

**An economic evaluation of the National Red Meat Development Programme in
the Eastern Cape Province, South Africa**

by

Bhekiwe Delisile Fakudze

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DECLARATION

I Bhekiwe D. Fakudze hereby declare that the dissertation which I submit for the degree of MSc Agricultural Economics at the University of Pretoria is my own work and it has not been previously submitted by me for a degree at this or any other institution of higher learning.

Signature:

Date:

DEDICATION

To my Lord and Saviour Jesus Christ, without whose steadfast love and care this work would never have been successful. I also dedicate it to my lovely daughter, my father, my mother and grandmother.

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I would like to express my sincere thanks to God Almighty who granted me such a splendid opportunity to take part in this degree and for continuously giving me strength through it all. Many thanks go to my supervisors Prof. J. Kirsten and Dr S. Ngqangweni for their valuable assistance, patience and guidance. A word of appreciation is owed to Dr X. Ngetu for his support. My sincere most and heartfelt gratitude is extended to CMAAE/AERC for funding my studies.

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ABSTRACT

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by

Bhekiwe Delisile Fakudze

Degree: MSc Agric (Agricultural Economics)
Department: Agricultural Economics, Extension and Rural Development
Study Leader: Prof. Johann Kirsten
Co-study Leader: Dr Simphiwe Ngqangweni

There are substantial and unexploited market opportunities for communal farmers in the Eastern Cape, yet they own 3.3 million head of cattle. ComMark embarked on the Eastern Cape Red Meat Project in 2005 with the aim of increasing participation in formal markets by communal farmers. With the closure of ComMark in 2008, the National Agricultural Marketing Council (NAMC) was approached to take over the project since it had made a significant contribution to communal farmers through improved participation in formal markets. NAMC embraced the opportunity by accepting the proposal, and that was the birth of the National Red Meat Development Programme (NRMDP).

NRMDP was established to improve income from animal husbandry and to create opportunities for communal farmers to commercialise, as well as participate in the formal markets. This research therefore 1) assesses the factors that contribute to improved market participation of communal farmers as a result of the NRMDP; 2) estimate household income of communal red meat farmers since the implementation of the NRMDP and 3) determine if the programme has a positive economic and social return.

Using primary data obtained from 150 farmers, both purposively and randomly sampled in the Eastern Cape of South Africa, the analysis of the performance of the programme

showed an increase in market participation over the years since the inception of the NRMDP. The results of the study suggested that incomes received by the farmers have increased, which means that the farmers are beginning to understand the requirements of the market, and they have increased their asset bases. From the analysis, it can be deduced that farmers with larger livestock herds are more likely to sell their livestock to formal markets than those with smaller herds. The off-take rate has increased after the implementation of the NRMDP from 5 % to an approximated average of 12.5 %. However, this rate is still far below the 25 % for commercial farmers. In determining the factors that influence household incomes of communal farmers, participating in the NRMDP was found to be statistically significant at 5 % level. It was observed that most of the farmers that participate in the NRMDP are aware of the requirements of the market, and that they produce high-value products and comply by delivering cattle of good quality. For that reason, the programme is essential in improving household incomes for communal farmers, and in consequence, improving rural livelihoods.

A cost–benefit analysis was also performed to test the viability and worth of the programme. The calculated NPV was found to be positive, suggesting that the public funds invested in the programme have a good social and economic return. Nevertheless, there are some hurdles that influence participation of communal farmers in high-value markets. To improve the impact of the programme, it was recommended that such programmes should be aligned with other initiatives implemented by government to maximise formal market participation and prevent duplication of similar programmes. It is envisaged that this alignment will enable farmers to be competitive in formal markets and enjoy the benefits of participating in high-value markets.

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LIST OF ABBREVIATIONS AND ACRONYMS

AFASA	African Farmers Association of South Africa
AgriBEE	Agriculture Black Economic Empowerment
ARC	Agricultural Research Council
BCR	Benefit Cost Ratio
CASP	Comprehensive Agricultural Support Programme
CBA	Cost–Benefit Analysis
DAFF	Department of Agriculture, Forestry and Fisheries
DFID	Department for International Development
DM	District Municipality
EC	Eastern Cape Province
ECPC	Eastern Cape Planning Commission
FAO	Food and Agriculture Organisation of the United Nations
GDP	Gross Domestic Product
HDI	Human Development Indices
IFAD	International Fund for Agricultural Development
NAMC	National Agricultural Marketing Council
NDA	National Department of Agriculture
NERPO	National Emergent Red Meat Producers’ Organisation
NPV	Net Present Value
NRMDP	National Red Meat Development Programme
SOCC	Social Opportunity Cost of Capital
SPSS	Statistical Package for Social Sciences
STPR	Society's Time Preference in Consumption Rate

WBHO

Wilson Bayley Holmes-Ovcon

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND INFORMATION

The Eastern Cape had 3.3 million head of cattle in 2014, which made up 24% of the national herd (Statistics South Africa, 2014). Countrywide, about 5% of cattle owned by emerging farmers find their way to the market every year, compared to nearly 20% of animals owned by commercial farmers (Ngetu, 2013). From the research done by ComMark (2003), the following was concluded about communal farmers in the Eastern Cape: they earn far less from their livestock assets than commercial farmers; communal farmers have a subsistence-oriented mindset and they do not understand how the market operates and why prices fluctuate over time; they have little or no information on market conditions and prices; they are not collectively organised to increase buying and selling power, they have little or no skills in choosing more rewarding markets; and they have no experience in market negotiation. However, the ComMark research showed that Eastern Cape communal farmers have the potential for increasing their income through increased participation in formal markets.

As a result of substantial and unexploited opportunities, ComMark embarked on the Eastern Cape Red Meat Project in 2005 with the aim of increasing participation in formal markets by communal farmers. The project was funded by the Department for International Development (DFID) which had an objective of training communal farmers in a way that they could understand formal marketing processes and be able to negotiate effectively with buyers in the formal market. The National Agricultural Marketing Council (NAMC) had established a partnership with ComMark from the project's inception in the Eastern Cape. When ComMark was about to close in 2008, NAMC was approached by ComMark to take over the project since it had made a significant contribution to communal farmers. NAMC accepted the proposal, and that was the birth of the National Red Meat Development Programme (NRMDP). The NRMDP was first implemented in Eastern Cape and implementation in other provinces is underway. The programme was initiated with the aim of liberalising the internal

market structures, reforming the institutions governing the livestock industry and promoting capacity of the private sector in ensuring the success of communal farmers.

The programme is not only grooming communal farmers towards commercialisation but is also ensuring that there are no elements of irregularities and discrepancy in formal markets. For example, communal farmers often do not trust formal markets; that is the main reason why the NRMDP is providing practical farming and marketing assistance to demonstrate alignment to the market requirements. It also facilitates the processes for enabling these beneficiaries to earn better incomes that will improve rural livelihoods in general. It considers the livestock market as an area of investment by farmers and relevant stakeholders, and hence an opportunity to promote commercialisation of communal farmers.

The programme has been considered a success as it has effectively helped communal livestock farmers to gain greater purchasing power and marketing leverage, and improve livestock and resource management skills. Despite the perceived success of the programme, it is faced with numerous challenges, which include price fixing during auction sales, insufficient feed and lack of water points for feeding programmes, lack of storage facilities, unfenced camps, inadequate feedlots and inadequate abattoirs. As a farmer-driven intervention, the programme is improving infrastructure (roads, custom feeding pens, auction pens and abattoirs) in areas where it is actively involved, and so the programme is said to have gained the trust and respect of livestock farmers in Eastern Cape and beyond.

1.2 PROBLEM STATEMENT

Despite the increase in demand for red meat which could bring new opportunities for communal farmers (Spies, 2011), the industry is faced with numerous challenges and constraints that restrain communal farmers from participating in formal markets. The challenges that obstruct participation of communal farmers in high value markets include among others; poor road networks, lack of market information, lack of access to credit, uncontrolled grazing in communal land, low bargaining power in output markets and the changing market dynamics (Kiptarus & Director, 2005). As a result of the lack of commercialisation among communal farmers, the NAMC has formulated the National Red Meat Development Programme, which seeks to increase income earned by red meat farmers

from raising livestock through greater, more beneficial participation in markets and to ensure that farmers participate consistently along the red meat value chain.

Unlike most interventions that assist livestock farmers in the Eastern Cape, which focus on production, the NRMDP focuses on introducing livestock farmers to commercialisation while systemising the informal markets. However, the effectiveness of this intervention in improving the sustainability of the red meat industry has not been evaluated so as to provide sufficient evidence for continued implementation of the programme in other provinces. The research was, therefore, an attempt to evaluate the NRMDP, and to establish if it is a relevant solution in linking communal farmers to formal markets. It also sought to identify the area of improvement of the programme, as well as to provide policy recommendations.

1.3 OBJECTIVES OF THE STUDY

The main objective of this study is to evaluate the success of the NRMDP for government and beneficiaries in connecting farmers to formal markets. The specific objectives are:

1. To assess factors that contributes to improved market participation of communal farmers as a result of the NRMDP.
2. To estimate household income of communal red meat farmers since the implementation of the NRMDP.
3. To determine if the programme has a positive economic and social return.

1.4 HYPOTHESIS OF THE STUDY

1. Evidence (Baiphethi & Jacobs, 2009; Jarvis, 1993) suggests that livestock farmers are obtaining higher prices and have experienced a significant increase in household income owing to better access to formal markets. Therefore, it is hypothesised that participation of farmers in output markets has increased significantly attributable to the implementation of the NRMDP.
2. Communal farmers can perform well in the market when given a set of opportunities in order to transform them from subsistence to commercial farmers (Makhura, 2001). The household income of farmers bringing their cattle to the

custom feeding programme and those who sell them to the auctions has increased significantly over the period of the project.

3. It is hypothesised that, owing to the perceived benefits of the programme, the NRMDP has positive benefit–cost ratio, suggesting that the social benefits are high, with public funds well spent.

1.5 JUSTIFICATION OF THE STUDY

A large number of researchers have identified the role of the communal livestock industry in providing a foundation for fast and reasonable economic growth, providing one of the few areas of consensus in development literature (Coetzee, Montshwe, & Jooste, 2005; Upton, 2004). Black livestock farmers, especially those in communal areas, have been identified and prioritised in South African policy documents, but practical programmes to assist them are generally lacking, unsuccessful, or poorly coordinated. Farmers in communal areas are faced with numerous challenges, which include poor infrastructure, lack access to market information, and limited access to high-value markets, and these challenges contribute to increased transaction costs (Makhura 2001). Market failure continues to be pervasive, which leads to a lack of commercialisation among livestock communal farmers, supported by the low off-take rate of 5-10% in the communal livestock industry, as compared with 25% for commercial farmers.

In spite of the challenges faced by communal farmers, access to markets is an essential requirement to meet the increasingly complex requirements of domestic, regional and international markets and to escape the poverty trap. There are clear opportunities for commercialisation of communal farmers in South Africa but the challenge lies in confronting the challenges of marketing systems with limited resources and in ensuring that communal farmers adjust to a new market environment. For any agricultural programme that promotes communal farming, it should prioritise linking farmers to markets for the programme to reduce poverty among households. This study is important in the sense that it will evaluate the effectiveness of the NRMDP in improving market participation and competitiveness of farmers.

In addition to the low off-take rate and low commercialisation in communal areas, the following inter-related factors have also been identified as bottlenecks to commercialisation, and therefore justify a critical evaluation of programmes that aim at alleviating them:

1. Low household income
2. Livestock as an untapped resource and potential wealth-generating asset
3. Poor market access.

1.6 METHODOLOGY

This section discusses the study area, research design, data collection methods and the sampling method used by the researcher in gathering necessary information for the study. The triangulation approach was used to evaluate the effect of the NRMDP in linking communal farmers to formal markets. Oslen (2004) elaborated that the triangulation method plays a crucial role in shedding light in research, overcoming weaknesses and limitations on each single method. Moreover, qualitative and quantitative methodologies are necessary to incorporate the different aspects of the programme, therefore, qualitative methodology was used to strengthen the research at the beginning of the analysis and later the statistical data obtained from different stakeholders. This was done with the aim of enhancing confidence in realizing the objectives, validating the findings and bringing up different perspectives of the study. The triangulation method in this case was fundamental in addressing the diversity and complexity of the NRMDP in contributing to economic growth through improved output. The triangulation method yields accurate results for strong ground to either reject or accept the null hypothesis.

1.6.1 Study Area

The thesis focuses on five District Municipalities in the Eastern Cape Province namely; Amatole, Chris Hani, OR Tambo, Cacadu and Alfred Nzo. The Eastern Cape is situated in the south-east seaboard of South Africa encompassing the former homeland areas of Transkei and Ciskei. Statistics South Africa (2014) reported that there are approximately 6.6 million people and 3.3 million livestock in 2014, which makes the province to have more livestock compared to the other provinces in South Africa. However, the Eastern Cape is the poorest

province in South Africa with a poverty rate of 68.7% because of subsistence agriculture that dominates in the former homelands (Jacobs & Punt 2009).

1.6.2 Research Design

Primary and secondary data were used in analysing the results. In this study, data was collected using questionnaires, observations and interviews. A semi-structured questionnaire was used as the main data collection tool. Interviews are regarded as comprising a good tool for data collection as they enable the interviewer to build trust and establish understanding with the respondent, while answering the questions honestly and freely.

1.6.3 Data collection methods

The semi-structured questionnaires were administered by the researcher through face-to-face interviews as a medium through which responses were recorded to facilitate data analysis. The researcher pre-tested and validated the questionnaire before data collection. Questionnaires were administered by the researcher in vernacular for ease of communication as most of the communal farmers in Eastern Cape are uneducated or only have basic education (primary education). In addition to the questionnaire, the researcher gathered supplementary information through informal discussions, informal interviews and meetings with respondents and key informants. Interviews with communal farmers and other relevant stakeholders were arranged telephonically with the help of the programme facilitators. Secondary data was obtained from government and NAMC documents, reports, presentations and minutes.

1.6.4 Sampling design

Two sampling designs were used, purposive and random sampling. A purposive design was used in selecting the municipalities, while both the NRMDP participants and non-participants were selected using a random sampling method. The study was conducted in the Eastern Cape Province in Amatole District Municipality (DM), Chris Hani DM, OR Tambo DM, Cacadu DM and Alfred Nzo DM. These municipalities were selected because the programme has already been implemented and it is in operation in those municipalities. The selection of farmers from the district municipalities was based on cattle ownership and willingness to

participate in the study. The reason for using this method is that the researcher wanted to use farmers who owned livestock throughout the programme years, in order to avoid inconsistencies in data and marketing information gathered.

Given that the Eastern Cape has 29403 households participating in cattle production (Statistics South Africa, 2011), a random sampling method was administered to select a total of 150 households. From each district municipality, 20 communal participating farmers in the programme and 10 non-participants were selected.

1.6.5 Data analysis

The researcher entered and coded the quantitative data collected for evaluation into Microsoft Excel and transferred it to E-views and SPSS for the purposes of undertaking the descriptive and regression analysis for in-depth analysis. A probit and least squares regression analysis was used to determine the factors that influence market participation among communal farmers. Participation of communal farmers in high value markets implies that farmers are either selling or they are not selling their livestock in markets. According to Cappellari and Jenkins (2003), the probit regression model enables the analysis of variables where the dependant variable assumes two or more choices and in this case 0 is for not participating and 1 is for participating in output markets.

Cost-Benefits Analysis (CBA) was used in determining whether the programme benefits are worth the costs expended and to find out if the investment is justifiable in terms of improving market participation of communal farmers and improving their market leverage. Boros (2014) states that, in CBA projects are evaluated from a financial point of view where the costs and benefits incurred during the lifetime of a project are considered. The results from the CBA provide a clear picture about the assessed investment and the project can be modified for resources to be allocated efficiently. Lastly, the researcher used a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, which was aimed at evaluating the internal and external factors that are either favourable or unfavourable in achieving the programme objectives. The programme facilitator will have to capitalise on the favourable factors and eliminate the unfavourable factors, where possible, to improve the implementation of the programme.

Table 1.1 shows the variables and their expected signs which were used in the regression model. The set of independent variables were expected to have a positive (+) relationship or a negative (-) relationship with the dependant variable.

Table 1.1: Exogenous variables used in the regression models

Variables	Variable description	Anticipated sign
Education of the head	Continuous (years)	+
Animal gender	1 = male, 0 otherwise	+/- (indeterminate)
Condition of livestock	Good condition = 1, 0 otherwise	+
NRMDP participation	Participating = 1 and 0 otherwise	+
Member of farmers' organization	Belong to farmers' organization = 1, 0 otherwise	+
Distance to market (km)	Continuous	-
Access to extension services	Have access to extension services = 1, 0 otherwise	+
Formal market participation	Formal market = 1, 0 informal market	+
Stock size	Continuous	+
Household size	More than 5 members = 1, 0 = 5 members or less	+/- (indeterminate)
Prices of weaners	Continuous	+
Prices of cattle	Continuous	+
Regional variables	1= Amatole, 2= Cacadu, 3=Chris Hani 4= Alfred Nzo, 5= OR Tambo	+/- (indeterminate)

1.6.6 Indicators of success

When measuring success, the researcher focused on seven years of history (from 2005 to 2012) and estimated the following indicators.

1.6.6.1 *Off-take rate (livestock/year)*

According to Nkhori (2004), the market off-take rate is low in the communal cattle production system of Africa, with off-take rates between 5 % and 10 %, compared to 25 % in the commercial sector. The market off-take rate in each municipality was calculated using the formula adapted from Nkhori (2004), as follows:

$$\text{Off-take rate} = \frac{\text{livestock sold in each municipality each year}}{\text{Municipality herd size}} \times 100$$

A positive relationship is expected between the implementation of the programme and the off-take rate of the red meat livestock.

1.6.6.2 Household Income

It is anticipated that the NRMDP links farmers to markets, and the farmers respond by producing the right quality and quantity of cattle as demanded by the market. It is generally accepted that when the programme is effective, those beneficiary farmers are expected to increase household incomes obtained from farming activities.

1.6.6.3 Frequency of sale

Usually, communal farmers have less to sell to the markets and they usually sell their livestock when they need cash (Homann & van Rooyen, 2008). The frequency of sale is not consistent i.e. the farmers only sell when they are cash strapped. With the initiation of the NRMDP, the sale of livestock is expected to be consistent and more frequent, with more livestock being sold in the formal markets.

1.6.6.4 Productivity of sales points

The communal farmers are expected to make use of a sale point (auctions), which acts as an entry point for farmers to formal markets. The auction pens that were no longer in use are expected to be revived, as production is assumed to have increased since the inception of the NRMDP and so is the marketing of red meat. The auctions are expected to be carried out at least once a month in every sales point constructed, with an increasing number of livestock being auctioned.

1.6.6.5 Weaner marketing

The researcher determined the profitability of raising cattle through different stages, that is, profitability of raising weaners to old cattle. The farmers were expected to sell more weaners than old cattle, on the assumption that they have become more informed about market requirements since the inception of the programme.

1.7 OUTLINE OF THE STUDY

This thesis consists of six chapters. The first chapter has provided the background information on the evaluation of the National Red Meat Development Programme in the Eastern Cape, the context of the entire study and has discussed the methodological approach employed, giving more detail on data collection and analytical procedures. The second chapter presents the literature review, with more emphasis on the commercialisation of communal livestock farmers. Chapter 3 focuses on the evolution of the National Red Meat Development Programme. Chapter 4 is a presentation of the results of data analysis with emphasis on the performance of the NRMDP, determinants of formal market participation and the effects of the programme on households. Chapter 5 analyses the costs of the programme and if the cost were worth the results obtained and Chapter 6 provides conclusions on the study and recommendations for improvement of the programme and future research.

CHAPTER 2

CONSTRAINTS TO COMMERCIALISATION OF COMMUNAL LIVESTOCK FARMERS

2.1 INTRODUCTION

The commercialisation of agriculture pertains to increased participation in an improved way in formal markets (Chirwa, 2012). According to Kirsten *et al.* (2012), commercialisation of communal farmers is essential because it increases income, transform rural economies, increase welfare of farmers and help farmers escape the poverty trap. Contemporary literature on the commercialisation of communal agriculture reveals that the sector plays a central role in delivering development in rural areas, which are home to the majority of poor households. As such, it is crucial to ensure increased productivity and profitability of smallholder agriculture. However, the success of commercialisation depends on how well households are integrated in markets, the degree of market participation, and the skills of exploiting new opportunities that are afforded to communal livestock farmers by the markets (Gardner, Prugh & Starke, 2008). Commercialisation has a way of unlocking new opportunities for communal livestock farmers through greater market participation, which will improve rural livelihoods.

This chapter therefore focuses on previous studies and approaches on how to link livestock farmers to formal markets. It also elaborates on current thinking regarding the constraints facing communal farmers, and how these farmers can overcome marketing challenges to fully participate as commercial farmers in livestock markets.

2.2 LINKING LIVESTOCK FARMERS TO FORMAL MARKETS

This section outlines a framework for understanding market linkages that have a potential of improving formal market participation by communal farmers. Understanding the linkages and opportunities that are provided by the market will facilitate the flow of produce between different levels of the marketing system and hence identify and overcome the constraints that hinder commercialisation in communal farmers.

According to Sinyangwe and Clinch (2000), the communal livestock industry has been identified as an underutilised sector and government has placed emphasis on creating lucrative access to the formal markets enjoyed by commercial farmers. Communal farmers are associated with a low-level of formal market participation owing to the numerous problems that they face (Ngemntu, 2010). However, South Africa has provided many opportunities for communal farmers to move towards commercialisation and has formulated policies that are in favour of communal farmers and which are associated with increased demand of high value products (Vink, van Rooyen & Karaan, 2012). According to Baloyi (2010), linking communal farmers to markets can be achieved through a holistic approach (which ranges from technology development to strengthening markets linkages) where global trends in economic transformation are taken into account and have a direct influence on communal farmer's access to markets. The forces of globalisation and industrialisation have prompted livestock farmers to form strong alliances and become vertically coordinated within the agricultural value chain.

According to Mukumbi (2008), the government of South Africa is addressing the issue of market access among communal farmers through the Agricultural Broad Based Black Economic Empowerment (AgriBEE) policy. This government intervention came about after recognising the need to economically sustain agribusinesses for black South Africans in order to secure growth in productivity and drive towards profitability in the market. The policy was formulated to compensate the inequalities that were a result of the pre-independence policies as they affected communal farmers located in former homeland areas. According to this scholar, communal farmers are only concentrated around black communities in South Africa while consolidation of corporate power is pervasive in the agri-food system. The AgriBEE policy aims to provide a holistic solution that is better aligned to the specific needs of emerging farmers, without neglecting the risks associated with agriculture (Ntshephe, 2013).

As stated by Vink, Tregurtha & Kirsten (2002), the liberalisation of the South African agricultural sector started in the 1980s and was essentially completed by early 1998, creating an open market which can be accessed by communal farmers and strengthening market linkages. The liberalisation of the agricultural sector entails the eradication of market restrictions and letting the market prices to be set by the forces of demand and supply. This was done with the aim of transforming agriculture into a profitable venture while creating marketing capacity for communal farmers. The deregulation of markets has seen the creation

of new market opportunities, and income for farmers has increased substantially (IFAD, 2003). The livestock market has since experienced an increase in prices of red meat in the domestic market (BFAP, 2013). The deregulation of the livestock markets was expected to result in a more efficient use of South Africa's agricultural resources, increased investment and employment in agricultural marketing activities, flexibility, and improved access to markets by communal farmers. According to Montshwe (2006), the deregulation of the livestock markets has been associated with an increase in the number of cattle slaughtered as farmers were taking advantage of the free market system. However, communal farmers are faced with increased competition from commercial farmers in local markets, as their products have to meet the standards and quality of products that are required by high value markets. According to Jari and Fraser (2009), for communal farmers to survive the competition in the market, the private and public sector have made some adjustments in the markets through the elimination of control boards and transforming to a vertically-coordinated structure.

According to Birthal, Jha and Singh (2007), there is a significant contribution to the production of high value food products made by communal farmers, but have weak acquaintances in markets to allow them to compete with commercial farmers. To strengthen these linkages, Chirwa (2012) states that being a member of a group is positively correlated with commercialisation. It can be deduced that participating in collective actions, such as encountered in a farmers' association, improves the chances of participation in formal markets with strong potential of increased income and enhances technical capacity and market knowledge. Strong evidence suggests that the organising of communal farmers in a network will enable the farmers to benefit from joint marketing services (Sebatta, Mugisha, Katungi, Kashaaru & Kyomugisha, 2014). Market institutions, such as cooperatives, contract farming arrangements and farmers' associations, support smallholders and improve competitive marketing. (Birthal *et al.*, 2007). Sebatta *et al.* (2014) state that policy makers should encourage collective action among livestock farmers because the membership in a group increases the volumes of livestock sold in markets and enables communal farmers to access market information, as well as share experiences.

According to Wiggins and Keats (2013), the development of communal farmers can be effective in contributing to food security in developing countries through sustainable access to formal markets, while communal farmers lift themselves out of poverty. Baloyi (2010) states that communal farmers need to partake in agri-business value chains to access high-

value markets and produce high-value products to maintain their position in the market and remain sustainable. Communal farmers have to be provided with sufficient information about commodity quantities and quality that are desired by consumers in order to capture the value created, experience stable demand and supply, and minimise distribution costs for commodities supplied to these markets.

According to Mukhebi, Kundu, Okolla, Wambua, Ochieng & Fwamba (2007), institutional arrangements are needed for markets to be efficient and for reducing marketing risk by lowering transaction costs, improving market coordination, and increasing availability of market information so as to ensure improved access to high value markets. The high market risks faced by communal farmers prevent markets from achieving sufficient scales for efficiency. Improvement of contract enforcement and of grades and standards of products supplied by communal farmers in markets will lower costs and increase farm-level demand, creating a situation where income is increased (Kelly, Adesina & Gordon, 2003). Market information empowers communal farmers with bargaining power, brings about stability in product supplies and prices, and helps communal farmers transcend from subsistence poverty traps to the formal markets.

Market-oriented policies should be formulated to ensure opportunities are created for rural farmers which will increase their capacity to positively influence markets upon which their lives depend. According to Torero (2011), institutional infrastructure creates an enabling environment for exchange in markets especially in those countries associated with the shortfalls of market liberalisation for smallholder agriculture. Distance to the market plays a very crucial role in either promoting or hindering communal farmer's participation in agricultural markets. Makhura (2001) states that policy interventions will be easily formulated to eliminate constraints that undermines market participation with the identification of transaction costs factors while communal livestock production is being commercialised for household income generation.

According to Pote (2008), the introduction of incentives to produce agricultural produce is one of the beneficial ways for communal farmers to access agricultural markets. Investing in agricultural industry through capital injection will help increase production and market participation will be improved, as well. Zeller, Diagne and Mataya (1997) state that the government of Malawi incentivised Malawian tobacco farmers through the provision of

extension officers (who would provide technical assistance and market information), credit and inputs, while allowing the farmers to receive higher prices. As a result of the initiative, the country has seen an increase in the number of smallholder tobacco farmers (Zeller *et al.*, 1997). In South Africa, there are finance schemes (e.g. MAFISA and the Comprehensive Agricultural Support Programme (CASAP)) designed to benefit communal farmers, yet those farmers do not utilise the opportunities, since they know little or nothing about such schemes (Simela, Mahanjana & Montshwe, 2006). The subsidisation of input prices can be seen as another strategy to increase market participation through increased production as farmers are motivated to produce more at less cost.

According to Simela *et al.* (2006), the facilitation of auctions in the former homelands by government increases the numbers of livestock sold and alleviates the soft prices received by sellers for livestock sold during auctions. The communities are sensitised to get them interested to participate so they would provide a reasonable number of livestock for auction to increase the interest of buyers. The high number of sales presented during auctions decreases the costs borne by auctioneers and buyers (Simela *et al.*, 2006). The sellers have to be educated about what is expected of them in auctions, in terms of the age and quality of animals that sell in auctions and the commission that has to be paid.

2.3 DOMESTIC MARKETS FOR COMMUNAL LIVESTOCK FARMERS IN SOUTH AFRICA

Communal livestock farmers have difficulty in accessing domestic markets because of their limited knowledge of what is demanded by consumers in the market. According to Makhura (2001), very few communal farmers participate in high value markets, owing to the many requirements of such markets. Simela *et al.* (2006) has revealed that communal farmers keep livestock for different reasons and keeping them for sales is usually not the dominant one, and this affects the number of livestock available for market.

There are typically two common marketing destinations for communal livestock producers in South Africa: informal markets and formal markets (Musemwa, Chagwiza, Sikuka, Fraser, Chimonyo & Mzileni, 2007). Most farmers tend to sell to informal markets, to friends, and to relatives. According to Nkhori (2004), communal farmers sell their livestock within their own vicinity (informal market) for important functions being performed (feasts, weddings,

funerals, and any other family gatherings) and end up disposing of their livestock at uneconomic prices. The informal market is usually uncertain as prices vary depending on negotiation and purchasing power (Nkosi & Kirsten, 1993). Informal markets are used because low volumes may be offered for sale, and because of the long distances to high-value markets, and the ease of meeting the prevalent pressing needs of the family. Informal markets are preferred by communal farmers since farmers escape paying middlemen, tax and transport costs to the markets. Nkhori (2004) and Simela *et al.* (2006) have revealed that the demand in informal market is irregular and unreliable, with high demand being experienced only during certain times of the year. Communal farmers usually sell 2 to 3 cattle per year and most of the livestock sold primarily comprise old oxen that are in poor condition which usually attract poor prices (Simela *et al.*, 2006).

The market players in the livestock industry are vertically integrated having their own feedlots, abattoirs, processors and distributors (DAFF, 2011). According to Musemwa *et al.* (2010), the marketing channels used by communal farmers include butcheries, actions, abattoirs, private sales and speculators. Butcheries provide basic marketing services for farmers who are unable to access other formal marketing channels which are deemed more efficient and profitable (Musemwa, 2008). Usually, contracts are used between the farmer and butchers which stipulate the number of livestock to be supplied and the dates of delivery. The pre-arranged markets enable farmers to be assured of market availability and there is no fluctuation of prices. Nkhori (2004) has concluded that communal farmers utilise butcheries because they have strong bargaining power and they are satisfied with the prices offered by butcheries.

Communal farmers also make use of auctions, where livestock is sold to the public, including butchers, commercial farmers, and speculators. According to Nkosi and Kirsten (1993), auction markets are established places where interested individuals assemble and the one offering the highest price buys the livestock. Simela *et al.* (2006) has stated that organising auctions in communal areas can be very costly since they only sell low volumes of livestock and at unsatisfactory conditions. The auctioneers usually complain about the poor conditions and age of livestock brought in for auction which do not justify high prices paid for livestock (Nkhori, 2004). Some communal farmers sell to abattoirs, where livestock is paid for according to age, weight and grade of the animal (Nkhori, 2004). The abattoir is the lesser

preferred channel by communal farmers because it is associated with high transaction costs (NDA, 2005).

2.4 WHY COMMERCIALISATION OF COMMUNAL LIVESTOCK FARMERS?

Livestock production in the communal areas of South Africa is known to be loaded with subjectivity and has been known to be a commercially unviable business owing to numerous constraints facing these farmers (Ngemntu, 2010). However, the livestock sector has recently been considered as the best-growing part of the agricultural economy in South Africa, driven by income growth, technological support and structural change (Musemwa *et al.*, 2007). With such opportunities, the communal livestock sector has high potential to become a dependable source of livelihood for the vast majority of the rural poor in South Africa. As a result of the increase in population, the demand for livestock products in developing countries is predicted to increase (Thornton, 2010).

According to Musemwa, Mushunje, Chimonyo and Mapiye (2010) high numbers of livestock are owned by communal farmers in South Africa, and communal farmers have long been engaged in livestock production, but most of the produce does not reach the market. This calls for livestock production to be commercially oriented, such that the communal producers will have to be included in the value chain in order to meet future demand for livestock products. Communal farmers are not the only ones to benefit from commercialisation, but society will also benefit through job creation and contribution to economic growth (Garcia, 2006).

Farmers can achieve higher income when they commercialise their activities; however, the communal land tenure system may seem to be a disincentive for communal livestock commercialisation (Ruhangawebare, 2010). It can be stated that communal farmers can achieve low cost production and can be competitive in the market through economies of scale in terms of input provision, technical assistance and commercial logistics (Biénabe & Sautier, 2005). According to IFAD (2010), the full exploitation of markets by communal farmers will be coupled with interventions and support given to communal farmers so that they might have equal opportunity to participate actively in the commercialisation process. It is evident that investing in higher marketing channels for communal livestock producers has a significantly higher positive impact on employment and rural economic growth than any

other private sector investment, hence the need for commercialisation of communal livestock farmers.

According to Ferris *et al.* (2014), income opportunities have improved for agricultural commodities, which make the agricultural industry the best hope for improving the livelihoods of many rural families who are highly dependent on agriculture. However, notwithstanding the improved income opportunities in agricultural sector, communal farmers are still locked in poverty and they are not transitioning from subsistence to commercial farmers (Ferris *et al.*, 2014).

2.5 BARRIERS TO MARKET PARTICIPATION OF COMMUNAL LIVESTOCK FARMERS

According to Upton (2004), commercialisation in South Africa has been the pro-poor development strategy for communal farmers. Communal livestock farmers are also constrained by marketing and institutional challenges that hinder farmers from participating in high-value markets. The factors that are a hindrance to market participation by farmers include transaction costs (Makhura, 2001). Among the challenges, there is limited ability among smallholders in accessing viable local and international markets for meat produce (FAO, 1999). These constraints reduce communal farmers' incentives to participate in formal markets. This section will identify the factors that impede market access and participation in livestock industry.

2.5.1 High transaction costs

Maltsoglou & Tanyeri-Abur, (2005, p. 2) define transaction costs as the “costs of arranging a contract ex-ante and monitoring a contract ex-post or more generally the costs of running the economic system”. The costs of information, negotiation, monitoring and enforcement are all regarded as transaction costs (Maltsoglou & Tanyeri-Abur, 2005). The general view in the literature is that the presence of high transaction costs will affect the degree of participation in formal markets by livestock farmers. For example, Makhura (2001) has stated that communal farmers can perform well in the market when given a set of opportunities to transform them from subsistence to commercial farmers. Additionally, consumers have a greater influence on the red meat products they desire; this, in turn, causes changes in meat

production, processing, retailing and marketing. These changes contribute to the high costs which emanate from difficulty to access resources and formal markets, and these factors vary across households (Makhura, 2001).

2.5.2 Lack of institutional support

The lack of livestock traders' associations and intermediaries among communal livestock farmers discourages investment in farming and increases transaction costs. Improving post-harvest handling, marketing, and storage has not received the attention warranted. According to United Nations Economic Commission for Africa (2012), rehabilitation of market infrastructure along the trade routes and institutional framework for livestock development is essential in improving livestock production and increasing off-take rate. Supportive policies to lower the transaction costs embedded in communal livestock production will require significant institutional improvement that supports communal farmers in order to increase their participation in high value markets (Hangara, Teweldemedhin & Groenewald, 2011).

2.5.3 Long distance to markets

Farmers are located away from livestock markets and these markets are not easily accessible by livestock farmers. Long distances to the market can be a disincentive to farmers who might want to commercialise their activities (Senyolo, Chaminuka, Makhura & Belete, 2009), and markets in South Africa are generally poorly organised and volatile, and often inaccessible to communal farmers. The roads are poorly built and during rainy seasons it is difficult to travel. The extension workers usually do not visit farmers where the infrastructure is poorly developed.

2.5.4 Lack of market information

Fraser (2012) states that market information is important in any value chain since it allows farmers to make informed marketing decisions that are related to supplying necessary goods, searching for potential buyers, negotiating, enforcing contracts and monitoring. Since most communal livestock farmers are located in remote areas, they have no access to information about the markets and when sales are taking place. Communal farmers also lack information about what products are demanded by consumers and in what quantity, about what quality

products should be supplied to the markets, and when it should be produced and supplied to the market.

According to Montshwe (2006), smallholder farmers have difficulties in accessing market information and normally rely on informal networks (traders, friends and relatives) for market information. Farmers relying on informal networks for market information are at risk of receiving biased information which may not be up to date or reliable. Lack of information limits adequate access to livestock markets by communal farmers, resulting in limited growth and less income being realised by these farmers. The possession of complete information about the market and market actors helps communal farmers to minimise transaction costs and enables them to compete effectively in markets. Livestock farmers should be able to interpret market information to intelligently deal with the challenges they face in markets.

2.6 SUMMARY

To understand the issues influencing market access, Magingxa (2003) concluded that marketing constraints differ across schemes and organisations and these constraints have a great influence in market participation by communal livestock farmers. He further stated that communal farmers in South Africa employ diverging tactics in trying to access markets, according to common trends that are characteristic of the different situations. It is essential for policy actors to understand why communal livestock farmers do not actively participate in livestock markets in order to formulate policies that will tackle the issue of lack of commercialisation among communal farmers.

CHAPTER 3

EVOLUTION OF THE NATIONAL RED MEAT DEVELOPMENT PROGRAMME (NRMDP)

3.1 INTRODUCTION

This chapter reviews the evolution of the NRMDP, discusses the objectives of the programme and activities performed by the programme, identifies the roles of different stakeholders involved in the programme, and discusses the perception of communal farmers towards the NRMDP.

In an effort to deal with the marketing constraints facing communal livestock farmers as discussed in Chapter 2, the National Red Meat Development Programme (NRMDP) was designed and implemented in 2005 as the Eastern Cape Red Meat Project. With the closure of ComMark in 2008, NAMC was approached to take over the management of the programme and continue creating high-value markets for communal livestock farmers. The programme was instituted with the aim of creating improved market participation for communal and emerging livestock farmers through the provision of market infrastructure and information (Ngetu, 2013).

The NRMDP is supported and subsidised by government (Eastern Cape Department of Agriculture and Rural Development), NAMC, local authorities, and other development agencies, with the aim of helping farmers improve their livestock production by getting access to improved feeding and improved income. More recently, the national Department of Rural Development and Land Reform (DRDLR) has become the main funder of the programme. The programme connects communal livestock farmers to formal markets and systemises the informal markets, such that the livestock is sold at higher and consistent prices in informal markets. Section 3.2 outlines the objectives of NRMDP.

3.2 THE OBJECTIVES OF NRMDP

According to Ngetu (2013), in order for the NRMDP to increase the income for communal farmers earned from livestock production, there is a need for greater and more beneficial participation in formal livestock markets, which was perceived to result in the following three main thrusts:

1. To enable farmers to understand the structure, operation and requirements of formal red meat markets;
2. To provide initiatives to develop marketing channels that will increase their participation in formal red meat markets; and
3. To provide training and practical assistance to align the age, health and breeding of animals more closely to market demand.

For the NRMDP to achieve the abovementioned objectives, the programme has been designed to familiarise the farmers with formal markets through visits to commercial auctions, feedlots and abattoirs, and through the dissemination of information on grading, pricing, and current prices. Farmers are also educated on animal health, husbandry and markets for livestock as a requirement for the intake of livestock. Ngetu (2013) further observes that at an operational level, the initiatives to develop new marketing channels for communal livestock farmers comprised the following:

1. Establishing new auction pens, resuscitating existing unutilised or underutilised auction pens and rural abattoirs, and working with the provincial Department of Agriculture, farmers, auctioneers and abattoir owners to bring the auction pens and abattoirs into operation.
2. Establishing custom feeding programmes (low-cost feedlots) customised to respond to local people, resources and markets, such that cattle for marketing are prepared primarily for abattoirs.
3. Negotiating pre-slaughter sale agreements between retailers and groups of farmers in order to facilitate the sale of larger numbers of cattle at the most favourable prices.

3.2.1 Auction pens

The establishment of auction pens was introduced in the programme with the aim of increasing communal livestock farmers' participation in the formal market by bringing the market to the farmers, which helps in reducing transaction costs, as well as the distances to markets. The NRMDP established nine auction pens in five of the six district municipalities in the Eastern Cape. The auction not only provides a link for communal farmers to the formal market, but it also acts as a means of assessing and negotiating prices that commercial farmers obtain for their livestock in a transparent and beneficial way. Communal farmers also learn to recognise what buyers expect for the cattle they purchase in terms of age, breed and health.



Figure 3.1(a): A broken-down auction pen
Loverstwit: 2006



Figure 3.1(b): A resuscitated auction pen
Loverstwit: 2013

3.2.2 Custom feeding programme

Custom feeding refers to communal feedlots set up to fatten cattle before being sold in order to improve the body condition and quality of the cattle, thus attracting better prices (Ngetu, 2013). There are currently three feeding programme sites which are operational, namely Mount Frere, Ncorha and Fort Cox College of Agriculture, while four custom feeding programmes are still under construction. The livestock are put in a feeding programme for three months, and NAMC facilitates in providing a market after the three months, for which the farmers pay a fee of R800 per head. The fee is deducted from the money paid by the buyer for the livestock during auctions, together with the cost of feed and services for the period the cattle were kept in the custom feeding programme. Weaners between the ages of nine and seventeen months and steers between three and four years are put under a fattening

cycle for three months. In the custom feeding programme, the livestock remain under the care of the programme facilitators (NAMC and the Eastern Cape Department of Agriculture and Rural Development), while the ownership, benefits and risks remain with owners of the livestock.

The custom feeding programme provides practical assistance that aligns the livestock to the requirements of the markets while moving up the value chain. The presence of feedlots and the feeding programmes by NAMC makes it easier to sell the livestock through auctions and abattoirs after the fattening cycle, thus farmers receive higher prices for the improved quality. The custom feeding programme is emerging as a valuable input in the livestock production systems and caters for an improved meat quality supply to a niche market.



Figure 3.2: Custom Feeding Programme in Fort Cox College (2013)

3.2.3 Pre-slaughter agreement

The programme has contracts with local retailers, abattoirs, and feedlots in respect of deliveries of animals in terms of a pre-slaughter agreement. In partnership with the Eastern Cape Department of Rural Development and Agrarian Reform, discussions with leading retailers (Pick n Pay, Shoprite-Checkers and Boxer) on direct sourcing of livestock products are still being negotiated to secure reliable market for farmers. For farmers to meet the market demand for red meat, there should be an adequate flow of information about the market, and farmers should act as a unit so as to meet targets, and improve their market positioning and negotiation power. The involvement of farmers in auctions improves the coordination within the value chain and facilitates an efficient allocation of resources.

3.3 PERCEPTIONS OF COMMUNAL LIVESTOCK FARMERS ON THE IMPLEMENTATION OF THE NRMDP

Unlike other interventions that assist livestock farmers in the Eastern Cape which are production-focused, the NRMDP helps communal livestock farmers to transition from animal keepers to market-oriented producers. According to Ngetu (2013), the programme has gained the trust and respect of livestock farmers in the Eastern Cape by providing a successful demonstration of ways of exploiting the formal markets and systemising the informal market. Higher prices for livestock in auctions have been achieved with fewer irregularities, and this is an important achievement, as the trust of the livestock farmers is gained.

The NRMDP allows communal farmers to utilise existing livestock assets in order to take advantage of the available opportunities in the formal market so as to meet the demand of livestock, while improving rural livelihoods through improved prices. The programme does not discriminate against farmers as it benefits every farmer, even the poorest of them with only a few animals, which enables them to engage with formal markets. This is a practical contribution to the development of marketing channels. Several livestock farmers have been trained on aspects of livestock marketing and production, and the training has been designed and adapted to suit the needs of the farmers. Most of the farmers are illiterate and old; the special needs of participants have been taken into consideration in the development of the programme, and training is conducted in a language that is understood by all. However, the

programme has received positive interest from a number of young people attending training days who aspire to become successful commercial farmers.

The construction of feedlots has been triggered by the fact that commercial farmers have been buying weaners from communal farmers at low prices and then selling them after two to three months at higher prices after putting them through feedlots. It was noted that commercial farmers were realising a fortune and incurring lower costs, yet the communal farmers were losing. It is for this particular reason that the Department has undertaken the responsibility to assist communal livestock farmers to fatten their own weaners and sell them for their own benefit.

3.4 WHY THE NRMDP AND WHY IS IT CONSIDERED A SUCCESS?

According to the Department of Agriculture, Forestry and Fisheries (DAFF, 2011), the Eastern Cape holds almost a quarter of the national cattle herd, of which about two-thirds are owned by emerging/communal farmers, yet less than a third reach the market. The programme was founded with the crucial objective of linking these farmers who are already into production of livestock for markets. The programme has taken into consideration the potential of the Eastern Cape livestock sector to offer significant opportunities for economic growth and poverty reduction, especially among communal farmers.

The programme was formulated to help communal livestock farmers to make a difference in the Eastern Cape through market participation, in which ComMark was instrumental in ensuring that the dream is realised – a dream which was then funded by the Department for International Development (DFID). The neglecting of communal farmers in the past made it difficult and expensive for them to participate in formal markets. The fact that communal farmers were left for too long to their own means with more emphasis being placed on commercial farmers practically killed the farmers' self-belief, further isolating them and rendering them into opportunists. The programme revived the potential of communal farmers in the red meat industry and has a better chance of contributing positively to economic growth. Now that the desired results have been yielded, the trust and respect of the communal livestock farmers have been gained, and higher income is realised by farmers.



Figure 3.3: An auction at Loverstwist

3.5 STAKEHOLDERS

The programme works closely with communal livestock farmers as primary stakeholders. This helps in increasing the market participation of communal farmers and provides a platform for increasing economies of scale, and hence improved income. A strong positive relationship has been developed with the Eastern Cape Department of Agriculture and Rural Development (especially the veterinary public health division); the Agricultural Research Council (ARC); local authorities into whose local economic development programmes the Eastern Cape Red Meat Project has been integrated; local private sector auctioneering companies (Stewart Auctioneers and Shared Auctioneers); and Wilson Bayley Holmes-Ovcon Ltd (WBHO).

3.5.1 Wilson Bayley Holmes-Ovcon Ltd (WBHO)

With the aim of giving back to the community, WBHO has helped in improving agricultural infrastructure, particularly for livestock development in the Eastern Cape. The construction of roads by WBHO makes it easier for farmers to transport their livestock to the market, while reducing transaction costs and making business easier. This is done by WBHO with the aim of expanding the NRMDP in areas where the programme is currently not operating by bringing the market to the people and enabling the programme facilitators to make strategic decisions around allocation of resources in an effective and efficient way. Improved roads are essential for the programme in heightening growth in the livestock sector through increasing

the capacity of communal farmers in meeting requirements of market logistics, while improving the income of these farmers. There is a strong positive correlation between economic development and the quality of road networks.

3.5.2 National Agricultural Marketing Council

NAMC is primarily responsible for the day-to-day running of the NRMDP and also be a mentorship alliance to the communal livestock farmers. It is the role of the NAMC to help in creating markets through the NRMDP, strengthen market linkages, improve access to inputs, services, knowledge and technology, and also increase income realised from participating in markets. NAMC organises the visits by communal farmers to commercial auctions so that the farmers might gain awareness of, and experience with, marketing. NAMC facilitates the smooth running of the NRMDP, identifies opportunities and also provides training to farmers with respect to grading and classification of meat, market systems and pricing, since the buyers know exactly what they want and they will not settle for less. It is the NAMC's responsibility to help the communal farmers understand the value of weaners for farmers and meet the demands of the market, while improving their livestock income and reducing costs.

3.5.3 Eastern Cape Department of Agriculture and Rural Development

The Eastern Cape Department of Agriculture and Rural Development provide financial support for the successful implementation of the NRMDP. This is done in support of the strategic plan of the Department of Agriculture, Forestry and Fisheries which supports the policy mandate of improving smallholder farmers by aligning them with markets. The NAMC reports to the Department of Agriculture on how it will support the strategic plan, on the progress of the programme, and how the budget allocated has been used.

3.5.4 Communal Livestock Farmers

In the communal areas of Eastern Cape, livestock farmers are the major beneficiaries of the NRMDP and they are said to be organised since most of them are members of associations (such as the African Farmers Association of South Africa, "AFASA" and the National Emergent Red Meat Producers' Organisation, "NERPO"). The NRMDP was an idea from the farmers as they were struggling to meet market requirements and they were not earning

enough from the informal markets. The communal farmers were engaged by ComMark to come up with strategies to penetrate the formal markets, and that was the birth of the programme. Since the idea of the programme came from the farmers, they feel a sense of ownership of the programme; this has increased the reliability of decisions and has improved the quality of decisions that are made, as well as the accountability during implementation. Public participation is enhanced and will obviously lead to transparency. This has led the programme facilitators to conclude that the NRMDP has gained the trust of the farmers.

3.5.5 Stewart Auctioneers and Shared Auctioneers

This is a private company located in the Eastern Cape and is responsible for carrying out the auctions on behalf of NAMC. The company gets its remuneration for auctioneering services rendered through the commission that is paid by the buyer of livestock. The commission was initially paid by the seller but was later shifted from the seller to the buyer because the communal livestock farmers would build on the reserve price of livestock during auctions with the aim of catering for the commission of the auctioneers.

3.6 SUMMARY

The NRMDP is an important support system which understands the critical role of the communal sector in contributing to development. It is evident that the attractive marketing channels established by the programme increase calving rate, promote weaner marketing and improve income from livestock production. For that reason, it can be concluded that the programme is essential to communal livestock farmers as it improves income realised from livestock marketing, creates employment opportunities and hence contributes to economic development.

CHAPTER 4

MEASURING THE IMPACT OF THE NATIONAL RED MEAT DEVELOPMENT PROGRAMME

4.1 INTRODUCTION

This chapter presents the results of data analysis with emphasis on the performance of the NRMDP, determinants of formal market participation, and the effects of the programme on households. In order to obtain results that are consistent, the farmers who were studied in this survey were those who owned livestock from the year 2005 to 2012. Although the Eastern Cape Province is associated with a high potential for livestock production and a significant contribution of livestock in the national herd, the province grapples with low off-take rates for livestock marketing (Coetzee *et al.*, 2005). To increase the participation of communal farmers in high-value markets, the government of South Africa decided to embark on the NRMDP and contribute to sustainable rural livelihoods of the communal farmers. The NRMDP was evaluated in order to find out if the strategy supports the development of alternative economic activities in those areas where communal farmers face difficulties in participating in formal markets.

Accordingly, this chapter proceeds to evaluate the impacts of the NRMDP in the Amatole, Chris Hani, Alfred Nzo, OR Tambo and Cacadu DMs, and to assess if the programme has yielded the anticipated results. The presentation of the performance of the NRMDP, determinants of formal market participation, and the effects of the programme on households are explained in detail.

4.2 MARKET PERFORMANCE OF THE NRMDP

To determine the factors that could have contributed to improved market participation of communal farmers as a result of the NRMDP, the researcher analysed the off-take rates, cattle prices, type of cattle marketed, number of auctions held, and participation of communal farmers since the inception of the programme.

4.2.1 Off-take rate

The market off-take rate is essential in this case as it determines the level of participation of livestock farmers in formal markets. In order to estimate the off-take rate, it is important to know the number of livestock per district and the livestock marketed in those districts. The results presented in Table 4.1 reveal the proportion number of livestock owned by communal farmers in the mentioned DM were as follows:

Table 4.1: Number of livestock (cattle)

	Amatole	OR Tambo	Alfred Nzo	Chris Hani	Cacadu	Total
2005	194 110	532 201	115 793	134 130	99 139	1 075 373
2006	204 689	542 001	130 494	147 653	109 135	1 133 972
2007	212 538	581 888	151 813	139 668	103 233	1 189 140
2008	227 262	560 271	162 330	149 344	110 384	1 209 591
2009	207 881	600 130	148 486	136 607	100 971	1 194 075
2010	194 712	602 180	139 080	127 954	94 574	1 030 546
2011	194 911	631 674	139 222	128 084	94 671	1 188 562
2012	267 725	668 792	150 375	156 505	120 895	1 213 917

Source: Survey Data (2013)

From table 4.2, it is evident that OR Tambo is the district with the largest cattle herd in the Eastern Cape. Amatole has the second highest cattle herd after OR Tambo. According to Eastern Cape Planning Commission (ECPC) (2013), livestock production remains the main agricultural activity and has economic value for Amatole. Even though the majority of households in Amatole is involved in farming, the communal farmers have not yet developed beyond subsistence farming (ECPC, 2013). From 2005- 2012, it is worth noting that compared to other DM's, Cacadu DM recorded the lowest number of cattle in Eastern Cape which is also accompanied by the lowest population (StatsSA, 2014). As stated by NDA (2008) Cacadu is associated with small areas of communal land and is characterised by high mortality risks of livestock.

The increase in off-take rate shows that communal farmers are now participating in formal markets. In the past, statistics showed that communal farmers had more livestock compared with commercial farmers, but only a few of the livestock owned by communal farmers reached formal markets. The off-take rate that is presented in Table 4.2 below is an approximation; it was calculated from the sales and population of livestock data from the sampled households. From Table 4.2, it can be seen that the average off-take rate for Alfred

Nzo DM is the highest at 15.77%, followed by Amatole DM at 13.7%, OR Tambo DM is at 12%, Chris Hani DM is at 11.7%, and lastly, Cacadu DM is at 10.5%. The average off-take rate for the five municipalities is 12.7%, which is way below the 25% for the commercial farmers, but higher than the off-take rate in the communal cattle sector in South Africa, which is between five and ten per cent. Over the years (2005–2012), the off-take rate in Eastern Cape has been increasing, with 2009/2010 being an exception.

Table 4.2: Off-take rates (%)

	Amatole	OR Tambo	Alfred Nzo	Chris Hani	Cacadu	Average
2005	10.9	10.1	13.2	9.8	8.6	10.52
2006	12.8	9.8	15.6	10.2	9.9	11.66
2007	13.9	12.1	15.9	10	10.5	12.48
2008	15.9	12.9	17.1	10.7	8.8	13.08
2009	14.7	12.8	14.92	13.8	11.3	13.504
2010	13.5	11	15.3	12.4	10.8	12.6
2011	13.9	13.5	16.64	12.8	11.1	13.588
2012	14	13.8	17.5	13.9	13	14.44
Average	13.7	12	15.77	11.7	10.5	12.734

Source: Survey Data (2013)

There are both ‘economic’ and social reasons to explain the fluctuation of off-take rates over the years in all district municipalities. Stock-theft and increased labour costs are some of the major contributing factors for the over-changing off-take rates. Communal farmers have still not reached the level of attracting higher farm gate prices for their livestock because of unsatisfactory conditions of cattle presented for marketing hence there is no consistent participation in high value markets. Production of cattle by communal farmers is not yet stable and ready to sustain the demand of markets, which lead to unstable off-take rate.

4.2.2 Average cattle prices

The average prices reflected in Table 4.3 below for cattle have been increasing over 2005–2012 for all the district municipalities, with the highest being R7900 for Alfred Nzo DM, followed by R7700 in Chris Hani DM, then R7482 in Amatole DM, R6900 in OR Tambo DM, and lastly, R6400 in Cacadu DM for the year 2012. It can be observed that Cacadu DM has both the lowest off-take rate and the lowest average cattle price. This can be explained by the fact that the programme in Cacadu DM has started only recently, and the farmers there are not yet familiar with market operations and requirements. However, there is interest

among the farmers to participate in formal markets and to increase their income while improving livelihoods.

Table 4.3: Average prices of cattle in Rands (except weaners)

	Amatole	OR Tambo	Alfred Nzo	Chris Hani	Cacadu	Average in EC
2005	R6 800	R5 600	R6 900	R6 800	R4 850	R6 190
2006	R7 200	R6 800	R7 000	R6 900	R5 800	R6 740
2007	R7 456	R 6 950	R7 800	R8 250	R7 100	R7 511.20
2008	R7 100	R6 900	R7 900	R8 300	R6 650	R7 370
2009	R7 500	R7 100	R8 450	R7 400	R6 700	R7 430
2010	R7 600	R7 250	R8 200	R7 900	R6 300	R7 450
2011	R8 400	R7 300	R8 500	R7 950	R6 800	R7 790
2012	R7 800	R7 300	R8 450	R8 100	R7 000	R7 730
Average (2005-2012)	R7 482	R6 900	R7 900	R7 700	R6 400	R7 276.40

Source: Survey Data (2013)

4.2.3 Type of cattle marketed

Since inception of NRMDP, most of the cattle have been sold in higher-value markets (auctions, abattoirs, and retailers). From Figure 4.1 below, it can be seen that weaners are the most sold in the formal markets at 36.7%, followed by oxen at 35.4%, then cows at 19%, and lastly, bulls at 8.9%. The high weaner marketing proves that livestock farmers understand the structure, operation and the requirements of formal markets better. Communal farmers participating in the programme are now making an effort to produce beef in a more beneficial and sustainable manner, and they produce and market more of what consumers demand. The reason for low bull marketing is that bulls are usually kept for breeding purposes more than they are kept for sales. As a result, farmers only eliminate the ones that are old and non-productive.

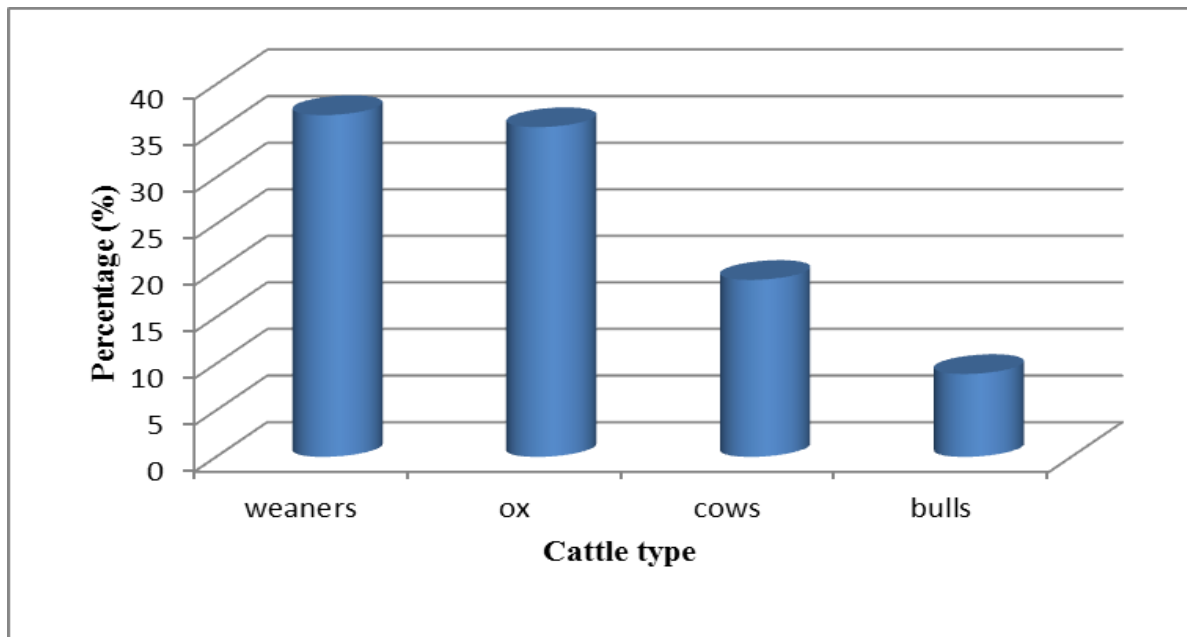


Figure 4.1: Type of cattle sold in formal markets through the NRMDP
Source: Survey Data (2013)

4.2.4 Livestock sales by education level

The education levels of livestock farmers were categorised into four sections: no education, primary education, high school education and tertiary education. The level of education among the selected communal farmers in EC is low, as most of them have only a few years of education (primary education). More than 40% of the farmers have at least secondary education in all the district municipalities. In Amatole DM, 16% of communal farmers participating in the NRMDP have no education, and 40% have primary education. In Chris Hani DM, 12% of the interviewed farmers have no education at all, and 32% have primary education. OR Tambo DM has the highest number of farmers with no formal education, while 36% have primary education. In Cacadu DM and Alfred Nzo DM, 8% of farmers have no formal education and 12% have tertiary education. Amatole DM, Chris Hani DM and OR Tambo DM have 16% of farmers who have tertiary education.

Table 4.4: Level of education (%) for participants in the NRMDP

Education	Amatole	Chris Hani	OR Tambo	Alfred Nzo	Cacadu
None	16	12	24	8	8
Primary	40	32	36	28	32
Secondary	32	44	24	44	48
Tertiary	12	12	16	12	12

Source: Survey Data (2013)
N=100

The level of education is also associated with understanding the market requirements; for example, livestock farmers who attain some level of tertiary education are more likely to adopt better livestock husbandry practices, such as observing health issues of livestock and keeping livestock for business practices, as compared with the less educated. Education increases the ability of livestock farmers to use resources in an efficient way and enhances a farmer's ability to obtain, analyse and interpret available market information. It is worth noting that a significant proportion of farmers have secondary education. The findings highlight the importance of education among farmers in increasing the ability of households to identify and utilise market opportunities.

Table 4.5: Level of education (%) for non-participants in the NRMDP

Education	Amatole	Chris Hani	O R Tambo	Alfred Nzo	Cacadu
None	10	10	10	20	10
Primary	50	40	40	40	50
Secondary	40	50	30	30	30
Tertiary	0	0	20	10	10

Source: Survey Data (2013)
N= 50

For the non-participants in the programme, at least 40% of the interviewed communal farmers have at least secondary education at Amatole DM, which is the highest level of education attained by the interviewed farmers in Amatole. Half of the sampled farmers have reached secondary school in Chris Hani DM and 40% have only primary education. Ten per cent of the farmers have no formal education at all in all the district municipalities, except Alfred Nzo DM that has the highest illiteracy level, at 20% level. Amatole DM and Chris Hani DM have no farmers who have attained tertiary education, while Alfred Nzo DM and Cacadu DM have 10% of farmers who reached tertiary level. Some level of formal education enables farmers to understand and adopt better animal husbandry practices and identify profitable ventures, as compared with illiterate farmers. Education increases the ability of livestock farmers to use their resources efficiently, analyse and interpret market information (StatsSA, 2014).

With reference to Tables 4.4, 4.5 and 4.6, it is clear that the Eastern Cape could be regarded as a province with relatively poor Human Development Indices (HDI), both in skills levels of the workforce and the resources spent on training, since the overall level of tertiary is low. These results are on line with the findings of the Stats SA (2014) which indicated that the

HDI was lowest in the Eastern Cape when compared to other provinces in South Africa. In 2012, the HDI for South Africa was 0.68 whereas for the Eastern Cape was 0.63 (Table 4.6). Moreover, the poverty rate in the Eastern Cape Province is estimated to be 35.9% of the entire population (Eastern Cape Planning Commission, 2013).

Table 4.6: Human Development Index and Poverty

	HDI			Poverty Rate		
	2000	2012	% change	2000	2012	% change
South Africa	0.56	0.68	0.12	46.5	35.9	-10.6
Eastern Cape	0.50	0.63	0.13	46.5	35.9	-16.5

Source: Global Insight, 2013

4.2.5 Gender of participating farmers

The domination of males in the agricultural sector is still common in the communal areas of South Africa (Montshwe, 2006), and the Eastern Cape is no exception. For example, 85.63% of livestock farmers participating in the NRMDP are males, while females represent the minority (14.37%). The number of females participating in the programme has fluctuated over the years, proving that females are reluctant to participate in formal markets. According to the respondents, the low participation of women is attributed to the fact that, as livestock production becomes more commercialised, women may not be able to compete with men and reap the same benefits. This means that as opportunities are created for market participation, women are eliminated by competition. Less than 20% of the sampled households were female headed, with 20% in 2011 being the highest, and 5% in 2005 being the lowest (Figure 4.2 below).

At the same time, it is crucial to recognise that because of the high workload for women, they have fewer opportunities to maximise their livelihoods, and they have to seek permission from a male elder in order to take essential marketing decisions.

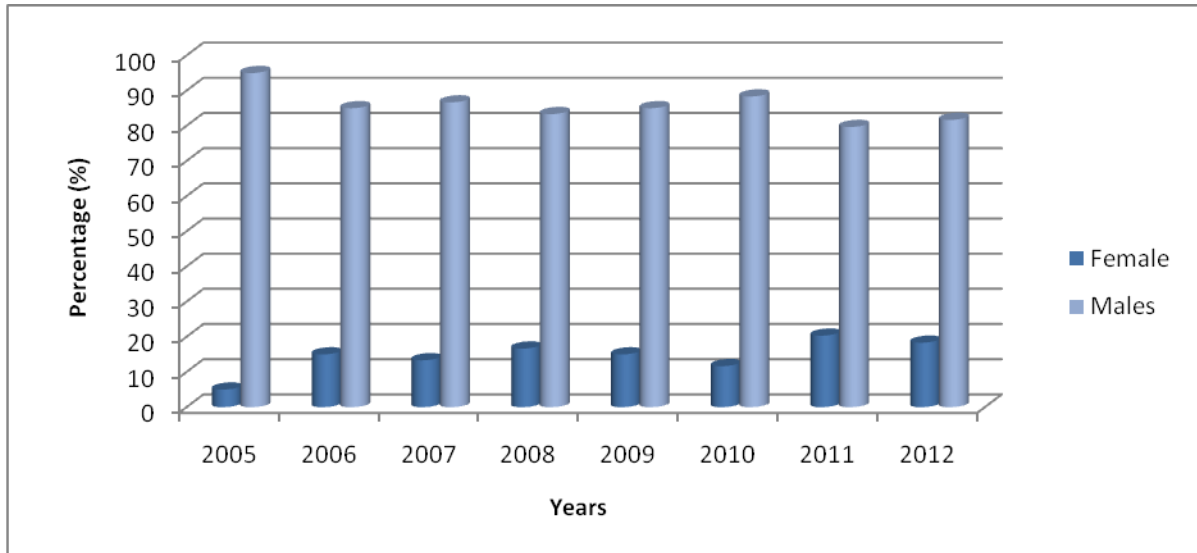


Figure 4.2: Gender of participating farmers (%) in the NRMDP
Source: Survey Data (2013)
N= 100

4.2.6 Membership to a farmers' group

Membership of a farmers' group was defined as any participation in an association, a group, or a cooperative related to livestock rearing and/or marketing. Sixty-seven per cent of the farmers are part of a group/ association where the members have joined voluntarily. Of the 67% of the farmers who are part of a farmers group, 60% are males and 40% are females. The farmers who are not part of any farmers' group stated that they were not participating in these groups because they were not aware of any active group within their communities, and some stated that they could not afford the joining and subscription fee they are required to pay. Of the 67% of the farmers who are part of a farmers' group, 95% participate in the NRMDP, which shows that being in farmers' group increases awareness about opportunities available for communal farmers. The high number of farmers involved in farmers' networks helps increase awareness about the NRMDP and the programme experience is shared. Collective action enables communal farmers to exploit market opportunities through economies of scale, and they have bargaining power as well, which enables them to compete well with commercial farmers.

4.2.7 Livestock marketing

Results presented in Table 4.7 show that the average price for cattle that were sold by NRMDP participants was R6 758 per head. The communal farmers who sold their livestock

to formal markets through the NRMDP expect to sell them at higher prices and earn better profits than those in the informal market. However, since the livestock are sold through auctions, the price is determined by the highest bidder and not by the seller. The minimum price received from selling cattle by the programme participants was R4 050 and the maximum price received was R8 500. From the average prices, it can be deduced that programme participants are better informed about the market conditions and requirements than non-participants are, such that they supply the market with livestock products of high quality that will attract higher prices.

Table 4.7: Average price of cattle and weaners sold by NRMDP participants and non-participants

	Participants				Non-participants			
	Mean	Std dev*	Minimum	Maximum	Mean	Std dev*	Minimum	Maximum
Average price of cattle	R6 758	R1 056	R4 050	R8 500	R5 912	R1 096	R4 400	R8 700
Average price of weaners	R4 614	R819	R2 900	R6 100	R4 471	R703	R3 100	R5 900

* Standard Deviations

Source: Survey Data (2013)

As observed in Table 4.7 above, the average price for cattle received by non-participants from sales was R5 912, which is very low as compared with programme participants. This may be because when participating in the programme, information about market requirements is provided and it improves a farmer's knowledge about the market. However, the minimum average mean received from cattle sales by non-participants was R4 400, which is higher than those obtained by non-participants and the maximum average mean was high, as well. The minimum average weaner price received from the sales was R200 higher than the programme participants and the maximum price was R200 lower than NRMDP participants. The standard deviation for cattle and weaner price sold by non-participants is R1 096 and R703, respectively.

4.2.8 Stock sizes

In Table 4.8 it is shown that 11% of the NRMDP participants own 50 or less head of livestock, 70% own between 51 and 100 head, and 19% own 101 head or more. The low percentage of communal farmers who own 10 or less head of livestock can be explained by

the increased prices for livestock in markets which incentivise farmers to improve in production so they can sell more. The programme enables farmers to increase their production, hence the improved participation in high-value markets. In general, the results show that households participating in the programme held higher stock sizes and are market oriented, compared with non-participants.

Table 4.8: Stock size of participants in the NRMDP

Livestock size	N	% owning
1-10	1	1 %
11 to 50	10	10 %
51-100	70	70 %
101+	19	19 %

Source: Survey Data (2013)

Based on Table 4.9 below, it is evident that non-participants are associated with low stock numbers, reflected by the 14% of the non-participating farmers who own 10 livestock or below, which is a relatively large number when compared with the 1 % for participants. This might be because the non-participants do not participate fully in high-value markets and they have no or less incentive for keeping cattle. Only 64 % of the non-participants keep more than 50 cattle and 22 % of the farmers keep between 51 and 100 cattle.

Table 4.9: Stock size of non-participants in the NRMDP

Livestock size	N	% owning
1-10	7	14 %
11 to 50	11	22 %
51-100	28	56 %
101+	4	8 %

Source: Survey Data (2013)

4.2.9 Consistency in marketing participation

At least one auction a month is held and prices were seen to be improving over time (Table 4.10). Livestock are exposed to threats presented by climate change and have to adapt to these changes for them to survive. However, during summer more animals are dying because

of the heat and most breeds cannot withstand much heat. This leads to fewer livestock being sold in auctions, which makes the marketing of cattle inconsistent. During the festive season the demand for livestock increases, and prices increase as well, and this affects the income received through livestock sales.

The custom feeding programmes have low holding capacities, such that the demand for utilisation of the programme by communal farmers exceeds the holding capacities. For this reason, the farmers have to take turns in the utilisation of the custom feeding programme and this affects market participation. The holding capacity of the custom feeding programme in Ncorha (Chris Hani DM) is 300 cattle at a time, Mount Frere (Alfred Nzo DM) is 39 cattle, Gxwalubovu is 300 cattle and Fort Cox (Amatole DM) can take up to 60 cattle at a time, supplying the Eastern Cape with a cattle population of 330354. With the low holding capacity of the custom feeding programme, consistency in market participation within the programme is not guaranteed.

The results in Table 4.10 below show an increase in the numbers of livestock sold from August to December in Loverstwest, Nkokobe and Ncorha, and the prices offered during the period from August to December are fairly high. During this period a large number of animals are offered for sale because of the increased demand as the festive season approaches. There were few sales from March to June since this is the dry season when there is water and pasture scarcity, and most animals are not in good condition for market. The scarcity increases the prices of fodder which makes cattle rearing difficult and costly during this season. Only the Loverstwest auction barn was in operation from 2005 to 2009, during which time it was supplied by livestock from all the district municipalities.

Table 4.10: Sales records of NRMDP from 2005-2012

Auction	Date of auction	No. of livestock sold	Price of old cows (R)	Price of weaners (R)	Average weight of cows (kg)	Average weight of weaners (kg)	Total value (R)
Loverstwiw	Nov-05	60	R4 150	R3 250	410	330	R228 600
	May-06	91	R4 200	R3 250	390	320	R322 700
	Dec-06	69	R4 300	R3 025	380	330	R255 300
	Nov-07	240	R4 400	R 3 400	370	350	R1 820 000
	Aug-08	350	R4 450	R3 300	380	330	R1920 000
	May-09	41	R4 500	R3 100	380	310	R172 200
	Jan-10	201	R5 500	R3 400	340	190	R1 337 756
	Jul-10	54	R4 300	R3 300	390	180	R192 913
	Apr-11	190	R5 700	R3 700	390	340	R1 177 207
	Aug-11	65	R5 200	R3 500	460	320	R365 105
	Oct-11	80	R5 450	R3 050	400	332	R486 134
	Aug-12	46	R6 406	R3 985	485	230	R236 600
	Sep-12	89	R5 330	R2 900	420	290	R372 500
Nov-12	206	R7 500	R4 750	479	330	R1 263 950	
TOTAL		1 782	R5 099	R3 422	405	299	R1 0150 965
Nkokobe	Feb-09	195	R5 800	R4 000	470	300	R1 014 000
	Aug-10	235	R5 100	R3 500	350	200	R1 581 457
	Dec-10	114	R4 900	R3 500	340	170	R1 004 500
	Jan-11	201	R5 800	R4 200	420	347	R1 233 271
	Apr-12	93	R4 000	R2 900	390	310	R318 200
	Nov-12	61	R5 330	R3 013	390	325	R250 916
TOTAL		899	R5 155	R3 642	393	275	R5 402 344
Ncorha	Dec-09	176	R5 400	R3 600	440	220	R1 339 360
	Mar-10	371	R6 000	R4 400	378	240	R2 203 123
	May-11	170	R5 500	R3 900	400	310	R1 063 720
	Sep-11	89	R5 300	R3 300	410	290	R552 429
	Dec-12	167	R6 900	R4 500	460	340	R1 669 100
TOTAL		973	R5 820	R3 940	418	280	R6 827 732
Mt. Frere	Feb-12	166	R5 500	R3 250	450	310	R628 788
	Jun-12	41	R4 100	R3 700	340	290	R206 350
	Aug-12	17	R3 800	R2 900	340	310	R76 560
	Dec-12	86	R8 500	R4 300	470	360	R734 550
TOTAL		545	R5 620	R3 730	398	326	R3 088 132
Ngqushwa	Apr-12	96	R5 200	R3 300	410	320	R373 200
	Jul-12	221	R6 900	R4 100	480	340	R830 128
TOTAL		317	R6 050	R3 700	445	330	R1 203 328
OR Tambo	May-12	19	R4 290	R3 900	370	295	R80 348
	May-12	31	R4 500	R3 700	395	272	R161 600
TOTAL		50	R4 395	R3 800	383	284	R241 948
Ikwezi	May-12	8	R2 750	R3 900	475	250	R18 300

Source: NAMC database (2013)

Since the inception of the NRMDP, the numbers of livestock sold in auctions have increased over the programme years. As seen in Figure 4.3 below, there was a constant increase in the livestock sold in auctions from 2005 to 2009, starting with 60 total livestock sold in 2005 and slightly above 400 cattle in 2009. In 2010, there was a sharp increase in the total number of livestock sold, followed by a slight increase in 2011. After the introduction of NRMDP, communal farmers started selling most of their livestock to these higher-value markets (auctions, abattoirs, retailers) as required by the programme. The number of weaners sold in high value markets has been increasing sharply after 2009 more that the categories. All along, the farmers utilised the informal markets since they offered them higher prices, which meant that they did not need to compete with commercial farmers who are price setters in formal markets. The number of bulls sold in formal markets has been constant over the programme years, with an insignificant increase from 2009 to 2012. The underutilisation of the formal markets can be seen by the low number of livestock that were sold in the first year of the programme.

The prices of livestock fluctuate over time according to local supply and demand conditions in local markets. During the festive season, the demand for livestock increases and the same thing happens with the prices of livestock.

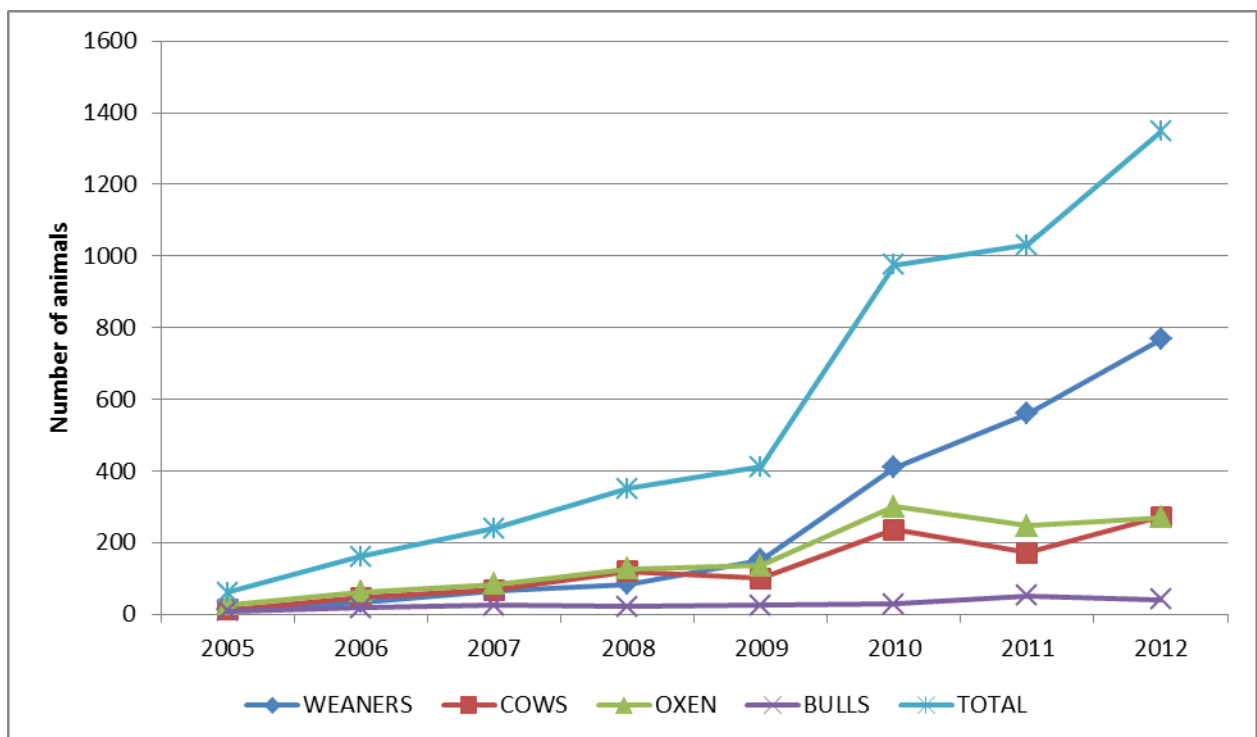


Figure 4.3: Total number of livestock sold
Source: NAMC (2013)

Income derived from marketing cattle has grown faster since the implementation of the NRMDP. Figure 4.4 below indicates that the trend is likely to continue to grow, provided the holding capacity of custom feeding programmes is increased and the farmers continuously provide the market with the product desired by consumers. Figure 4.4 reveals that in 2005 the income derived from marketing livestock was R228 600, which was in the initiation stage of the programme. However, the income remained fairly constant over the period 2006–2009 until 2010 when income increased to more than R6 million (Figure 4.4). Evidence shows that the growth in income is primarily from the improvement of livestock quality as required by the market and the use of the livestock asset base to take advantage of market opportunities. Farmers are selling their livestock at lucrative prices, which are similar to prices offered in the commercial sector.

In 2012, more than R7 million was generated from sales of livestock by farmers participating in the programme. If the communal farmers can maintain this level of income, it would boost local economies and food security by ensuring that there is a continuous supply of meat and meat products in the country, while they are upgrading their position in the livestock value chain industry. It is evident that communal farmers play a prominent role in livestock production as this intervention and support gives communal farmers an equal opportunity to participate actively in the commercialisation process of the livestock industry.

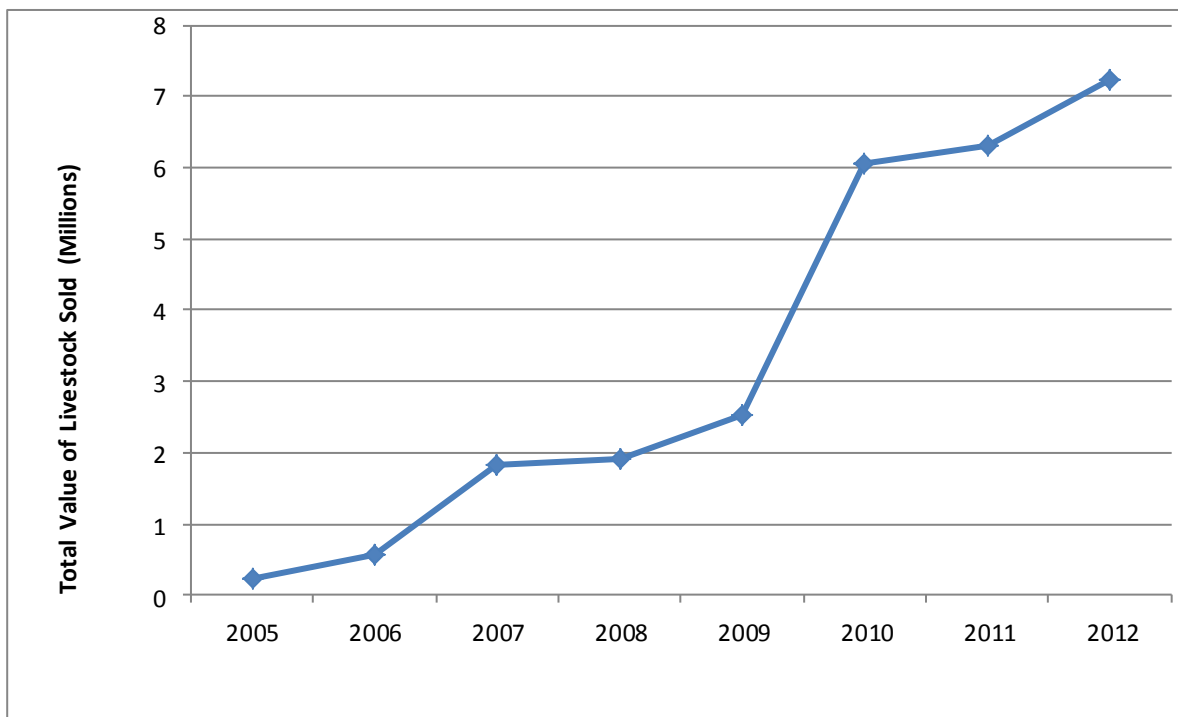


Figure 4.4: Value of livestock sold at NRMDP auctions
Source: NAMC (2013)

The analysis in Figure 4.5 below shows that the average prices offered for weaners in auctions have been increasing from 2007 to 2012. With the exception of 2007, the increase in the average price for weaners might be partly explained by the increasing demand for tender meat and by changing consumer preferences in terms of substituting other meat products for beef. This suggests that weaner marketing is becoming more important among rural communal farmers. The current shortage of weaners existing in South Africa’s markets triggers an increase in prices of weaners. Nevertheless, when compared with the baseline prices (BFAP, 2013), which had been steadily increasing from 2005 to 2012, the auction prices were below the baseline until 2010 when they started to increase above the baseline prices. It can be deduced that weaner marketing is worthwhile and has a positive future because the price of weaners continued to increase, even though there was an economic recession during this period.

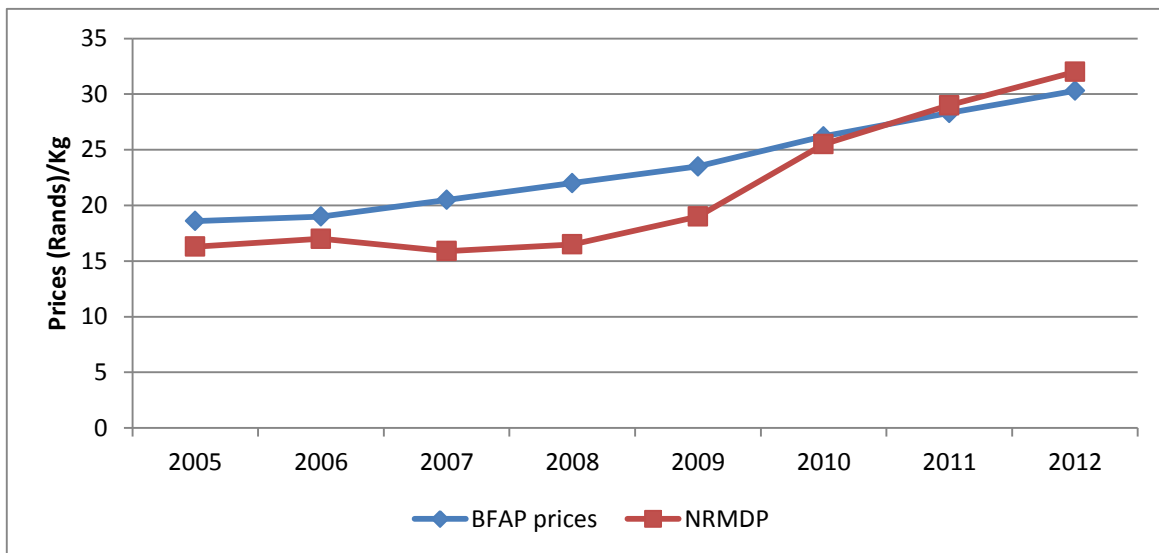


Figure 4.5: Average prices of weaners sold at auctions
Source: NAMC (2013)

In reference to Figure 4.6 below, the price earned by non-participants was the same as the price obtained by participants in 2005 during the introduction of the NRMDP. From 2005 to 2006, there was a slight decline in prices of cattle sold by non-participants, and the opposite is true for programme participants. There was a sharp decrease in average prices of cattle in 2009 for both non-participants and participants in the programme. Nonetheless, there was an increase after the sharp decrease, but prices received by participants were always higher than national prices. The liberalisation of national markets has opened a window of opportunity for smallholder farmers, such that there are more buyers in livestock markets, unlike the

markets were before liberalisation where there was a single livestock buyer who had high bargaining power. The removal of trade barriers has facilitated a penetration of markets by more buyers, enabling the sellers to sell their products to buyers offering lucrative prices.

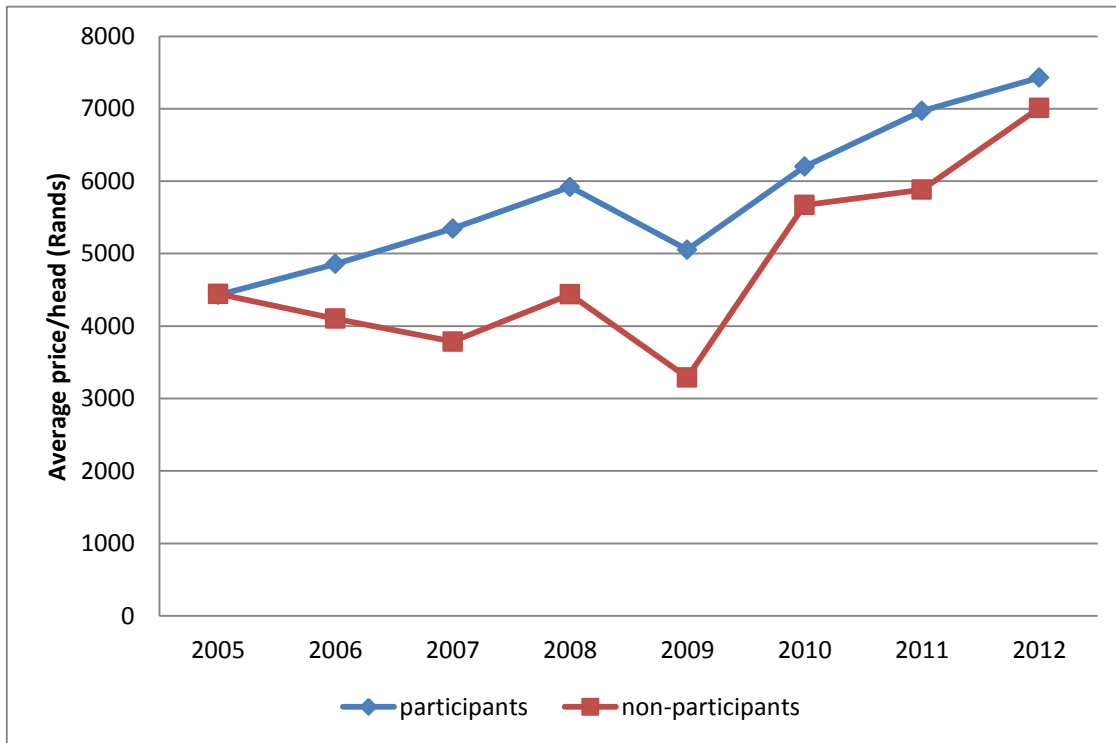


Figure 4.6: Comparison of price/cow for participants and non-participants in the programme
Source: NAMC (2013)

From Figure 4.7 below, it can be seen that the price of weaners is slightly less than the average price of a bovine and is increasing slowly, but at a constant rate. Taking into consideration the age of the weaners during a sale and the cost of feed involved in the feeding programmes in rearing weaners, a deduction can be made that the price of weaners is relatively high, resulting in very good profit margins for weaner marketing, as compared with keeping the animals for much longer while increasing the cost of management. Be that as it may, there is still room for improvement in the price of weaners, and over the years, as the preference of consumers shifts from old cattle to weaners, the price of weaners is expected to increase with better reared and better quality weaners. Concerning the prices of cattle, which are low when compared with the cost involved in feeding the animals, the average price in 2005 was R4150, and there was a constant increase in 2006 and 2007. In 2009, the average price of old cattle was slightly above R5000, and with some fluctuations in the following years, the average price still remained above R5000/head. The decrease in prices in 2009 can

be explained by the huge economic recession experienced by the country which decreased consumption levels, and hence the prices of goods and services also decreased.

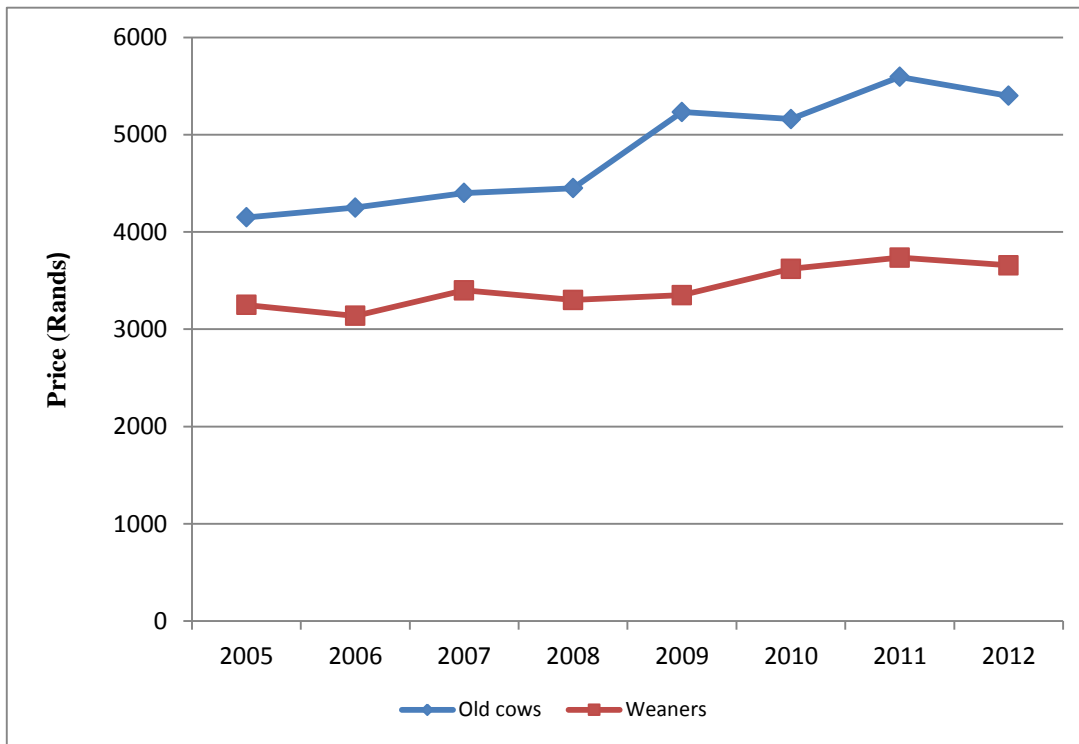


Figure 4.7: Comparing the price of old cows to the price of weaners
Source: NAMC (2013)

The average weight of cattle sold in auctions decreased from the introduction of the NRMDP up to 2007. From 2008 to 2012, the weight of old cattle fluctuated, with the weight in 2012 being less than the average weight of weaners. This can be explained by the fact that more focus has been given to weaners with a higher feed conversion ratio than old cattle. The formal market is selective and prefers well-bred weaners with good growth, muscle and body condition.

As seen in Figure 4.8, the average weight of weaners fluctuated from 2005 to 2007. In 2008 and 2009, there was a sharp decrease in the weight of weaners sold in formal markets. This can be explained by the 2007/2009 drought that hit the Eastern Cape and the Limpopo provinces, which triggered an increase in prices of feed for livestock owing to the insufficient supply of the feed in markets and a shortage of water supply. Livestock mortality was another most serious effect of the 2007/2008 drought, which resulted in a number of farmers (10%) not sending their livestock to a custom feeding programme, but rather moving them to

favourable grazing conditions. In spite of that, from 2010 to 2012 there was an increase in the weight for weaners, and it was above the average weight of old cattle sold in auctions.

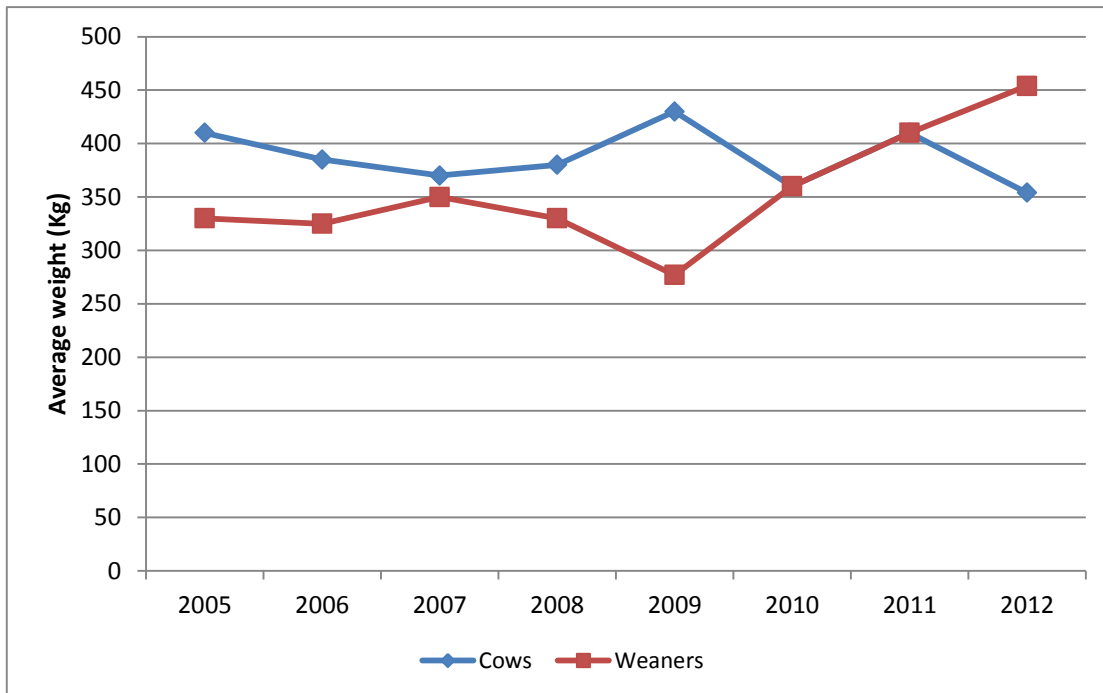


Figure 4.8: Average weight of cows and weaners sold in auctions

Source: NAMC (2013)

4.3 EFFECT OF NRMDP ON PARTICIPATING HOUSEHOLDS

Livestock marketing contributes to increased income earnings and thus to an improved standard of living for rural households. However, market participation in the sector is constrained by a number of factors that are beyond the control of communal farmers. This section investigates the factors that influence household income among communal farmers in the Eastern Cape Province. Specifically, the Ordinary Least Squares (OLS) regression analysis seeks to establish the significance of participation in the NRMDP as a contributory factor towards an increase in household income. The researcher decided to use the OLS because this method is known for solving problems with a continuous dependent variable (Montshwe, 2006). The researcher used Log income instead of income as a dependant variable to eliminate outliers in the income data. According to Benoit (2011), a logarithmic transformation is done in regression analysis to transform a highly skewed variable into a normal distribution.

Table 4.11: Factors influencing household income (Ordinary Least Squares)

Dependent Variable: Log_household Income (income derived from livestock sales.)		
Variables	Coefficient (standard error)	t-statistic (p-value)
Constant	0.426271 (0.388051)	2.463727** (0.0149)
Cattle condition	0.067439 (0.021277)	3.169668*** (0.0019)
Extension services	0.058770 (0.021296)	2.759617*** (0.0066)
Distance to market	0.001196 (0.000321)	3.727070*** (0.0003)
Education level	0.036793 (0.019687)	1.868913* (0.0637)
Stock size	0.040728 (0.022165)	1.837532* (0.0682)
NRMDP participation	0.052852 (0.024405)	2.165620** (0.0320)
Total observation= 150		
*, ** and *** represent significance at 10 %, 5 % and 1 % respectively.		

Source: Own data

From Table 4.11, the coefficient of participating in the NRMDP is positive and statistically significant at 5 % level. This implies that, participating in the programme will increase the income of household by 5 % more than the income of the non-participating farmers. This means that the programme is essential as it increases household income of communal farmers. Education level has a positive effect on household income and it is statistically significant at 10% level. *Ceteris paribus*, an increase in education level by one year will increase household income by 36%. The probability of communal farmers with no education exploiting available opportunities is very low as it is hard to survive and cope, since they have no or less resources available.

Livestock condition¹ is statistically significant at 1 % level, meaning that the condition of cattle during sales has an influence on the income households receive. This could be attributed to the fact that the formal markets require animals that are healthy and well fed. Livestock condition was measured as a dummy variable (0= poor, 1 good condition). A positive and significant relationship was found between household income and access to extension services. *Ceteris paribus*, farmers that have access to extension services have a better chance of increasing household income by 5.9%. Having access to extension services

¹ The weight and age of the livestock was used to determine whether the livestock is in good conditions or not as determined by market requirements.

provides farmers with more information about exploiting available opportunities so as to enable them make rational, relevant decisions about participating in the market.

Stock size had a significant relationship with household income at 1% level. An increase by 1 cow increases household income by 4%. Distance to the livestock market positively and significantly (1 %) influenced participation to the programme. Holding other factors constant, an increase in the distance to the market by one kilometre would increase household income by 0.12%. This relationship is contrary to the priori expectation. A possible explanation that can be advanced for this is that the farmers who are residing away from the market are more educated and have a better understanding of markets such that they are able to minimise transaction costs caused by high transportation costs. The positive relationship of distance to market and household income is in conflict with Makhura *et al.* (2001), who found that distance to the market negatively influences income received from sales of livestock. Some other variables that could not be included in the model by virtue of being insignificant were household size, farmers' gender and formal market participation, but nevertheless had a positive sign which means they contribute positively to household income.

4.4 FACTORS INFLUENCING HOUSEHOLDS PARTICIPATION IN NRMDP

A probit regression model was used to determine the level of participation by communal farmers in the NRMDP. The model allows analysis of data where participants are faced with two choices. The choices faced by communal farmers in this case are to participate in the programme, or not to participate in the programme.

Econometric analysis results of the probit regression model estimating the factors affecting participation in the NRMDP are presented in Table 4.12. The price of weaners offered by the market has an influence on programme participation and it is statistically significant at 5% level. This is expected as consumers are more sophisticated as well as health conscious and they require beef that is tender and of good quality which increases demand for weaners. The number of family members within a household is another critical variable having a significant impact on the ability of communal farms to participate in formal markets. It is statistically significant at 5 % level, indicating that households with more family members tend to participate in the NRMDP.

Table 4.12: Determinants of NRMDP participation (Binary Probit)

Dependent Variable: NRMDP participation(1=Yes; 0 =No)		
Variables	Coefficient (standard error)	z-statistic (p-value)
Constant	5.209265 (1.239933)	4.201247 (0.0000)***
Average price of weaners	0.000474 (0.000215)	2.208046 (0.0272)**
Stock size	0.557305 (0.322242)	1.729462 (0.0837)*
Household size	0.701290 (0.334870)	2.094215 (0.0362)**
Formal market participation	1.981685 (0.323130)	6.132786 (0.0000)***
Price of cattle	0.0127 (0.0021)	5.9112 (0.0000)***
Total observation= 150		
*, ** and *** represent significance at 10 %, 5 % and 1 % respectively.		

Source: Own data

4.5 DETERMINANTS OF FORMAL MARKET PARTICIPATION

Converting communal farming to commercial farming is seen as a gateway to exit from rural poverty and unemployment. Communal farmers' participation in the mainstream economy and their integration into existing high-value chains are still far below what government policy envisages. Despite interventions by government, there are existing factors that influence participating in formal markets by communal farmers. The study scrutinises those factors which seem to be significant in determining formal market participation and how they affect participation in formal markets by communal farmers.

4.5.1 Factors that are statistically significant

The probit regression analysis disclosed that distance to formal markets, stock size, education level, collective action, and participating in the NRMDP are the variables that are statistically significant and are important factors in inducing communal market participation. The probit regression results in Table 4.13 also reveal that the number of cattle owned by the farmers has the biggest influence in determining the decision as to whether or not to participate in formal markets since the variable is statistically significant at a 5 % level.

The distance from the homesteads or farms to the market also influences participation in formal markets. The distance to the point of sale is statistically significant and positive at a

5% level in explaining formal market participation. According to the analysis, farmers residing closer to the market have a higher chance of being excluded in formal markets and those residing far away from markets have better chances of participation in markets. This relationship is contrary to the *priori* expectation of the researcher. The results predict a positive relationship, which is inconsistent with common sense and economic theory (Makhura et al., 2001). This relationship is most likely due to the fact that farmers that reside far away from the market are more educated and have a better understanding of the markets. To minimise the transportation costs, the farmers organise transport which will ferry their livestock as a group to cut down costs. Education level is statistically significant at 1% level. Communal farmers with more years of education have a better chance of participating in formal markets since their education equips them with skills of identifying a gap in formal markets, while using resources in an efficient way. Education empowers farmers to make informed decisions; furthermore, they also understand the quality of products demanded by consumers.

Table 4.13: Determinants of formal market participation (ML Binary Probit)

Dependent Variable: Formal Market Participation (0= non-participating, 1= participating)		
Variables	Coefficient (standard error)	z-statistic (p-value)
Constant	2.740372 (0.537635)	5.097084 (0.0000)***
Stock size	1.033755 (0.334682)	3.088765 (0.0020)***
NRMDP participation	1.734759 (0.323083)	5.369396 (0.0000)***
Distance to market	0.010864 (0.004907)	2.213794 (0.0268)**
Education level	0.852468 (0.328922)	2.591706 (0.0096)***
Farmers' association	0.4098 (0.1277)	3.2091 (0.0000)***
Total observation= 150		
*, ** and *** represent significance at 10 %, 5 % and 1 % respectively.		

Source: Own data

From the analysis, it is evident that the NRMDP enhances participation of communal farmers in formal markets. The NRMDP equip farmers with assistance in rearing livestock such that they attract lucrative prices in the market and experiences are shared among farmers. Being a member of a group is positively and statistically significant in explaining participation in

formal markets at 1% level. Collective action in the form of farmer cooperatives or groups increases smallholder market participation and also provides farmers with information about market requirements, market availability and prices that are offered by different markets. All the coefficients of the significant variables (except distance to market) are in line with the researcher's expectations.

4.5.2 Other factors influencing participation in formal markets

This section examines factors that were highlighted by communal farmers as having an influence in the participation of communal farmers in formal markets and which were found to be statistically insignificant.

4.5.2.1 *Poor infrastructure*

A large share of farmers (60%) pointed out that as a result of poor roads and communication networks; there is limited access to services and market information as communal farmers are located in remote areas. With regard to infrastructure insufficiency, the main concern is the state of transport, which serves as the gateway to markets and inputs for livestock farmers in the Eastern Cape. However, 10% of the interviewed farmers did not consider their area to have poor infrastructure, and they have regular visits from extension officers and programme facilitators who provide help in terms of livestock management and marketing.

4.5.2.2 *Physical and financial capital*

About 60% of the livestock farmers interviewed stated that market participation is highly influenced by the physical and financial capital of the households, while 30% disagreed, pointing out land size as a major determinant of market participation, and the rest of the farmers were unsure. Ownership of larger numbers of livestock has a positive influence in market participation by farmers. Nevertheless, the majority of farmers with smaller numbers of livestock (less than 20) maintain that number and have no willingness and insufficient assets to increase their stock. The farmers who have fewer numbers of livestock keep the animals for draught purposes, to indicate wealth, and as liquid assets. When there is a need for money, they usually sell cattle to friends or relatives within the community in which they reside. The analyses reveal that the cattle camps had not been fenced. Consequently, the

roaming of stray livestock serves as a factor for the spread of transmittable animal diseases, and this is a serious threat for the livestock sector.

4.5.3 Why some farmers are not participating in the programme

More than 90% of the communal farmers in all the sampled municipalities in the Eastern Cape (EC) keep cattle for sale. Nonetheless, some farmers mentioned that they keep livestock as a buffer for draught and for home consumption (8%). An insignificant number of farmers (15%) prefer selling within the community because they get an immediate income, rather than sending the cattle to the custom feeding programme for three months. Farmers from Amatole DM, OR Tambo DM and Alfred Nzo do not regard draught power as essential for keeping cattle, while the opposite is true for Chris Hani DM and Cacadu DM. Keeping cattle for wealth and status is more important than keeping them for meat consumption. This, in turn, affects the participation of farmers in the NRMDP since livestock is sold only occasionally, depending on the financial needs of the households, and it is usually older or sick animals that are sold.

At the time of the conclusion of the survey, the custom feeding programmes operated in three district municipalities, which are Amatole (Nkonkobe Local Municipality, “LM”), Chris Hani (Intsika Yethu LM) and Alfred Nzo (Umzimvubu LM). In the other district municipalities (Cacadu DM and OR Tambo DM), there are no custom feeding programmes, which means that farmers have to send their livestock to other district municipalities which may be relatively far away, thus increasing transaction costs. The high transaction costs may induce farmers not to participate in the programme, thus selling their livestock in informal markets or engaging with local butcheries. However, informal markets are less stable since there is no guarantee that the cattle will be sold, and the prices vary. The terms of exchange are unofficially negotiated, and there is opportunistic behaviour exhibited by informed traders. Another reason is that communal farmers are used to setting the prices for their livestock, yet when they participate in the programme, they are offered the price by the buyer according to the weight and age of the cattle, i.e. the farmers are then price-takers.

The cattle have to meet the criteria for the programme in order for the stock to be accepted into the custom feeding programme. The cattle have to be dehorned, branded, and have ear tags before being accepted into the programme. The office of the provincial

Department of Agriculture and the NAMC evaluate the suitability of these animals and attend to all requirements that need to be met. However, some farmers do not have the resources to meet these requirements and hence they are eliminated in the programme. The custom feeding programme is mainly aimed at weaners and steers, and farmers may still want these weaners to reproduce and sell them at a later stage when the stock size has increased.

4.6 SUMMARY

The main focus of the survey was to determine the factors that influence farmers to participate in high value markets and analyse the overall performance of the NRMDP. The study has revealed that participating in the programme has a positive influence on household incomes received by the farmers. The farmers received more income as a result of participating in the programme. The off-take rates have increased since the implementation of the programme, and farmers are obtaining higher incomes through greater sales of weaners. The value of livestock sold in formal markets has increased over the programme years. The proportion of female farmers participating in the NRMDP is relatively low; hence, urgent attention is needed for enabling communal female farmers to benefit in lucrative markets.

CHAPTER 5

EVALUATING THE COSTS AND BENEFITS OF THE PROGRAMME

5.1 INTRODUCTION

Boadway (2006) defines cost-benefits analysis as an economic tool that examines decisions made in a project or policy from the perspective of society. For project to be economically viable and ensure effective use of scarce resources, the benefits and costs experienced by the community should be evenly distributed (Holland, 2012). If the benefits of the project exceed the costs, then there is enough evidence for the researcher to conclude that the project has social benefits and can sustain itself in future. This analysis will help improve decision processes as the NRMDP is still to be implemented in other provinces and appropriate actions should be taken in order to lead to improved welfare of society. This chapter analyses the costs of the programme and whether the costs were worth the results obtained using the cost-benefit analysis and SWOT analysis. Once the costs have been analysed, a conclusion and recommendations will be drawn, based on the results of the costs analysis.

5.2 ANALYSING THE COSTS THAT CONTRIBUTED TOWARDS THE PROGRAMME

The programme has five operating custom feeding programmes established by the NAMC, with a holding capacity of 80 to 300 livestock each. The holding capacity of the custom feeding programme is too low for the whole province, where demand for utilising the programme exceeds the holding capacity. The capacity of the custom feeding programme should be increased to make the programme sustainable, such that the demand for using it is met.

The district municipalities, especially Amatole, contributed to the construction of the auction sale pens with the aim of strengthening the marketing of livestock in the Eastern Cape. WBHO has contributed funds towards the programme activities, including road construction within the province in order to make it easier to transport livestock from source to market outlets. The construction of physical infrastructure makes it convenient for buyers to reach the auctions and for farmers to access formal markets. Training and practical assistance have

been provided to farmers. This has been done in order to align farmers with the product according to consumers' demand by means of creating a brand for them within the livestock industry in the country.

Commercial farmers derive income from diversified enterprises. On the basis of this, communal farmers have to be able to compete in formal markets and meet internationally and locally accepted market standards, hence the need for training for communal farmers. The direct involvement of communal farmers in formal markets helps increase profits and enables farmers to refrain from rearing livestock for prestige and become business-orientated and to keep livestock in order to sell them in formal markets. The government has started to place much emphasis on meeting marketing standards as required by the consumers, such that communal farmers can start producing good quality meat. It is understood that the programme contributes to government priorities of completely eradicating hunger in South Africa by 2015.

Table 5.1 below show the costs that were incurred by NAMC in running the programme, as well as in the construction of the custom feeding programme and facilitating auction sales. The operation costs have increased over the programme years, with 2012 being the highest. The costs can be explained by the nine auction pens and the three custom feeding programmes that were built. NAMC is on a mission to construct more custom feeding pens over the next few years.

Table 5.1: Cost to the programme contributed by NAMC

Year	Operational costs ²	Overheads ³	Total Costs
2009	R383 442.14	R281 215.71	R664 657.85
2010	R1 204 429.94	R1 157 228.16	R2 361 658.10
2011	R1 101 071.23	R1 248 535.24	R2 349 606.47
2012	R1 460 138.15	R1 412 710.68	R2 872 848.83
2013	R1 395 201.33	R1 404 714.91	R2 799 916.24
2009-2013	R5 544 282.79	R5 504 404.70	R11 048 687.49

Source: NAMC (2013)

² These are the costs associated with making a product or providing a service, they vary with production (e.g. materials, labour and machinery).

³ The cost of running the programme's business operations, usually these costs are fixed throughout the financial year and they do not change as the programme increases its operation (e.g. insurance, accounting personnel and facility costs).

5.3 COST–BENEFIT ANALYSIS

In determining whether the programme has a positive return, it is necessary to use the Cost–Benefit Analysis (CBA) methodology to determine the economic merits linking farmers to markets through the NRMDP. The aim of the CBA in the case of the NRMDP is to find out if the investment is justifiable or viable in terms of its ability to realise higher returns as a result of improved formal market participation by communal farmers. The overall impact of a programme was evaluated in quantifiable terms; the researcher compared the social costs of the programme with the achieved benefits, to ascertain whether the benefits outweigh the costs in order to critique the programme.

The researcher is aware that some of the costs and benefits will be realised in the future hence the Net Present Value (NPV) was calculated to determine the present value of the benefits and costs of the programme. To calculate the cost benefit analysis of the programme, market related costs and benefits have been considered since some costs and benefits were difficult to be predicted (intangible/ unforeseen costs). Since the NRMDP does not involve environmental issues and have no undesirable effects on natural resources, the use of CBA is more appropriate. The NRMDP is an effective way of reducing carbon emission. This claim is supported by Scholtz *et al.* (2013) stating that “*increased production generates less greenhouse gas emissions per unit of livestock product*”.

$$NPV = \sum B_n / (1+r)^n - \sum C_n / (1+r)^n$$

B_n = Benefits yielded from the programme

r = discount rate⁴

n = number of years

C_n = costs of the programme

$$NPV = R8\,464\,805.70$$

The weights assigned to the impacts are referred to as the social discount factor. It is the value which society attaches to present consumption as opposed to the future one since resources today are worth more than the same amount of resources in future. The main reason for using this rate comes from the generally accepted principle that the market is imperfect;

⁴ The discount rate of 5.5% was used, which is the composite rate for South African public projects determined by examining sources of government funding (it reflect both the STPR and the SOCC) (Beukes, 2013).

consumers are inconsistent, barriers on taxation of dividends exist, differences on risk and the existence of externalities among others, so the rate should not be based on the market variables (Danielsson, 2011). To cater for the imperfect capital markets a composite discount rate should be determined using the Society's Time Preference in Consumption rate (STPR) and the Social Opportunity Cost of Capital (SOCC) (Du Preez, 2004).

Since the calculated NPV is positive, this means that the programme is profitable at 5.5% discounted rate.

$$\text{Benefit Cost Ratio (BCR)} = \frac{\sum \text{present worth of benefit}}{\sum \text{present worth of costs}}$$
$$\text{BCR} = 2.0013$$

The BCR is above 1, and that being the case, the programme is profitable. From the output above, it is evident that the programme returns two times the investment injected into the programme and is worth the costs incurred.

5.4 SWOT ANALYSIS OF THE NATIONAL RED MEAT DEVELOPMENT PROGRAMME

This section aims at evaluating the internal and external factors that are either favourable or unfavourable in achieving the programme objectives. The programme facilitators have to capitalise on the favourable factors and eliminate the unfavourable factors, where possible, to improve the programme. Subsections 5.4.1 to 5.4.4 present findings extracted from the informal discussions with respondents with regard to the SWOT analysis.

5.4.1 Strengths

1. The programme is providing a market for farmers, which increases their incomes and the poorest owners of livestock with only a few animals are able to engage with formal markets.
2. The programme assists farmers to use market information in their decision-making, thereby improving as well as expanding their livestock asset base.
3. The programme strengthens farmers' associations and ensures their continued involvement in formal market participation.

4. The farmers now understand the value of selling young stock, and the numbers of weaners presented at selling points are evidently and gradually increasing.
5. The programme has developed a strong relationship with key external role players (Eastern Cape Department of Agriculture and Rural Development and other local authorities), and it has gained the trust and respect of livestock farmers, local authorities in the Eastern Cape and beyond.

5.4.2 Weaknesses

1. The programme only accommodates a maximum of 360 livestock in each custom feeding programme, which is far below the demand for the use of the programme.
2. Farmers who are illiterate and old lack marketing information and have poor understanding of marketing norms and standards.
3. Lack of ownership of land resources contributes to the lack of controlled grazing in the communal land tenure system, which makes herd management difficult, as well making it difficult for farmers to increase production.
4. Certain communal farmers are either typically elderly or retired men, some of whom do not have the technical knowhow or lack commercial farming skills. It is therefore difficult to change their traditional ways of rearing livestock and they are slow in understanding the market.
5. The programme is limited to only five of the six district municipalities in EC and the distance to the custom feeding programme is of some concern as it increases transaction costs.

5.4.3 Opportunities

1. There exists an opportunity for a transformation of marketing channels and enforcement of livestock farmers' interests.
2. There is willingness and commitment from government to support communal farmers.
3. The programme has to organise farmers' associations strongly enough and help them acquire the technical and management skills needed to operate feedlots and auctions.

4. The number of districts and provinces served should be expanded to help increase the market participation of communal livestock farmers.
5. There is also a need for increasing and maintaining the support of the public and private sector, such as construction companies through their corporate social investment programmes, auctioneers and animal feed and veterinary health product companies.
6. The market is open to the expansion of beef supply, and consumers are demanding more beef as the population increases.

5.4.4 Threats

1. Beef produced by communal farmers in South Africa is sold only locally following the outbreak of foot and mouth disease in South Africa in 2011, which led to the suspension of exports of meat and meat products.
2. Consumers have a greater influence concerning the beef products they desire, and this, in turn, causes changes in meat production, processing, retailing and marketing.
3. Programmes designed for communal livestock farmers are poorly coordinated.
4. Commercial farmers have a great influence on the price of beef in the market, and more agricultural policies favour commercial farmers.
5. Excellent prices offered for cattle increases theft of livestock and farmers have inadequate or no insurance coverage on livestock.

On the basis of the seriousness of these threats affecting communal farmers, it is imperative to elaborate on the threats in detail in the following section as the challenges faced by communal farmers participating in the NRMDP.

5.5 CHALLENGES FACED BY COMMUNAL FARMERS PARTICIPATING IN THE NRMDP

These challenges negatively influence the level of participation for communal farmers in the programme.

5.5.1 Poor road infrastructure

Most communal farmers are located in the rural areas, particularly in the former homelands where the state of both physical and institutional infrastructure limits their expansion. According to the farmers, the Eastern Cape roads have deteriorated significantly, with little or no state of maintenance. The decay of road infrastructure and functionality has resulted in difficulties for communal livestock farmers in accessing relative markets. The deteriorating condition, especially of secondary roads, is increasing transportation costs, which negatively impacts on farmers' profitability.

5.5.2 Lack of land ownership

Insecure land tenure systems, such as the communal land tenure system, constrain farmers from producing to their highest potential. Approximately 90% of the interviewed farmers use communal land where the camps are not fenced, and the rest use private farms. In the unfenced camps, it is difficult to control grazing and breeding. The lack of fencing holds severe ramifications for farmers as their livestock can be killed or stolen and may pose a danger to the general public at large, whose safety along the roads is at stake. Furthermore, effective management of livestock herds is impossible without basic infrastructure such as fences, as this contributes to overgrazing, especially in the communal areas. Since the communal farmers do not own the land they use, they usually find it difficult to acquire credit, as they cannot use the land as collateral security.

5.5.3 Lack of storage for the programme

The custom feeding programme at Ncorha (Amatole DM) has no storage facilities for feed. This poses a major threat as the feed has to be kept in a nearby homestead. Theft and mice are a threat to the feed and security measures cannot be installed in the homestead.

5.5.4 Unavailability of water

The surface water supply in the programme areas is mainly from rivers, dams, pans and wetlands. Usually the water supplies dry out during winter and the feeding programmes find themselves unable to operate without water. For all the areas of the programme, the farmers

agree that the Eastern Cape is a water-stressed area with unpredictable rainfall and high evaporation rates. Moreover, the pollution of the surface, as well as underground, water raises serious concerns among most users of the programme. The pollution has serious implications, especially on livestock health, which in turn increases the rate of mortality among livestock.

5.5.5 Diseases

Diseases are a major constraint to the improvement of the livestock industry in the Amatole, Chris Hani, OR Tambo and Alfred Nzo district municipalities. These diseases include foot and mouth, blackleg and contagious abortion. The outbreak of such diseases in the Eastern Cape is a threat to the communal livestock farmers who do not have medicine and proper disease control infrastructure.

5.5.6 Price fixing during auctions

The buyers of livestock during auctions are usually prominent and well-known businessmen. It is alleged that they communicate among themselves so that they can buy the livestock at low prices without facing competition. Eventually, the buyers obtain livestock at lower prices, at the expense of the communal farmers. The farmers may find the price to be ridiculous and decide not to sell, which is a cost to the programme as the livestock are sent back to the custom feeding programme. The buyers usually have suspicions about the scales used for weighing the livestock and refuse to accept the reflected weights of the livestock.

5.6 SUMMARY

The potential for communal farmers to contribute to economic growth and poverty reduction depends on the investment in agricultural programmes promoting participation of communal farmers in high-value markets. The government has contributed millions to the NRMDP with the aim of linking communal farmers to markets, while increasing off-take rates for communal farmers. The funds injected into the programme have yielded satisfactory results, as most communal farmers are now participating in high-value markets and are producing high-value products. The NPV is positive, which means that the programme is socially profitable.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 SUMMARY AND CONCLUSION

This final chapter considers the conclusion and recommendations of the study. The main priority of the NRMDP is to promote the development of the rural economy through greater participation of communal farmers in formal markets and improved rural livelihoods in the country. Given the noted success of the NRMDP through its ability to expand and improve market access for communal farmers, and the continued investment and expansion of the NRMDP, more communal farmers will have an opportunity to participate in livestock marketing, which could play a major role in increasing household livelihoods. However, the effectiveness of the programme depends to a large extent on how well some of the current constraints facing the communal farmers in accessing markets are addressed. Additionally, government support is needed to boost the livestock sector, as well as to motivate the establishment of new initiatives to address current and emerging problems in order to enhance the competitiveness of the sector in provincial, national and global markets.

The previous chapters explained the problem statement for the research and the objectives of the study. The study endeavoured to unpack the impact of the NRMDP on household income, assess factors that contribute to improved market participation of communal farmers as a result of the NRMDP and the effect of the NRMDP on formal market participation by communal farmers. Further, the study identified whether the programme is worth the cost and whether the objectives of the programme were achieved.

The empirical analysis of the effect of the NRMDP on formal market participation by communal farmers revealed that farmers who participate in the programme will definitely participate in formal markets. It was evident that most of the farmers that participate in the NRMDP are aware and they comply with the requirements of the market. The programme conveys technical and marketing information to communal farmers in ways that are easily understood. Participating in the NRMDP was found to be statistically and positively significant to household income, which proves that the programme is a gateway to exit from the poverty trap, thus driving communal farmers into higher-value markets through livestock

rearing. Participants in the NRMDP are given practical assistance in rearing their livestock and in improving weaner marketing.

The main aim of the programme is to link farmers to formal markets, and from existing evidence, this seems to be working. There has been a dramatic increase in income derived from livestock sales since the implementation of the NRMDP, which saw an increase from R228 600 at the beginning of the programme (2005) to R7 221 090 in 2012 and the number of livestock sold in formal markets has increased as well. This proves that the NRMDP has been beneficial in linking farmers to formal markets and in increasing their asset bases. As the stock sizes of the communal farmers increases, they are more likely to participate in formal markets. The level of education seems to have a positive correlation with formal market participation. As the farmers increase their education, they are more likely to participate in formal markets. Nevertheless, there are some hurdles that influence the participation of communal farmers in high-value markets. These obstacles include transaction costs, lack of physical and financial capital, and poor infrastructure. The lack of infrastructure acts as a major constraint facing communal farmers in rural areas as it also hinders the dissemination of information about market structure.

The results of the study reveal that the off-take rate for communal livestock marketing has increased after the implementation of the NRMDP in all the district municipalities, at an average of 12.5%. However, it can be proven that the off-take rate has not yet reached the 25% for commercial farmers, but there is still a potential for increase. The average price of weaners has increased over the programme years, albeit relatively insignificantly. On the other hand, the average price of cattle has been increasing faster than the price of weaners. From the analysis, it can be concluded that there has been a dramatic increase in the profitability of communal livestock enterprises as a result of the implementation of the NRMDP. This verifies the positive impact the programme has on providing communal farmers with the necessary skills to participate and be competitive in formal markets, and also in strengthening the capacity of communal farmers in making rational decisions.

From the CBA, it is evident that the costs of the programme are worth the benefits achieved. The calculated NPV was found to be positive, meaning that the programme is profitable. The BCR was calculated to be 2.0013, which means that the programme provided returns that are twice more than the funds injected in the programme. While the NRMDP has not yet been

implemented in other provinces, it is important to appreciate that at this stage farmers' attitudes are changing and they realise the importance of marketing high-value products in agricultural markets while the programme remains profitable. This study has demonstrated that communal farmers can be able to access high-value markets consistently even after the withdrawal of the subsidy hence the programme was worth the costs invested. This said, it can be concluded that the smallholder can continue penetrating high-value markets and maintain their position while reaping profits from sales of livestock even after the withdrawal of the government funding.

6.2 RECOMMENDATIONS ON HOW THE PROGRAMME CAN BE IMPROVED

1. The low level of participation of females in formal markets points to the need for further analysis in order to understand the reasons behind such low levels of participation in the cattle markets.
2. There is an urgent need to decentralise custom feeding programmes by constructing custom feeding programmes in all the local municipalities in the Eastern Cape, and expanding to other provinces as well.
3. The programme should be aligned to other initiatives implemented by government and the private sector that increase formal market participation of communal farmers so as to prevent a duplication of similar programmes. This will enable farmers to be competitive in formal markets and enjoy the benefits of participating in high-value markets, as commercial farmers do.
4. The NRMDP should be innovative as markets are transformed from time to time, such that communal farmers consistently participate in higher-value markets and are able to retain their position while producing high-value products.
5. This study has therefore shown that the NRMDP as initiated by the government of South Africa has been used as a demonstration of how communal farmers can improve formal market access, it is therefore, crucial for communal farmers to penetrate global markets as well taking advantage of the absolute advantage they have as a result of the programme.

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