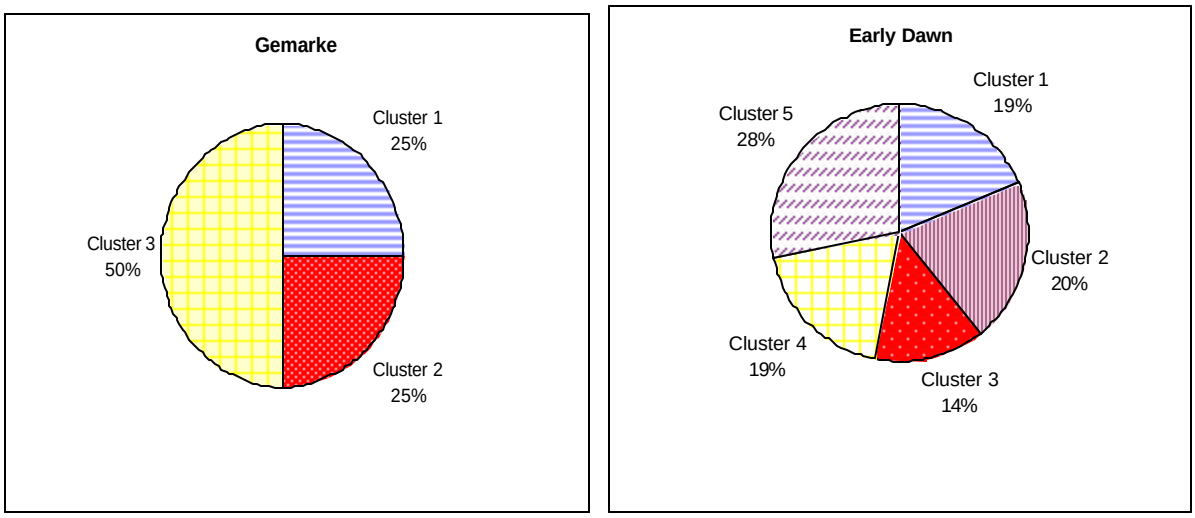

Figure 5.3 Percentage of farmers having a positive outlook on recent agricultural changes amongst the clustered livestock keepers in Gemarke and Early Dawn

In both villages, the farmers are supported by government intervention through the drought relief program of the LDA. The predators are a problem for small stock production in both villages; they include jackals and foxes which can be controlled by the erection of structures that protect the small stock.

5.5 Conclusion on the main constraints

In both villages, theft, drought (resulting in lack of fodder and water) and diseases are the major constraints faced by farmers in livestock production.

Stock theft causes high economic losses to farmers. Despite branding of livestock, stock theft has become more serious since the speculators have been allowed to buy livestock at farm gate. Farmers are of the opinion that it is necessary to introduce farmers watch groups or a ranger system to eliminate this problem. Formation of a grazing area management committee can also play an important role in thwarting theft. Farmers are very much concerned that stock theft causes not only an economic loss to them as farmers, but also a social loss as stock theft can also lead to a lower level of trust among community members.

Livestock farmers consider animal diseases as one of their major constraints. According to the farmers; high mortality caused by tick-borne diseases such as Heartwater cause significant losses in livestock production. The farmers need access to a number of animal health services in order to keep their herds or flocks healthy. Some critical requirements are access to preventive disease control measures such as vaccinations and internal and external parasites control, a reliable supply of key veterinary pharmaceuticals, training in the administration of key pharmaceuticals and the follow-up treatments.

Drought was also frequently mentioned by farmers as a major threat. Its effects are mainly felt by livestock keepers through constraints in supply of fodder and water. Although some farmers stated that these constraints are beyond the control of humans, others indicated that dividing the grazing areas into fenced camps with the provision of additional water points, would be a sound measure to minimize the impact of drought. Not only will this lead to better management of grazing areas, but it also allows that certain areas can be reserved to be grazed only during emergencies such as drought. However, all realized that this requires communal agreement and action and many were doubtful if this would be possible to attain.

As shown above, opportunities do exist to minimize the effect of the main constraints identified. However, in many cases it requires action by the community. Unfortunately, appropriate community structures are weak or non existent. Perhaps the most important constraint to livestock development is the lack of a common vision and implementation strategies among the villagers. To change this situation, a change of mindsets among villagers is required. They have to take their own destiny into their hands. Efforts of the LDA should therefore put emphasis on community development organizational issues first before infrastructural development and transfer of technologies are considered. However, this may also require a change in the mindsets of the managers and staff of the LDA and local municipalities. They are often under the political pressure to show immediate visual impact.

CHAPTER 6 LIVESTOCK MARKETING UNDER COMMUNAL LAND USE SYSTEM: STAKEHOLDER PERCEPTIONS

6.1 The nature of communal farmers and collective marketing

Communal livestock farmers are numerous and operate at a small scale. Subsistence objectives still dominate their farming systems e.g. food security, draught power, investment, ceremonies, income generation or selling during emergencies. This means that the time for selling animals vary from farmer to farmer and are not yet determined by economic related objectives (production and price). As a result, farmers sell their animals when they are in need of immediate cash to speculators, local traders, neighbouring commercial farmers, individuals depending on the market available at the time of sale. Some marketing channels such as abattoirs require large volumes and higher quality animals. It is evident that the current situation of smallholder livestock farmers (numerous and small) hinders their ability to effectively market their produce in these channels.

Collective marketing of livestock in communal land use systems could overcome some of the problems inherent to smallholder production. In rural areas, this can be achieved through formation of farmer groups, cooperatives or organizations that can assist farmers to negotiate prices for their produce. As an association, farmers can make collective decisions on how many animals should be sold per month/year and develop strategies to deal with specific targeted markets. Formation of organizations for joint marketing should start with creating awareness on the benefits of collective marketing, i.e. farmers should understand the importance of joint marketing and need to be aware that better financial returns can be obtained by effective marketing. There are a number of benefits associated with collective marketing: Transport costs can be reduced as costs will be shared among all farmers. Farmers can secure specific markets through contracts, and with joint selling, constant supply can be ensured. Farmers from neighbouring villages can be contracted to sell together to meet market demands. Collective marketing also increases the bargaining power as compared to selling individually. It can also encourage farmers to take better care of their natural resources, which may improve the condition of the grazing areas. With active organisations, the government will be better able to help farmers in collective marketing of their produce. The farmers' organisations can be easily informed of auction dates, and these can in turn take care that the information will reach all members. Collectiveness of farmers does not only contribute to marketing, but farmers can also buy inputs together. During the awareness creation process, the smallholder livestock farmers can also be exposed to different marketing strategies of commercialized farmers.

The government is currently mobilizing smallholder farmers to form commodity organisations in cluster villages through a program called Broadening Agricultural Service and Extension Delivery (BASED), which uses the Participatory Extension

Approach (PEA). Clusters of villages are essential as different villages have differing resource endowments that can complement each other. Farmers are not only mobilized to form groups but they will be capacitated on technical issues such as marketing strategies, veld management (division of grazing land into camps) and general livestock management. Organizations such as the National Emerging Red-meat Producers Organization (NERPO) and the National African Farmers Union (NAFU) can play a role in assisting farmers to organize themselves. These can contribute in identifying the gaps such as the need for infrastructure that can be filled by the government. Together with the farmers, the LDA can develop a marketing policy that can guide the smallholder farmers and buyers on how to sell or buy animals.

Organizations by smallholder farmers for marketing reciprocate with the government plans. The success of these organisations is based on the premise that social organisations such as money lending schemes (*stokvels*) and burial societies already exist in the villages and can be built upon. This ensures that social issues such as those related to culture and religion are taken into consideration. The initial process of farmer organisational development is to form an association that will represent farmers at village as well as at cluster levels. Even though there are high expectations regarding farmer organisations, the success of such organisations cannot yet be quantified. Some of the indicators that may assist in measuring success include: innovation, regularity of meetings, and collaboration on other issues such as stock theft and maintenance of infrastructure (e.g. fences and pumps).

6.2 Availability of institutional marketing arrangements

As explained earlier, the smallholder livestock sector is characterized by a large number of smallholder producers who are dispersed and located far from markets. This results in long channels of distribution and marketing, increasing the marketing costs. The bargaining power of these producers is also limited. Furthermore, these producers operate under inadequate infrastructure such as livestock auction sales pens, loading and off-loading ramps and road works within their areas of operation (NDA, 1998).

Effective marketing requires the availability of institutional marketing arrangements. These include marketing agents/organizers, marketing information and value-adding activities within reach of the producers. However, these arrangements are deficient in most cases. Among other reasons, registered livestock agents are not interested in working in the smallholder sector that is concentrated in underdeveloped parts of the country. These areas are epitomized by poor road networks, high crime rates and low volumes and poor quality animals, and are therefore a less lucrative market (NDA, 1998).

For the last few years, the government has been implementing the Participatory Extension Approach (PEA) throughout the province. The aim is to encourage expression of needs by the farmers themselves and to provide a platform to request service delivery and voice out their opinions and problems. When the PEA started, it focussed on crop production; livestock production was a low priority. However, conditions in Blouberg indicated that

PEA can also play an important role in livestock production. The implementation of the PEA raised a number of needs of smallholder livestock farmers in Blouberg, including inadequate infrastructure. The government saw the need for various intervention strategies. Firstly, a prickly pear *(Opuntia polyacantha)* experiment was conducted, with the aim of identifying species that can be used for livestock feeding. Handling facilities such as crush pens were also built in the communal grazing areas. The government is also planning to provide training on marketing and to build an abattoir and a feedlot in the Blouberg area. All these plans will contribute to the commercialization of the livestock production in the Capricorn region.

A Comprehensive Agricultural Support Program (CASP) is a government initiative responsible for establishment of infrastructure such as fencing, building of crush-pens, revitalization of bore holes and dams. The government through CASP is also aiming to improve the general management of livestock in smallholder farming. The CASP, together with the farmer mobilization project (BASED), can facilitate organizations of farmers in such a way that they can request infrastructure from the government. Organised smallholder farmers can also lobby the government for financial assistance to develop infrastructure. In order to obtain infrastructure through CASP, farmers need to take an initiative and develop business plans. Services that are provided by the extension officers and agricultural economists can play an important role in this regard.

6.3 Challenges facing the marketing of livestock

6.3.1 Access to marketing information

Farmers often sell their livestock at prices that are below the market price because of lack of knowledge of local, regional and national livestock and meat prices. In addition, farmers do not have knowledge of seasonal price movements and areas of high/low demand and supply, which are regarded as essential elements of livestock marketing. NDA (1998) cites low levels of literacy and distance from improved technology and communication systems as the main factors that hinder the majority of smallholder livestock farmers to access and understand market information.

There is a need to have an organization specializing on issues of simplifying livestock marketing information targeted at illiterate farmers. If smallholder farmers are to market in groups, the challenge will be organizing themselves into commodity groups so that they can have a common vision and voice. Smallholder farmers should be aware of market prices and selling times before they sell their produce. This is an important issue that needs to be considered and dealt with as it affects their returns. To address this matter, the government is planning programs to educate farmers on cost price management. Agricultural economists would start by providing information on market prices in order to supply the farmers with prices around which to speculate before they sell their produce. With time, economists will continue training farmers on how to outsource market information, determine prices and market their produce.

The LDA is planning to install 26 satellite stations in all agricultural municipal offices around the province. These satellite stations will help the extension officers to be updated about the current market prices. In turn, the extension officers are expected to share the information with smallholder farmers. A platform that could be used for dissemination of market price information to smallholder farmers is the tribal meetings (*kgorong*). This is one aspect of the initiatives by the LDA to uplift smallholder farmers, but its main concern is the willingness of the farmers to receive help and take the responsibility. The government could explore other communication tools like mobile phones where farmers can easily access market information regarding livestock products.

The formation of study groups where farmers can share information is recommended. Farmers can also keep themselves up-to-date by attending other auctions. This could help the farmers in the long term as it would enable them to better understand the relationship between the quality of the animal sold (age, fat code, sex, confirmation) and the price obtained. Low literacy levels should not be viewed as a problem, and farmers need to attend meetings, farmers' days and agricultural shows to acquire the necessary information. For farmers to access information, they can follow the "Vleissentraal model" in which farmers came together to form an organization for marketing purposes. Smallholder farmers can also get together to form such an organisation. This would mean that, from income generated from animal sales, a certain percentage is contributed to the association. This money could be used to erect structures and would create sense of ownership among farmers resulting in appreciation and better guarding of the structures.

6.3.2 Standards and grading for livestock marketing

Compliance requirements with regards to the slaughter stock are laid down by means of pre-established specifications. The Agricultural Product Standards Act of 1990 (Act No. 119 of 1990) and the Meat Safety Act of 2000 (Act No. 40 of 2000) respectively provide measures to maintain essential national quality standards and promote meat safety. With live animals, age, fatness, confirmation, damage, sex and state of health are important quality and value indicators. In slaughtered meat, fat code, confirmation and age are very important. Standards regarding livestock and meat grading system are regularly not met by smallholder livestock producers. As a result, very low prices are fetched (NDA, 1998).

Confirmation is the major determinant in animal quality, and consequently the price obtained. If an animal is not well developed, it will not have a good weight, which is the main criterion that is used by auctioneers and abattoirs. The live weight is considered as an important factor in assessing the worthiness of an animal. The animals can be of equal weights but quality related factors such as fatness, damage, and age are used as determinants in attaching a final value to the animal.

Fatness also makes a difference in prices for livestock as some of the animals from communal areas need to be fattened before they can be slaughtered. Bruised animals also get a low price as the bruised parts are cut off and therefore reduce the weight of the carcass.

Furthermore, sick and severely injured animals are not purchased. The state of health is therefore viewed as an important factor to be considered when buying an animal. This factor is also often violated by smallholder farmers as they sell animals heavily infested with ticks and lice. Tick count is made during inspection and if the animal is having more ticks than specified, it will fetch a low price. This can also be influenced by the fact that the hides of animals are processed into different products. Tick problem can always be solved by using dipping as a preliminary control rather than a cure measure, a practice that is very rare in communal smallholder farming.

Age is the most often violated quality indicator as smallholder farmers keep their animals until they are very old. Old animals produce low quality meat which is tough and less juicy, and the demand for this type of meat is low. On the other hand, consumers prefer good quality meat which is tender and juicy, the type of meat that is provided by young animals.

Farmers need to be capacitated on market quality requirements. If they want to get access to commercial formal markets, they need to plan and run their farms as businesses. Smallholder farmers should improve the quality of their produce so that they can meet market specifications. This can be achieved by, among other strategies, maintaining feed stocks especially for dry seasons and selling animals at a market acceptable age, which can be from birth to 24 months. Smallholder farmers should also be trained on how to maintain fodder banks, how to make silage, how to reinforce the veld by planting new leguminous plants and how to use prickly pear leaves (*clados*) as they are nutritious to livestock.

During the focus group discussion it was mentioned that the strategy to reinforce the natural veld by leguminous plants could be risky for smallholder farmers, however, because of the investment needed. The LDA has a plan on hold to assist the smallholder farmers to improve the quality of their livestock by fodder flow plans in a project funded by the Australian Center for International Agricultural Research (ACIAR). This Australian project is called *"Development of emerging farmer crop-livestock systems in the northern parts of South Africa"*. For its implementation, this project will use the findings of this field study. Its focus will be on linking farmers to markets, meeting the rising demand for animal protein and creating an improved environment for better agriculture. The objectives of this project are to provide veld management strategies, good fodder flow plans and to maintain sustainable beef production. It also plans to capacitate farmers, LDA and university staff on general beef management practices.

6.3.3 Price and quality challenges

At the time of the study, the price of a bull ranged between R6000 and R8000 at Vleissentraal Auctioneers, whilst at Tirhani Auctioneers average prices of a bull ranged between R5000 and R6000. For cows, the price ranged between R3000 and R6000 and varied between dry, pregnant and lactating cows (Tirhani, 2006). For sheep, prices varied between R800-R1000 and R400-R600 for rams and ewes respectively. Goat prices also fell within this range (Vleissentraal, 2006). With regard to Tirhani (2006) the prices for

sheep ranged from R350 to R600 and R450 to R600 for ewes and rams respectively. Goats do not command such a high price. Goats fetch between R250 and R600. In comparison to the prices mentioned, smallholder farmers often sell their livestock far below these prices. The prices of bulls and cows they fetch range from R1500 to R3000, and the animals are often old. The meat of these animals is less tender and less juicy, qualifying for low prices.

Considering livestock quality and consumer demand and preferences, as well as prices indicated above, smallholder producers currently fall short of attracting the best possible prices in the formal markets. Firstly, animals offered to the market have reached the mature age, which is classified as C class, fetching the lowest price per kilogram. The second reason that results in low prices is that the animals are either very lean or excessively fat due to low quality and/or quantity grazing. The price offered is the lowest per kilogram. Poor management practices also lead to low prices. If animals are not healthy or young bulls are not castrated, they can also obtain low prices (NDA, 1998).

It might not be easy for the smallholder farmers to produce the high quality livestock because of the communal land use system. The quality of the breeding bulls in the communal land use system is low. Inferior bulls serve the cows, thus affecting the quality of the off-springs. In order to upgrade the gene pool of the indigenous breeds, smallholder farmers need to castrate inferior bulls and replace them with quality bulls. However, little improvement would be realized if these quality bulls and their off-springs are not properly managed. Old cows need to be culled and be replaced by productive ones. From a productivity point of view, it is necessary that farmers reduce the number of animals during drought. They should also divide the area into camps so as to be able to apply veld management practices (rotational grazing, resting, and creation of reserves). The farmers should be encouraged to share experiences with other farmers who are already applying these management practices.

6.4 Regular channels for livestock marketing

According to NDA (1998) there are currently five major marketing channels in South Africa. These include livestock marketing agents, feedlots, abattoirs, butcheries and private sales. The marketing agents include transactions by means of liaison services and speculators. The two most common channels among the small holder livestock farmers are private sales and sales through speculators. Demand in private sales is irregular, with higher demand during certain times of the year such as the festive season and Easter (NDA, 1998). Nonetheless, the five different marketing channels that smallholder farmers can venture into are all discussed below.

6.4.1 Livestock marketing agents and speculators

Even though livestock sales through speculators seem to be a dominant market outlet, they are viewed as dishonest conducting unfair business practices. However, there are

advantages associated with this marketing channel. Farmers do not incur marketing costs, and there are no commissions involved. In addition, prices are reached through negotiation between the two parties. Speculators have their fair position in the market. If there are not enough animals to run an auction, speculators play a role because they buy the animals. Speculators are also putting their lives at risk, as they may be robbed and/or killed when going to the villages carrying cash on them. They do so because some farmers in the villages do not have bank accounts and do not accept cheques. Furthermore, in the case of animals fighting and/or dying on the way, the speculator bears the risk himself.

True enough, speculators do sometimes under-pay farmers. As negotiations take place with individual farmers, the ability of individual farmers to bargain also determines the price paid. The sharing of information between the farmers on the prices paid often leads to the perception of dishonesty from the side of the speculator due to differences in prices paid on animals considered to be of the same quality. As the speculators do not charge commission, there remains a quest on their motivation to purchase livestock from smallholder farmers. The probable incentive may be hidden in the price charged. This could be the reason that farmers feel prices paid as unfair. Discrepancy between the quality offered and the quality required is also one common source of disagreement between smallholder farmers and speculators. Like speculators, butchers under-pay farmers as well. This puts farmers at a disadvantage because they may be desperate to sell but the opportunities to do so are limited.

Trust is the major factor that can be considered to build the relationship between speculators and communal livestock farmers. Usage of scales can assist in improving the relationship. Scales assist in livestock being sold per kilogram. If farmers are willing to sell collectively, they could gain bargaining power on issues of price regulations.

6.4.2 Local butcheries and feedlots

Smallholder farmers can target local butcheries and feedlots but these markets channels require animals of good quality which often smallholder farmers fail to produce. Farmers can also be trained on feedlot management and form local feedlot schemes, which can buy animals from local villages, feed them for a short period and resell them after fattening. This would require farmers to commit themselves to practising good veld and general livestock management in order to be able to bargain good prices for their produce. It is essential that farmers do not restrict themselves to one marketing channel, but rather produce according to the needs of available markets.

6.4.3 Auctions and abattoirs

Different stakeholders have different opinions on the best marketing channels for the smallholder farmers. Some stakeholders believe that smallholder farmers should target abattoirs as an ultimate channel towards commercialisation. Conversely, some deem auctions as the best market outlet for farmers to sell collectively, but for an auction to operate effectively, the number of animals available for sale is a decisive criterion. At

least 50-100 animals must be available in order for an auction to be viable. If the number of animals available for sale is low, it is better for the farmers to sell to speculators because it will not be cost-effective to run an auction.

The auctioneer has to mobilize as many farmers as possible in order to achieve what is called a "critical mass", that is, the number of animals required to have an effective auction. There should also be a variety of animals (cattle, sheep, goats and pigs) in order to have an ideal situation. The auctioneer should also test the market by timing frequency of auctions, and by targeting a big area. There are no strict requirements at the auction. The requirements are mainly established by the consumers who determine the success or failure of an auction. Certain buyers procure weaner calves while others purchase cows and oxen depending on the requirements of the market they are serving.

The relationship between the auctioneer and the smallholder farmers is generally good, but the auctioneer faces some challenges when it comes to clients' satisfaction. Two different clients need to be satisfied by the auctioneer. Firstly, the auctioneer has to offer the best possible price to the seller and at the same time get the buyer the best product available at the lowest price. Smallholder farmers and auctioneers have a good relationship because of the transparent system of an auction and the flexible prices or rates at which animals are offered. Selling together can bring a win-win situation to auctioneers, sellers (farmers) and buyers. If farmers bring their animals together, there will be more variety in the market to attract buyers, and this could lead to fair competition for the highest price possible.

6.5 Identifying new niche markets and alternative market chains

6.5.1 Niche markets

The careful selection and accurate identification of target niche markets is essential for the development of an effective marketing strategy. Niche markets can be the main opportunity for smallholder farmers to commercialise. The popularity of commercial farmers as a niche market for the indigenous breeds is slowly growing. Commercial farmers buy the Nguni breeds to enhance their genetic pool. The cross-breed between the Nguni's and the exotic breeds has a bright multi-coloured skin that fetches higher prices in the commercial sector. For other niche markets, smallholder farmers can make contracts with funeral parlours and government institutions such as hospitals and prisons.

6.5.2 Alternative market chains

There are no formal market chains in the smallholder sector, or these are not properly defined. There are two possible market chains in the sector. Firstly, the chain starts from farmers that sell weaner calves to feedlots where they are fattened. The fattened calves are then slaughtered in the abattoir and sold to wholesalers, who distribute the product to butcheries and retailers. These retailers then sell the product to the final consumer.

The second chain entails farmers selling heifers to fellow farmers who raise them into cows. If the cows are fat enough, they are sold to the abattoirs, but if lean, they are sold to the feedlots. From the feedlot, the same channel is followed as above until reaching the consumer. The chain literally depends on the buyers who buy animals for specific purposes.

6. 6 Main challenges in smallholder livestock commercialization

The main challenge facing the commercialization of the smallholder sector is the level of preparedness towards this endeavour. Farmers need to first fulfil their subsistence objectives before putting commercialization as a priority.

On the other hand, LDA views the main challenge facing the commercialisation of livestock in communal grazing areas as organisation of farmers. A paradigm shift is required to change farmers from operating as individuals to functioning as groups. This is because social organizations for the smallholder livestock sector are necessary for effective establishment of markets. It is easy to talk about the idea of farmers being organised, but the capabilities at village level to facilitate this process are lacking. Breaking the 'dependency syndrome' is another challenge to be faced by the smallholder sector, and it is essential that mind-sets of these farmers are changed in order to be able to be independent from government and take initiatives on their own. However, the change of mind-sets takes time as it is related to values, norms, and practices in relation to livestock production. If these are not adequately addressed, they can inflict negatively on the livestock commercialization efforts. Any livestock development effort should therefore start with community awareness raising and development issues and it should be realized that this is not a short term process.

The government through its extension services can further play a leading role in addressing some other challenges such as training farmers on livestock marketing; exposing smallholder farmers to already established farmers; capacitating farmers with livestock farming skills; helping farmers recognize potential markets and institutions that provide capital; providing necessary information needed for agricultural production and encouraging smallholder farmers to target local markets.

Currently the older generation is dominating the smallholder livestock sector. Working with this section of the population poses its own challenges. It may be necessary to capacitate the younger generation on issues related to commercialization. If the necessary skills are only in possession of the older generation, this may jeopardize the progress of the livestock commercialization process. There is need to encourage the youth to be more interested in livestock farming activities. Building abattoirs and feedlots may assist in enticing the youth to farming.

Limited extension services and lack of infrastructure such as sales pens and accessible roads were also identified as challenges to the commercialization of smallholder livestock

production. The government can also consider establishment of infrastructure such as sales pens, better roads and subsidize farmers with transport. However, farmers should take the leading role in the planning, implementation, and monitoring of such development plans and set rules and regulations for the management of the structures.

6.7 Conclusion on livestock marketing

The current status of the smallholder farmers prohibits them to access formal commercial markets. This is mainly due to low quality livestock offered to the markets and inadequate institutional arrangements. As a result, capacity building on market requirements is a necessity. A collective effort amongst the farmers can help them overcome some of the marketing obstacles, and facilitate government intervention. In order to market together, farmers would need to have a common vision and work towards a common goal. Careful selection of a niche market can contribute to an effective marketing strategy and an opportunity for smallholder farmers to commercialise.

CHAPTER 7 FARMERS' ORGANISATIONS

7.1 Introduction

Agriculture is not only about natural resources, plants and animals, but it is also a human activity because people engage in it as a livelihood strategy. This means that what people produce is not only related to inputs, intensity or techniques undertaken, but also on social, cultural, physiological and policy factors (ICRA, 2006d). This relates to the level of development which is fundamental in understanding the nature of agricultural activities undertaken in a particular area. In developing countries, agricultural activities conducted by individual farmers may not yield maximum benefits due to insufficient access and control of resources. It may therefore be advisable for farmers to organize themselves in groups in order to achieve higher objectives that are beyond the reach of individuals (ICRA, 2006d).

Different types of farmers' organisations exist; ranging from membership, project inspired or traditional groups. The strongest farmers' organisations are those of voluntary association, with strong economic activities. These organisations can be successful advocates of their members when an enabling political and institutional environment exists (Hussein, 2000). With a conducive environment, farmers' organisations can serve as vehicles for empowerment of members, where farmers take control of development processes.

7.2 Benefits of forming farmer's organisations

The formation of farmer's organisations is one way of reaching optimum benefits by smallholder farmers in rural areas. These can take a form of farmers' associations, commodity groups or cooperatives. Farmer's organisations assist farmers with pooling resources together e.g. money, labour, collective marketing, minimizing production risk, sharing of knowledge/information, supply of crucial agricultural inputs, land care, sharing of land, and other services (DALA, 2000). Farmers' organisations facilitate adherence to production systems in order to comply with set standards of relevance to accessing markets, thus providing managed, co-ordinated, facilitated production and marketing plans. Farmers' organisations also offer a contact point for government because in most cases, it may not be possible to deal with farmers on one-to-one basis, whilst also providing an effective two-way-communication process between farmer, extension and other service providers (Dannson *et al.*, 2004).

Furthermore, farmers' organisations can contribute to strengthening community relations with outsiders and the wider society. They help to build rural social networks by strengthen existing linkages at local level that encourage participation, cooperation and

collective action on many fronts: economic, social and political. Active functioning of farmers groups also attracts additional outside development resources and services, since outside agencies are also interested in working in areas where rural people are well-organized, accustomed to working together and developmentally motivated (FAO, 1999).

Other benefits associated with forming farmers organisations are that farmers tend to benefit from sharing insights from others who have faced similar challenges. Farmers also put more trust in the experience and knowledge of other farmers as compared to outsiders. In addition, bringing many different sets of knowledge and experiences in a group creates an environment where a broader spectrum of views can be considered. Another advantage is that farmers' organisation helps farmers to be informed about the latest market opportunities. Finally, farmers' organisations provide an important opportunity for social interaction and support especially during stressful times such as drought and floods (Grusenmeyer & Shields, 2004).

7.3 Constraints in relation to formation of farmers' organisations

Regardless of the benefits offered by farmers' organisations, there are obstacles that can affect the establishment, effective functioning and sustainability of the organisation. These obstacles evolve from human behaviour and social changes.

7.3.1 Human behaviour

There may be negative feelings associated with the formation of social organisations such as farmers feeling that they have whatever it takes to be successful as individuals. High profile or those perceived to have a higher social status may be more influential or dominant as compared to other members. Competition between members of the organisation to make rules and dominate may be to the detriment of the organisation. In patriarchal societies, gender issues can hinder effective participation of women.

In the case of the Gemarke and Early Dawn Villages, gender division was evident as most women were quiet during discussions. When asked to participate, some women were of the opinion that, "if a man speaks he has also spoken on my behalf". If issues like these are not adequately addressed, gender issues may hinder appropriate participation of women.

In terms of education, well educated people maybe more likely to be joiners, partly because they are better off economically, and possess better skills and inclinations. The less influential members may be reluctant or sometimes unable to take charge. Certain constraints may be in relation to different groups in different villages. Within particular group members, attitudes or a perceived image of their group as being superior to others may ensure cohesion within the group but also can lead to serious conflict with other groups. Other conflicts may be in relation to past experiences. This may be related to unsuccessful experiences of working in a group or unit.

As a result it is important to have rules and regulations in a group to govern membership, participation and sharing of resources. If not properly outlined, other members of a group may dominate and think that they are entitled to benefit more as compared to others.

It should be noted that in cases where farmers' organisations are weak or non-existing, there may be inadequate access to resources, and knowledge tends to be more limited. This may have a direct impact on livelihood opportunities (Hussein, 2000). Lack of strong farmers' organisation makes it difficult for smallholder farmers to exploit potential opportunities within their own communities and to develop links with external partners. Thus, enhancing the human and social capital base of the rural poor may also enable them to interact with those wielding power on a more equitable and informed basis, and therefore negotiate more effectively on issues that affect their well-being (IFAD, 2002/06).

In relation to smallholder farmers' socio-economic background, other stakeholders may have little respect or regard them as inferior partners in agreements. This creates tension and leads to breakdown of agreements, leaving farmers feeling exploited. Socio-economic discrepancies between farmers and agribusiness create difficulties in establishing long-term business relationships.

Moreover certain constraints or failures with farmers' organisation can occur when group members are not compatible, not interested, or not committed for a long term partnership. Problems in relation to interest or commitment may be due to the value of participation not adequately described; the purpose, goals and objectives may not meet the individuals perceived needs, desires or expectations; the levels of commitment or involvement asked of individuals may be too high compared with their perception of the groups value (Grusenmeyer & Shields, 2004).

This implies that the farmers of Germarke and Early Dawn that come together to form an organisation should share similar interests as far as livestock production is concerned, and a common vision. They should also be prepared to compromise and commit themselves fully to the organisation.

7.3.2 Social change

Social change is related to technology advancement and political developments. Social, economic or political change does not usually benefit members of the society equally. As a result, resistance stems from those who would benefit less. Technological constraints occur when technology advancements outdo adoption. Government usually attempts to engineer social change by means of policies, laws, or incentives.

Social organisations currently existing in the villages of Gemarke and Early Dawn were initiated by the government, which may lead to the creation of a new dependency syndrome. This is an attitude or belief that a group cannot solve its own problems without outside intervention. When an outside agency such as the government provides

infrastructure, it is natural for the community to see it as belonging to the outside agency. When that agency is no longer able to provide funds to the community, there is no motivation to sustain the infrastructure effectively or work as unit. Unless the community as a whole has been involved in decision making about the facility and there is willingness to contribute funds, a sense of responsibility or ownership is missing (Bartle, 2006).

The existence of a dependency syndrome was evident during the interactions with villagers in Gemarke and Early Dawn. They were of a view that the government should solve almost all agriculture-related problems. It is therefore important to take note and deal with this kind of attitude or dependency syndrome to ensure the existence of the organisation. At times, the development strategy seems to be initiated by the LDA without consultation with the community, thus imposing the idea to the beneficiaries. It can be argued that at times an idea that does not originate from the community can be an opportunity, but in order for the idea to be internalized there should be clarity about the purpose or motive of the preliminary idea. Once there is a common understanding and agreement among the parties concerned, a common goal or vision can be achieved. If there is no common understanding the results can be undesirable.

A case at hand is the visit by the SA ARD team to Eldorado Village (see section 2.2.5). The aim of the visit was to identify the best organisational practices that can be suggested for adoption to the Gemarke and Early Dawn Villages. However, the team found the status contrary to the initial understanding of the village being well organised. The initiative to form an organisation was from the government that approached the chief to mobilize the demarcation of camps in the grazing areas. The chief passed the idea to villagers, who had the expectation of receiving a payment. All the villagers whether owning livestock or not, participate in the fencing project, indicating divergent interests. One astonishing issue observed is that the villagers do not yet know how the grazing area will be utilized and managed.

In summary, the team found that the Eldorado village is not really organised in the true sense of the word, except that they are working together to erect the fences around the grazing area. The community needs to be made aware of the benefits of organizing themselves, and they should take the lead in doing so.

7.4 Social capital as a resource to collective action

Social capital is a 'bottom-up' phenomenon; it originates with people forming social organisations that facilitate networks among farmers (Schuller *et al*., 2000). It facilitates coordination, cooperation and the ability of a community to work towards a common goal. It is based on participation; principles of trust; mutual reciprocity and norms of action. Participation in organisations must be voluntary, equal and based on pro-activeness. However, people join groups/organisations based on certain interests or believes, which influences how they think of themselves and others within these groups. Trust entails a willingness to take risk, honesty and cooperative behaviour in a social

context. In terms of reciprocity, individuals provide a service to others or act for the benefit of others in expectation of other benefits in the future. Social norms provide an informal way of ensuring control. If there is low level of trust and few social norms, people cooperate only when there are formal rules and regulations (Putnam, *et al*., 1993; Winter, 2000).

A common goal can only be achieved when people trust each other, share identifiable characteristics or values, expectations, good communication and are also in a position to organize themselves (Lockwood, 1996). If these factors uphold, an efficient organisation may be ensured.

7.5 Social organisations of livestock keepers at Early Dawn and Gemarke

There are overall committees for all livestock keepers in both villages, which represent the villagers in major meetings. These committees do not meet regularly; their establishment was politically motivated. It was the result of a request by the LDA to bring feedback to the communities after meetings with the department, and to facilitate fencing and demarcation of camps in the grazing area. The extension officer takes a leading role with regards to the organisation of local livestock keepers. This was evident even during the discussions with the villagers: certain committees were constantly being referred to as "those of the extension officer".

The villagers who attended the field study's introductory meeting recognized the need to mobilize a committee that will meet regularly and discuss livestock production issues, and not only aspects related to fencing. Livestock keepers are also not members of a formal producer organisation. There is need for strengthening the capacity of livestock keepers and their organisations.

Some other form of social organisation is evident in Early Dawn. There is for example a general ban on the cutting of live trees, which is enforced by a fine. Villagers are only allowed to collect dry wood. If there is an outbreak of fire, the whole village is responsible for extinguishing it. Decisions on grazing are taken by the tribal authority and the whole community at large. During winter seasons for example, livestock owners are requested to allow grazing in specific areas only.

7.5.1 Views on social organisation: Gemarke

Some farmers in Gemarke feel that it is better to work individually, but organisation can work effectively if farmers have a common vision. It was indicated that this organisation should be independent of the general village organisation as some villagers have no interest in livestock and can hinder the progress of the organisation. A lot of issues can be addressed by organized groups, for example, buying medicines and taking care of the animals. It was stated that organisation of farmers can be successful if there is a

constitution that governs the organisation. By-laws can be created to guide the use and management of agro-ecological resources at village level.

7.5.2 Views on social organisation: Early Dawn

The farmers unanimously agreed that it is essential for livestock keepers to be organized for better management and marketing of livestock. As in the case of Gemarke, some farmers are of view that social organisation for management of agro-ecological resources has to be village-based because the land is communally owned. The issue of organisation for collective marketing was raised as an important organisational aspect as most villagers get cheated by speculators who obtain livestock at prices far below market levels. When organized, farmers can advice each other on fair market prices and overcome these unfortunate dealings with speculators.

Some farmers are of the opinion that it is better to have a smaller number of farmers organized and effectively working together before a big organisation can be formed. Conversely, others are of the view that organisation should be at village level because livestock production is based on the communal land use system. The team supports the latter view as having few members organised but using communal resources might be difficult.

7.6 Conclusion on farmer organisations

Beyond technical agriculture, which is in most cases well provided by development agencies in smallholder farming, there is a rising need for farmers to be organized. These organisations are such that they can benefit farmers on issues that they may not be able to realize optimally as individuals. Such issues include collective marketing, access to information, sharing of experiences, access to inputs and establishment of infrastructure. Farmers' organisations function better when farmers themselves feel the need to join instead of being motivated.

It is important to consider that farmers are individuals with different perceptions, objectives and expectations. Furthermore, it is imperative for farmers themselves to outline and have a common understanding of the purpose, objectives and goals of the farmers' organisation. If not considered all these factors can influence the effective functioning and sustainability of farmers' organisations negatively.

Even though the assistance of development agencies is required to a certain extent, a sense of responsibility and ownership at community level can only be realized if the agencies facilitate the formation process rather than assuming the leading role.

7.7 Recommendations on farmer organisations

In an attempt to minimize the risks associated with farming individually or to address challenges associated by individual livestock farmers, an umbrella organization consisting of different sub-committees can be created. These can include the grazing area management sub-committee, livestock management sub-committee and maintenance of infrastructure sub-committee. Even though different sub-committees are responsible for specific roles, it may be advisable that all members are made responsible for the overall veld and livestock management.

It may therefore be necessary to create a common understanding and clarification of roles and responsibilities and common vision for all members concerned within the umbrella organization. Caution should be on creating too many structures that may hinder effective progress as well as on cultural factors such as social status and gender issues. Capacitating villagers on conflict management strategies may be of assistance in this regard. The realization of the above recommendations and thus sustainability of social organizations depend strongly on the community's interest, and their view in relation to its relevance, necessity and benefits.

The LDA must realize that a shift in paradigm is required in order to address the constraints and needs of livestock keepers in the second economy in general, and Blouberg Municipality in particular. There is less need for the traditional "technology transfer" attitude and skills and more need for the new "community development and facilitation of stakeholder involvement" attitude and skills. In order to address the need for these new soft skills, awareness creation should take place among LDA's senior and management staff. In addition, existing field staff should be retrained in in-service programs. Moreover, the tertiary training institutes should provide the new generation of extension staff with these newly required soft skills in their regular curricula in order to address the constraints and needs of the second economy farming community more efficiently and effectively.

CHAPTER 8 DEVELOPMENT STRATEGIES FOR COMMUNAL LIVESTOCK PRODUCTION

8.1 Introduction

During data collection, the focus group discussion sessions with livestock owners were held using guiding questions at Gemarke and Early Dawn Villages to collect information on agro-ecological resources as well as socio-economic resources and the management thereof. Key informant interviews were also conducted using semi-structured questionnaires. The focus of these interviews was on marketing opportunities for livestock production under communal land use system. A focus group discussion on current recommended improved practices for communal livestock and veld management with key stakeholders was held as well. Most current recommendations on veld and livestock management strategies have been developed for the commercial livestock sector. The aim of this focus group was to analyze the applicability of these strategies under communal land use systems.

Information gathered through these three mechanisms, is collated in this chapter to formulate development strategies that can be used under communal livestock production system.

8.2 Veld management

8.2.1 Veld and soil degradation

Current recommendations

Environmental and climatic conditions in Limpopo province are conducive to productive agriculture. The province happens to be the worst with regards to combined soil and veld degradation (Palmer & Ainslie, 2002), however. Soil degradation in the veld emanates primarily from overgrazing, denuding the soil of the basal cover. Improving the condition of the veld is a complex issue, and veld reclamation is probably the most challenging veld management practice. It is often the only alternative to make land more productive, though. The aim of veld reclamation is to obtain a dense plant population, protect the soil and avoid overgrazing (Tainton, 1981). Veld reclamation entails, amongst others, activities such as re-seeding and fertilization.

Applicability of current recommendations to communal land use systems

Current recommended activities such as re-seeding and fertilisation require some capital investment, which are not forthcoming in communal grazing areas. According to Palmer & Ainslie (2002), the availability and price of seeds for fodder improvements are major constraints for farmers in communal areas.

Furthermore, in order to enhance communal grazing land, the number of animals kept at a particular grazing area must be controlled or managed appropriately. This implies that the number kept should correlate with the condition of the veld. If this number is not adequately controlled, it may lead to overgrazing, and as a result, production may decrease. However, reducing the livestock numbers poses major challenges in communal areas. This is because some farmers own one animal whilst others may possess large herds of cattle. When attempting to address this matter, social issues have to be taken into consideration. It is required to focus on communal ownership and farmers' perceptions, and recommended relevant practices according to smallholder farmers' requirements.

According to farmers in Gemarke and Early Dawn, the number of livestock has been greatly reduced by drought. The drought also led to some areas having developed into deserts. In these areas, resting could be applied to revitalize the vegetation. Other ways of revitalizing the communal lands may include demarcation of grazing areas into camps. This will allow some parts of the grazing area to rest. The results of the resting period will be improved if seeds can be collected (from other areas) and spread to assist the rejuvenation of the grass. Extension services can assist smallholder farmers on veld management practices and provide some infrastructure.

8.2.2 Supplementary/Winter feeding

Current recommendations

Cultivated pastures are often established as a means to supplement natural pastures, fatten cattle or round off calves. Cultivated pastures are especially a viable option in high rainfall areas. Even though most cultivated pastures in dry areas are produced under irrigation, certain rain-fed pastures are more suitable to the drier areas. The recommended types of rain-fed pastures that may be suitable for the Capricorn District and Blouberg Municipality in particular are Lablab *(Dolichos lablab*, syn. *Lablab purpureus)*, Napier *(Pennisetum purpureum)*, Blue Buffalo (C*enchrus cialiris*) and Bottle (*Anthephora spp.)* grasses.

Applicability of current recommendations to communal land use systems

Communal livestock largely depends on natural grazing for survival. During the dry season very few smallholder farmers manage to offer food supplements to their animals (Chinembiri, 1999) and high mortality rates are recorded during this time. Establishment of cultivated pastures as a means to supplement winter feeding is not a viable option to smallholder farmers either. In the dry areas such as Blouberg, there are many constraints. Rainfall is low and uncertain, and grazing areas and fields are not fenced, creating free access to the range lands. On the other hand, supplementary feeding is expensive and not affordable to many smallholder farmers. They depend predominantly on communal grazing areas for their livestock feed.

Strategies that can be used by smallholder farmers to supplement feeding during winter/dry periods include: Cutting grass in summer and reserving it for winter feeding; planting maize and preserving the stalks for winter; providing licks for cattle during winter in order to supplement the dry vegetation, taking care of natural resources. With

recommendations from the veterinary officer, chicken litter can be fed to cattle as a supplement during winter season especially when mixed with maize stalks to provide better rations. These imply that an attempt to address supplementary feeding in communal land use systems during winter should be based on a holistic approach.

8.2.3 Grazing management

Current recommendations

Grazing management practices vary tremendously with regards to both the principles of management applied and the specific form in which the principles are applied. The types of grazing management practices that can be applied are continuous grazing, rotational grazing and resting, as well as zero grazing (Tainton, 1981). Animal production from the veld is influenced to a great extent by the rate at which a veld is stocked, and the performance of each animal depends on the stocking rate. To a certain degree, the lighter the stocking rate, the better the performance of the animal.

Applicability of current recommendations to communal land use systems

The grazing system in communal areas is not properly managed. There are no strict regulations governing the use of the veld. Stocking rates in relation to carrying capacity are not even considered. This leads to overgrazing and severe degradation of the grazing land (Chinembiri, 1999).

Continuous grazing is the most common practise in Gemarke and Early Dawn. Currently there is no system for rotational grazing. In the past, some rotational grazing was practised as the animals grazed on the veld in summer and on the fields in winter after the harvest of crops. Since most of the fields are now lying fallow, this is no longer the case. Demarcation of the grazing area into camps is required before any rotational grazing management can be applied.

8.2.4 Drought and its related management strategies

Current recommendations

Farmers recognize that drought is unpredictable and imminent. As, in dry periods, a constant supply of fodder is of importance to all livestock, it is essential that appropriate management strategies are put in place during periods of drought. Different recommended alternatives to manage feeding during the drought are available. One is the establishment and use of specific areas reserved for emergency grazing. Another is starting to sell some animals when drought seems to be forthcoming. Old animals, animals with poor reproductive records, heifers or young ewes which have not calved/lambed and oxen/wethers can then be sold.

The livestock composition also becomes important in drought periods. Cattle will need more attention and help than goats and sheep. The small stock graze at lower level and can browse thus utilizing the veld more completely. As a result, it is easier to maintain goats and sheep during drought. Another strategy that can be used to save costs and

utilize feed resources more efficiently during the drought is early weaning of both lambs and calves. With early weaning, stress on cows and ewes can be reduced and consequently be fed cheaper rations.

Applicability of current recommendations to communal land use systems
The farmers in Gemarke and Early Dawn are unfamiliar with the current recommendations in order to reduce the impact of drought. Their management strategies are more oriented towards keeping all animals in the hope that some will survive the drought period. With those surviving they can start the building up of a new herd. The recommended practices can indeed make a difference in the livestock survival of these farmers during winter and drought periods.

8.3 Animal production management

8.3.1 General management practices

According to smallholder farmers, the common practices undertaken at village level include castration and vaccination after birth. Thereafter the focus is on the control of ticks or the cure of animals when there are symptoms of diseases. This means that farmers are generally reactive and not pro-active in their livestock management practices. Other smallholder farmers request the assistance of extension officers to dehorn and or castrate their animals.

Smallholder farmers need to be capacitated on the importance of general management practices and on livestock keeping, with specific emphasis on economic or financial matters. These farmers need to be encouraged to organize themselves into groups as this may contribute to also changing their mind-sets of keeping animals for other than purely subsistence-oriented reasons (e.g. food security, draught power, investment, emergency selling). This should also take into consideration the dynamics related to communal farming, however. With farmers being better organised, different developmental strategies can be implemented more efficiently and effectively.

8.3.2 Breeding

Management
Generally, there are no specialized and managed breeding systems in the communal areas (Chinembiri, 1999). Cows/heifers run with bulls all year round without much reference as to which bull serves which cow or heifer. Selection and culling of animals for breeding purposes is the sole responsibility of an individual owner.

The farmers in Gemarke and Early Dawn are of the view that it would be ideal for every household to have a bull, but not every farmer can afford to buy a bull, and some find no reason to own it due to the free ranging system. In addition to having fewer bulls in the villages, there is little or no control from the farmers, and the bulls often run astray. These bulls are sometimes captured overnight by other keepers without owners' consent. The

bulls are overworked as they are servicing more cows than anticipated. Bulls in the villages also travel long distances to graze and access water, making it difficult for the owners to find them. This free ranging nature of the animals leads to uncontrolled random mating.

The recommend strategy to deal with this situation could be farmers' collective buying of bulls, which would jointly serve their cows. The purchase of the communal bull would require the same vision from the farmers, as well as a common understanding on how to contribute towards the purchase. A constitution governing the use and care of the bull can also contribute to the success of communal bull usage. The farmers would also need to be capacitated on oestrus stages to determine the mating times; as well as bull: cow ratios to avoid over-working the bulls. The farmers can also learn from and adopt the practices in other countries. For example, in communal areas of Zimbabwe, there are two controlled breeding systems employed. In the first system a community approval test is used, in which young bulls go through a community judgment before they can join the breeding herds as bulls. The second system is based on the assertive mating practice. In this system, superior bulls are confined and farmers bring cows on heat for service. The bull owner charges a fee for the usage of his/her bull.

Types of breeds

Commercial farmers might be able to manage exotic breeds successfully whereas the smallholder livestock farmers under communal land use require local or indigenous crossbred animals that can be adapted to local conditions and require less external inputs. However, government breeding programmes are often biased towards the exotic breeds, which are viewed as the "magic bullet" to achieve substantial increase in production (World Bank, 2004).

The use of exotic breeds for breeding purposes has therefore some drawbacks. These can dilute the indigenous genotype base and can thus cause problems to resource-poor farmers. This calls for more community based breeding schemes that function through selection within local breeds (World Bank, 2004).

The stakeholders that participated in the study indicated that the type of breed is not of utmost importance; what is crucial is how the animal is taken care of. Smallholder farmers can thrive with the use of indigenous breeds depending on the number of animals sold and the condition of the animals. Most smallholder farmers keep the Nguni breed because this breed has several advantages, such as the ability to survive drought conditions, tolerance to diseases, and the ability to climb slopes and walk long distances. It may be advisable for farmers to keep records about the pedigree of the animals, vaccines applied, and feed information. These can assist with production costs which would ultimately determine the quality and price of the animal.

8.4 Organization of farmers

The government is currently mobilizing smallholder farmers to form farmers' groups of commodity organizations at village level. These kinds of associations are viewed to have benefits for smallholder farmers in general. However, there are certain dynamics associated with the formation of farmers' organizations. These include undermining other individuals due to their low social status. Other problems related to attitudes and mistrust between farmers within the village due to past incidences. These may be difficult to change within a relatively short period of time. There is therefore a need to capacitate smallholder farmers on the benefits of being organized, such as the ability to market as a group, to buy medicines together and deal with other problems such as stock theft. The farmers can also share experiences with other farmers who have progressed as far as organization towards commercialization is concerned. The appropriate commitment and skills of extension officers in facilitating this process may be essential in forming farmer organizations (see Chapter 7).

In Gemarke and Early Dawn there are currently livestock mobilization committees. These are aimed at linking farmers to markets, which includes selling, buying, and sharing market information. The committees are also tasked to resolve conflicts between farmers and to call meetings to discuss progress on the fencing of the veld. However, these committees are currently not fulfilling all of their expected roles. A number of village-based sub-committees can be formed by the communal livestock keepers. These include the grazing area management sub-committee that looks at the issues of feed, water and veld fires, the livestock management sub-committee responsible for animal health, weight and theft, and the sub-committee in charge for maintenance of infrastructure: fences, dipping tanks, sales pens, loading and off-loading ramps. Caution should be taken in the institutionalisation of these sub-committees, however, as too many organizational structures may hinder the progress in the functioning of the overall committee.

8.5 Development strategies

A number of development strategies were identified from the recommended practices and their applicability under the communal land use situations was discussed in the previous sections. These relate to veld and livestock management, along with farmers' organizations as stated below:

- Veld improvement
    - Control of stock numbers (controversial especially when penalties are involved)
    - Control of bush encroachment by mechanical methods
    - Veld reclamation- reseeding, fertilization, ridging
    - Demarcation of the grazing area into camps

- Livestock management
    - Building of farmers capacity on general livestock management practices
    - Adhering to health programmes
    - Introducing animal improvement schemes on a voluntary basis
    - Initiating community livestock workers programme to assist farmers with day to day management e.g. branding, dipping, disease surveillance, marketing facilitation etc.
- Breeding
    - Improvement of indigenous breeds by community based selection programmes
    - Introduction of artificial insemination (It requires good infrastructure and training
    - Designation of breeding seasons to synchronise food supply with calving/lambing at particular times of the year
    - Capacity building on oestrus stages to determine appropriate times of mating; and bull: cow ratios to avoid overworking the bulls
- Capacity building on record keeping to:
    - Keep track of all livestock with regards to general livestock production practices such as birth weight; weaning weight and age; vaccination programme; castration; dehorning; feed costs, from birth until sale
    - Raise awareness that these records serve as useful guidelines in the implementation of other livestock development programmes such as breeding and selection using exotic breeds
    - Be able to certify the pedigree thus enhancing and the marketing options
- Drought feeding and winter feeding- establishment of fodder banks to cater for winter or drought feeding by:
    - Cutting and preserving grass for winter feeding
    - Planting lap-lap and Napier grasses in abandoned fields or home gardens
    - Planting maize and reserving it for winter feeding
    - Providing licks in winter for supplementation of dry vegetation
    - Controlling livestock numbers by selling before drought
- Farmers' organizations
    - Training of leaders of farmer organizations to capacitate them on their roles and clarify to members the benefits associated with the organization such as procuring production inputs, management of communal grazing land and infrastructure, production and marketing information, collective marketing, etc.
    - Formation of organizations governed by constitutions
    - Formation of potential sub-committees within the village
        - Grazing area management sub-committee (feed, water, veld fires)
        - Livestock management sub-committee (animal health, weight, theft)
        - Maintenance of infrastructure sub-committee (dipping tank, sales pen, fences)
        - Breeding management sub-committee to take care of the communal bulls in order to control random breeding

        - Formation of a marketing sub-committee to purchase inputs in bulk and organize or arrange logistics for collective sales of output
- Marketing infrastructure
    - Establishment or development of a mobile livestock marketing unit in the short-term before the sales pens can be constructed
    - Construction of sales pens in the long-term
    - Establishment of an abattoir although many abattoirs in rural areas are operating below their full capacity. This is one of the strategies currently considered by LDA. However, its feasibility and viability are questionable due to the high number of livestock required for effective operation.\
    - Establishment of a one stop service centre for livestock inputs, animal feeds and supplements, a sale point for hides and skins and a training centre.

8.6 Prioritization process of development strategies

As indicated in section 8.5, a number of development strategies were identified. Some of the identified development strategies have been recommended in some regions of the Limpopo Province but have also been found to be relevant in Blouberg Municipality in order to initiate commercialization of livestock. As commercialization is a process, not all of these strategies can be implemented and realized in the short-term. Furthermore, with the available resources it is not possible to implement all the strategies. Consequently, these strategies had to be prioritized.

8.6.1 Preparatory phase

In preparation for the priority setting workshop, a number of phases associated with the prioritization process were explored. Firstly, consideration was given to the type and variety of relevant stakeholders to be invited. Secondly, the criteria to be used needed to be identified and agreed upon. Thirdly, the methodology to be followed when comparing different strategies needed to be developed and agreed upon (ICRA, 2006e).

8.6.2 Participants

The priority setting workshop was held at Oasis Lodge in Polokwane, Limpopo Province on the 12th of May 2006. The stakeholders invited to the workshop included the pasture scientist/specialist, the agricultural economist, representatives from the LDA, animal scientist/ veterinarian, extension officers, representatives from tertiary institutions, and livestock committee members from the two study villages.

8.6.3 Criteria and stakeholder weighting and scoring

Criteria refer to the way of judging the relative merits of different alternatives. The five criteria chosen were based on the pillars of sustainability adopted from the Department of Agriculture and Land Affairs policy document (DALA, 2000). These pillars included feasibility, viability, acceptability, responsibility and equity. Feasibility refers to the ability to implement the strategy and the likely success of the strategy. One guiding approach to feasibility is the reflection on whether the strategy has worked in similar farming conditions. Viability is related to the likely economic benefits or the competitiveness of the strategy. The issue of acceptability looks at the social acceptability of the intervention strategy i.e. whether the strategy will fit in the culture, norms and values of the society. Responsibility is associated with the stakeholders responsible for implementing the strategy, while equity determines whether all the beneficiaries will have equal access to, and benefit equitably from the proposed strategy. For the assessment of these criteria, the weights of 1, 2 and 3 meaning less important, important and very important respectively were used. Each stakeholder was also given a weight that was later used during the final scoring of the priority setting exercise. The weight for tertiary institution representatives was 2; the animal scientists/veterinary officers and LDA representatives were given a weight of 3, while extension officers and farmers from Early Dawn and Gemarke were given the weights of 4 and 5 respectively. Farmers as the main beneficiaries were allocated more weight, followed by the extension officers who work directly with the farmers. For scoring of the strategies, a maximum total score of 100 points was set, to be distributed among the development strategies identified to be most important.

8.7 Analysis of the prioritized development strategies

8.7.1 The priority setting exercise

The priority setting exercise was divided into three sessions, viz. social organizations, veld management practices and livestock management practices. Priority setting exercise 1 identified possible farmer organizations at village level which included five sub-committees. Priority setting exercises 2 and 3 focused on currently improved recommended veld management practices and livestock management practices respectively. A matrix was then developed with strategies on the vertical axis and criteria on the horizontal axis (Annex 8.1A-C).

8.7.2 The priority setting process

Prior to the priority setting exercise, the rules and the procedure to be followed during the exercise were given. The workshop was conducted in English but translations to the local language were made. Facilitators from the team were also available to give clarity when needed during the exercise. During the process, the tool was found not flexible enough to allow each strategy to be assessed individually with regards to feasibility, flexibility,

equity, etc. The use of one weight to assess all the strategies was the main problem. As a result, the adjustment was made to the weighting process in which each criterion was weighted individually per strategy.

8.7.3 Social organizations

The promotion of local organizations can contribute to making marginalized groups active participants in their own development. The organizations identified during the priority setting workshop can contribute to management of the grazing area, the infrastructure therein, the livestock and marketing. Table 8.1 presents prioritized development strategies on social organizations.

Table 8.1: Prioritized development strategies on formation of social organisations

Stakeholders / **Strategies**	Farmers Early Dawn	Farmers Gemarke	Extension officers	Animal scientist/ veterinarian	LDA	Tertiary institutions	**Total score**	**Rank**
1.Formation of grazing area sub-committee	1650	3000	1340	420	960	520	7890	1
2. Formation of livestock management sub-committee	1800	1000	760	1035	1080	620	6295	2
3. Formation of infrastructure maintenance sub-committee	1250	950	840	660	390	380	4470	4
4. Formation of breeding management sub-committee	250	800	760	270	270	280	2630	5
5. Formation of marketing sub-committee	550	200	1380	795	1080	740	4747	3

Formation of grazing area sub-committee that will be responsible for management of the veld, water, and veld fires is the first prioritized strategy. This is followed by formation of livestock management sub-committee that will concentrate on animal health, weight and control of livestock theft. The first two prioritized strategies link logically as livestock theft has been repeatedly cited as one of the major obstacles and a demoralizing factor in livestock farming. The formation of a grazing area sub-committee would allow a more efficient and effective use of the communal grazing area (the major natural resource available) and would also play a role in the alleviation of stock theft.

Diseases and predators are also cited in Chapter 5 as major obstacles to livestock production. The current livestock production practices are also perceived to have an impact on the increase in livestock losses and the spread of diseases. The fact that farmers

do not apply preliminary control measures but treat rather than control diseases, can also be resolved by the livestock management committee.

The marketing of livestock in the communal areas is not a priority yet. Objectives of farmers are still mainly subsistence-oriented. Therefore farmers will not quickly transform to a more commercial oriented way of production. This will only be possible step by step and should therefore be a long-term objective.

8.7.4 Veld management

A number of veld management practices are recommended in the commercial sector, but not all of them are applicable in the communal land use system. The veld management practices that can be adopted in the communal land use system are prioritized in Table 8.2

Table 8.2: Prioritized development strategies on veld management practices

Stakeholders / **Strategies**	Farmers Early Dawn	Farmers Gemarke	Extension officers	Animal scientist/ veterinarian	LDA	Tertiary institutions	**Total score**	**Rank**
1. Veld reclamation	25	2475	710	225	141	110	3686	3
2. Control of stock numbers	25	750	484	195	195	370	2019	7
3. Control of bush encroachment	300	700	430	480	627	140	2677	5
4. Dividing the grazing areas into camps	850	625	1230	990	720	340	4755	2
5.Establishment of fodder banks	150	475	715	270	855	540	3005	4
6. Provision of licks in winter	175	425	512	330	450	220	2112	6
7.Establishment/ provision of water points within the camps	4500	300	1320	930	855	600	8505	1

With regards to veld management, establishment of water points or provision of water within the grazing camps is the first prioritized strategy, followed by the division of the area into camps. There is a relationship between these two strategies and the first prioritized strategy under social organisations which is the formation of a grazing area committee. It is evident that the priority of the farmers lies in the veld; the farmers need to have a committee to manage the veld, divide the veld into camps, and provide water to the camps.

8.7.5 Livestock management

A number of intervention strategies can enhance livestock production in general. Some of the strategies that can be adopted under the communal land use system are ranked in order of importance in Table 8.3.

Table 8.3: Prioritized development strategies on livestock management practices

Stakeholders / **Strategies**	Farmers Early Dawn	Farmers Gemarke	Extension officers	Animal scientist/ veterinarian	LDA	Tertiary institutions	**Total score**	**Rank**
1.Capacity building on general management practices	1800	2450	1440	1350	633	640	8313	1
2.Animal improvement schemes	2100	1700	520	855	613	380	6167	2
3.Community livestock workers programme	600	800	1100	435	1845	740	5520	3
4. Community based breeding schemes	1050	650	1440	705	465	380	4690	4
5. Designation of breeding seasons	50	600	1000	330	315	160	2455	5

The identified development strategies for livestock management were prioritized and capacity building on general management practices and animal improvement schemes took the first and second positions respectively.

The findings of this study reveal the need for capacity building of farmers on general livestock management practices as prioritized. This is in reference to the fact that the only livestock management practices applied after birth are vaccination and castration. Diseases are treated when symptoms are visible and there are no preventive measures taken. The absence of equipment such as weighing scales were mentioned as a limiting factor in the application of other livestock management practices such as weight recording during birth, weaning and sale.

Animal improvement schemes through the use of exotic breeds took the second position in the prioritization of development strategies. The fact that animal improvement schemes through use of exotic breeds took the second position in the prioritization of development strategies indicates clearly that, exotic breeds for livestock improvement schemes are preferred over indigenous breeds regardless of the technical, managerial and scientific knowledge required.

8.8 Conclusion on development strategies

The communal land use system under which the smallholder farmers raise their animals makes it extremely difficult to apply veld and livestock management practices. Production of good quality meat requires breeding programmes, knowledge of breeding methods, access to good breeding stock and effective veld management, aspects that are not easily accessible to smallholder farmers.

The farmers in the two villages concluded that management of the veld, water points within the veld, and building capacity on general livestock management strategies are the most important developmental strategies. This is supported by the prioritized needs that include erection of fences, demarcation of grazing camps, and the provision of water points within the camps. These needs require collective action in order to ensure their efficiency, effectiveness and sustainability. The farmers need to put relevant committees in place to monitor and guard the structures against vandalism. These committees should also take responsibility to fix broken fences and other related infrastructure. This is in line with the requirements of farmers as the grazing area management sub-committee for management of feed resources, water, and veld fires was prioritized as the most important sub-committee. However, for this and other committees to function properly, the farmers need capacitating on the operation of social organizations and the dynamics associated with them.

Recommendations

Training needs

- Extension officers to be capacitated on livestock production and management, with focus on diseases prevalent in the villages and fodder flow planning.
- Extension officers and farmers to be capacitated on business management (business plans, farm management and cost price management)
- Farmers and extension officers need to be capacitated or strengthened on their capabilities to acquire and disseminate relevant information
- Farmers to be capacitated on breeding and record keeping
- In the long-term, farmers and extension officers to be capacitated on management of abattoirs and feedlots
- Farmers and extension officers to be capacitated on market quality requirement

Further research areas

- Research on in-depth livelihoods of smallholder farmers
- Research on water sources for irrigation purposes

- Research on the type and extent of social organization- focus should be on social constraints of these organizations e.g. formation of social organization, gender issues, social status, power issues, etc

Possible partners

NGOs, Universities (Limpopo and Venda), Auctioneers, NERPO, Tiwoomba Research stations, Land Bank.

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ANNEXES

ANNEX 1.1 SOURCES OF WATER IN BLOUBERG MUNICIPALITY

Sources	Numbers	Percentage
Above RDP level		
Piped water to the dwelling	697	2.1
Piped water inside the yard	11040	32.50
Piped water to communal stand pipe < 200m	5458	16.1
Below RDP level		
Piped water to communal stand pipe >200m	8691	25.6
Borehole (stand pump)	3269	9.6
Spring	292	0.9
Rain water tank	53	0.2
Dam/pool/stagnant water	1201	3.5
River or stream	721	2.1
Water vendor	390	1.1
Other	2126	6.3
Total	33938	100

ANNEX 1.2 LIVESTOCK COMPOSITION IN BLOUBERG MUNICIPALITY

Type of livestock	Number
Cattle	30 166
Goats	44 388
Sheep	9 680

ANNEX 2.1 TERMS OF REFERENCE

TERMS OF REFERENCE FOR THE 2006 LDA/ARC/ICRA FIELD STUDY IN THE BLOUBERG MUNICIPALITY OF CAPRICORN DISTRICT, LIMPOPO PROVINCE, SOUTH AFRICA

LIVELIHOODS IN THE RURAL AREAS OF BLOUBERG MUNICIPALITY: OPPORTUNITIES FOR COMMERCIALISING LIVESTOCK PRODUCTION IN THE COMMUNAL LAND USE SYSTEM THROUGH BETTER MANAGEMENT AND SUSTAINABLE USE OF THE AGRO-ECOLOGICAL AND SOCIO-ECONOMIC RESOURCES.

Institutional framework

Organisations in South Africa
The field study will be carried out as a joint study by the Directorate of Research and Extension (DR&E) of the Limpopo Department of Agriculture (LDA), the International Centre for Research in development oriented Agriculture (ICRA), the Agricultural Research Council (ARC), the Capricorn District Management (CDM) and the Blouberg Municipality Service Centre (BMSC).

Main activities/ mandates:
DR&E: the directorate of LDA responsible for Research and Extension
Capricorn District: the geographic area in which the study area is located. This is a commercial farming area, but extensive areas are inhabited by the Pedi people, who have a communal land use system.
CDM: the area-bound directorate of LDA responsible for planning and implementation of Government Agricultural activities within the Capricorn District of the Limpopo Province.
BMSC: service centre responsible for agricultural services in the Blouberg Municipality.
ARC: represented by its Rural Livelihoods Division coordinating contacts with relevant Research Institutes such as: Soil, Climate & Water (ISCW); Grain Crops Industrial (GCI); Small Grains (SGI), Veterinary (OVI); Animal Improvement (AII); Animal Nutrition & Production (ANPI); Range & Forage (RFI)
ICRA: international organisation founded on the initiative of European CGIAR members. Its purpose is to "enhance human and institutional capacities in agricultural research for development (ARD) and rural innovation processes" through collective action learning rooted in real "field" situations and problems. It focuses on sharing, consolidating and where needed, generating new knowledge and developing new professional attitudes and skills for more effective ARD contributions to stakeholder innovation processes relevant to improving livelihoods of resource-poor farmers and broader needs of society.

Main interest of each of these stakeholders in the study topic:
DR&E: the directorate under which research falls, mainly through commitment to research and extension.
Capricorn District: the stakeholders in this context must be viewed as the rural communities and people residing in the district. Some of them are poor and require every opportunity for economic improvement.
CDM: committed to agricultural development of formerly disadvantaged communities in Capricorn District.
BMSC: committed to the development of a sustainable approach for delivery of agricultural services to rural communities in the target area of Blouberg Municipality

ARC: through its Sustainable Rural Livelihoods Division the ARC is enabled to focus its research, development, and technology transfer activities towards the Resource Poor Agricultural Sector needs. In this process the SRL provincial coordinators have an important role. They are placed in all nine provinces (including Limpopo) to strengthen and improve the linkages between the different programmes of ARC/SRL and the Provincial Department of Agriculture (PDAS)
ICRA: ICRA's professional training provides participating South African professionals in rural development with an opportunity to acquire new concepts and skills and to apply them in a professional assignment with SA partner research and development institutes. The core part of the ICRA program consists of a 6-week intensive field study as a professional service to partners in rural areas of South Africa. Scope and dimension of the SA field study are based on Terms of Reference (TOR) jointly developed by all partners involved.

Period

The field study will be conducted from the 9th of April 2005 to the 20th of May 2006 (6-week period).

Topic of the study

Livelihoods in the rural areas of Blouberg Municipality: Opportunities for commercialising livestock production in the communal land use system through better management and sustainable use of the agro-ecological and socio-economic resources.

Justification

The Limpopo Department of Agriculture is currently developing a new mode of operations. The new policy for service delivery of the department is focused at the municipality level. The department will use a commodity-based approach that covers both infra-structural developments as well as extension support. In order to work efficiently, the department encourages farmers to get organised in commodity-based organisations. Collaboration between organised farmer-groups and the extension staff will take place in the form of project-based plans. Projects will look at the total value chain. A baseline audit (stock-taking) before implementation of the activities forms part of the process. The project-based approach will also allow the department to better budget and monitor incurred expenditures. The Blouberg Municipality has been earmarked by LDA as a pilot area where the new approach will be implemented, monitored and evaluated before it is up-scaled to other areas.

In Capricorn District in general and in Blouberg Municipality in particular, the department is focussing on the development of the livestock production sector in areas with communal land use systems. Village communities in these drought-prone areas own substantial livestock herds and have access to substantial stretches of range land. Due to a low level of social and economic organisation, however, livestock owners find it difficult to optimally manage their natural resources (herds, range lands) and profitably market their produce.

In a joint effort, Limpopo DA, Capricorn DM and the Blouberg Municipality have earmarked 3 clusters of villages as the focal points for launching the new programme approach. Unfortunately, two of these selected village clusters are situated too far away from Polokwane (where the ICRA team will be based) for efficient and effective interaction of the team and the village communities. Hence it was decided that the ICRA team would focus only on the Noma cluster of villages that is about 35 km from Blouberg. In the Noma cluster two representative, though

contrasting, villages will be selected in order to enable a comparative analysis. Special attention will be paid to the level of social organisation among livestock holders as a criterion for differences between the two villages.

Objectives of the field study

The **purpose** of the field study is to contribute to the development of an efficient and effective approach for the Limpopo Department of Agriculture in order to better deal with the commercialisation aspects of livestock production in communal land use systems.

The **outputs** of the field study are:

1. The current livelihood systems and strategies of the rural population in the Noma Village cluster in Blouberg Municipality have been analysed in order to develop an initial household typology for better targeting of future development efforts in the communal livestock sector.
2. The past and expected changes among the livestock-owning households have been analysed in the target area. Specific attention will be given to changes affecting the use and management of agro-ecological and socio-economic resources for livestock production purposes.
3. Potentially relevant forms of socio-economic organisation at village level have been identified that may encourage better use and management of the agro-ecological resources at village level.
4. Promising forms of socio-economic organisation at village, municipality, and district levels have been identified that may lead to a more profitable marketing of livestock products.
5. Currently recommended improved practices for livestock production, range management and livestock produce marketing have been screened on their potential usefulness in communal land use systems.
6. Relevant development strategies and their related activities have been identified and prioritised to assist the formulation of future development programmes for livestock-owning target group(s) in the Blouberg area.

The following **activities** are suggested in order to formulate appropriate recommendations for development:

- Execute a livelihood analysis and develop an initial household typology to assist the targeting of future development efforts for livestock owners (e.g. training). General sources of income (livestock, crops, salary remittances, off-farm labour, pensions, child care, hawking) should be taken into account and used to identify the potential interested type(s) of households that own livestock
- Benchmark the agro-ecological and socio-economic resources of the different types of livestock-owning households, taking into account historical and future developments
- Identify promising forms of socio-economic organisation at village level that may contribute to a better management of the agro-ecological resources at village level taking into account the communal land use system;
- Identify promising forms of socio-economic organisation that may contribute towards better marketing practices of livestock produce at village, municipality, and district levels.
- Determine, in collaboration with various agricultural institutions and commercial farmers, promising local practices for livestock and range management and livestock product marketing.
- Identify and prioritise relevant development strategies that may assist the drawing-up of future development plans for livestock-owning households in the Blouberg Municipality.

Team Composition

Ms Bukelwa Grwambi	Univ. of Fort Hare	Agric. economics, land use planning
Ms Unathi Kolanisi	Univ. of KwaZulu-Natal	Family resource management, consumer behaviour
Ms Ntsikane Maine	Univ. of Free State	Agricultural management; socio-economy
Mr Chipientsho K. Mphahlele	Univ. of Limpopo, CRCE	Agric. extension/rural sociology, livestock production.
Mr Edzisani Nelson Raidimi	Univ. of Venda	Agric. extension, crop/animal husbandry
Ms Khomotso R. Ramaifo	ARC, SRL Division	Sociologist, development studies

Form of the final report

Before leaving South Africa, the team will produce and hand over a draft report, which will include an executive summary. The main document will not exceed sixty pages, and should contain figures, tables and graphics. Its value will be greatly enhanced if the summary is structured to be of use to non-scientists such as provincial legislators and municipal officials responsible for local government.

Other interested institutions

Besides the institutions that have been listed in the institutional framework, other parties likely to benefit from the field study are DOA (Department of Agriculture), Madzivhandila and Tompi Seleka Colleges of Agriculture, NGO's, private companies, traders and service providers operating in the province and the district.

Field study process

Shortly after arrival in the area, the team will complete a brief reconnaissance survey of the study area, and will present its field study research and work plans in an introductory workshop to LDA, CDM, BM, and other interested stakeholders. The purpose of this presentation is to enable the study team to receive a first feedback from the stakeholders on the proposed research plan and approach. The team shall organize regular feedback sessions with a monitoring group (with officials from LDA, CDM and BM) that will be formed prior to the team's arrival. This group will provide support as needed and monitor the progress of the team. The feedback sessions will also offer opportunities to highlight issues on which the team could focus. If deemed necessary, a mid-term workshop may be held halfway the study period, at which time the team will present its early findings and its views on potential development strategies. Final results of the field study will be presented in the form of a preliminary draft report. This report will be discussed at a final workshop involving all stakeholders. The workshop will be held a few days before the end of the field study to allow incorporation of useful comments into the final draft report that will be submitted before the team leaves Limpopo.

A senior ICRA officer will review the field study in two visits of approximately 10 days each (including travelling). The first visit will be in the first and second week of the team's field study

to participate in the planning of the fieldwork and development of a sampling framework. The second visit will be scheduled to attend the final workshop and to assist the team in organising its final field study report.

Field study responsibility

The team is collectively responsible to LDA, ARC and ICRA for respecting the terms of reference and for the use made of the resources that the institutes provide for the field study. The team will maintain regular contact with the monitoring/support group. The team will be responsible for its own internal management. Within the limits specified in the terms of reference and in the budget, the team is free to decide its approach, methodology, tools and action plan, as well as the use of resources provided. Important questions concerning the terms of reference raised during the field study should be clarified in a discussion with the monitoring group.

Means

ICRA, LDA and the Monitoring group are responsible for the provision of the means to the field study team as specified in the Memorandum of Understanding (MOU).

ANNEX 2.2 RICH PICTURE

ANNEX 2.3 RESEARCH PLAN

Aspects and Research questions	Potential answers	Information needs	Information source	Research method	Expected analytical output
1.1 **Livelihoods** How do household in Blouberg look like in terms of : • *number of people in a particular household* • *age* • *gender* • *level of education* • *sources of income* • *Staple food* Who makes decisions in terms of livestock with regard to : • *Selling* • *Buying* • *Slaughtering* • *Donating* • *Grazing* Types of crops	Low level of education, skills & knowledge	Household composition & characteristics	Blouberg community	**Formal survey questionnaire**	Household composition characterized
1.2 Typology **Hypothesis:** *Blouberg farmers are not homogeneous. They differ in terms of # & type of livestock owned as well as land ownership. Land is communally owned.* Criteria for typology • *Livestock vs non-livestock owners* • *Small stock vs large stock owners* • *Communal vs privately owned land*	Farmers combine crops & livestock production	Livestock type & number of communal land access and private land ownership	Blouberg farmers	**Typology formulation and semi-structured interviews**	Typology formulated

Aspects and Research questions	Potential answers	Information needs	Information source	Research method	Expected analytical output
2.1 Agro-ecological resources • *What are the characteristics of agro-ecological resources at Blouberg?(Soil quality, vegetation type, erosion, natural water quality & quantity)* • *What is the current status of agro-ecological resources compared to the past status & future expectations*	Declining soil fertility, eroded and degraded soils, overgrazed, drought-prone region, quality-quantity of water resources e.g. dames, wells, rivers etc. Dependency syndrome in relation to its best management.	The past status of agro-ecological resources in Blouberg in comparison with the current	Blouberg farmers and LDA/ward area extensionist	**Focus groups and transect maps**	The current agro-ecological resources identified & classifie d
2.2 Socio - economic resources aspects *What is the status of socio-economic resources in Blouberg?* *(Access and control to resources, social equity, access to credit, decision-making strategies, production and/or marketing, livestock as part of livelihoods (importance), grazing committees)*	Limited access to financial capital/credit, low level of literacy, cheap labour: social organizations exist	Past and current changes in the socio-economic resources of Blouberg	Blouberg farmers, tribal authorities and extension officers, local municipality	**Focus groups Key informant interviews**	Changes in socio-economic resources overtime identified
3 Social organizational aspects for management of Agro-ecological resources • *Which social organizations are essential to effectively manage agro-ecological resources in Blouberg?* • *Are there existing farmer organizations managing agro-ecological resources in Blouberg?*	Social networks exist but are not very effective for livestock commercialization	Different types of social organizations that can effectively manage agro-ecological resources	• Farmers • Extensionists • Tribal authorities • Ward Councilors	Focus groups/key informants interviews	Possible organizations for effective management of agro-ecological resources documented

Aspects and Research questions	Potential answers	Information needs	Information source	Research method	Expected analytical output
4.1 Socio-economic organizations aspects at village level for marketing • Are there existing organizations that market livestock in Blouberg? • What forms of social organizations are essential for effective marketing of livestock?	Social organizations presumed to exist but not effective for marketing	Current and possible marketing organization for livestock	Blouberg farmers, tribal authorities and extension officers, municipality	Workshop	Possible potential marketing organizations recognized at village level
4.2 Socio-economic organization aspects for marketing at municipal and district level • *Are there existing organizations that market livestock at municipal and district level?* • *What forms of social organizations are essential for effective marketing of livestock at municipal and district level?*	Socio-economic organizations might not exist at municipal and district level	Current and possible marketing organization for livestock at municipal and district level	National Agricultural Marketing Council (NAMC) Capricorn District Municipality Auctioneers Abattoirs LDA marketing directorate Marketing agency Abattoirs	Key informants (semi-structured interviews)	Possible potential marketing organizations recognized at municipaland district level
4 Improved practices in relation to communal land use • *What are the current veld management practices in relation to communal land use?* • *Which currently recommended improved practices for livestock production are useful in communal land use system?*	Some current recommended improved practices can be relevant for communal land system, prioritize urgent recommended improved practices for communal land use system	Assessment or screening of the current recommended practices in relation to communal land use	Farmers, extension officers, agricultural institutions, commercial farmers	Key informant interviews, literature review, commercial farmers	Recommended practices in relation to communal land use identified, current improved recommended practices for communal land use are prioritized

Aspects and Research questions	Potential answers	Information needs	Information source	Research method	Expected analytical output
5 Development strategies and activities • *Which relevant development strategies are important in the formulation of future development programs for livestock owning target groups* • *Which activities are required to implement such strategies?*	There are many development strategies that can help formulate future development strategies for livestock owning groups	Screening and prioritizing of different development strategies	Farmers Extension officers LDA Municipality and tribal authorities	Joint analysis with key stakeholders Priority setting with key stakeholders	Relevant development strategies that may help in drawing up future development plans identified and prioritized

ANNEX 2.4 RESEARCH TIMETABLE

Week 1

Date	What	Responsible member	Info source	Milestone
Saturday 08/04/2006	Departure to SA			
Sunday 09/04/2006	• Departure to Polokwane with the reviewer • Prepare for Monday meeting • Visualization of TOR for the meeting • Inclusion of milestones in the field study time table	ALL		
Monday 10/04/2006	• Attend the meeting in Blouberg & present the field study timetable & understanding of TOR • Preliminary stakeholder interest analysis during the meeting • *Find out # of household from the municipality & extension office* • Collect any secondary data • Regulations about the car • Access to printers, faxes, internet, photocopy machine & the driver. • Enquire about monitoring group if possible • ARD alumni availability & accessibility • Introduction to interpreters (extension workers will interpret) • Buy stationary • Reflection on the meeting	ALL		
Tuesday 11/04/2006	• Contact Mr. Dan Mosena (municipality) about the list of households in the two villages • Identify & contact key informant interviewees for week 3 key informant interviews 28/04/06 • Develop & finalize a questionnaire for livelihood analysis • Review participatory tools that can be used to gather livelihood & typology data • Give the questionnaire to the monitoring team • Develop a strategy to handle the meeting with the villagers during the introductory & village orientation 18/04/06 • Develop a list of workshops, purpose, tasks & milestones for the workshops • Ask Mr. Mkhari to leave the questionnaire comments at the guest house reception • Reviewer departure • Reflect on the day's activities	ALL		

Week 1 cont'd

Date	What	Responsible member	Info source	Milestone
Wednesday 12/04/2006	*Easter Weekend begins* • Allocate the reading material on the secondary data already collected • Finalize the questionnaire • Follow up Mr. Dan Mosena (municipality) about the list of households in the two villages • The team departed for Easter holidays			
Thursday 13/04/2006	*Easter Weekend*			
Friday 14/04/2006	*Easter Weekend*			
Saturday 15/04/2006	*Easter Weekend*			
Sunday 16/04/2006	*Easter Weekend*			

Week 2

Date	What	Responsible member	Info source	Milestone
Monday 17/04/2006	*Easter Monday* **Evening**: • The team arrived from Easter holidays • Reflect on the weeks plan taking feedback of the meeting into account & Ms Chitsike's recommendations • Review the roles of the introductory meeting with the villagers • Discuss the comparative analysis • Discuss data analysis	Khomotso & Ntsiki		• Finalize the report outline Identify & make appointments with stakeholders for key informants interviews in week 3 (28/04/06) • Plan & finalize survey (Sample frame, questionnaires, enumeration) • Reading secondary data **Remind the monitoring group about the mid-term workshop on 10/05/06**
Tuesday 18/04/2006	• Follow up Mr. Dan Mosena (municipality) about the list of households in the two villages • Meet extension officers • Get introduced to the tribal authority & the villagers • General background on the two villages • Village orientation / Village reconnaissance survey • *Collect livelihoods data- Semi-structured interviews & Chapati diagram* • Reflection of the day • Plan for Wednesday • Review questionnaire & survey plans with the reviewer	Nelson & Koki		
Wednesday 19/04/2006	• Begin writing background based on the initial report outline (use village orientation, background info provided in the meeting) • Write a report on the general livelihoods of the two villages • Preparation of typology for farmers • Reflection of the day • Plan for Thursday			
Thursday 20/04/2006	• The last attempt to obtain the list from the municipality • Collect livelihoods data for farmers in Gemark to develop typology - Structured interviews & Chapati diagram • *Request data on the # of household from the tribal authority* • Detailed discussion on data analysis in the evening • Reflection of the day • Plan for Friday			
Friday 21/04/2006	• Collect livelihoods data for farmers in Early Dawn to develop typology - Structured interviews & Chapati diagram • Initial data analysis by some members of the team • Obtain comments from the reviewer on output file			
Saturday 22/04/2006	• **Collect general livelihoods from the comparative village (behind the mountain)** • **Discuss the focus group session with the extension officer** • **Identify & notify participants of focus group session on 26/04/06** • Initial data analysis by some members of the team Information exchange • Get feedback from the reviewer on the reports on general livelihoods and background of the villages • Have dinner with the reviewer	Ntsiki & Khomotso		**1st milestone completed: Livelihood analysis completed**

Week 3

Date	What	Responsible member	Info source	Milestone
Sunday 23/04/2006	**Reviewer departure**			
Monday 24/04/2006	• Conduct a focus group interview with farmers in Early Dawn • **Morning**: Focus group Agro-ecological resources (past, current & future) Socio-economic organization for management of agro-ecological resources • **Afternoon**: Focus group Socio-economic resources (past, current & future) Social organization for effective marketing • Analyze data in the evening • Reflection of the day-data collected, methods, difficulties, etc • Plan for the next day • Reflect on the group process & data collected • Initial analysis of the data from the focus group session • **Make appointments with relevant stakeholders for priority setting workshop on 12/05/06**	Khomotso		
Tuesday 25/04/2006	• Conduct a focus group interview with farmers in Gemark • **Morning**: Focus group Agro-ecological resources (past, current & future) Socio-economic organization for management of agro-ecological resources • **Afternoon**: Focus group Socio-economic resources (past, current & future) Social organization for effective marketing • Analyze data in the evening • Reflection of the day-data collected, methods, difficulties, etc • Plan for the next day • Reflect on the group process & data collected • Initial analysis of the data from the focus group session	Nelson & Koki		
Wednesday 26/04/2006	• Analyze data collected • Conducting transect walks in Early Dawn • Making appointments with stakeholders for key informant interviews • Collecting more secondary data • Up-dating the budget • Writing together • Reflect on the writing progress • Plan for the next day	ALL		**2nd milestone achieved typology of livestock owners developed**

Week 3 cont'd

Date	What	Responsible member	Info source	Milestone
Thursday 27/04/2006	*Freedom Day* • Reflect on the day's plan • Continue analyzing data collected • Writing together based on the writing plan • Reflect on writing			
Friday 28/04/2006	• Continue writing together • Contacting MARA for the secondary data on veld management and livestock husbandry			• *Social organizations for management of agro-ecological resources* • *Social organization for effective marketing*
Saturday 29/04/2006	Day off • Meeting the monitoring group			

Week 4

Date	What	Responsible member	Info source	Milestone
Sunday 30/04/2006	Day off *			**3rd milestone achieved: possible socio-economic organization for management of agro-ecological resources & for effective marketing at village level identified**
Monday 01/05/2006	*May Day* • ALL • Review literature on the current recommended livestock production practices • Planning for Tuesday			
Tuesday 02/05/2006	• Preparing for the key informant interviews • Preparing for the focus group session			
Wednesday 03/05/2006	• *Key informant interviews* • Marketing opportunities of livestock production under communal land use system • Reflection on the interviews • Data analysis & writing together	• ALL	• Prof Nesamvumi • Ms Shelati Mthembu (LDA: Meat Inspector) • Vleissentraal (Auctioneers) • TIRHANI • Mr Ntsoane (LDA: Animal production) • Mr Mosena (BM : LED) • Mr Zwane (CDM) • Mr Mkhari (Manager: Research) • Mr Ratjomane (Commercial farmer) • Abattoir	
Thursday 04/05/2006	• *Key informant interviews* • Marketing opportunities of livestock production under communal land use system • Reflection on the interviews • Data analysis & writing together	• ALL	• Prof Nesamvumi • Ms Shelati Mthembu (LDA: Meat Inspector) • Vleissentraal (Auctioneers) • TIRHANI • Mr Ntsoane (LDA: Animal production) • Mr Mosena (BM: LED) • Mr Zwane (CDM) • Mr Mkhari (Manager: Research) • Mr Ratjomane (Commercial farmer) • Abattoir	**4th milestone achieved: possible socio-economic organization for management of agro-ecological resources & for effective marketing at municipal and district level recognized**
Friday 05/05/2006	• Hold a focus group interview with key informants on currently recommended improved livestock practices that can be adapted to communal land use system • Reflection & writing together • Consolidating information on chapter 8		• Tompi Seleka CoA • UL • UNIVEN • Madzivhandila college • Mara research station • Bonsmara association	
Saturday 06/05/2006	• Collective writing of chapter 8: Marketing opportunities			

Week 5

Sunday 07/05/2006	• Finalising chapter 8 • Review report outline			**5th milestone achieved: currently improved recommended practices that can be adapted to communal land use system acknowledged**
Monday 08/05/2006	• Finalize writing • Prepare for the mid term workshop • Formulate development strategies • Print a draft report for the reviewer • Reflection	Koki		
Tuesday 09/05/2006	• Incorporate the comments of the reviewer • Finalize writing • Prepare for the mid term workshop • Reflection • Prepare slide presentation for the mid term workshop • Reflect • Formulate development strategies • Meet the reviewer	Koki		**6th milestone achieved: development strategies identified & formulated**
Wednesday 10/05/2006	• Hold the mid term workshop with the monitoring team • Reflect on meeting & incorporate comments in the report • Identify information gaps			
Thursday 11/05/2006	Prepare priority setting of development strategies (ranking & scoring) • Agenda for priority setting workshop • Reviewer arrival	All		
Friday 12/05/2006	• Hold priority setting workshop • Reflect on the priority setting workshop • Adjust the report accordingly		• LDA • Farmers • Tribal authority,	**7th milestone achieved: development strategies prioritized**
Saturday 13/05/2006	• Review, edit & finalize the report			

Week 6

Sunday 14/05/2006	• Review, edit & finalize the report			
Monday 15/05/2006	• Writing together • Editing the report • Prepare the final workshop (slide shows, presenter) • *Give the report to the reviewer* • Confirm UFS appointments			**8th milestone achieved: the initial draft report completed**
Tuesday 16/05/2006	• Writing together • Editing the report • *Incorporate the comments of the reviewer* • Prepare for the final workshop (slide shows, presenter)			
Wednesday 17/05/2006	• Writing together • Editing the report • Prepare the final workshop (slide shows, presenter)			
Thursday 18/05/2006	• Final workshop • Incorporate comments from the workshop			
Friday 19/05/2006	• Submit/ Email final report to the Department of Agriculture • Reviewer departure			**9th milestone achieved: the final report completed**

ANNEX 2.5A INTRODUCTORY QUESTIONS GUIDE 18/04/06

RANGE LAND		
1. Who has access to grazing land?		
2. How is access to grazing land obtained?		
Village Committee	1	
Local Council	2	
District Council	3	
Traditional Authority	4	
Don't Know	5	
3. Who decides on the use of grazing land?		
Farmers Association	1	
Farmers Union	2	
Household	3	
Other	4	
Tribal Authorities	5	
Don't Know	6	
4. For what else is access to grazing land used for besides grazing? (Tick where applicable) Who does that task*		
	Tick	**Who**
Collect fire wood		
Collect wood/grass for building		
Collect wood for fencing		
Collect bush for kraal and other enclosures		
Collect plants for food		
Collect plants for medicinal purpose		
Collect plants and animals for sales to the outsiders		
Collect reeds (matjiesgoed) to make Matjies		
Hunting		
Other (specify)		

WATER SOURCES **5. What are the sources of water for human consumption**?		
Individual taps		
Communal taps		
Wells		
Other (specify)		
6. What are sources of water for animals?		
River		
Boreholes		
Wells		
Dams		
Home troughs		
SOCIAL SUPPORT STRUCTURES **7. What types of community support systems are available in the village?**		
Religious/church support		
Government welfare e.g. Dept of welfare/health		
Private formal support structures e.g. Love life		
Informal community support e.g. volunteers		
Other (specify)		
MEDICAL SERVICES		
8. Which medical services are available within your community /within walking distance of your community or within reach of your homestead		
Clinic		
Hospital		
District nurse		
Traditional healer		
Other (specify)		

INFRASTRUCTURE **AND SANITATION**		
9. Type of latrine system		
ENERGY AND COMMUNICATION		
10. What are the sources of energy?		
Electricity		
Fire wood		
Solar		
Paraffin		
11. What are the means of communication within the village?		
Cell phones		
Household telephones		
Public telephone		
None		
EDUCATION **12. Type of educational institution are available within your community /within walking distance of your community or within reach of your homestead**		
Crèche		
Primary school		
High school		
Secondary school		
FET		
ABET		
LEADERSHIP **13. Indicate the type of community leaders influencing the progress/functioning of your community**		
Political		
Traditional		
Religious		
Agricultural (extension)		
Other (specify)		

ANNEX 2.5B LIVELIHOODS QUESTIONNAIRE 19-20/04/06

A DEMOGRAPHIC INFORMATION **1. Interviewee reference number**		
Age		
<20 years		
21-30		
31-40		
41-50		
>50		
2. Level of education		
No educational training	1	
Standard 5 or less	2	
Metric	3	
Post-metric	4	
3. Marital status		
Single	1	
Married	2	
Divorced	3	
Widowed	4	
Co-habiting	5	
4. Household head (husband/wife)		
Husband/ Father	1	
Wife/ Mother	2	
Children aged between 6-15 years	3	
Children older than 16 years	4	
5. Type of family		
Nuclear	1	
Extended	2	
Polygamous	3	
6. Occupation		
LAND AND AGRICULTURE **7. Do you grow crops or vegetables around your household? If yes, which types?**		
8. Who takes care of the crops or vegetables?		
9. Do you have access to arable land? If yes, which crops do you grow?		

10. Which crops are important in your diet?	
11. Who makes decisions on which crops to grow and when to grow?	
12. Who has access to or use the stubble for grazing after crops are harvested?	
13. Do you sell any of your crops? If yes, which and where?	
14. Do you donate or exchange some of your crops? If yes, which ones? With whom?	

15. Which of the following livestock do you keep and indicate numbers owned?

Type	**Who is the owner?**	**Number owned**	**People taking care of them?**
Chicken			
Pigs			
Cattle			
Sheep			
Goats			
Other (specify)			

16. Who decides on when to slaughter, buy or sell the animals?	Slaughter	
	Buy	
	Sell	
17. If some animals are sold, where and how are they sold?		
18. Do you sell individually or with some other households?		
19. Do you have livestock kraal? Is it privately or communally owned?		
20. What are the main reasons for keeping livestock?		

Food security		
Income		
School fees		
Ceremonies		
Social status		
Draught		
Fuel/manure		
Investments		
Hobby		
Other (specify)		
21. What are the sources of income available to your household?		
Livestock		
Crops		
Casual labour		
Petty trade (selling anything)		
Artisans		
Formal employment		
Remittances		
Pension		
Social grants		
Business		
Other (specify)		

22. Rank the sources of income in order of importance (Chipati diagram)		
23. Who decides on household expenditure?		
Food		
Clothes		
School fees		
Transportation		
Health		

ANNEX 2.5C QUESTIONNAIRE FOR TYPOLOGY DEVELOPMENT FOR LIVESTOCK FARMERS

DEMOGRAPHIC INFORMATION	
Farmer name	
1. Age of the farmer	
<20 years	
21-30	
31-40	
41-50	
>50	
2. Level of education of the farmer	
No educational training	1
Standard 5 or less	2
Matric	3
Post-matric	4
3. Marital status of the farmer	
Single	1
Married	2
Divorced	3
Widowed	4
Co-habiting	5
4. Household head (husband/wife)	
Husband/ Father	1
Wife/ Mother	2
Children older than 16 years	3
5. Type of family	
Nuclear	1
Extended	2
Polygamous	3
6. Are you a part-time or full-time farmer?	
7. Besides livestock sales, what are your other sources of income? (Chapatti)	

8. What are the main reasons for keeping livestock?	**Tick**	**Explanation**
Food security		
Income		
School fees		
Ceremonies		
Social status		
Draught		
Fuel/manure		
Investments		
Hobby		
Transport		
Other (specify)		

RESOURCES **9. Do you have access to:**	
Credit	
Information	
Markets for inputs	
Markets for outputs	

MARKETING		
10. Who decides on when to slaughter, buy or sell the animals?	Slaughter	
	Buy	
	Sell	
11. If some animals are sold, where and how are they sold?		
12. Do you sell individually or with some other farmers?		
13. If you sell with other farmers, how is that organized?		

14. For how much do you sell the following?	
Type	**Price**
Beef	
Cows	
Bulls	
Dairy	
Cows	
Bulls	
Sheep	
Ewes	
Rams	
Goats	
Buck	
Nanny	
Donkeys	
Mules	
Pigs	
Chickens	

15. Compared to five years ago, has your agricultural production	
Improved? If yes, how?	1
Remained the same? If yes, why and how?	2
Deteriorated? If yes, why and what is the cause?	3

LIVESTOCK INFORMATION

16. Which of the following livestock do you keep?

Type	**Number owned by an interviewee**	**Livestock owned by the other family members among livestock kept**	**Total number of livestock kept**
Beef			
Cows			
Bulls			
Dairy			
Cows			
Bulls			
Sheep			
Ewes			
Rams			
Goats			
Buck			
Nanny			
Donkeys			
Mules			
Pigs			
Chickens			

17. Who is taking care of the livestock?

18. What types of cattle breeds do you have?
19. Have you tried to introduce new cattle breeds in your flock?
20. Do you own a bull? If no, where do you get a bull for breeding? Which breed is it?
21. How many calves do you get per year from your *herd*?

22. What are the main constraints in livestock farming?
23. How do you manage these constraints?

RANGE LAND		
24. Who has access to grazing land?		
Head	1	
Spouse	2	
Children older than 16 years	3	
Other	4	
None	5	
25. Who decides on the use of grazing land?		
Farmers Association	1	
Village committee	2	
Households	3	
Tribal Authorities	4	
Don't Know	5	
Other (specify)	6	
26. What is your health status? Are you sick regularly?		

27. Do you buy fodder, concentrates etc	
28. How do you manage vaccination programs?	

ANNEX 2.6 KEY INFORMANT INTERVIEWS: MARKETING OPPORTUNITIES FOR LIVESTOCK PRODUCTION UNDER COMMUNAL LAND USE SYSTEM

1. How can collective marketing of livestock in communal land use systems be achieved? What are the benefits for selling collectively?

2. Inadequate marketing infrastructure is another obstacle for exploitation of other possible market outlets such as auctions. How can the farmers organize themselves to lobby the government for provision of this infrastructure?

3. Are there possibilities for the small holder producers to access institutional marketing arrangements? Which role can be played by the government in this endeavor?

4. Given the discrepancy between the necessity of market information and low literacy levels and non-proximity to technology and communication systems, what organizational structures can be explored to enable the farmers to access market information?

5. Majority of small holder livestock producers market their produce live. Quality and value are determined by physical characteristics such as age, fatness, confirmation, damage, sex and state of health. What are the common quality indicators that livestock from the small holder sector often violate? What are the repercussions for the contravention? How can these problems be overcome?

6. What are the current average prices for live cattle (cows, bulls, calves and steers) sheep (lambs, ewe and rams) and goats (nanny and buck)?

7. From your experience, how can the small holder sector produce the best livestock for the best market available?

8. In your view, which marketing channels can be beneficial to the small holder livestock producers, and can contribute to the commercialization of the sector. What are the requirements to participate in such kinds of markets?

9. Even though livestock sales through speculators seem to be a dominant marketing outlet, they are viewed as dishonest and conduct unfair business practices. In your view what are the sources of this perception on speculators? Where does it emanate? How can the relationship between speculators and small holder farmers be improved?

10. As an auctioneer company how do you contact livestock keepers under communal setting, how is your relationship with small holder farmers?

11. In your opinion what can be a niche market for small holder livestock producers under communal land use system with minimal chemical use?

12. What are alternative livestock market chains for communal land use systems?

13. What do you perceive as the main challenges for livestock commercialization under communal land use system? What are the possible solutions to these challenges?

14. In South Africa there is a monopoly power from commercial producers, which over shadows the small-holder sector. There is also a lack of competitiveness on the small holder industry. How can this situation be improved?

ANNEX 2.7 FOCUS GROUP SESSION ON CURRENTLY RECOMMENDED IMPROVED PRACTICES FOR COMMUNAL LIVESTOCK AND VELD MANAGEMENT

VELD MANAGEMENT PRACTICES

1. Veld improvement
2. Establishment of cultivated pastures
3. Grazing management
    - Land/camp division
    - Grazing system
    - Stocking rate
4. Veld burning

ANIMAL PRODUCTION MANAGEMENT PRACTICES

1. General management

1.1 Castration
1.2 De-horning
1.3 Weaning
1.4 Vaccination program
1.5 Record keeping

2. Breeding

2.1 Selection of breeds
2.2 In-breeding

3. Feeding systems/Fodder flow planning

FARMERS' SOCIAL ORGANISATION

A. VELD MANAGEMENT

1. Veld and soil degradation (Ntsiki)

What kind of veld improvements can be adopted in communal grazing areas to enhance the condition of the veld?

2. Cultivated pastures/fodder production (Nelson)

Which kinds of rain-fed pastures are suitable for the Capricorn district and the Blouberg municipality in particular?

Can the establishment of cultivated pastures be a viable option to smallholder farmers who depend predominantly on communal grazing areas for their livestock feed?

Which strategies can be followed by farmers to supplement feeding during winter/dry periods using the locally produced material?

3. Grazing management (Ntsiki)

Which grazing management practices are most suitable in communal grazing land?

What steps can be taken to ensure proper management and sustainability of the grazing lands?

3.1 Stocking rate (Carrying capacity)

How can the stocking rate be controlled in communal grazing areas?

4. Veld burning (Nelson)

Can you recommend the use of veld fires in communal grazing areas? What is the best strategy to apply this veld management practice?

B. ANIMAL PRODUCTION MANAGEMENT

1. General management practices (Ntsiki)

Can you please share with us the current livestock practices and their implications to communal land use systems?

2. Breeding (Nelson)

Given the above situation, how can breeding be controlled in the communal land use system so that high quality off-springs can be produced?

In addition to the methods mentioned, which other breeding controlled strategies can be applied in the communal land use system?

Types of breeds

Is it correct to assume that small-holder farmers can only thrive with the use of indigenous breeds?

4. Feeding systems/supplementary feeding (Ntsiki)

What preliminary control measures or strategies can be employed by smallholder farmers under communal land system to collectively fight drought?

C. FARMER'S SOCIAL ORGANIZATIONS

Can you please share with us, the kinds of smallholder farmers' organizations that you have come across in your professional life? What were the purposes of such organizations? (Ntsiki)

As a professional who is collaborating with farmers in the formation of such groups, can you share with us your experiences on development of such farmers' organizations, their roles and responsibilities?

ANNEX 2.8 KEY INFORMANT INTERVIEWEES LIST

NAME	INSTITUTION
1. Ms. Baloyi	LDA
2. Mr. Bopape	LDA
3. Mr. JJ Mkhari	LDA
4. Ms. Mthembu	LDA
5. Prof. E Nesamvuni	LDA
6. Mr. T Mabunda	Tirhani
7. Mr. E. Zwane	LDA
8.	Vleissentraal

ANNEX 8.1A CURRENTLY RECOMMENDED VELD MANAGEMENT PRACTICES

Criteria / Strategies	Feasibility 1 2 3 *	Viability 1 2 3 *	Acceptability 1 2 3 *	Responsibility/security 1 2 3 *	Equity 1 2 3 *	Total score
1.Veld reclamation (seeding, fertilization and ridging)						
2. Control of stock numbers (issuing penalties)						
3. Control of bush encroachment (increasing number of goats and or mechanical control)						
4. Dividing the grazing areas into camps (rotational grazing and resting)						
5. Establishment of fodder banks to cater for winter/drought feeding						
6. Providing licks in winter for supplementation of dry vegetation						
7. Establishment/ provision of water points within the camps						
Total	100	100	100	100	100	100

* Key: Criteria 1= Less important 2=Important 3 =Very important

ANNEX 8.1B CURRENTLY RECOMMENDED SOCIAL ORGANISATIONS

Criteria / Strategies	Feasibility 1 2 3 *	Viability 1 2 3 *	Acceptability 1 2 3 *	Responsibility/security 1 2 3 *	Equity 1 2 3 *	Total score
1. Formation of grazing area management sub-committee (veld, water, veld fires etc.)						
2. Formation of livestock management sub-committee (animal health, weight, theft etc.)						
3. Formation of maintenance of infrastructure sub-committee (dipping tanks, sales pen, fence etc.)						
4. Formation of breeding management sub-committee (taking care of communal bull)						
5. Formation of marketing sub-committee (purchasing inputs in bulk, arranging logistics for collective sales of output)						
Total	**100**	**100**	**100**	**100**	**100**	**100**

* Key: Criteria 1= Less important
2=Important
3 =Very important

ANNEX 8.1C CURRENTLY RECOMMENDED LIVESTOCK PRACTICES

Criteria / Strategies	Feasibility 1 2 3 *	Viability 1 2 3 *	Acceptability 2 3 *	Responsibility/security 1 2 3 *	Equity 1 2 3 *	Total score
1.Capacity building on general management practices						
2. Animal improvement schemes (improvement of breeds)						
3. Community livestock workers program (branding, disease surveillance)						
4. Community based breeding schemes (selection within local breeds)						
5. Designation of breeding seasons						
Total	100	100	100	100	100	100

* Key: Criteria 1= Less important 2=Important 3 =Very important