



Meat Board of Namibia

Agricultural Boards

Hochland Road 30

P O Box 38

Windhoek NAMIBIA

Tel: (+264-61) 275830

Fax: (+264-61) 228310

website www.nammic.com.na

E-mail info@nammic.com.na

**Master plan for increased off take and
marketing of cattle and beef from the northern
communal areas of Namibia**

DRAFT 1

Bertus Kruger, Pieter Hugo & Roelie Venter

Agra Professional Services

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1. Executive summary

- Total off take of cattle in the northern communal areas did not improve dramatically over the last 12 years. In 2000 it was estimated to be 8.17% and in 2012 it is 9.5%.
- In order to enhance cattle production and off take, a holistic approach is required. This means that all stakeholders right from the input side, through the production process to the marketing side of the full value chain should be involved.
- Government extension services have limited capacity to support livestock farmers to become commercially oriented cattle producers. Closer cooperation with development projects are needed and should be actively sought.
- Although considerable progress was made in improving livestock marketing infra-structure, considerable gaps still exist. Access to existing infra-structure is limited due to heavy sandy terrain. The multi-purpose livestock handling facilities are not suitable for auctions.
- The demand for production inputs like genetic material, feeds, licks and veterinary medicines increases while supply remains limited.
- Rangeland condition and productivity is generally very poor. Considerable efforts are being made to implement planned rangeland management in communal areas.
- Farmers are poorly organised at local level in the northern communal areas and are not much involved in supporting their members in improved production and marketing.
- Only 66% of all livestock owning households in the northern communal areas (Caprivi excluded) own cattle and nearly half of them don't sell cattle at all.
- In the NCAs (Caprivi excluded) around 8,000 farmers delivered 11,280 cattle to the formal market and in Caprivi some 2,000 farmers marketed 10,000 cattle. This clearly illustrates the dilemma of many cattle owned by many households.
- Around 38% of cattle herds consist of cows and the average calve to cow ratio for all regions is estimated to be around 44%. An average bull ratio in the whole herd is estimated at 4% for all regions, but bull ratio in the cow herd is much higher at an estimated 11%. This is much higher than generally perceived by development agents. It is however necessary to remember that DVS through their Namlits system recorded all male animals as bulls, except calves.

- Total off take of cattle in 2011 is estimated to be 118,705 animals, of which 18,017 went to the formal market and 100,628 to the informal market.
- Current annual available cattle for marketing should be around 204,000, taking current cow numbers and current reproduction figures into account. This is about 86,000 more than what was consumed by the market and can be ascribed to farmers allowing for herd growth.
- By increasing reproduction to 60% an estimated 281,700 cattle should be available for formal and informal off take. Promoting off take of younger animals could result into a bigger percentage of cows in the herd. This, together with enabling Meatco to slaughter at full capacity, the annual value of these animals will increase by more than N\$500 million from the current N\$235 million to a potential N\$782 million per annum.
- Meatco currently slaughters approximately 18,000 cattle per annum at their two abattoirs, with a potential full capacity of 50,000 if chilling capacity at the two abattoirs is enhanced. Chilling capacity is currently seen as the major constraint to allow Meatco to absorb more cattle, especially during the peak marketing months.
- More than 70% of cattle slaughtered at Meatco are C grades; 60% are 0 and 1 fatness grades and nearly 70% are oxen. In general it can be concluded that the vast majority of cattle slaughtered at Meatco are old and lean oxen.
- Smaller buyers import around 80% of their cattle from the south of the veterinary cordon fence. It is estimated that 32,000 cattle entered the NCAs from the south of which about 14,000 are again sold as breeding stock and the rest is slaughtered for the informal market. Additionally, the equivalent of 10,000 cattle enters the NCAs in form of cuts and processed meat. Roughly a similar amount again leave the NCAs as deboned cuts from Meatco for the Namibian and South African markets
- Transport of cattle to the quarantine facilities (Caprivi) with subsequent loss in condition and weight is considered one of the biggest obstacles to farmers. Huge financial losses are incurred by farmers if cattle change from C1 to C0 with a conformation score of 2. This is very often what happens from the farm to the abattoir.
- The future of increased cattle off take is based on the following hypothesis: *“Unless farmers perceive cattle as a commercial asset that generates money, there will be very little incentives for the implementation of improved and costly technologies”*. This should form the core of the master plan.
- The long term goal of the master plan should be to enhance the livelihoods of cattle farmers in the northern communal areas. Over the short term cattle farmers should be supported to market more cattle of better quality at better prices on a continuous basis.

- In order to achieve the goals, four objectives are identified (see logical framework). These objectives address 1) improved input supply including increased competence of extension staff and farmers; 2) increased cattle production and reproduction that focus on planned rangeland management, improved herd efficiency and improved herd health; 3) enhanced marketing addressing formal and informal off take, improved marketing infra-structure and the promotion of the commodity based trade approach in the Caprivi; and 4) the proper monitoring of impact and smooth implementation of the master plan involving all relevant stakeholders in the NCA and at region level.
- The following are some of the strategies that are key to achieving the goals and objectives of the master plan:
 - Enlarge slaughtering capacity at both Meatco and other abattoirs are considered crucial to enhance off take.
 - Reduce losses in condition and weight of cattle from the farm to the abattoirs through improved transport and better management in quarantine farms.
 - Different role players from government, non-governmental organisations, farmers and the private sector lack a common vision and no mechanisms exist to coordinate their efforts.
 - Strategies should be implemented to get younger cattle into the formal market. This can be done through the use of former quarantine farms as production areas or “holding farms” to grow out weaners.
 - Meatco should expand its operations to buying on the hoof at the abattoir and not only at assembly points.
 - Sound rangeland management, supported by proper animal husbandry and health care should form the basis of improved cattle production and off take.

2. Table of Contents

1.	Executive summary	1
2.	Table of Contents	4
3.	List of abbreviations	5
4.	Introduction	6
5.	Terms of reference	7
6.	Approach and Methodology used in the study	8
7.	Assumptions and limitations of the study	10
8.	Analysis and findings as per the different components	11
8.1.	Government extension services	11
8.2.	Government veterinary services	11
8.3.	Government research and training services	12
8.4.	Development projects	12
8.5.	Providers of production inputs	13
8.6.	Livestock production and marketing infra-structure	14
8.7.	Rangeland condition and productivity	16
8.8.	Farmers' competence and level of organisation	17
8.9.	Livestock ownership and off-take	18
8.10.	Bigger or "formal" buyers	23
8.11.	Smaller or "informal" buyers	28
8.12.	Transporters	29
8.13.	Existing markets (local, national and international)	30
8.14.	Analysis of the current value chain.	30
9.	The future of cattle marketing in the NCAs	30
9.1.	Overall Goal (refer to logical framework in 9.4)	31
9.2.	Short Term Goal (4-5 years)	32
9.3.	Objectives and Activities (see logical framework in 9.4)	32
9.4.	Logical Framework	39
9.5.	Operational Plan	41
10.	Conclusions	41
11.	List of people consulted	42
12.	Acknowledgements	43
13.	References	43

3. List of abbreviations

The following acronyms appear in the report:

AEO	Agricultural Extension Officer
AET	Agricultural Extension Technician
C0	C-grade for age and 0-fatness
C1	C-grade for age and 1-fatness
BVD	Bovine Viral Disease
CAEO	Chief Agricultural Extension Officer
CBPP	Contagious Bovine Pleuro-Pneumonia
CBRLM	Community Based Rangeland and Livestock Management
CBT	Commodity Based Trade
DART	Directorate Agricultural Research and Training
DEES	Directorate Extension and Engineering Services
DVS	Directorate Veterinary Services
FMD	Foot and Mouth Disease
FSP	Farmers' Support Project
GDP	Gross Domestic Product
GOPA	GOPA Consultants
GRN	Government of the Republic of Namibia
IPA	Innovations for Poverty Action
IRDNC	Integrated Rural Development and Nature Conservation
KM	Katima Mulilo
KSA	Knowledge, Skills and Attitudes
LMCF	Livestock Marketing Consultative Forum
LPF	Livestock Producers Forum
MAWF	Ministry of Agriculture, Water and Forestry
MAWRD	Ministry of Agriculture, Water and Rural Development
MCA	Millennium Challenge Account
Meatco	Meat Corporation of Namibia
Namlits	Namibia Livestock Identification and Traceability System
NCA	Northern Communal Areas
NGO	Non-Governmental Organisation
NNFU	Namibia National Farmers' Union
Nolidep	Northern Regions Livestock Development Project
RIA	Rangeland Intervention Area
RSA	Republic of South Africa
SSCF	Small Scale Commercial Farms
SVC	South of the Veterinary Cordon Fence
TOR	Terms of Reference
USA	United States of America

4. Introduction

In 2007 (MAWF, 2009) the contribution of Agriculture and Forestry to the GDP was 5.9% with livestock farming 3.0% and crops and forestry 2.9%. Of this, the contribution of the commercial agricultural sector is 89.3% with livestock contributing 74.7%. This indicates on the one hand the huge gap there is in the communal agricultural sector, but on the other hand it offers a challenge to increase its contribution to GDP in future.

According to the latest statistics (DVS, 2010) more than 52% of all cattle in Namibia are found in the northern communal areas (1,245,764 cattle in the NCA compared to 2,389,891 in the whole of Namibia). Several initiatives are currently in place to address livestock production and off-take in the northern communal areas. These include the MCA supported community-based rangeland and livestock management (CBRLM) project, the Farmers' Support Project of the Agribank of Namibia and the Livestock Producers Forum mentorship project of the Meat Board of Namibia. Most of these initiatives however seem to be focusing on only certain components of the whole value chain e.g. improved rangeland and livestock productivity (CBRLM) and access to increased knowledge and skills through the two mentorship programmes. The EU-supported Oshikoto Livestock Development Project between 2004 and 2005 focused a bit wider, but was done in only one of the northern regions (Oshikoto). It was therefore necessary to conduct a study on the whole value chain with all the different role players involved, in order to come up with a master plan to increase off take and marketing in the northern communal areas.

Increased income from sale of cattle and cattle products can hugely contribute towards improving the living conditions of the people in the northern communal areas in general. Currently official off-take figures of cattle in the NCAs are below 2% (Meatco) and reliable information on informal off-take figures does not seem to exist at this stage. Comprehensive research was done by the Ministry of Agriculture, Water and Forestry through the Northern Regions Livestock Development Project (NOLIDEP) during 1998-2000. According to this research the average off take rate in the Northern Communal Areas is estimated on 8.2%. Table 1 indicates the off take of cattle in the different regions (NOLIDEP, 2000):

Table 1: Off take of cattle in the northern communal areas (Nolidep, 2000)

Off take type	Kunene north	North central	Kavango	Caprivi	Total	Relative off take rate (%)
Sales/Barter	4 772	17 000	2 500	3 000	26 272	2.69
Meatco	6 628	1 908	4 115	5 367	18 018	1.85
Traders	1 980	400	825	1 075	4 280	0.44
Monitored slaughtered	240	9 950	1 026	282	11 498	1.18
Rural consumption	3 900	31 000	4 000	3 000	41 900	4.29
Off take number	17 280	50 308	11 440	12 442	91 470	9.37
Off take rate (%)	9.84	9.26	9.19	9.42	9.37	
Cattle numbers (DVS)	175 691	543 550	124 510	132 051	975 802	

These off take figures compare very well with figures of 2011 (IPA, 2012) and poorly with off take in communal areas south of the veterinary cordon fence (14%) and in the commercial farming areas (25-30%). During the strategic environmental

assessment of the MCA livestock project for the northern communal areas, it was estimated that if off take from the current low levels could be improved to more acceptable levels of 20-25% over the long term, a potential income of N\$ 1 billion per annum could be realised. Similar projections are made in the strategic plan of the Meat Board of Namibia. Although these projections are perhaps over optimistic, it nevertheless indicates that livestock has a tremendous potential to earn foreign money for the people of the northern communal areas that will have significant add-on effects within the local and regional economies.

5. Terms of reference

5.1. Objective of the Consultancy

The objective of the Consultancy is to draft a Master plan that will assist the industry to increase the cattle and beef marketing sector in the NCA in order to increase cattle and beef exports¹ from the NCA for the benefit of the national meat industry in general and to the benefit of the cattle producers in the NCA in particular.

5.2. Specific Objectives of the Consultancy

Objectives as listed below are not according to priorities. It is required from the consultant to provide a clear outlined master plan that includes amongst others the following:

- To present a survey of available cattle and beef production infrastructure, e.g. abattoirs (capacity), auction facilities loading ramps, feedlots, etc.
- To present clear and unambiguous practical strategies and activities that can contribute to the increase of cattle and beef exports from the NCA
- To indicate the provision of services by existing and future potential service providers on livestock marketing aimed at increasing cattle and beef exports from the NCA
- To outline clearly the cattle and beef marketing potential and market strategies for both local regional and international markets
- To indicate value-addition initiatives in the cattle and beef market value chain that will lead to increased producer income
- Identify and recommend policy guidelines to assist government and regulatory institutions aimed at successful implementation of cattle and beef products trading locally, regionally and internationally

5.3. Requested Activities

For the consultant/s or company to achieve the above stated objectives it is strongly advised that amongst others the following activities must be considered:

- Carry out a literature review on what has been done on the topic since independence, i.e. to increase cattle and beef exports from the NCA.
- To compare such interventions with successful interventions locally or in countries with similar low off take, marketing and situations
- A thorough discussion with role players on future vision, goals, and activities.
- Conduct a situation analysis on the present state of livestock, infrastructure, production, off-take and marketing;

¹ Although the TOR refers to “export”, this study focuses on “off take” of cattle, which includes local and international markets.

- Assess the competitiveness of the cattle production and beef marketing in the NCA through a comprehensive value-chain analysis;
- Determine the basic conditions existing in the NCA in terms of production, marketing and export by analysing the quantitative and qualitative livestock supply in NCA, inclusive disease status, open border with Angola, communal farming systems, etc.
- Analysis of markets to which the cattle and beef from the NCA are to be exported and also indicating the price competitiveness of those markets

5.4. Expected outcome

The expected outcome is a document that contains a master plan that indicates:

- An integral approach and coordinated activity diagram to lead present and future role players at increasing export in the NCA are proposed- activities are attainable and financially feasible;
- Aligning present role players and their activities to the aim of the study - advising adaptations to existing role player strategies and suggested GAPS to be filled by potential new role-players
- Suggested stepwise strategies and methods to increase cattle and beef export from the NCA in terms of optimal slaughter capacity utilization and achieving 5, 10, 15, 20 percentage cattle off-take in the NCA (ultimate goal)
- All aspects of the value chain and the level of the financial contribution each intervention would accrue to the different sectors.
- An industry-analysis with recommendations on the way forward for each of the above sections;
- Formulation of conclusions/recommendations through discussions with relevant stakeholders

6. Approach and Methodology used in the study

The core of the consultancy is based on the cattle and beef value chain from service delivery of inputs right through to the consumer. The following diagrammes provide a schematic picture of a typical value chain for cattle and beef production and marketing in the northern communal areas. Certain crucial inputs are needed in order to produce high quality cattle for the market and are depicted in Figure 1. These inputs vary from “software” type inputs like increased competence (knowledge, skills and attitudes) of farmers to more “hardware” type inputs like licks, medicines and drugs. These inputs are provided by a number of service providers ranging from governmental to non-governmental organizations and the private sector. The challenge is that these services are often not demand-driven and don’t seem to adequately reach farmers on the ground. Furthermore, even where these services are available, farmers don’t seem to always make use of them in order to increase production.

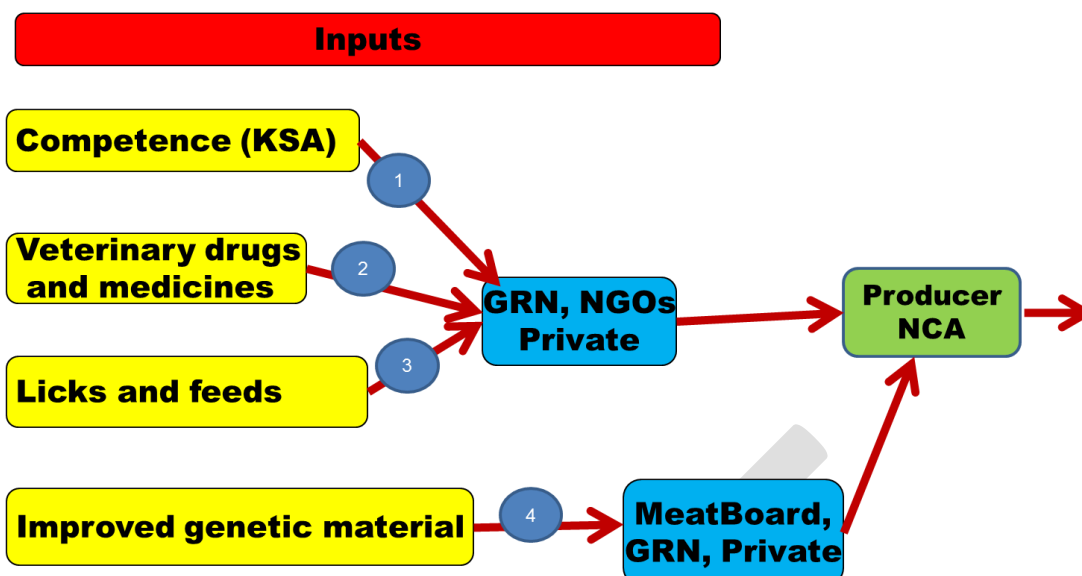
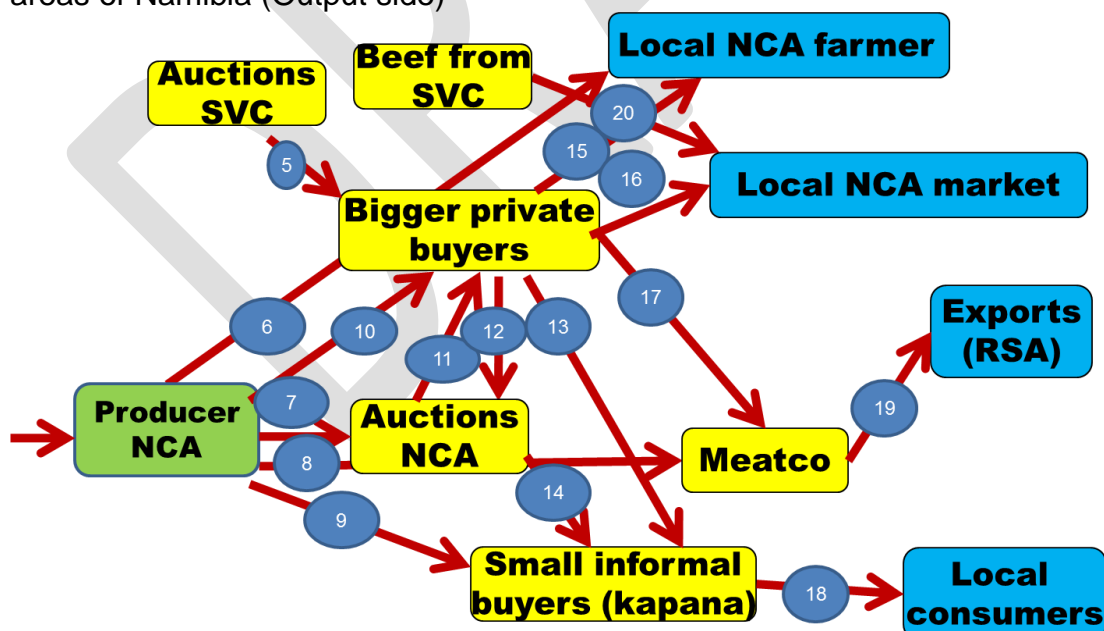


Figure 1: A value chain for cattle and beef production in the northern communal areas of Namibia (Input side)

Figure 2 on the other hand depicts the output side of the value chain and focuses on marketing of cattle and beef products through different marketing channels. These channels vary from formal export oriented to informal small-scale marketing of meat “on the side of the road”. The effectiveness and costs involved in this marketing process is not always fully understood and quantified. (Note: Figures 1 and 2 are two parts of the same value chain)

Figure 2: A value chain for cattle and beef production in the northern communal areas of Namibia (Output side)



Legend:

1. Enhancing competence (knowledge, skills & attitudes) through GRN, NGO and private institutions (e.g. DEES, GOPA, Meat board, FSP, Agra)
2. Provision of veterinary drugs and medicines through GRN (DVS) and private institutions (pharmacies)

3. Provision of licks and supplements through private institutions (Agra, Pro Feeds)
4. Provision of improved genetic material like rams and bulls through Government farms, Meat board, private breeders' associations)
5. Procurement of meat and cattle from south of the VCF by bigger private buyers
6. Producer in NCA selling breeding stock to local farmers in the NCA
7. Producer in NCA selling directly to Meatco
8. Producer in NCA selling at Auctions
9. Producer in NCA selling to small informal buyers e.g. kapanas
10. Producer in NCA selling to bigger buyers
11. Bigger buyers buying at auctions
12. Bigger buyers selling through auctions
13. Bigger buyers selling to small informal buyers e.g. kapanas
14. Small informal buyers buying at auctions
15. Bigger buyers selling breeding stock to local farmers in NCA
16. Bigger buyers selling meat to local markets in NCA e.g. schools, hospitals, etc.
17. Bigger buyers marketing at Meatco
18. Small informal buyers (kapanas) selling directly to public
19. Meatco exporting beef internationally
20. Beef from south of the VCF to the NCA consumer

At a meeting of the NCA livestock marketing advisory forum in Oshakati on 14 March 2012, participants were consulted on what they consider to be the major challenges and possible solutions to increase off take and marketing in the NCAs. This event was not only useful in getting most of the role players involved, but also served as a platform where sensitising on the future implementation of the master plan could be done. A long and short term goal for increased marketing has been elaborated. In order to achieve these goals, a strategic plan was developed that forms an integral part of the master plan.

7. Assumptions and limitations of the study

A study of this nature requires extensive travelling and consultation with a large number of different stakeholders, distributed over a wide geographic area like the NCAs. Although financial resources were adequate, the time frame to consult wider was limited. Consultation was done with a wide number of various stakeholders and we believe that this report is a fair reflection of ideas on the ground, blended with the professional opinion of the consultants. Being part of the recent NCA LMCF meeting in Oshakati however, provided a brilliant opportunity to the consultants to interact with most of the important stakeholders in the regions.

The informal off take of cattle could still be better understood. To get a real picture of informal off take, longer terms studies using enumerators positioned at strategic points are recommended. The Nolidip study of 2000 was properly done, but is out-dated. These data were used to get a better understanding of informal off take. The IPA also did some work on informal off-take in 2012, and this information was extensively used.

No information regarding the deployment of extension staff in the northern communal areas could be obtained from the Ministry of Agriculture, Water and Forestry. The consultants will however continue to pursue this process.

8. Analysis and findings as per the different components

This section contains a synthesis of the current situation regarding cattle marketing and production in the northern communal areas, and is presented on the basis of the different value chain components (See Figures 1 & 2).

8.1. Government extension services

Government extension services in the northern communal areas traditionally focussed on dry land crop production and currently more and more on implementing the green scheme. Enhancing livestock production does not seem to receive the attention it deserves, except in the Kunene region. Table 2 illustrates the distribution of staff and livestock qualification of Agricultural Extension staff in the northern communal areas:

Table 2: Agricultural extension staff from the MAWF with livestock related education.

Staff	Kunene	Omusati	Oshana	Ohanwena	Oshikoto	Kavango	Caprivi
CAEO	1	1	1	1	1	1	1
AEO	2						
AET	7						
Total	10						
Livestock qualified	8						

In Kunene north region 8 of the 10 extension staff are qualified in livestock production. In the other regions however, the situation seems to be totally different, but no information could be obtained yet to verify the situation.

8.2. Government veterinary services

In the Caprivi government veterinary services supply veterinary medicines at decentralised veterinary clinics in Bukalo, Ngoma, Sachinga, Sibinda and Chinchimane. This is contrary to the perception of farmers that they don't have access to medicines. Many owners are not on the land and herders have no money to buy medicines when required. If problems do occur in the supply of medicines, it is mainly due to budget limitations. Common remedies like vaccines, anti-biotics, dewormers and external parasite control remedies should always be available at these clinics, according to DVS.

Inoculation for FMD is increased from 2x per year to 3x per year. New research is needed to increase the effectiveness of FMD vaccines, especially for the eastern Caprivi region.

In the rest of the northern communal areas there are veterinary offices in Opuwo, Outapi, Ondangwa, Eenhana and Rundu. With funds provided by MCA Namibia, 3 decentralised veterinary clinics will be built in Outapi, Eenhana and Omuthiya to take veterinary services closer to the farmers. Some of the supply of veterinary medicines is channelled through private pharmacies, e.g Oshakati Pharmacy. Access of farmers to these remedies is however still restricted and maintaining the cold chain for vaccines is a huge concern.

Preliminary results from an MCA study on animal health in the Caprivi indicate a very high prevalence of Bovine Viral Disease (BVD). BVD is known to have a huge negative impact on herd reproduction and apparently also compromises the immune system of the animal, which could contribute towards reducing the effectiveness of

FMD vaccinations (Dr Rainer Hassel – personal communication). There is also a high prevalence of venereal diseases since farmers don't seem to vaccinate against them (Dr Chitate – personal communication). Healthy cattle are critical to improved production and reproduction and should receive high priority. Over the longer term the trans-boundary eradication of contagious disease should continue to be pursued in order to open up the northern communal areas so that producers in the NCA can become part of the mainstream marketing.

8.3. Government research and training services

The mandate of the Division Livestock Research in the Ministry of Agriculture, Water and Forestry is to generate knowledge through adaptive research and to disseminate that information to farmers. In the northern communal areas there are 4 livestock development centres namely Sachinga in Caprivi, Alex Muranda in Kavango (old Mile 46), Okapya in Oshikoto and Oshambela in Omusati region (see Figures 3 & 5 for locations of these facilities). Most of these facilities are still in the process of being developed and not all of them are fully stocked with livestock yet. In the northern communal areas there are 10 agricultural research technicians and 2 agricultural researchers. In 2007 government initiated a project called 'Provision of livestock breeding material directly to communal areas' and over a period of 2 years distributed a total of 104 bulls to all communal areas from all its research stations, including those to the south of the VCF. The following table provides a summary of the bull distribution:

Table 3: Bulls distributed to communal farmers from MAWF

Breed	Number of bulls
Sanga/Nguni	67
Afrikaner	13
Bonsmara	11
Simmentaler	10
Brownvieh	3
Total	104

From the total number of bulls distributed, only 57 went to the northern communal areas and the rest went to communal areas south of the VCF. This project was discontinued at the end of 2008/09 financial year due to Treasury questioning the average price (N\$1,500 per bull) as being too low. Although the numerical impact of this initiative is rather small, the policy of government is to rather "inject" fewer animals of good quality in order to raise awareness on the value of good bulls, so that farmers are motivated to buy their own from the private sector. It is not the intention of government farms to compete with the private sector, especially not with highly subsidised bull prices.

8.4. Development projects

There are currently several donor supported initiatives promoting livestock production and marketing in the northern communal areas. These initiatives are supposed to work closely with agricultural extension services of government, but it is not always the case.

8.4.1. Community-based rangeland and livestock management project (CBRLM).

This initiative is funded by the USA government through the Millennium Challenge Account (MCA-Namibia) and started in 2009 and will continue for 4 years. It operates in 21 Rangeland Intervention Areas (RIAs) with various grazing areas per RIA over 6 of the 7 northern communal regions, excluding Caprivi. This project mainly focuses on:

- Improving rangeland condition and productivity through implementing planned grazing management through herding;
- Improving livestock production and reproduction;
- Improving off-take and marketing of livestock.

8.4.2. Livestock Producers Forum (LPF) mentorship programme.

With funds from livestock producers south of the VCF, the Meat Board of Namibia is coordinating the implementation of this initiative. It operates with 14 livestock mentors in all 7 regions of the northern communal areas. The project started off in 2009 working with 50 pre-selected farmers in each region (350 in total for the NCAs), but has extended to 899 farmers at the end of 2011. Cooperation with agricultural extension staff in the different regions vary considerably. Regional stakeholder committees were established in each of the 7 regions with the purpose of meeting at a quarterly basis to assess progress made with the project. In Caprivi region these meetings take place regularly, indicating the excellent cooperation that exists between extension and the project. In Kavango a number of meetings took place initially, but not anymore. In all the other regions meetings still have to be held, indicating that cooperation between the project and other role players remain sub-optimal.

8.4.3. Farmers' Support Project.

In 2007 the Farmers' Support Project was started as an initiative of the two farmers' unions with funding provided by the European Union. In 2009 the German government provided funding for the continuation of the project and in 2010 the Agribank of Namibia made funds available for extension of the project to the northern communal areas. This project has 30 mentors employed from the private sector and work in both commercial and communal areas over the whole of Namibia. There are currently 7 livestock mentors working in the northern communal areas supporting farmers and farming communities to improve livestock production and off-take. Although cooperation between mentors and extension staff at local and regional level is mostly excellent, the Directorate of Extension Services still needs to officially recognise the project and urge their staff to work closely together with this project.

8.5. Providers of production inputs

Training and mentoring alone will not enhance livestock production if it is not backstopped by access to important production inputs like licks, feeds and veterinary medicines. As farmers become more and more aware of the benefits of these important inputs, the need for it will increase. Apart from small initiatives by some feed and veterinary drug companies, very little is available at this stage. In terms of veterinary medicines, some of the bigger pharmacies in bigger towns do sell it to farmers, but long distances from remote areas make it very difficult for farmers to readily get access to it when needed. Very often veterinary remedies are packaged in such a way that is too expensive for small scale farmers. Numerous initiatives in

the past tried to promote the creation of a well-trained and efficient para-veterinary network, but without good success. The envisaged decentralised veterinary rural centres will go a long way towards filling this gap.

8.6. Livestock production and marketing infra-structure

A well distributed and functional livestock production and marketing infra-structure is a prerequisite for improving livestock production and off-take in the northern communal areas. Figure 3 provides an overview of some of the most important infra-structure in the northern communal areas (Caprivi excluded).

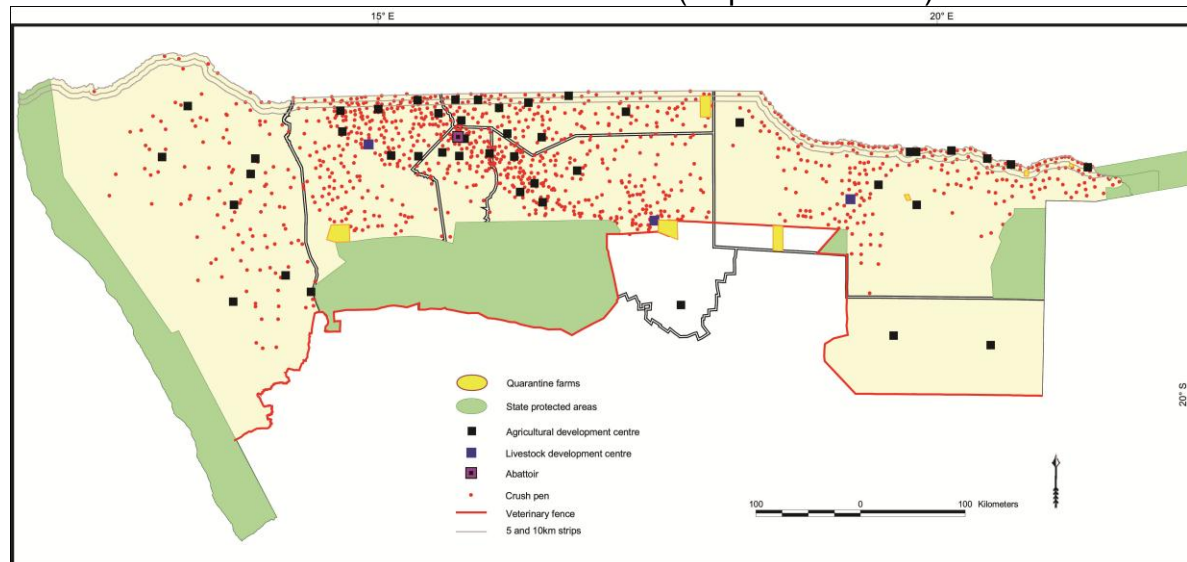


Figure 3: Distribution of marketing and related infra-structure in the NCAs (Caprivi excluded)

Crush pens are widely distributed in most of the highly populated livestock areas of the northern communal areas. These crush pens are used by the Directorate of Veterinary Services for their annual vaccination campaigns and are maintained by local communities. These crush pens are also available to farmers for applying normal livestock husbandry practices like branding, dehorning and earmarking.

There are 8 Agricultural Development Centres in Kunene region north of the VCF; in the 4 north central regions a total of 26 and 10 in the Kavango region. These ADCs have at least 1 agricultural extension technician that serves farmers in the area. As mentioned already in 8.1, extension staff with expertise in livestock production and marketing is limited, except in perhaps the northern Kunene region.

There are 4 livestock development centres (see 8.3) with a total of 12 livestock research staff doing applied research in livestock production.

There are 7 quarantine farms in this area that are no longer required for quarantine purposes. They are:

- Omutambo Mawe, Oshivelo, Otjakati, Ehomba, Okongo, Mangeti and Redebe camp.

Figure 4 indicates the location of 60 of the 75 multi-purpose handling facilities erected by Meatco during the last year in 6 of the 7 northern communal areas (Caprivi excluded).



Figure 4: Location of multi-purpose livestock handling facilities in the NCAs (Caprivi excluded).

The purpose of these facilities is to reduce the distance farmers have to “trek” their livestock by foot from the production areas to reach a point where they can access trucked transport. These facilities go a long way towards reaching this purpose, although a number of them are not accessible for large and heavy trucks due to loose sand at the loading ramps. These facilities can be used for smaller auctions, but securing livestock after the auctions to prevent them from returning to their former kraals, poses a problem.

Livestock production and marketing infra-structure in the Caprivi region are presented in Figure 5.

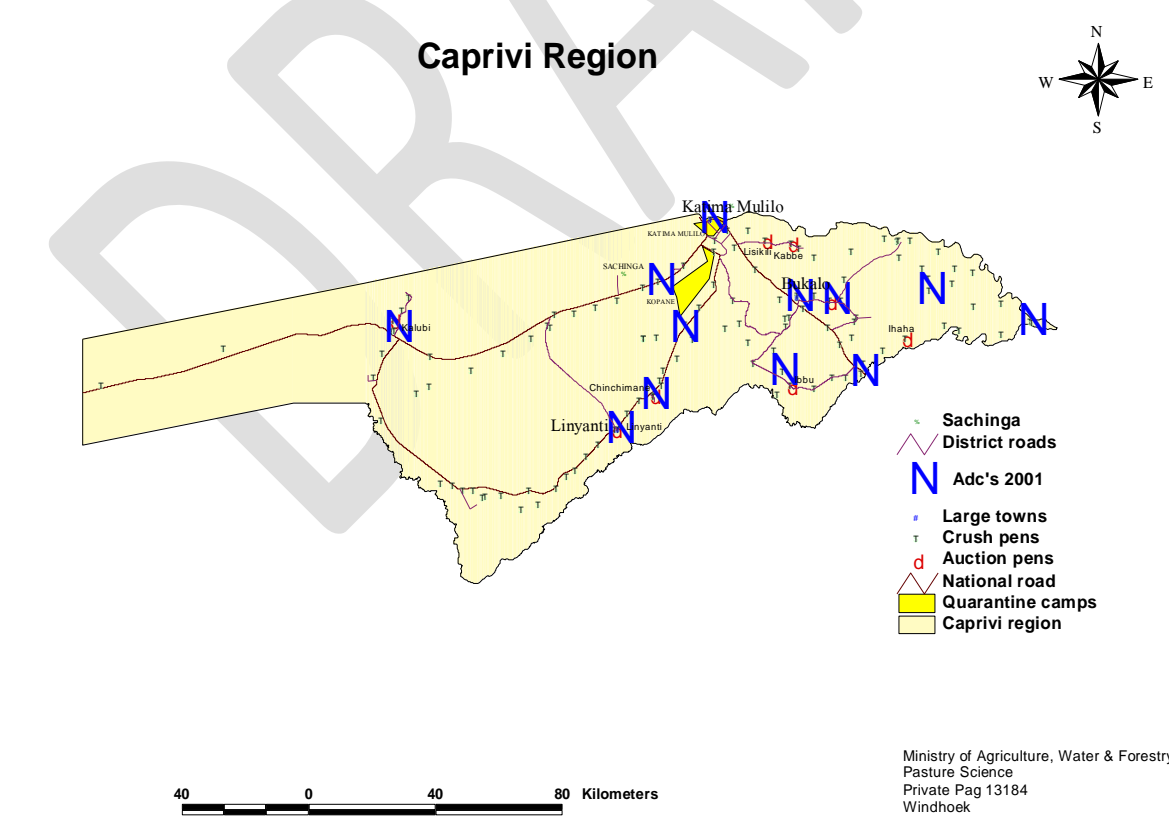


Figure 5: Location of important livestock oriented infra-structure in Caprivi.

Crush pens are mainly distributed along the main roads and are easily accessible. A total of 8 auction pens are also along the main roads, while of 12 Agricultural Development Centres are evenly distributed over the region. Sachinga is the only Livestock Development Centre in the Caprivi region. An abattoir that can slaughter 110 cattle every second day is operating in Katima Mulilo. Inadequate chilling capacity currently limits the potential slaughtering capacity of 110 cattle daily.

There are currently 4 operational quarantine facilities in the Caprivi namely:

- Katima Quarantine Farm(operated by DVS), just 10 km west of Katima Mulilo (9,854 ha with 6 camps)
- Kopana Quarantine Farm(operated by DVS), about 40 km west of KM (8,377 ha with 12 camps)
- Mbungu Community Camp, 40 km west of Divundu (1,820 ha with 2 camps)
- Thomas Shiyave Community Camp, 100 km west of Divundu (2,250 ha with 2 camps)

8.7. Rangeland condition and productivity

Very little quantitative data exist on the condition and productivity of communal rangelands in Namibia. However, Mendelsohn et al (2002) states that: “Overstocked areas occur mainly in north-central Namibia, along the Okavango River, on the eastern floodplains in Caprivi, and typically around large settlements. Overstocking in these areas occurs due to the presence of large numbers of cattle and goats. In total, about 3.7% of the land (excluding protected areas) is overstocked at levels that are roughly double the accepted grazing capacity of the land”.

Preliminary results from Rothauge (2012) provide some quantitative data on rangeland condition and productivity on 8 sites in the northern communal areas (excluding Caprivi) during the hot-dry (October November) season of 2011. From table 4 it is clear that the contribution of climax and desirable grass species is very low. Note that the composition figures represent the percentage dry matter yield and not frequency of appearance of grasses.

Table 4: Preliminary rangeland data in the NCAs. (Caprivi excluded)

Site	Okamwe	Otukaro	Amaupa	Okaholo	King Nehale	Salt Pan	Kankudi	Maha	Average
AEZ	Kaoko	Kaoko	Kalk	Kalk	Ekuma FP	Ekuma FP	Kalahari SP	Kalahari SP	
District	Opuwo	Opuwo	Tsandi	Tsandi	Tsumeb-Oshivelo	Tsumeb-Ondangwa	Nkurenkuru	Nkurenkuru	
Rangeland condition	medium	poor	poor	medium	medium-good	good	medium-good	medium-poor	
Total herbaceous yield g/m ²	42.63	21.97	32.63	129.10	169.57	220.50	79.93	76.23	96.57
Climax grass	4.8%	3.9%	0.0%	4.9%	1.5%	38.7%	1.2%	14.9%	8.7%
Desirable perennial grasses	48.2%	61.6%	0.0%	5.8%	12.2%	9.5%	18.2%	4.0%	19.9%
Other perennial grasses	7.1%	16.2%	0.3%	35.3%	83.3%	50.5%	52.6%	18.5%	33.0%
All <i>Aristida</i> grasses	8.0%	10.2%	28.8%	29.4%	1.6%	0.0%	11.8%	42.3%	16.5%
Annual grasses	23.2%	4.4%	66.1%	20.7%	0.4%	0.0%	1.0%	0.1%	14.5%
Herbs and forbs	8.8%	3.6%	4.8%	3.9%	1.1%	1.3%	15.1%	20.2%	7.3%
Climax grass	<i>Uoligo, Pmax</i>	<i>Uoligo</i>	<i>Eleh</i>	<i>Eleh</i>	<i>Spap</i>	<i>Spap</i>	<i>Dser</i>	<i>Spap</i>	
Climax grass tuft density/m ²	0.18	0.28	0.00	0.55	2.03	2.32	0.28	1.02	0.83
Climax grass tuft yield g/tuft	11.09	3.06	0.00	11.58	1.25	36.79	3.41	11.18	9.80
Woody seedlings/m ²	0.70	1.20	0.50	0.50	0.75	0.02	0.18	0.45	0.54

In the communal areas of the Oshikoto region in northern Namibia it was found that 77% of the rangeland was in poor condition with very low cover, only annual grasses, heavily overgrazed, many herbs present and dominated by mainly *Aristida stipoides*. Twenty five percent of the rangeland was considered medium to good with still mainly annual grasses, but with good cover, and a few perennial grasses

present. Less than 1% of the rangeland was considered very good with mainly perennial grasses and little bush encroachment (Verlinden & Kruger, 2007)

The current, unplanned livestock management approach in the NCAs results in continual re-grazing of perennial grass plants in the growing season before they have had a chance to recover. The root reserves become depleted, they are more easily pulled out by livestock, and they then fail to regenerate. The result is bare soils, often with mature capping, and over-rested perennial grass plants far from existing water points; and near water points, over-trampling of commonly used paths, resulting in erosion and gully formation.

Rangeland conditions in Omusati, Oshana, Oshikoto, and Ohangwena are poor to very poor in the central, densely populated, mainly crop-producing areas. Condition of the rangeland improves however in a proportional manner in all directions as population and livestock density decreases and water distribution grows sparse. The statement that “where there is water, there is no grazing, and where there is grazing, there is no water” is applicable. A large proportion of the NCAs are overstocked. However, the manner in which livestock are moved through the year has a more significant impact on rangeland condition than does livestock density. Even a relatively small number of livestock can result in overgrazing and cause considerable degradation of rangeland, if not managed correctly (Verlinden & Kruger, 2007).

Water point distribution also has a major impact on grazing, and therefore, on rangeland condition in the NCAs. Areas with high concentration of water points are likely to have over-trampled paths, soil capping, and underutilization far from the water point. Over time, this results in the weakening or loss of the perennial grass component both close to and far from water points.

A comprehensive survey of rangeland condition in the Caprivi was also done by Mr. Mulonda of DEES in Katima, as part of his M.Sc. Agric thesis. These information is however not yet published, but the main findings correspond with the above mentioned study. The occurrence of climax grass species like *Schmidtia papophoriedes*, *Brachiaria nigropedata* and *Antephora pubescens* are disappearing, while *Aristida* is widely found. In this study, the carrying capacity of Caprivi is estimated at 160,635 Large Stock Units (LSU's). The current cattle herd, which comprises of 151,000 head, already comprises about 100,666 LSU's on its own. If the game, small stock and equines are included, it is clear that Caprivi is overstocked (Mulonda – personal communication).

8.8. Farmers' competence and level of organisation

The NNFU has a head office in the NCAs in Oshakati. Organisation of farmers at regional and local level is weak. The Mangetti farmers' association represent the bigger more commercially oriented farmers but is not associated to the NNFU. A strong need for more and better functional farmers associations at regional and local level has been identified by farmers. Currently a general perception amongst many farmers is that cattle are kept for social purposes and not for generating money. This perception is perhaps one of the biggest challenges to address through training and capacity building.

8.9. Livestock ownership and off-take

Livestock ownership pattern and off take are directly correlated. The smaller the herds the more difficult it is to market. This section provides an overview regarding these two elements of cattle production and marketing in the northern communal areas.

8.9.1 NCA herd structure

According to the DVS NamLits database the following figures regarding herd structure apply. Note that these data represent a sample size of nearly 800,000 cattle and is perhaps the best figures on this topic currently available.

Table 5: Herd structure in the northern communal areas (DVS, 2012).

Region	Number	Cows		Bulls		Heifer		Ox		Male Calf		Female Calf	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Ohangwena	176 910	61 000	34.5	8 038	4.5	28 431	16.1	52 806	29.8	14 047	7.9	12 586	7.1
Oshikoto	114 469	41 159	36.0	6 547	5.7	20 330	17.8	26 005	22.7	11 170	9.8	9 258	8.1
Kunene	106 683	41 633	39.0	1 502	1.4	20 429	19.1	20 493	19.2	12 226	11.5	10 400	9.7
Oshana	46 918	17 805	37.9	3 695	7.9	9 793	20.9	9 366	20.0	3 384	7.2	2 875	6.1
Kavango	108 554	40 793	37.6	4 445	4.1	12 118	11.2	27 244	25.1	13 031	12.0	10 921	10.1
Omusati	183 870	72 521	39.4	5 201	2.8	34 040	18.5	49 858	27.1	11 947	6.5	10 302	5.6
Caprivi	54 156	21 623	39.9	2 533	4.7	8 241	15.2	12 766	23.6	4 977	9.2	4 015	7.4
Otjozondjupa	4 229	2 024	47.9	308	7.3	684	16.2	400	9.5	340	8.0	473	11.2
Total	795 789	298 558	37.5	32 269	4.1	134 066	16.8	198 938	25	71 122	9	60 830	8

According to Table 5 considerable variation exists between different regions in terms of herd structure. From this table it is possible to get an idea on percentage cows in the herd per region as well as the number of calves as percentage of total herd.

Table 6 however provides an assessment of reproduction.

Table 6: Cow and calf rates of herds per region (DVS 2012).

Region	Number	Cows		Calves	
		No.	% in herd	No.	Calf/Cow rate
Ohangwena	176 910	61 000	34.5	26 633	43.7
Oshikoto	114 469	41 159	36.0	20 428	49.6
Kunene	106 683	41 633	39.0	22 626	54.3
Oshana	46 918	17 805	37.9	6 259	35.2
Kavango	108 554	40 793	37.6	23 952	58.7
Omusati	183 870	72 521	39.4	22 249	30.7
Caprivi	54 156	21 623	39.9	8 992	41.6
Otjozondjupa	4 229	2 024	47.9	813	40.2
Total	795 789	298 558	37.5	131 952	44.2

Cow rates per herd varies between 39.9% for Caprivi to as low as 34.5% for Ohangwena region. Calf/cow rates vary between 30.7% for Omusati region to as high as 58.7% for the Kavango region. Data provided by Hannes von Wielligh (mentor in the Kavango region) suggest an average calving percentage of 34% for the Kavango. Note: cow/calf rate is inclusive of mortalities.

8.9.2 Marketing by cattle owning households in the NCA

According to a comprehensive survey done by IPA in 2011, 66% of all livestock owning households in the NCA own cattle.

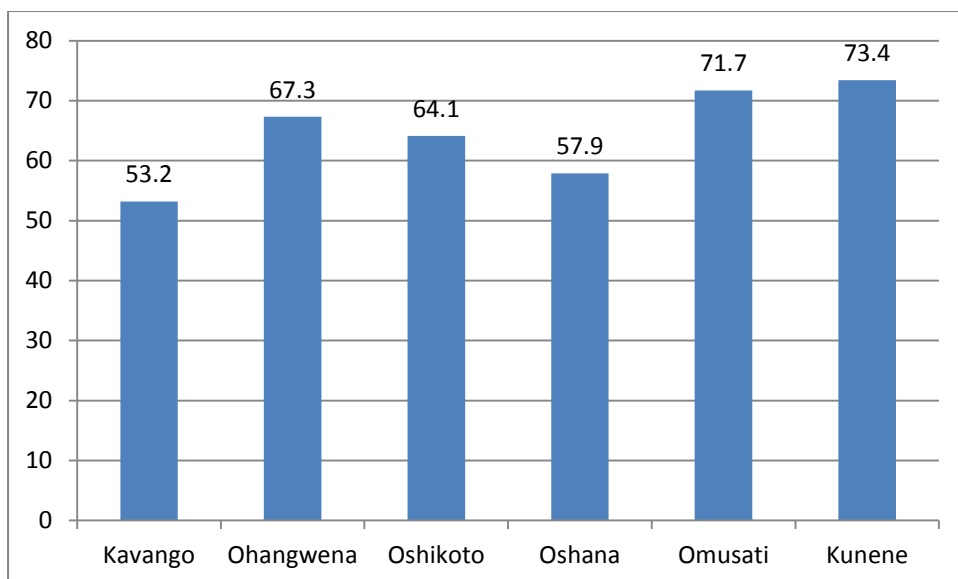


Figure 6: Percentage of households that are cattle owning by region (IPA, 2012)

Not all livestock owning households market cattle. Figure 7 provides a distribution of the percentage of livestock owning households that marketed different numbers of cattle in the northern communal areas over the past 12 months (Caprivi excluded). Marketing includes formal marketing plus for ceremonial and consumption purposes.

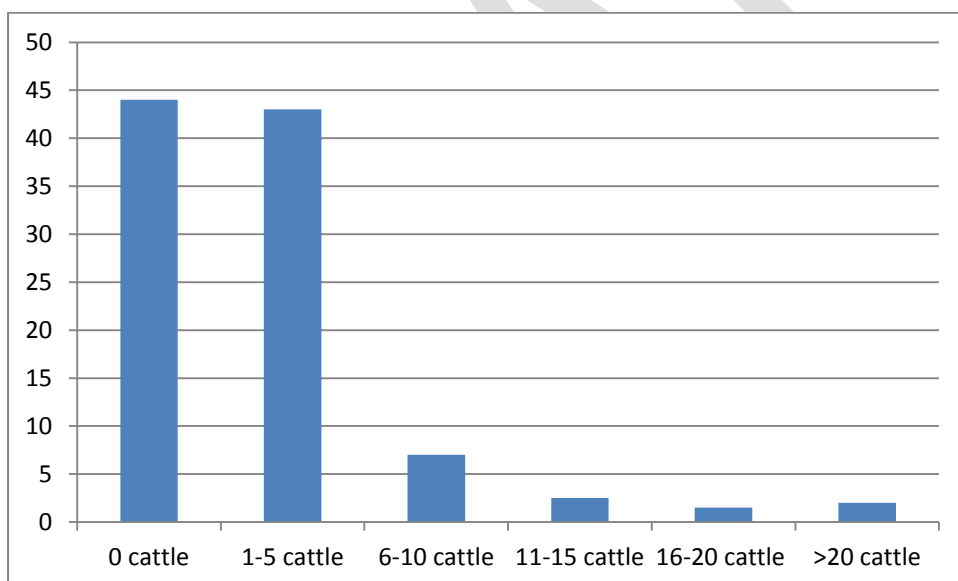


Figure 7: Livestock owning households that market different numbers of cattle over the past year (IPA, 2012).

It is interesting to note from figure 7 that 44% of all livestock owning households didn't market a single head of cattle during the previous year, and that 43% marketed between only 1 and 5 cattle over the same period.

Table 7: Cattle ownership and off take by farm household by region

Region	Estimated number of hhs with cattle (IPA, 2012)	Number of cattle (DVS,2010)	Average herd size of hhs keeping cattle	% off take per annum (IPA, 2012)	Total number of cattle taken off	Formal market (Meatco)	Informal buyers; 'mutalas'; ceremonial; household consumption
Caprivi	8,972	151,765	16.9	10	15,177	6,738	8,379
Kavango	11,704	130,275	11.1	12.4	18,819	2,372	16,447
Ohangwena	24,186	195,302	8.1	6.9	13,476	3,994	62,575
Oshikoto	16,771	233,908	13.9	6.6	15,438		
Oshana	11,979	108,184	9	5.8	9,737		
Omusati	27,118	276,412	10.2	10.1	27,918		
Kunene Nth	3,479	149,918	43.1	12.1	18,140	4,913	13,227
Totals	104,209	1,245,764	16		118,705	18,017	100,628

Annual off-take of cattle per region varies between 5.8% (Oshana) and 12.4% (Kavango). This total off take includes marketed off take as well as off take for ceremonial and consumption purposes (IPA, 2012). Formal off take through Meatco represent 15% of the total off take and only 1.4% of all cattle in the NCAs. The non-formal off take on the other hand represents 85% of all cattle off take and 8.1% of all cattle in the NCAs. The total off-take is 9.5% of all cattle in the NCAs.

8.9.3 Caprivi case study

A case study of three farmers in Caprivi was conducted. Although this is a very small sample, it however indicates the potential that exists. The farmers are part of the Mentorship program of the Meat Board of Namibia, and could be considered as representing the better farmers in that region. Table 8 indicates the herd structure and off take of these individual farmers:

Table 8: Performance of three farmers in the Caprivi

Parameter	Farmer 1	Farmer 2	Farmer 3
Cows	21	51	71
Bulls	5	7	1
Oxen	10	23	11
Heifers	14	20	31
Steers			26
Calves	18	27	42
Total herd	68	128	182
2011 Marketing to Meatco	12	25	23
2011 Informal marketing	2	5	
2011 Own consumption	2	5	2
2011 Selling replacement heifers			15
2011 Selling Breeding Bulls			7
Total off take during 2011	18	35	47
Off take%	26%	27%	27%
Calves as % of cows	85%	53%	59%
Preferred marketing season	Feb-Jun	Feb-Jun	
Calving season	Aug-Nov	Oct-Dec	

The main conclusions from the above mentioned are as follows:

- The off take% of all three farmers is $\pm 27\%$ per annum, which corresponds very well with the off take of farmers to the south of the VCF.
- The preferred marketing season for the Caprivi farmers is from February to June, when the animals are in good condition. However due to limited slaughter capacity of the Meatco abattoir in Katima, all farmers are not able to market their cattle when in good condition.
- A demand for replacement heifers and young bulls from genetic material obtained from south of the VCF, exists.
- The potential for cattle marketing can therefore reach 40,000 heads per year in the Caprivi, should the commercial mindset and attitude of these 3 farmers be instilled with fellow farmers in the Caprivi.
- The impact of the mentorship program on the increase of off-take is clearly indicated by this case study.

8.9.4 Potential of NCA cattle marketing

This section provides some information on the potential production and off take when reproduction in the herds is increased and formal marketing is enhanced. Data from the NamLits system of DVS are used.

Table 9: Current estimated herd composition and off take in the NCAs

Region	Total cattle numbers	Cow rate (%)	Number of cows	Calving rate (%)	Current number of calves	Projected number of calves (60% calving rate)
Caprivi	151 765	39.9	60 554	41.6	25 191	36 333
Kavango	130 275	37.6	48 983	58.7	28 753	29 390
Ohangwena	195 302	34.5	67 379	43.1	29 040	40 428
Oshikoto	233 908	36.0	84 207	49.6	41 767	50 524
Oshana	108 184	37.9	41 002	35.2	14 433	24 601
Omusati	276 412	39.4	108 906	30.7	33 434	65 344
Kunene	149 918	39.0	58 468	54.3	31 748	35 081
Total	1 245 764		469 500		204 366	281 700

The current total off-take in the NCAs is 118,705 (see Table 7) that represents 9.5% off take. With a current estimated annual calf crop of 204,366 animals, there should be 85,661 more cattle available than what are currently being marketed. The discrepancy can perhaps be explained by the tendency to increase in cattle numbers in the NCA.

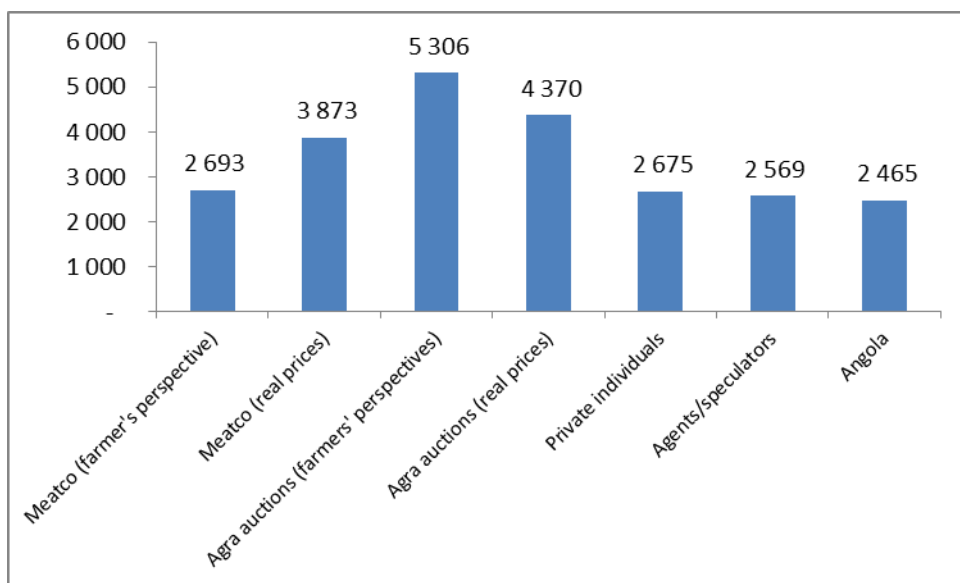


Figure 8: Mean price of cattle sold (N\$) to different buyers in 2011 (IPA, 2012 & Agra, 2012).

According to Figure 8, the farmers reported that they got on average N\$2,693 per animal sold during 2011 at Meatco in Oshakati, while Meatco's own data suggest being N\$3,873 per animal sold. The farmers' 'reported prices at Agra auctions are considerably higher (N\$5,306) than the real prices paid at Agra auctions (N\$4,370) during 2011. One of the reasons why the perceived Agra price is higher than the real Agra price is that breeding stock formed part of the N\$5,306, whilst N\$4,370 is only for slaughter stock. The average price for cattle sold to Angola is also significantly lower than what is generally perceived.

By improving calving rate to 60%, an additional 77,344 cattle could be available annually for marketing purposes. Table 10 provides an assessment of the current income levels (N\$) of cattle marketed formally and informally in the NCAs, compared to potential income level (N\$) when calving rate is increased to 60% and Meatco slaughters at both Katima and Oshakati at full capacity.

Table 10: Current and projected number of cattle in the formal and informal markets with associated income (data from tables 7 & 9)

Region	current numbers in formal market	price (N\$/kg)	total income (N\$)	projected numbers in formal market	price (N\$/kg)	total income (N\$)	difference in total income (N\$)
Caprivi	6 738	2 984	20 106 192	22 000	2 984	65 648 000	45 541 808
Kunene, NCD, Kavango	11 280	3 873	43 687 440	28 000	3 873	108 444 000	64 756 560
Sub-total	18 018		63 793 632	50 000		174 092 000	110 298 368
Region	current numbers in informal market	price (N\$/kg)	total income (N\$)	projected numbers in informal market	price (N\$/kg)	total income (N\$)	difference in total income (N\$)
Caprivi	8 379	2 622	21 969 738	14 333	2 622	37 581 126	15 611 388
Kunene, NCD, Kavango	92 249	1 622	149 627 878	217 367	2 622	569 936 274	420 308 396
Sub-total	100 628		171 597 616	231 700		607 517 400	435 919 784
Total	118 646		235 391 248	281 700		781 609 400	546 218 152

Using the current cattle numbers (118,705) in the formal and informal markets (Table 10) and apply standard prices being paid by Meatco and the informal market over the past 12 months, the current estimated value of off take in the NCAs is N\$235,391,248. If calving percentage is increased to 60% and Meatco slaughters at

full capacity, the estimated number of cattle available for off take in the NCAs will increase to 281,700 animals (Table 9) worth an estimated N\$781,609,400 (Table 10) at current prices. This represents an increase in N\$546,218,152 per annum. It should however not be assumed that these animals will all be available for the informal market, but that it can only happen if it is accompanied by concerted efforts to improve off take.

8.10. Bigger or “formal” buyers

For the purpose of this study, Meatco is classified as the only big formal buyer of cattle in the northern communal areas. Table 11 provides an overview of number of cattle slaughtered over the last 10 years from the different regions in the NCA at Oshakati and Katima abattoirs (Meatco, 2012).

Table 11: Slaughter data of Meatco over the last 10 years (Meatco, 2011)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Kavango	1 417	1 381	880	824	1 288	1 351	1 360	1 130	1 922	2 372
North-Central	2 595	1 195	456	1 216	2 451	3 190	2 377	2 913	3 356	3 994
Kunene	7 151	4 319	2 528	5 319	7 790	5 767	5 717	679	2 388	4 913
Caprivi	12 603	10 231	5 923	8 883	9 764	8 491	-	4 361	7 577	6 738
TOTAL	23 766	17 126	9 787	16 242	21 293	18 799	9 454	9 083	15 243	18 017

In total over the 10 years, 9.89% of cattle slaughtered in the NCAs (both Oshakati and Katima abattoirs) came from Kavango, 16.86% from the four north central regions, 33.08% from the Kunene north region and 52.96% from the Caprivi region. Over the same period, of those cattle slaughtered at Oshakati abattoir alone, 16.53% came from Kavango, 28.19% from the north central regions and 55.28% from Kunene north.

It is interesting to note the impact that buyers from Angola (in 2009 & 2010) had on the provision of cattle to the formal market. Furthermore, the variation in throughput in Caprivi is obvious, mainly due to animal health status and the subsequent closure of the abattoir. Figure 9 represents the average carcass mass (kg) of cattle slaughtered by Meatco at Katima and Oshakati abattoirs over the last 6 years.

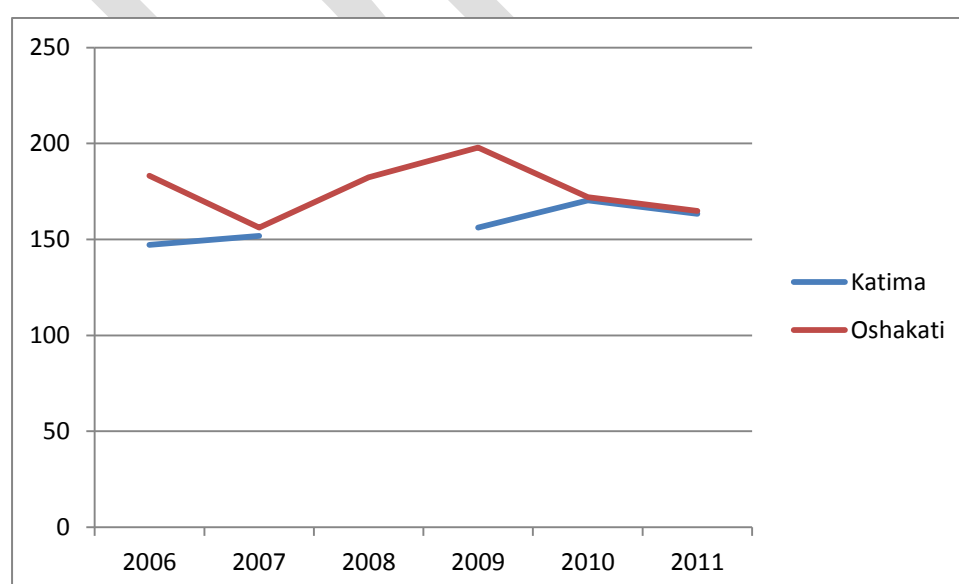


Figure 9: Average carcass mass (kg) of cattle slaughtered at Katima and Oshakati abattoirs over the last 6 years (Meatco, 2011).

The carcass mass at Oshakati seems to be higher than at Katima, especially during 2006 and 2009. What is however significant is that in 2007, 2010 and 2011 the difference in carcass mass between these two place differs very little. The reasons could be because Oshakati abolished the incentive for heavier carcasses and that at Katima the abattoir was closed during dry season. The outbreak of FMD also resulted into an extended close-down of the Katima abattoir and when slaughtering resumed, cattle on offer were heavier.

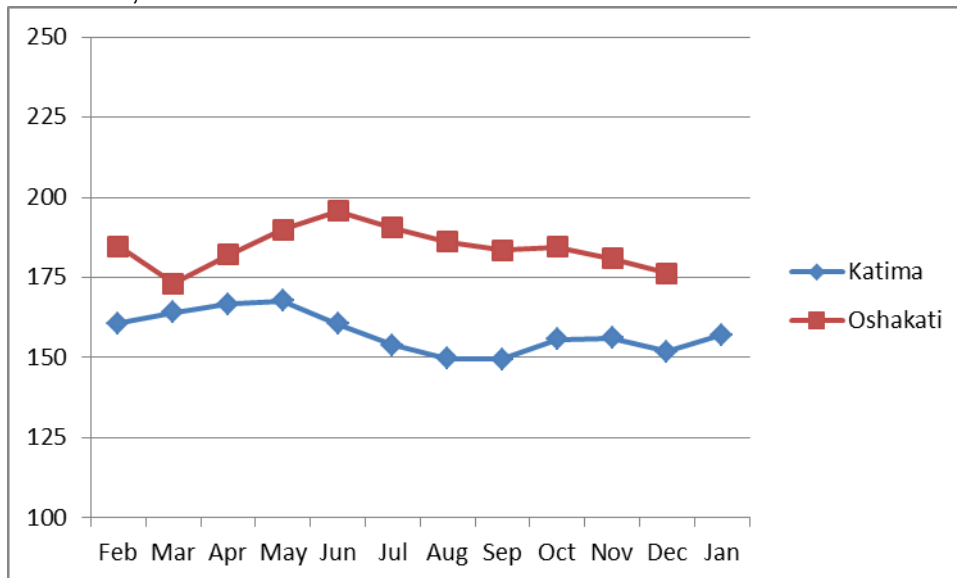


Figure 10: Variation in average carcass mass for Katima and Oshakati over the past 6 years.(Meatco, 2012).

Over the year carcass mass seems to vary considerably. At Katima, January up to May seem to be the months with the highest average carcass mass, while carcass mass declines considerably from June to December. During 2010 and 2011, the average carcass mass is dropping with about 15kg/head between the first half of the year and the second half. Carcass quality is also dropping. This is mainly attributed towards the earlier start of the growing season in Caprivi, as well as over utilisation of rangelands with simply very little grazing available in the dry period. Average carcass mass at Oshakati abattoir seems to start increasing from April onwards with a peak in June, followed by a gradual decline for the rest of the year.

The skew distribution of cattle offered to Meatco is perhaps one of the biggest challenges they face in the northern communal areas.

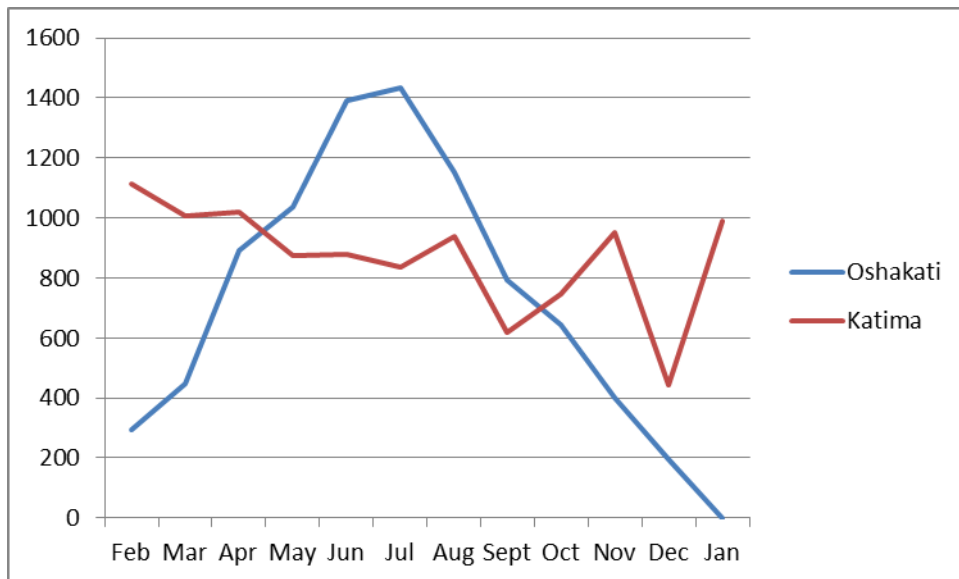


Figure 11: Distribution of cattle slaughtered at Oshakati and Katima per month over the last 5 years (Meatco, 2012).

Figure 11 provides an overview of the uptake of cattle during the year at both Oshakati and Katima abattoirs. Slaughtering at Oshakati shows a very distinctive bell shape with the peak months being June and July, followed by a steep decline towards January. At Katima on the other hand, the slaughtering of cattle is more linear with the best months in January and February followed by a gradual decline in numbers until the end of the year.

More than 70% of all cattle slaughtered at the two Meatco abattoirs in the NCA are C-grades. This means that animals are already fully teathed and the meat is of lower quality.

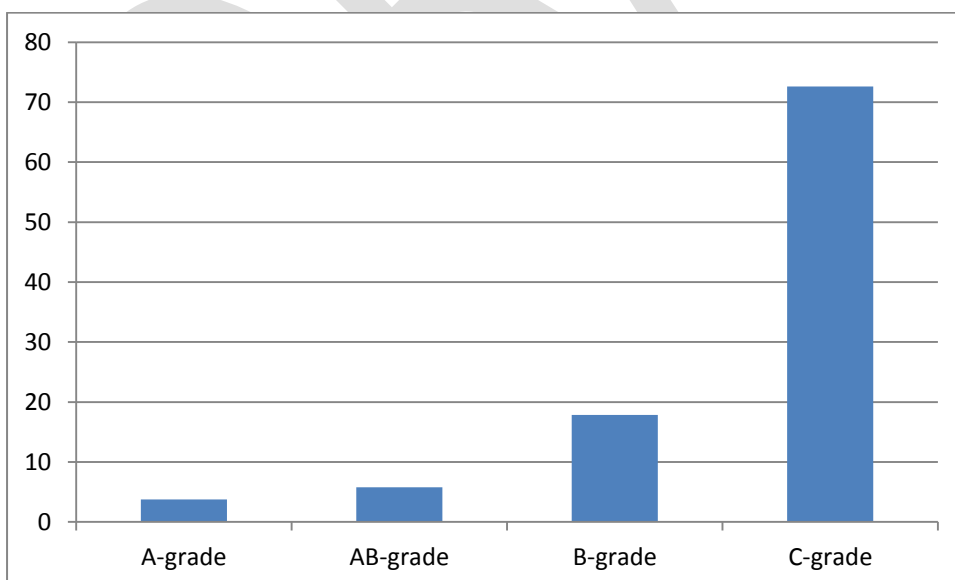


Figure 12: Distribution of age of cattle slaughtered at Meatco NCA abattoirs (Meatco, 2012).

Figure 13 provides an overview of the fatness grades of cattle slaughtered at Meatco abattoirs in the NCAs. Nearly 60% of them are rather lean with 0-1 fatness grades.

Combining the high incidence of C-grades with the high incidence of lean animals emphasizes the challenge Meatco faces in the NCAs.

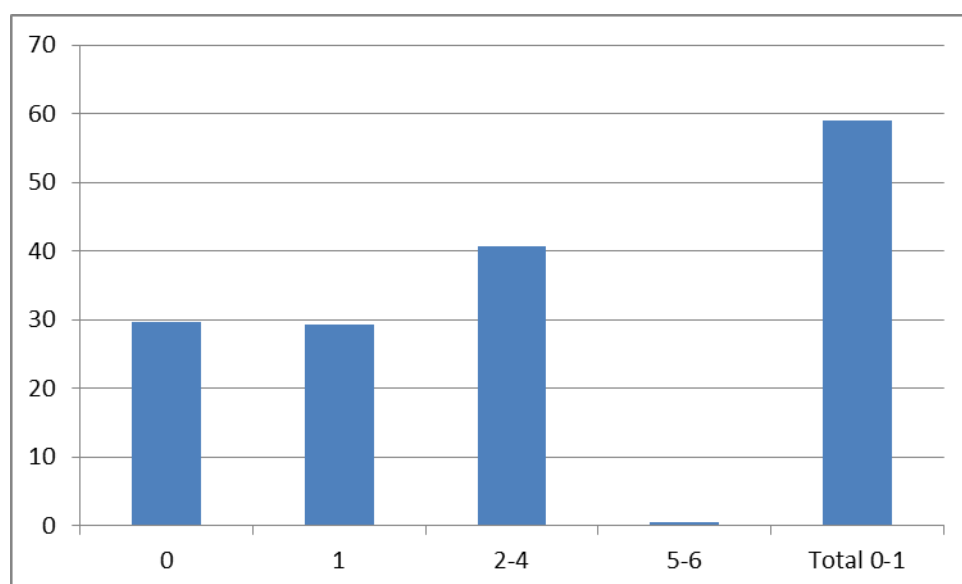


Figure 13: Distribution of fatness of cattle slaughtered at Meatco NCA abattoirs (Meatco, 2012).

Figure 14 indicates that nearly 70% of all cattle slaughtered at Meatco abattoirs are oxen, followed by cows, bulls and heifers. In summary, it can be concluded that nearly 70% of all cattle offered at these abattoirs are **older and lean oxen**.

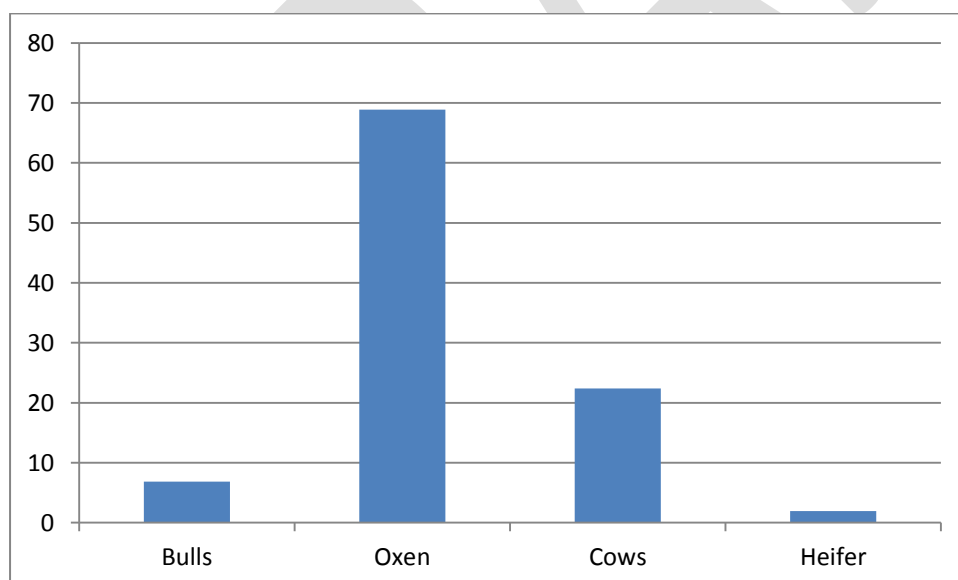


Figure 14: Distribution of cattle types slaughtered at Meatco abattoirs in the NCAs (Meatco, 2012).

Current policy of Meatco is to also source live cattle on the hoof and not just rely on farmers marketing directly to the abattoirs. Table 12 provides an overview of the number of cattle sourced from different places over the past year.

Conformation also plays an important role in determining the price farmers receive. At Oshakati about 50% of all carcasses are conformation 2, while at Katima most of

them of confirmation 2. When conformation 2 carcasses are slaughtered, a significant penalty of more than N\$5.00/kg (20%) in the pricing system exists for animals slaughtered at fat grade 0 with a conformation of <3. It is therefore critical that everything possible is done to prevent the slaughtering of a fat grade 0.

Table 12: Overview of where Meatco sourced their cattle from during 2011 (Meatco, 2012).

	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	YEAR TO DATE
CAPRIVI													
Katima Farm	208	754	313	336	298	203	370						2482
Kopano Farm	837	110	756	302	743	935	156						3839
Feedlot													
KAVANGO													
Mbungu Camp	18	70	9								37		134
Thomas Camp		110	101	109					67		53		440
Rebebe Camp	123	91	34	55	38	338	262	197	32	197			1367
Mangeti Farm			388	118	73	34	32	33					678
Tsumkwe Area	71						96	0					167
NCD													
Okonko Farm		77	85	36	79	169	66	63	50	24	0		649
Oshivelo Farm	15	31	118	24	29	56	69	34	31	18	41		466
Oshana	2	67	49	160	211	27	43	23	26	27	0		635
Oshikoto Area	71	116	65	32	37	229	208	211	203	143	0		1315
Ohangwena Area			18		39	6	15	15	28		0		121
Omusati	27	24	103	156	157	87	67	89	30	68	0		808
KUNENE NORTH													
Omutambo-M Farm	101	220	509	400	300	409	300	100	272	160	102		2873
Otiakati Camp													0
Ehomba													0
Kunene Area			307	231	307	312	283	147	202	178			1967
Commercial											73		73
TOTAL	1473	1670	2855	1959	2311	2805	1967	912	941	815	306	0	18 014
FARMERS	957	636	1199	706	1018	1630	1126	512	682	521	247		9 234
SPECULANTS	396	553	689	377	546	747	493	98	38	16	5		3 958
PRIVATE/MEATCO	120	481	967	876	747	425	351	302	221	278	54		4 822
TOTAL	1473	1670	2855	1959	2311	2802	1970	912	941	815	306	0	18 014

Note that in Caprivi Meatco buys no cattle on the hoof and farmers deliver directly to the abattoir. Since quarantine is lifted in the other NCA regions, these quarantine facilities are used as “assembly points” where farmers and Meatco negotiate prices, again based on “on the hoof” grading and weighing, and then Meatco buys the animals and transport them to the abattoir in Oshakati. It is important to note that about 8,000 cattle owners delivered 11,279 cattle to Oshakati and approximately 2,000 cattle owners delivered 6,738 cattle to Katima abattoirs in 2011.

The following is a synthesis of the challenges that Meatco face in the NCAs:

- During 2011 Meato slaughtered 11,279 cattle at the Oshakati abattoir, which is 62.7% of its current slaughtering capacity. If the plan of extending the chilling capacity of the abattoir is implemented, slaughtering with a double shift can increase the capacity to 28,000 cattle per year, meaning that the current slaughtering is only 40.3% of the potential capacity.

- The Katima abattoir has a current capacity of 10,000 cattle per annum. Current limited chilling capacity results into slaughtering 110 cattle every second day only. Should the chilling capacity be extended (approval of plan and request for that being awaited from Government for 5 years) and 110 cattle can be slaughtered every day, the capacity can be more than doubled to 22,000 cattle per annum. During 2011 only 6,738 cattle were slaughtered from Jan-11 to Aug-11, which is close to slaughtering at full capacity, as the abattoir closed due to the outbreak of Foot and Mouth Disease.
- Average carcass mass of cattle slaughtered at Oshakati over the last 5 years varied between 156kg and 198 kg, although in 2011 the average carcass mass came down to 165 kg, mainly due to a relaxing of the penalty for lighter carcasses by Meatco. This definitely contributed towards an increased number of cattle offered, but also resulted into small animals being offered. At Katima abattoir average carcass mass over the same period varied between 152kg and 170kg with a similar downward trend to 165kg in 2011. Although it seems to make economic sense to Meatco to rather process larger carcasses for the same overhead costs, it is anticipated that this practice of promoting larger carcasses from bigger exotic breeds will have a detrimental effect on the sustainability of cattle production in the long run, especially against the background of the reality of the negative impact of climate change on rangeland condition and productivity.
- The highly skewed supply of slaughter cattle to Meatco, especially for the Oshakati abattoir, is one of the most serious challenges being faced. This results into an over-supply during a short period of time that puts a huge pressure on existing abattoir capacity, followed by an under supply for a large part of the year. This in turn further contributes towards inefficient production since the facility runs at lower capacity.
- The fact that around 70% of cattle slaughtered at Meatco abattoirs are C0-C1 oxen, poses another big constraint. The ideal situation would be that more and younger animals of better grades (AB & B with 2-4 fatness) are offered. The constraint is that currently there are no mechanisms in place to promote a proper supply of these kinds of animals to Meatco.
- Due to the large number of households keeping small herds, sourcing of cattle is a difficult and expensive process. According to Meatco, more than 8,000 farmers delivered 11,279 cattle to the Oshakati facility during 2011. Similarly more than 2,000 farmers delivered cattle to Meatco in Katima.
- No traceability system is currently in place NCA. If the FANMEAT scheme can be implemented with traceability, Meatco will be able to unlock more market opportunities.

8.11. Smaller or “informal” buyers

Apart from Meatco as the bigger of formal buyer, all other buyers of cattle are called smaller or informal buyers. These include speculators, traders and so-called “*Kapanas* or *Mutalas*”. During the past year smaller or informal buyers bought in total at least 22,048 cattle of which 20% (4,410) is estimated to come from north of

the VCF and the rest (17,638) from south of the VCF. According to DVS permit records approximately 32,000 cattle moved during 2011 from south of the VCF to the NCA. If 17,638 are slaughtered in the informal market, at least 14,362 enter NCA as breeding stock. Most of the slaughtered cattle end up being slaughtered for local consumption like “mutalas” and other consumers.

Additionally, the equivalent of at least 10,553 cattle is brought in annually by other traders (e.g. Hartlief's, Atlantic Meat Services, Grootfontein butchers.) in the form of fresh cuts and processed meat from south of the VCF to consumers to the north.

Bringing in cattle and meat produce from the south of the VCF raises the question why it cannot be met by local supply. Answers to this question vary as follows:

- Local traders will tell us that they cannot find enough local cattle, especially in the north central regions.
- Meatco tells us that they get more money for their deboned cuts in the South African and Namibian markets than what people can pay for it locally.
- Lodges tell us it is easier and more reliable to get good quality beef and beef products on a continuous basis from the south of the VCF.
- Big meat distributors tell us that, although a significant amount of beef and beef products are supplied from the north of the VCF (especially frozen beef from Caprivi), supply remains erratic and they are forced to regularly source beef and beef produce from the south.

8.12. Transporters

Transport of cattle from places of production to and from quarantine farms (Caprivi only), assembly points and auctions and directly to abattoirs, remains one of the biggest constraints to increase off take in the NCAs. Trekking animals by foot is not only laborious, but also has a negative impact on condition and weight of cattle being offered to the market. Table 10 provides an overview of the difference in profit per head when being trekked by foot or transported by truck to the nearest quarantine farm in Caprivi. Some farmers have own transport but is not always humane.

Table 13: An example of the impact of trekking by foot versus trucked transport on the profit margins of cattle farmers marketing to Meatco in the Caprivi.

Caprivi	Trekking (selling C0 conformation 2)		Transport (selling C1 conformation 2)	
Income				
Kg live		300kg		330kg
Dressing %		50%		50%
N\$/kg carcass		N\$19.21		N\$25.43
Income/head		\$ 2 882		\$ 4 196
Marketing expenses				
Transport to quarantine	N\$300/10 cattle	(\$30)	100km @ N\$30/km per 36 cattle	(\$83)
Herding in quarantine camp	N\$30-N\$50/head	(\$40)	N\$30-N\$50/head	(\$40)
Transport to abattoir	N\$30/head	(\$30)	N\$30/head	(\$30)
Meat Board grading fee	N\$10.85/head	(\$11)	N\$10.85/head	(\$11)
Meat Board levy	0.08% of income	(\$23)	0.08% of income	(\$34)
Marketing expenses /head		(\$134)		(\$198)
Profit after marketing expenses		\$ 2 748		\$ 3 998

In the trekking scenario, the animal will lose at least 30 kg in live weight and in the process change from a C1 to a C0 grading. The price difference between C0 and C1 is N\$6.22/kg, and the difference in profit per head is N\$ 1,250 per animal.

8.13. Existing markets (local, national and international)

Analysing the in- and outflow of meat from the NCAs, it becomes clear that the amount leaving the areas roughly equals the amount imported. This means that there is a large demand for meat in the NCAs that is currently not serviced by local production. On the other side, meat slaughtered by Meatco in the north (Oshakati) leaves the area for markets in Namibia and South Africa. If food self-sufficiency is the preferred option in the NCA, emphasis should be put on increasing local consumption from local production. On the other side if food security is preferred, it does not matter where to local production is consumed, provided local farmers are not penalised in terms of price.

Currently very little meat is exported to other African markets (e.g. DRC and Angola). Increased export to these markets should be explored, since lower sanitary and phyto sanitary protocols there, make it easier for export. As proven in 2009 and 2010, a real market for export of live animals to Angola exists and should be further promoted. Another possibility is to explore the export of live breeding material (Sanga genetics) to the rest of Namibia and South Africa. The popularity of Sanga breeding material will provide a further opportunity to increase off take from the NCAs. This could be a very lucrative marketing channel.

8.14. Analysis of the current value chain.

Table 14: A simplified value chain indicating costs and benefits from production to marketing to Meatco.

	Inputs	Production	Transport	Quarantine	Transport	Abattoir	Market
Caprivi 2012 price levels (C0 conf 2)			N\$300 for ±10 cattle= N\$30/head	N\$30-N\$50/head	N\$22-43N\$/head	300kg live @ 50% dressing% = 150kg carcass@N\$19.21/kg= N\$2,881/head	Namibia frozen
Caprivi 2012 price levels (C1 conf 2)			100km @ N\$30/km for 40 cattle/truck=N\$75/head	N\$30-N\$50/head	N\$22-43N\$/head	330kg live @ 53% dressing% = 175kg carcass@N\$25.43/kg= N\$4,450/head	Namibia frozen
Kavango live on-farm selling to Meatco		440kg live @ N\$9.28/kg=N\$4083/head	600km @N\$27/km for 36 cattle/truck = N\$450/head	No quarantine	No additional transport	Landed Oshakati abattoir = N\$4,533/head / 180kg carcass = N\$25.18/kg	South-Africa frozen
Mangetti live on-farm selling to Meatco		440kg live @ N\$9.28/kg=N\$4083/head	70km @ N\$24/km/ 18 cattle + 240km @N\$27/km/ 36 cattle= N\$273/head	No quarantine	No additional transport	Landed Oshakati abattoir = N\$4,356/head / 180kg carcass = N\$24.20/kg	South-Africa frozen
Kunene live on-farm selling to Meatco		440kg live @ N\$9.28/kg=N\$4083/head	450km @ N\$27/km/ 36 cattle= N\$338/head	No quarantine	No additional transport	Landed Oshakati abattoir = N\$4,421/head / 180kg carcass = N\$24.56/kg	South-Africa frozen

9. The future of cattle marketing in the NCAs

Despite huge extension inputs over many years, the uptake of new technologies like rangeland management, improved breeding, lick supplementation and husbandry practices, remain low. Agricultural extension services mainly focus on the input side and try to “push” these new technologies into the system. The adoption of new technologies however cost money. Better bulls, veterinary medicines and vaccines, licks and feeds, etc., are expensive endeavours and without the farmer seeing the

financial benefits, there will be little or no incentive to do it. The general hypothesis is therefore that:

“Unless farmers perceive cattle as a commercial asset that generates money, there will be very little incentives for the implementation of improved and costly technologies”.

Figure 15 depicts a simplified value chain from inputs, through the production process, to the marketing of livestock and its produce.

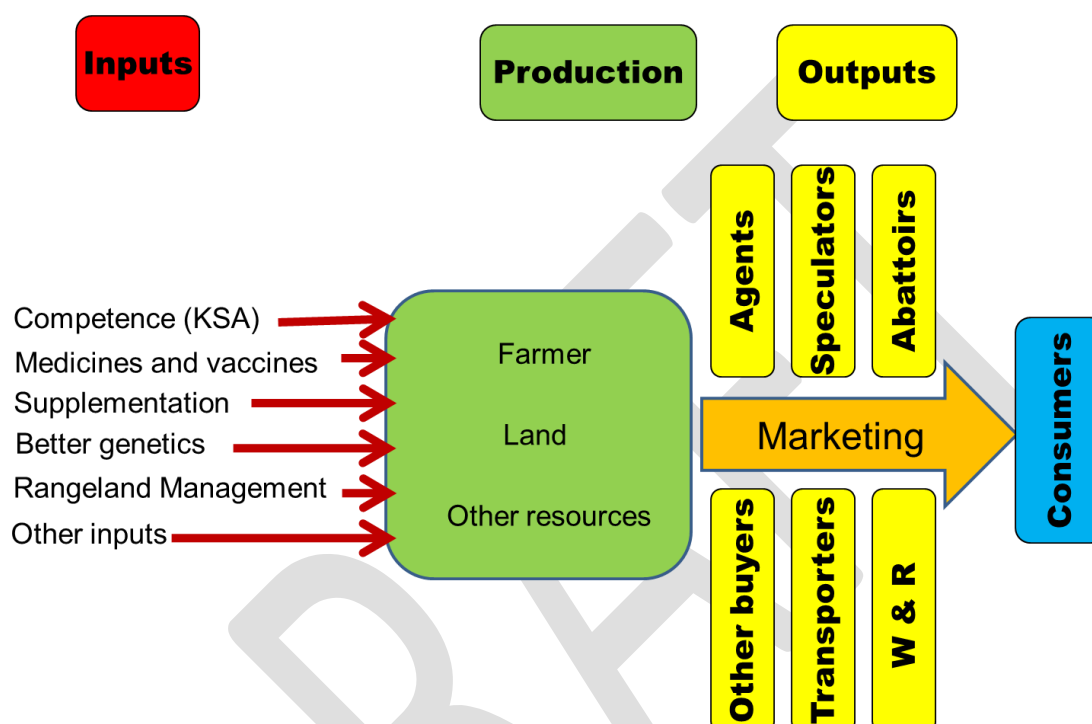


Figure 15: Improved marketing should “pull” improved technologies into the production process.

Strengthening marketing to ensure farmers get better prices for better quality livestock will serve as incentive in convincing farmers to invest in improved farming practices. It is believed that strong marketing will create a “vacuum” on the farm that will “suck” in the necessary inputs and technologies needed to enhance livestock production and off take.

9.1. Overall Goal (refer to logical framework in 9.4)

Over the long run, improved production and marketing of cattle should significantly contribute towards improving the livelihoods of all people living in the northern communal areas. Research by IPA in 2011 indicates that households that own cattle are financially better off than those that don’t own cattle. Cattle production is therefore a valuable asset that can hugely contribute towards household income if productivity and marketing is improved. The achievement of this long term goal will best be measured by monitoring the increase of real household income from the sale of cattle; as well as measuring the contribution cattle makes to the total economic status in the NCAs.

9.2. Short Term Goal (4-5 years)

Over the shorter term the implementation of this master plan should be able to demonstrate that cattle farmers in the northern communal areas are marketing more cattle of better quality at better prices on a continuous basis. In the long term goal the total population of the NCAs is seen as the beneficiaries, while the focus over the short term is specifically the cattle farmers. One way to measure to what extent this master plan is able to achieve the short term goal, is to monitor the increase in formal off take of abattoirs to reach their full slaughtering capacities. Currently total off take is around 9.5%, and it is anticipated that it could be increased to up to 27% (see Caprivi case studies). Off take through the formal market (Meatco abattoirs) is currently on 1.4%, and it is anticipated that it could increase to 4% (cow numbers to remain constant) to make provision for improved productivity from cattle farmers.

9.3. Objectives and Activities (see logical framework in 9.4)

In order to achieve the short term goal and to significantly contribute towards achieving the long term goal, the following 4 objectives have been elaborated:

9.3.1. Input provision (Objective 1)

This objective reads *“Inputs (soft and hardware) are demand driven and of high quality”*. This objective focuses on the input side of the value chain (see Figure 1) and includes both “software” oriented services like enhancing the competence (knowledge, skills and attitudes) of farmers and farmers associations as well as “hardware” oriented inputs like improved access of farmers to production inputs like licks, feeds and veterinary medicines. Major activities to achieve this objective include:

- Provide effective livestock oriented extension services: Livestock farmers should have access to modern livestock production technologies like planned rangeland management, improved breeding and husbandry practices as well as better supplementary feeding regimes. Current government extension services appear to have limited competence regarding the provision of these services. In order to address these inadequacies, more agricultural extension staff (specialists as well as technical staff) with qualifications in and affinity for livestock production need to be deployed in the NCAs. In order to further support these often inexperienced extension staff, close cooperation with the current on-going mentorship programmes of the Meat Board and the Agribank should be sought and strengthened, where the focus will be on “training the trainers”. Both these mentorship programmes are currently financially supported by donor or private funds. Currently mentors are appointed on one year contracts. It is suggested to appoint mentors on a longer term contract to ensure bigger commitment from them to better achieve short term goals. To enhance their sustainability over the longer run however, government should consider mainstreaming these initiatives to become fully-fledged government operations, or outsourcing the provision of livestock extension services for implementation by the private sector.
- Support farmers’ associations to become more functional: The level of organisation of farmers at local and regional level is of utmost importance to enhance livestock production and off take. Both in commercial farming areas and in communal areas to the south of the VCF, farmers’ associations play an integral part to equip their members with competence and to enhance off take

through structured marketing like permit days, auctions or direct marketing to the abattoir. Organization of farmers in the NCAs is relatively weak and supporting them to enhance their performance is essential to achieve this objective of the master plan. Farmers associations should be the driver of all extension programmes and be actively involved in determining what is required to be done for their members, in order to enhance production.

- Improve access of farmers to feeds, licks and veterinary medicines: There seems to be an increasing demand from farmers to obtain access to feeds, licks, veterinary medicines and other important inputs. There is very little need in promoting the increased use of these important inputs without increasing farmers' access to obtain it. Current and potential agricultural input suppliers should be encouraged to expand their business operations to cater for these needs. Very often important inputs are available, but not in the right packaging to make it affordable to smaller scale farmers. Instead of having to buy for instance antibiotics in large bottles that cost a lot of money, making it available in smaller packages (e.g. to enable the small farmer to just buy enough for the sick cow or two) will be very helpful. Decentralisation of veterinary drug availability and the revitalisation of the "para-vet" system could further contribute towards enhancing access to inputs.
- Improve access of farmers to improved breeding material: It is widely believed that inbreeding is taking place in most of the cattle herds in the northern communal areas, resulting into reduction in livestock production and reproduction. To overcome this, several strategies are possible. Through extension and the mentorship programmes superior bulls should be identified all over the northern communal areas to form a "pool" from which a bull exchange programme between villages, constituencies and even regions can be launched. Additionally to this, the Government should continue making selected breeding material available to farmers at subsidised prices from their research stations and livestock development centres. The private sector should furthermore be encouraged to make superior bulls available to the northern communal farmers. As part of the bull improvement effort, farmers should be encouraged to castrate inferior bulls at an early age to maximise the impact of the better bulls. This whole effort of "injecting" better genetic material into the northern communal areas should not compromise the adaptability of the local breed, especially against the background of the reality of climate change.

The extent to which this objective is achieved could be measured through tracking trends in procurement of feeds, licks and veterinary medicines. The number of selected bulls used that come from outside the herd is one way of measuring the use of improved breeding material. Tracking the number of farmers' associations that is functional and involved with their members in production and marketing will provide useful information on their empowerment. *Ad hoc* short questionnaires on the perception of farmers will provide useful information on the effectiveness of livestock oriented extension services.

9.3.2. Increased cattle production (Objective 2).

With the increased inputs from objective 1, farmers should be able to increase the effectiveness and efficiency of their cattle enterprise. The objective therefore reads: *“The effectiveness and efficiency of cattle production is increased”*. In order to achieve this objective, the following major activities are suggested:

- Improve rangeland condition and productivity: The condition and productivity of rangelands is the foundation on which an extensive cattle production system should be built. None of the inputs as described in the previous objective will be useful, if cattle are not properly fed. Implementing a planned grazing system that allows for sufficient rest periods for recovery of grasses after being grazed, as well as preparing the seedbed and soil fertility status, should be implemented. In communal areas where little or no camps are available and land tenure security is limited, implementing such a system could be challenging. The IRDNC in northern Kunene and Caprivi regions and MCA-Namibia in north central regions, are implementing herding as part of the community based rangeland and livestock management programme (CBRLM) with considerable success. Success stories from these initiatives should be used as demonstration to other farmers and farming communities.
- Improve herd efficiency: While the previous activity focuses on growing more grass of better quality, this activity describes the need for effectively converting the grass into meat. Emphasis should be put on ensuring that cattle herds are functionally efficient, healthy, fertile and well adapted. Farmers should be encouraged to apply proper husbandry practices like dehorning, castration, branding, earmarking and record keeping. Selection of superior breeding material and the culling of dysfunctional cattle should receive high priority.
- Improve herd health: Authorities should continue with compulsory vaccination programmes in areas where it is still required. On the other hand farmers should be encouraged to implement proper cattle healthcare programmes. The implementation of para-vets in the NCAs should be promoted, supported by a well-staffed and competent DVS. MCA-Namibia supported veterinary infra-structure that is fully utilized will go a long way in support of this activity. Ensure increased access to veterinary medicines while maintaining the cold chain.
- Further strengthen the Small Scale Commercial Farmers (SSCF) scheme: Farms demarcated and provided with water, and allocated to one owner, is a crucial factor that will increase off-take in the long term. Ownership and accountability to the land will encourage marketing to conserve available rangeland for producing cows, rather than moving herds into other areas without increased marketing. This scheme is however doomed if it is not accompanied with proper rangeland management and livestock husbandry practices.

These four activities should form part of a long-term extension programme, supported by an efficient mentoring component. Success in achieving this objective should be measured through implementing an appropriate record keeping system at

farmer or community level. This record system should be able to track trends in calving percentage, mortality rates, incidence of livestock diseases, meat production per unit area and rangeland condition. This monitoring system should be implemented at local level in order to provide timely information to farmers and support agencies for adaptive management purposes.

9.3.3. Enhanced Marketing (Objective 3).

If the farmer cannot be rewarded for producing a better quality product by receiving a better price, very few of the previous activities will be implemented. This objective therefor reads: “*Marketing (locally and internationally) is enhanced*”. This objective is the core of the master plan and in order to achieve it, the following major activities are suggested:

- Increase capacity of Meatco abattoirs: Potential slaughter capacity at Oshakati is 28,000 and in Katima 22,000 animals per year if daily slaughtering could take place. Due to chilling capacity limitations at both abattoirs, slaughtering can however not take place every day, resulting into huge bottlenecks during the peak slaughtering months. During January and February for Katima and June and July for Oshakati, the supply of marketable cattle by far exceeds the abattoirs’ capacity to accommodate them. Although current off take rate at both abattoirs is still below current capacity, extending the chilling capacity will allow abattoirs during the peak season to accommodate all cattle on offer and will also contribute towards boosting the total off take.
- Upgrade other smaller abattoirs: Several other abattoirs are operational in the NCAs and at most of them hygiene standards are sub-optimal. These abattoirs play an important role in providing opportunity for the informal market to get their animals slaughtered under acceptable conditions. This will go a long way towards improving the standard and quality of meat and meat products being offered on the local market.
- Upgrade Eenhana and Outapi abattoirs and support the processing of meat products at the Ongwediva Fresh Produce hub: The Government is implementing the upgrading of these two abattoirs with slaughter capacity of around 5,000 cattle per annum each. Part of this initiative is to directly link them to a processing plant for meat products at the Ongwediva Fresh Produce hub. This initiative should be owned by the same company to ensure more flexibility in pricing. In practice it means that profits can be moved within the different components of the value chain. This activity is seen as vitally important in promoting local trade and consumption of meat and meat products within the northern communal areas. A large part of this market is still being supplied with meat and meat produce from south of the veterinary cordon fence. The upgrading and expansion of these two abattoirs to export their produce to the international market will also contribute towards increasing competition between export abattoirs in the NCA.
- Revise the Meatco strategy of providing incentives for bigger carcasses: Although it makes financial sense to Meatco to process heavier and bigger carcasses, it does not necessarily means the same for the farmers. To

produce bigger carcasses farmers need more grazing and inputs. Because of this incentive farmers are procuring bigger framed and heavier bulls from south of the VCF to boost carcass mass. This might lead over the long run to bigger and less adapted breeding herds that will find it difficult to produce in arid and variable environments under sub-optimal management. The long term consequences of this strategy will even be compounded by the expected negative impact of climate change. Through extension and mentoring services the advantages of terminal crossbreeding with larger framed bulls on adapted indigenous cows to enhance carcass mass, should be promoted.

- Promote more evenly distributed supply of slaughter cattle to abattoirs: If this could happen, not only the abattoirs will find it viable, but farmers will have a bigger window during the year to market their animals when they are in better condition and can fetch better prices. This is only possible if the feeding regime changes to such an extent that more grass of better quality is available for a longer time of the year and that the marketable animals don't lose too much condition too soon. Providing supplementary feeding and appropriate lick supplementation will go a long way towards achieving this goal. Another way to stretch the period of throughput is to either make use of "holding farms" where surplus animals are kept and even rounded off until they can be slaughtered.
- Promote the supply of younger animals to abattoirs: Currently there seems to be no market for weaners and younger animals in the northern communal areas. South of the VCF these animals are bought on auctions and most of them find their way to the South African feedlots on the hoof. This is not possible in the NCAs. The initiative of the Meat Board of Namibia to pilot the procurement and outgrowing of weaners on former quarantine farms should be supported. The privatisation of this initiative should be done as soon as possible to enhance efficiency and to increase the impact thereof. The resistance of selling young animals could be even higher than marketing grown out oxen and old cows. This project must include a proper sensitisation and communication program for farmers to encourage them to market their weaners.
- Promote big and small auctions: Currently there are only three places (Onyulaaye, Oshakati and Elundu) in the NCAs where bigger auctions are regularly held. Professional auctioneering agencies from south of the VCF are mainly operating these events. There is however a demand for more smaller auctions (50-80 cattle) on a regular basis. Due to the small size of the auctions, professional auctioneering companies from the south don't find it economically viable to be involved. The solution lies in finding private entrepreneurs at local level that can organise and facilitate these auctions in close cooperation with local farmers' associations.
- Improve marketing infra-structure: Inadequate marketing infra-structure is perhaps one of the major obstacles to increased off take and marketing of cattle in the northern communal areas. The erection of 75 multi-purpose livestock handling facilities in the northern communal areas filled a huge gap, but still seems to be inadequate. Many of these facilities are not reachable

without 6x6 trucks and the terrain at many of these loading ramps is of such a nature that even 6x6 trucks got stuck. The Mangetti area in Oshikoto region for instance is one of the prime cattle production areas, but access to the farms is hugely restricted due to poor sandy roads. Most of these farms have no loading facilities, making it a daunting task to source animals. An additional 6x6 truck(s) with mobile loading ramps will go a long way towards removing these obstacles. The multi-purpose livestock handling facilities are also not suited for auctions, especially when sold cattle have to be secured at the end of the auction. Upgrading of these facilities to accommodate smaller auctions will also contribute towards improved marketing.

- Reduce value chain cost from producer to slaughter facility: A program needs to be implemented in Caprivi to reduce the cost and financial loss from the farm to the quarantine camp. Trekking of the cattle for more than 100 kilometres should be replaced with the construction of crush pens with loading facilities in the villages. Farmers claim that cattle lose on average around 30 kg of live weight during the trekking from the village to the quarantine camp. This leads to the fact that many C1 cattle drop their grading to C0 with huge financial consequences for the farmer, as most of the cattle slaughtered is graded as conformation 2 (see Table 10). A proper communication and sensitisation strategy needs to be in place to ensure adoption of the new way of marketing by farmers.
- Improve management in quarantine facilities: This activity only applies to the Caprivi region where a 21 day pre-slaughter quarantine period is still obligatory. It is strongly recommended that the management (especially rangeland management) of the quarantine farms be improved to limit reduction in cattle condition and weight losses. Additional fodder reserves (hay and silage) should be built up to allow continued quarantining at times of fodder scarcity in the quarantine camp.
- Implement a live buying price at the Meatco abattoir: Some farmers are reluctant to sell their animals to Meatco, as they do not know what the final price will be. They should be given a chance to withdraw their cattle if not happy with the price.
- Continue to develop the Commodity Based Trade approach: The Meat Board of Namibia is currently researching the potential of the CBT approach as an alternative to ensuring FMD free status in the Caprivi. It is strongly recommended that these endeavours are continued to be supported. Making the quarantine process oblivious and opening up the entire NCA production area to the international meat market, will have huge financial implications to both farmers and the country as a whole.

The level to which extent objective 3 is successfully implemented could be measured by focusing on the following indicators:

- Export abattoirs are operating at full capacity throughout the year.
- Municipal and other abattoirs are operating at full capacity and in line with acceptable hygienic standards.

- The number of smaller and bigger auctions increases.
- The share of locally produced meat and meat produce consumed in the NCA market increases.
- Increased supply of AB and B grades to the formal market.
- Weight loss during quarantine periods is zero.
- CBT is operational in the Caprivi region.

9.3.4. Proper monitoring, evaluation and adjustment (Objective 4).

The value of any master plan is just as good as the ability to properly implement it. This objective reads: “*Proper monitoring, evaluation and adjustment are done*”. This objective focuses mainly on 2 major activities, namely:

- Coordinate the implementation of the master plan through the NCA livestock marketing consultative forum: This forum is being created by the Meat Board to consult with important role players in the meat industry and to share important information regarding the industry. This forum should however become instrumental in implementing this master plan. To do so, the mandate of this forum needs to be changed from consultation to implementation and it should further be empowered through the provision of adequate operational budget. This forum should further become operational at regional level, also supported with the required budget. The current composition of the forum at both NCA and regional level needs to be expanded to include all relevant role players. The forum should regularly meet at NCA and regional levels and the master plan should serve as “agenda” for the meetings. Establish a database of real cattle owners to ensure communication from stakeholders is effective.
- Coordinate impact monitoring: Where the previous activity focuses on “process monitoring”, this activity focuses on “impact monitoring”. It is critically important to keep track of the impact of implementing the master plan at different levels. The logical framework with indicators at overall goal, short term goal and objectives levels should serve as the basis for impact monitoring. A comprehensive monitoring plan needs to be developed to provide the necessary evidence that impact is being made. If Namlit is properly maintained it can serve as basis for impact monitoring.

9.4. Logical Framework

The logical framework represents a summary of the master plan as described in 9.3.

Overall Goal, Short Term Goal and Major Activities	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<u>Overall Goal:</u> The livelihoods of people in the northern communal areas of Namibia have been significantly improved through increased income from cattle.	-Real household income from sale of livestock improved with 10%. -Access to livelihood assets (social, financial, natural, physical and human) increased with 7% percent over the baseline	Household income and expenditure survey reports of NPC Livelihoods report	
<u>Short Term Goal:</u> Cattle farmers in the northern communal areas of Namibia are marketing high quality cattle and cattle produce at local and international markets at best (acceptable) possible prices on a continuous basis.	-Formal off-take of livestock reaches full capacity of Meatco abattoirs over the next 4 years. -Total off-take reaches at least 16% over the next 4 years. -AB & B grades are at least at par with C-grades	Meatco records Special impact reports Meatco records	National and international economic situation remain favorable for livestock production
<u>Objective 1.</u> Inputs (soft- and hardware) are demand driven and of high quality 1.1. Provide effective livestock oriented agricultural extension services. 1.2. Improve access of farmers to feeds, licks and veterinary medicines. 1.3. Improve access of farmers to superior breeding material. 1.4. Support farmers' associations to become more functional.	-An increasing number of farmers express satisfaction with livestock oriented extension services. -Procurement of feeds, licks and veterinary medicines increases. -Use of selected bulls from outside the herd increases. -Number of farmers' associations that are functional and participate in marketing processes increases.	Special survey reports Special survey reports Special survey reports NNFU reports	

<p>Objective 2. Effectiveness and efficiency of cattle production is increased.</p> <p>2.1. Improve rangeland condition and productivity.</p> <p>2.2. Improve herd efficiency.</p> <p>2.3. Enhance the implementation of proper livestock husbandry practices.</p> <p>2.4. Continue with vaccination against FMD and CBPP, where required.</p>	<p>-Number of farmers (or farming communities) practicing planned grazing is increasing.</p> <p>-Calving rate of cattle herds increases.</p> <p>-Mortality rate amongst cattle decreases.</p> <p>-Incidence of livestock diseases decreases.</p> <p>-Zero outbreaks of FMD and CBPP in northern communal areas and buffer zone.</p>	<p>CBRLM reports</p> <p>Farmer records</p> <p>Farmer records</p> <p>DVS reports</p> <p>DVS reports</p>	
<p>Objective 3. Marketing (locally and internationally) is enhanced.</p> <p>3.1. Improve capacity of export abattoirs (Katima & Oshakati)</p> <p>3.2. Upgrade other abattoirs</p> <p>3.3. Promote auctions (big and small)</p> <p>3.4. Expand local meat market to absorb local production.</p> <p>3.5. Test and develop weaner out growers' scheme</p> <p>3.6. Improve marketing infra-structure</p> <p>3.7. Implement a program to reduce the loss from the farm to the quarantine camp in Caprivi.</p> <p>3.8. Improve management in quarantine facilities (Caprivi).</p> <p>3.9. Continue developing Commodity Based Trade approach.</p>	<p>-Export abattoirs are operating at full capacity.</p> <p>-Municipal and other abattoirs are operating at full capacity and in line with acceptable hygienic standards.</p> <p>-Number of auctions held increases.</p> <p>-Share of local meat consumed in local market increases.</p> <p>-Number of B and AB grades to the market increases.</p> <p>-Weight loss during quarantine periods is zero.</p> <p>-CBT operational in Caprivi</p>	<p>Meatco reports</p> <p>Abattoir records</p> <p>Auction reports</p> <p>Special survey reports</p> <p>Abattoir reports</p> <p>Quarantine station reports</p> <p>DVS reports</p>	
<p>Objective 4. Proper Monitoring, Evaluation and Adjustment are done.</p> <p>4.1. Coordinate the implementation of the Master Plan through NCA livestock marketing consultative forum – Process monitoring.</p> <p>4.2. Coordinate impact monitoring using NamLits.</p>	<p>-Implementation of meat board master plan is on schedule.</p> <p>-Impact monitoring is done.</p>	<p>NCA LMAC minutes and reports</p> <p>Annual impact reports</p>	

9.5. Operational Plan

The operational plan operationalizes the master plan and provides information on sub-activities, time frames, stakeholders involved and resources required. The master plan and logical framework form the basis of the operational plan and can only be done once it has been accepted. Developing the operational plan with the full involvement of the all relevant stakeholders and role players in the northern communal areas will further contribute towards ownership over it. It is therefore recommended that the operational plan developed at NCA LMCF level as soon as the master plan is approved.

10. Conclusions

Based on the outcome of this study, the following general conclusions are made:

- The general perception that there are many cattle available for marketing is challenged. In the NCAs many cattle also have many owners resulting in small herd sizes with few surplus animals available for marketing into the formal market.
- Cattle continue to play a huge role in ceremonies like weddings and funerals and large numbers are annually channelled into those events. Although these cattle are lost to the formal market, they are an integral part of off take.
- Enough fodder of good quality forms the basis of any cattle industry and without growing more grass increased production and off take will remain a myth. Any master plan should therefore have improved rangeland management as starting point.
- Meatco's performance in the NCAs is seriously hampered by bureaucratic red tape and procedural obstacles from Government. One such example is the replacement of important components at the Oshakati abattoir that is already delaying the start of the main slaughtering season with 6 weeks. Faster and efficient alternatives to address the problem exist, but don't seem to be acceptable to Government.
- Although a lot has been achieved in providing marketing infra-structure, the need for expansion of this infra-structure, especially in the Caprivi, still remains. Government has a major role to play in this.
- The competitive advantage of the indigenous Sanga breed is being threatened, due to lack of proper rangeland and livestock management practices.
- Government extension services are not livestock oriented resulting in inadequate support to farmers. Closer cooperation with private sector extension initiatives need to be sought.
- Special focus should be put on animal health to reduce mortalities and increase reproduction.
- Farmers are not very well organised. The NNFU should be supported to enhance institutional capacity of farmers' organisations and groups.
- The NCA livestock marketing advisory forum should be mandated to implement the master plan on behalf of the beef industry.
- Formal off take can only be enhance through producing more calves (enhance reproduction) and increasing the capacity of abattoirs.
- Informal off take is very difficult to assess. The Nolidep data are out-dated and a new study over a longer period of time is required.

- Procuring live cattle at the abattoir can further enhance Meatco throughput. This will make it easier for farmers to cancel a transaction if they are not happy with the price.

11. List of people consulted

The following people have been consulted during the course of this consultancy:

Table 15: People consulted during the course of the consultancy.

No.	Name of person	Organisation	Contact details
1.	Goliath Tujendapi	Meat Board of Namibia	+264 61 275 836 goliath@nammic.com.na
2.	Dr. Susanne Thalwitzer	Meat Board of Namibia	+264 61 275 836
3.	Gisaw Negussie	Meat Board of Namibia	+264 61 275 836
4.	Cyprianus Khaseb	Meatco	ckhaiseb@meatco.com.na
5.	Ettienne Scholz		
6.	Tobias Elu		
7.	Issaskar Mate	DART	264 61 2087111
8.	Erich Peters	DEES	264 61 2087111
9.	Abraham Kastjiukua	DEES	264 61 2087111
10.	Olof Munjanu	NNFU	munjanu@nnfu.org.na 061-27117
11.	Floors Blom		
12.	Patrick Liebenberg	Meatco	pliebenberg@meatco.com.na 065-220241
13.	Johan Goosen	Meatco	jgoosen@meatco.com.na 065-220241
14.	Rudolf Moolman	Atlantic Meat Services	
15.	Luc Curtois	GOPA	
16.	Opeipawa Shiyagaya	Meat Board	oshiyagaya@metropolitan.com.na 081 127 3797
17.	Tobias Emvula	Ohsana Regional Farmers' Union	Tobias.Emvula@yahoo.com 081 127 5809
18.	Loide Endjala	DEES Oshana	endjala@iway.na 081 291 5285
19.	Gideon Nandago	DEES Oshikoto	Omupulaye@iway.na 081 273 8440
20.	Dr. Joseph Kaparero	DVS	kaparero@hotmail.com 081 219 5453
21.	Taapopi Abisai	DVS Omusati	taapopia@hotmail.com 081 287 9668
22.	Wellem Shiponeni	DVS Ohangwena	wshiponeni@yahoo.com 081 400 5403
23.	Ben Kapi	Kunene LMC	Kapi.ben.kapi@gmail.com 081 263 2528
24.	Salomo Uusiko	DEES Ohangwena	kuumeketusk@gmail.com 065-263015
25.	Emphraim Weyulu	DEES Ohangwena	Hamalusa52@yahoo.com 065-263097
26.	Dr. Kenneth Shoombe	DVS Oshana	kshoombe@gmail.com 081 325 7491
27.	Tshiguu G.K.K.	LMC Oshana	081 307 7729
28.	Robert Tobias	NNFU Oshakati	Nnfu-oshakati@iway.na 081 259 3614
29.	Fennie Amutenya	NNFU-Oshakati	Nnfu-oshakati@iway.na 081 287 6057
30.	Sofia Johannes	NNFU-Oshakati	Nnfu-oshakati@iway.na

			081 298 6637
31.	Dr. Alaster Samkange	DVS	alastersamkange@yahoo.com 081 242 9053
32.	Isabella Maetja	Meat Board	Isabella@nammic.com.na 081 256 2919
33.	Mr. Nyambe	Caprivi farmer	
34.	Mr. Lubanda	Caprivi farmer	
35.	Mr Mahoto	Caprivi farmer	081 262 6831
36.	Dr Chitate	State veterinarian - Katima	081 232 9013
37.	Mr Mulonda	Agricultural Extension officer –Livestock and rangeland management - Katima	081 229 1999
38.	Mr Barry Manda	Manager: Meatco Katima	081 272 6242
39.	Mr Obed Katuura	Procurement: Katima	
40.	Mr Hannes von Wielligh	Mentorship program: Kavango and Caprivi	081 127 5093
41.	Mr Makuti	DEES – Rundu Livestock Extension	
42.	Mr Katiwa Timoteus	Meatco - Rundu	
43.	Mr Munenge	DEES - Rundu	
44.	Kobus du Plessis	CEO-Meatco	264 61 320 6400
45.	Dr. Diana van Schalkwyk	Private consultant	foodsafetynam@gmail.com 081 127 3020
46.	Mr. Siggie Wilfinger	Grootfontein abattoir	

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