



LIVESTOCK DEVELOPMENT STRATEGY FOR SOUTH AFRICA



agriculture

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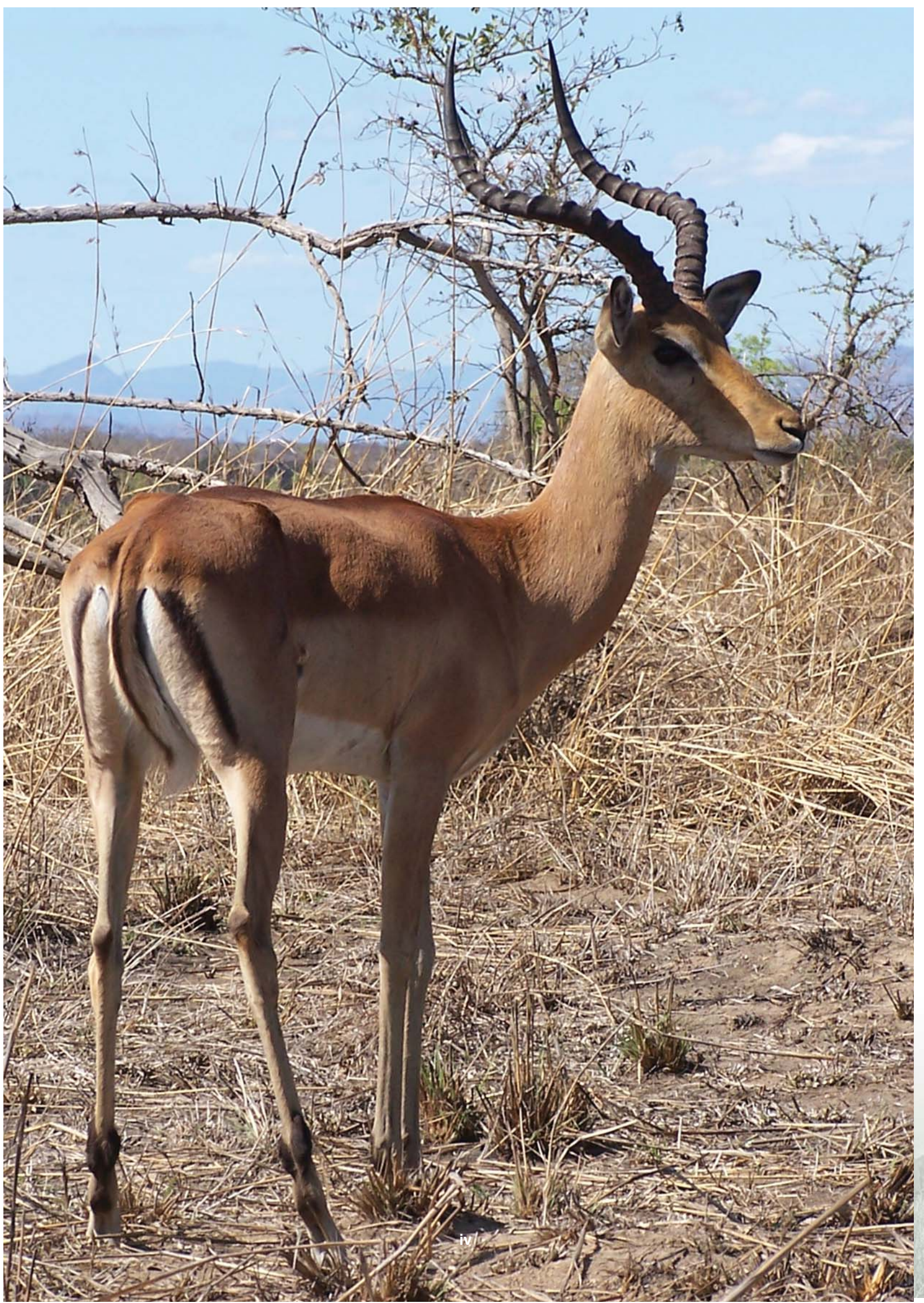


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Abbreviations



LIST OF ABBREVIATIONS

ABC	-	Agricultural Business Chamber
AgriSA	-	Agricultural Union of South Africa
ARC	-	Agricultural Research Council
AU	-	Animal Unit
BSE	-	Bovine Spongiform Encephalopathy
CASP	-	Comprehensive Agricultural Support Programme
Codex	-	Codex Alimentarius Commission
DoA	-	Department of Agriculture (National)
DoH	-	Department of Health
DLA	-	Department of Land Affairs
EU	-	European Union
FAO	-	Food and Agricultural Organisation
FMD	-	Foot and Mouth Disease
FTA	-	Free Trade Agreement
GDP	-	Gross Domestic Product
HA	-	Hactra
ICC	-	International Chamber of Commerce
ICRA	-	International Centre for development orientated Research in Agriculture
IFAP	-	International Federation of Agricultural Producers
ITAC	-	International Trade Administration Commission
ITCA	-	Inter-Departmental Technical Committee of Agriculture
LRAD	-	Land Redistribution for Agricultural Development
LSU	-	Large Stock Unit
MERCOSUR	-	Trade and Commerce Union between South American countries
Milk SA	-	Milk South Africa (coordinating body for milk producers and processors)
MinMec	-	Ministers and Members of Executive Councils
MPOSA	-	Milk Producers Organisation of South Africa
N	-	Nitrogen
NAFU	-	National African Farmers Union
NAMC	-	National Agricultural Marketing Council
NERPO	-	National Emerging Red meat Producers Organisation
NOPSA	-	National Ostrich Processors of South Africa
NSF	-	National Skills Fund
NWGA	-	National Wool Growers Association
OIE	-	International Organisation of Epizootics
OVI	-	Onderstepoort Veterinary Institute
PDaA	-	Provincial Department of Agriculture
PDP	-	Professional Development Programme
PPP	-	Public-private Partnership
PSE	-	Producer Support Estimate
R&D	-	Research and Development
RMAA	-	Red Meat Abattoir Association
RPO	-	Red meat Producers Organisation
RSA	-	Republic of SA
SANDF	-	South African National Defence Force
SAFA	-	South African Feedlot Association
SAGRO	-	South African Game Rancher's Organisation
SAMIC	-	South African Meat Industry Company
SAOPO	-	South African Ostrich Producers Organisation
SAPA	-	South African Poultry Association
SAPPO	-	South African Pig Producers Organisation
SAPS	-	South African Police Services
SAMFED	-	South African Milk Federation (until 2002)
SAMPRO	-	South African Milk Processors
SA Stud Book	-	South African Stud Book and Animal Improvement Association
SMME	-	Small, medium and micro enterprises
SPS	-	Sanitary and Phyto-sanitary measures
STD	-	Sexually Transmitted Diseases
TAU	-	Transvaal Agricultural Union
THE DTI	-	Department of Trade and Industry
USA	-	United State of America
Veldstock	-	Veld and Livestock Working Group
WTO	-	World Trade Organisation

Foreword by the Minister



Ms Lulama Xingwana
Minister for Agriculture and Land Affairs



FOREWORD BY THE MINISTER

Demand for meat and milk in South Africa rose in the last 10 to 20 years. It will double in the next decade, and this will fuel massive increases in livestock production. This phenomenon has power to affect the South African economy. It has power to transform the social and physical landscapes of the country. It is being called a "livestock revolution". The stakes in it for the country's poor are enormous. The Livestock Revolution could help relieve poverty and hunger countrywide. It could provide an engine for sustainable intensification of small-scale farming and marketing. It could also beget pollution, degradation and disease as it stretches production beyond capacities. The Livestock Revolution is driven by appetites of millions of people with small rising incomes. It cannot be stopped. It can be harnessed, however, for poor people countrywide, who keep most of the livestock. Finding ways to make the Livestock Revolution work for the poor is one of the objectives driving the Livestock Development Strategy (LDS).

The LDS was developed to address the need to enhance equitable access and participation in agriculture, improve global competitiveness and profitability, and ensure sustainable resource management for the entire South African farming community. Although the emerging and subsistence sector has the biggest potential for development and increased productivity, its current average contribution is 30% of this sector. The production efficiency as measured through percentage off-take in the red meat industry for instance suggests substantial scope for improvement in the emerging and subsistence sector versus the commercial sector and in general for South Africa compared to some competitor countries. There has been indication of alterations in markets, opportunities and consumer preferences over the past 30 years.

The gross value of livestock products has doubled from R 10.5 billion in 1991/92 to R 23.3 billion in 2001/02, imports increased from R 119 million to R 1100 million and exports from R 761 million to R 1526 million over the corresponding period. Poultry meat and eggs providing more than 40% of the gross value, poultry meat also constitutes the bulk of the imports since 2000, whereas wool is the most important export commodity.

The lack and or insufficient support structures to the emerging and subsistence sectors in many areas is highlighted as an important constraint as well as lack of capacity and coordination between particular government departments (national, provincial and local) to effect certain vital support and enabling functions.

The different groupings in the form of producer organizations and farmers unions such as NAFU and AgriSA or RPO and NERPO are no different to the compartmentalisation of the past and a step backwards in the quest of all livestock producers sharing equally in the benefits derived from the industry. Development is dependent on partnerships, support, mentorship and training which will only be effective if done within joint structural arrangements with common goals.

For the livestock industry to thrive it has to remain competitive in the domestic market and increase its share in the global market within its constraints and challenges that are related to input costs, crime, labour, capital cost, efficiency, producer share of the consumer price, interaction and integration in the value chain, niche markets and subsidised products entering the South African market.

Although the livestock industry has positive prospects both internationally and domestically, a number of the major challenges particularly within the emerging sector need to be addressed by all stakeholders. This will inevitably bring about food security, improved income and a huge contribution to the entire economy by the livestock sector.



MS LULAMA XINGWANA
MINISTER FOR AGRICULTURE AND LAND AFFAIRS



Masiphula Mbongwa

Director-General: Agriculture

Overview by Director-General



OVERVIEW BY THE DIRECTOR-GENERAL

I am pleased to present the Livestock Development Strategy (LDS) for South African Agriculture to the Minister of Agriculture and Land Affairs, for approval. Though some elements on the implementation are already being addressed, the actual implementation is with effect from the 2006/07 financial year.

The structure of the strategy

The LDS document was developed over a period of 12 months as an Inter-Provincial Technical Committee on Agriculture (ITCA) driven Inter-Provincial-Department of Agriculture (DoA) - Agricultural Research Council (ARC) led process within the framework of Presidential imperatives and the Sector Plan for South African Agriculture.

Central to this strategy is the vision of a united and prosperous agricultural sector with three core goals:

- To enhance access and participation by previously disadvantaged groups
- To maintain and increase international competitiveness and profitability
- To ensure the sustainable use and management of the natural resource base

Actions included an in depth review of both the livestock sector as well as the resource base, and sector working groups were established to use information on current status, constraints and challenges as a framework to develop strategies to rectify problems and to mobilize the respective sectors towards more equitable and sustainable production.

Following approval by the ITCA and the Ministers and MEC's of Agriculture (MinMec), which is now known as the National Intergovernmental Forum for Agriculture and Land, the LDS was reviewed to develop a plan of action for stratified implementation.

Key elements and interventions of the Livestock Development Strategy

The key elements and interventions (Policy and legislative interventions; Interventions to mobilise rural communities towards sustainable use of animal; range and forage resources; Interventions to develop the second economy; Private/sector/industry responsibility/interventions) of the strategy are divided into an enabling environment and an industrial environment to highlight the key responsibilities of the different sectors.

Resources

In order to implement these interventions effectively, it will be necessary that the following resources are made available:

- Human capital for animal production and veterinary services (DoA, PDoAs & ARC)
- Sustainable funding system for research, development and technology transfer
- Increased funding for infrastructure development
- Human resource development programs instituted by DoA, PDoAs, ARC and Tertiary institutions (training programs for extension staff and a program for community development services for veterinary graduates)

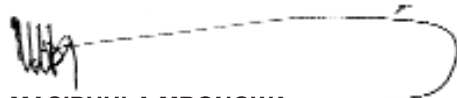
Implementation of the Livestock Development Strategy

The implementation of the LDS must be done in consultation and collaboration with existing structures in the livestock sector. These industries are major exporters and approximately 90% of their products being exported. With regard to export promotion, one must be careful not to put too much emphasis on the USA market and by doing so, neglect the Far East and Middle East. There is also much scope for value-adding before products being exported. If processing in some export orientated agricultural industries could be enhanced, a huge number of job opportunities could be created.

Most of the industries have sustainable development strategies in general and have already adopted BEE strategies in particular to promote equitable market access.

The Marketing of Agricultural Products Act, 1996 (Act No. 47 of 1996), through the various statutory measures, could assist to a great extent in the implementation of the LDS. For example, "long term funding for research" could be secured through statutory levies and government grants. Furthermore, "reliable statistics on the national livestock herd, its production and exports" could be achieved through statutory measures (registration and records & returns).

The success of the LDS will depend entirely upon effective communication, collaboration and cooperation at all levels from inter-governmental, inter-provincial, inter-sectoral to farmer and individual owner and entrepreneur level.



MASIPHULA MBONGWA
DIRECTOR-GENERAL: AGRICULTURE





Executive Summary



EXECUTIVE SUMMARY

1. The Livestock Strategy Plan is approached from the point of departure of the Presidential Imperatives and the Strategic Plan for South African Agriculture, emphasizing the need to enhance equitable access and participation in agriculture, improve global competitiveness and profitability, and ensure sustainable resource management.
2. The importance of the livestock industry to the agricultural sector and the national economy is evident from the following perspectives:
 - it accounts for more than 40% of the total value of agricultural output.
 - because it is largely natural resource based livestock farming occupies nearly 80% of the agricultural land.
 - the fact that such a large proportion of the agricultural land allows only animal husbandry implies that the only way the vegetation resource can be used for food production is through herbivory.
 - from a food and income security point of view animal agriculture is the primary income generator in the majority of rural areas, and in the developing world of an estimated 700 million people, with projections indicating that by 2020 it will be the most important contributor to sustenance, poverty relief and agribusiness development in the global context.
 - animal food products are a major contributor to a balanced diet because of the high biological value of their protein and significant quantities of high bio-available minerals and vitamins; in addition, animal fibre products quantitatively contribute significantly to the clothing, leather, housing and decorative industries.
 - livestock earnings amount to about 10% of agricultural export and through import plays a significant role in stabilizing the economies of SADC countries.
 - it is a major employer and employment generator in the economy with some 425 000 people employed and 2 125 000 dependent on the livestock industry for their livelihood.
 - through backward and forward linkages to e.g. the food industry, the contribution of agriculture to the national economy increases to about 30%, with livestock production accounting for more than a third.
3. Livestock is farmed throughout South Africa with numbers and species varying according to climatic conditions, biomes, production potential, population concentrations and proximity of input requirements and markets. The average contribution of the emerging and subsistence sectors is less than 30% but fluctuates widely with species (12% for sheep to 70% for goats) and province (3% of cattle numbers in the Western Cape and Free State to 71% in the Eastern Cape).
4. The significance of increased livestock production and expansion into rural areas with decisive implications to land reform and restitution is discussed in relation to biomes that go across provincial boundaries, eroded and overstocked areas, production potential, and supplementary fodder and cultivated pastures. GIS and other supporting information strongly suggests that particular areas can increase livestock numbers with or without supplementary fodder, others need to decrease numbers and yet others probably need to be destocked in favour of consideration for conservation and tourism. The eastern seaboard area in general is suitable for cultivated legume-based pastures that should be considered for expansion in livestock production. Otherwise, intensive pig and poultry systems and vertical integration become alternative optimal land use options but with significant constraints in input costs, management and markets.
5. The growth in production of poultry products was threefold in the last 30 years, positive for ostrich products, beef, pork, fresh milk, cheese and whole milk powder and negative for mutton, wool, butter and condensed milk, indicating alterations in markets, opportunities and consumer preferences.
6. The production efficiency as measured through percentage off-take in the red meat industry suggests substantial scope for improvement in the emerging and subsistence sector versus the commercial sector and in general for South Africa compared to some competitor countries. For example, the percentage off-take of cattle, sheep and goats is 25 - 30% in the commercial sector versus less than 10% in the emerging and subsistence sector, implying that if the efficiency in this sector can be brought on par food and income security can be obtained

without an increase in numbers in many situations. Given the constraints and limitations of the natural resource, improved efficiency should be the preferred option.

7. The gross value of livestock products has doubled from R 10.5 billion in 1991/92 to R 23.3 billion in 2001/02, imports increased from R 119 million to R 1100 million and exports from R 761 million to R 1526 million over the corresponding period. Poultry meat and eggs provide more than 40% of the gross value. Poultry meat also constitutes the bulk of the imports since 2000 whereas wool is the most important export commodity.
8. The consumer spends 35 - 40% of the consumer Rand on livestock products and of the per capita consumption of 85 - 88 kg, 33% comes from poultry products and 34% from fresh milk.
9. Organisation of the industry is discussed in the text in terms of farmer support bodies, processing industry and value chain bodies, umbrella and coordinating bodies, the role of government in providing the regulatory, strategic and operational framework and research, extension and training structures. The lack of support structures to the emerging and subsistence sectors in many areas is highlighted as an important constraint as well as lack of capacity and coordination between particular government departments (national, provincial and local) to effect certain vital support and enabling functions. Of particular concern is Research and Development.
10. Equitable access and participation should be treated as a given. To have different groupings such as NAFU and AgriSA or RPO and NERPO are seen as no different to the compartmentalisation of the past and a step backwards in the quest of all livestock producers sharing equally in the benefits derived from the industry. Development is dependent on partnerships, support, mentorship and training which will only be effective if done within joint structural arrangements with common goals.
11. For the livestock industry to thrive it has to remain competitive in the domestic market and increase its share in the global market. Particular constraints and challenges are related to input costs, crime, labour, capital cost, efficiency, producer share of the consumer price, interaction and integration in the value chain, niche markets and subsidised products entering the South African market.
12. Necessary outputs are arranged within the framework of priority areas of the plan and governmental enabling environment versus industry responsibility.

12.1 Enabling environment

Market Development and Trade

- Meat industry must not be included in the free trade agreement with MERCOSUR so that tariffication for red meat and chicken can be maintained.
- Tariffs to be reviewed quarterly to timely deal with dumping and subsidized imports.
- Establish the national traceability system for export certification and an associated independent audit system.
- Needs and interest of the agricultural sector addressed and protected in trade negotiations and agreements.
- South African veterinary protocol on par with that of the first world and accepted by other countries especially USA.

Safety and security

- Development of the stock theft codes for effective policing and improved convictions and decisive sentences of perpetrators.
- Establishment of effective supporting structures.
- Implementation of the Animal Identification Act.

Animal Health

- Establishment of animal health databases and control actions to maintain good animal health status.
- To maintain free BSE status.
- Transformation of the veterinary services as a national responsibility.





Animal Conservation

- Recognition and maintenance by DoA of the national database (INTERGIS).
- Utilization of INTERGIS by all stakeholders.
- Conservation and utilization of indigenous and adapted livestock breeds and strains.

Rangeland and Forage Conservation

- Introduction and maintenance of the Rangeland and Forage improvement scheme.
- Recognition and maintenance by DoA of the national vegetation database.
- Utilization of the national vegetation database by all stakeholders.
- Conservation and utilization of indigenous and adapted forage cultivars and species.

Rangeland Resource Protection

- Development of policy and legislation for tax relief for infrastructure development to ensure sound rangeland management (fencing, watering points).
- Development and implementation of a holistic drought management plan.

Food Safety and Quality

- Development of a food safety policy and strategy (food fortification and supplementation), norms and standards for meat inspection, classification and the execution of meat hygiene, and implementation of the Meat safety Act.
- Promulgation of the Food safety Act.
- Introduction of the functional food control agency.
- Formation of the public-private partnerships to develop a countrywide network of monitoring agencies and laboratories.
- Adequate monitoring of food safety and quality by DoH.
- Accredited laboratories with up-to-date equipment for diagnostic, analytical, pathogenic, residue and mycotoxin testing.
- Projects to develop minimum food quality standards integrated with production systems and good practices, and for resource poor producers and processors in remote rural areas.

Input Costs

- Alignment of labour legislation and minimum wages with input costs.
- Introduction of the system for handling trade agreements which impact directly on the relationship of input costs and product prices.
- Trade agreements based on the relationship between input costs and product prices.

Institutional Links

- Formal liaison structure in place between DoA, DoH and the dti to develop common strategies to support effective trade.
- Formalized meetings between DoA and industry organisations to support issues of common interest, mentorship and collective bargaining, and between DoA, the dti and ABC to facilitate agricultural value chain approach, particularly in rural areas which require effective linkages between commercial and emerging farmers.

Support services

- National coordinating bodies to ensure proper prioritization, maximum utilization of scarce resources, technical assistance, market information and guidance, irrespective of provincial boundaries but according to production areas.
- Sufficient financing facilities especially for new entrants in place.
- Policy, guidelines, market information and other measures conducive to a positive market environment.

Production Potential and Efficiency of Indigenous Livestock

- Livestock improvement policy used to exploit the production potential of indigenous breeds by coordinating the different role-players.

Production Potential and Efficiency of Rangeland

- National rangeland policy used to exploit the production potential of rangeland and minimize risk in terms of livestock production.

Emerging Sector

- Diversified livestock and other livelihood options for the emerging sector.
- Land ownership systems and secure rights to resources for viable production systems.
- Research and development for market development and access to commercial markets, marketing information, sustainable extensive and intensive livestock production systems, utilization of alternative feed sources, SMME development, new and novel products, agro processing, land tenure systems and the relation between poverty and resource degradation.

Infrastructure in Rural Areas

- Sufficient government funds to support business plans and projects to institutions that provide infrastructure such as engineering firms, Transnet and Escom.

Information and Statistics

- Reliable statistics on the national livestock herd, its production level, exports and profile of livestock farmers.

Research, Extension and Training

- Sustainable funding system to ensure long term funding of research, development and technology transfer.
- Integrated research and development system that stimulates innovation, competitiveness and productivity.
- Optimal resource capacities and skills for research, development and technology dissemination.
- HR development programme for research, development and technology dissemination.
- Establishment of a national programme for technology transfer and dissemination.

Food and Income Security

- Research and technologies that improve the post harvest storage and quality of animal products, and support agro-processing of animal products.
- SMME development program.

Sustainable Natural Resource Utilisation

- Research and development for pastoral risk management, new and alternative forage crops and production practices, and exploitation of the natural resource biodiversity.
- National Research and Development and technology dissemination programme for biome management.

Biologocal Efficiency of Livestock

- Research and development on reproductive efficiency, growth and development, genetic improvement, enhanced genetic variation, nutrient intake and utilization, DNA technology and services, integrated livestock and crop systems, environmental protection and animal health.

12.2 Industry responsibility

Commodity Implementation Plans

- Industry sector (commodities) specific business and implementation plans aligned with this strategy and implementation framework.

Competitive and Global Markets

- Research and development and non-research and development interventions for competitiveness and market access.

Domestic Market Share

- Reliable and accurate product information to consumers.

Emerging Sector

- The commercial farming and agri-business sector must take co-responsibility for development programmes.
- Recruit such farmers and entrepreneurs to organised agricultural structures.





- Assist formation of co-operative structures with shareholding by participants.
- Promote and assist participation and representation of black entrepreneurs in agribusiness.
- Invest in these ventures to build trust and to facilitate utilization of contract suppliers and downstream partners.

Enabling Environment

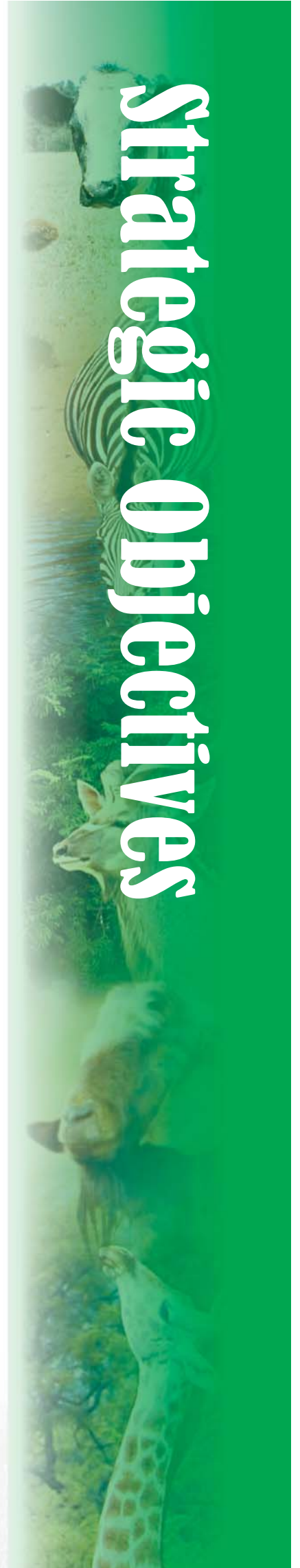
- Industries or commodities must provide information and share responsibilities regarding statistics, market development and trade, natural resource management, safety and security, animal health and animal conservation.

Research and Development

- Research and development needs for every commodity identified, prioritized and managed.
- Increased financial and other resource support for Research and Development.
- Business Plans indicating required Research and Development interventions must be developed.



Strategic Objectives





STRATEGIC OBJECTIVES

The Strategic objectives of the livestock and animal products strategy are:

- 3 To leverage the large livestock resource within the country as a bridge between second and first economies, in order to stimulate development and income generation within rural poor communities by, improving the efficiency and profitability of production.
- 3 Implementing a community based approach and organisation to allow for full community participation.
- 3 Enhancing the participation of rural poor communities in the value adding and processing chain.
- 3 Facilitating market development both within and outside of the country ensuring market access and competitive prices.
- 3 Encouraging the exploitation of all factors that allow for competitive advantage.
- 3 Ensuring sustainable natural resource usage.
- 3 Improving the animal health status of the national herd.
- 3 Providing a enabling regulatory environment.
- 3 Exploiting the production potential of indigenous breeds by coordinating the different role-players.
- 3 Exploiting the production potential of rangeland and minimizing risk in terms of livestock.
- 3 Facilitating rural safety and security.
- 3 To ensure innovative restructuring of the value adding and processing chain and activities to ensure equitable access to allow for broad based participation and to meet government priorities.
- 3 To ensure improved income and food security within rural communities.
- 3 To ensure improved food safety there by improving the general health status of the country.
- 3 To improve the contribution of the sector to economic growth and the gross domestic product.

Introduction





1. INTRODUCTION

1.1 Presidential Perspective on Agriculture

The Millennium Africa Plan, driven by Pres Mbeki and others, constitutes an important economic and political development partnership amongst African governments. In this initiative of constructive development and co-operation in the broader African context, South Africa is expected to play a leadership role. In his State of the Nation address (09/02/2001), Pres. Mbeki accordingly outlined the imperatives and set the scene for "moving the economy onto a high growth path, increasing its competitiveness and efficiency, raising employment levels and reducing poverty and persistent inequalities". In this regard, export-driven production sectors with potential for growth and job creation e.g. agro-processing, have an important role to play. In general, agriculture as a pivotal industry, therefore, must receive special attention.

1.2. National Agricultural Strategy

The Strategic Plan for South African Agriculture ⁽²³⁾ emanated from the President's perspectives. Government and the agricultural industry (the latter represented by AgriSA and NAFU) drafted the strategic plan. In this plan it was argued that the potential for the horizontal expansion of agricultural production is limited, one of the limitations being that unused high and medium potential land is scarce. This implies that the challenge for higher agricultural (also livestock) production is immense because primarily it would have to come from increased efficiency. According to the strategic plan the challenge should be approached through three core strategies, i.e. to:

- Enhance equitable access and participation in agriculture,
- Improve global competitiveness and profitability, and
- Ensure sustainable resource management.

Complementary strategies to these would be:

- Good governance.
- Integrated and sustainable rural development.
- Knowledge and innovation.
- International co-operation.
- Safety and security.

1.3. The Role and Importance of the Livestock Industry in the National Agricultural Economy

1.3.1 Overview

The significance of the livestock sector in the agricultural industry may be considered from several perspectives. Livestock products account for more than 40% ⁽³⁶⁾ of the total value of agricultural output which is not surprising since nearly 80% of the agricultural land allows only animal husbandry. Livestock production, furthermore, is partially rural based, contributing significantly to food security and sustainability, in addition to livestock performing a number of social, economic and cultural roles and functions in these areas. Livestock food products are major contributors to a balanced diet whereas livestock fibre products are significant in the clothing, leather, housing and decorative industries. The success of the livestock sector in terms of the gross domestic product (GDP) is largely due to commercialization and intensification to enhance turnover and off take. These intensive systems are comparable to the best elsewhere in the world. Finally, significant foreign earnings result from export of several livestock food and fibre products whereas neighbouring countries benefit from the stabilizing import market of South Africa.

1.3.2 Food security

Food security ⁽⁶⁾ requires that people have ready access to food that is adequate in quantity and quality. Because of the low potential for crop production in South Africa, animal agriculture ⁽²⁷⁾ is the primary income generator in the majority of rural areas and climatic zones, to provide the necessary revenue to buy staple foods such as maize, wheat and vegetables or to acquire other supplements in adequate quantities to balance the diet. In this context South Africa as a developing country is not unique, as livestock makes the most significant contribution to the livelihoods of over 70% of the global poor. A 2002

report by the FAO⁽¹²⁾, furthermore predicts that the livestock sector will become the most important agricultural sector in terms of added value. With the constraints imposed by climate and soil, a similar conclusion is justified for South Africa.

The total production of livestock based food products is in excess of 4 million tons per annum which is slightly less than the consumption needs. The per capita consumption of food commodities comprises about 135 kg grain, 85 kg animal products, 65 kg vegetables, 35 kg fruit and 35 kg sugar, indicating the relative quantitative importance to population needs. From a rural food security point of view the largest portion of animal products is consumed domestically since only 6% is exported in comparison to much larger proportions in the field crop and horticulture categories.

The major contribution of animal food products is to the quality of the diet. The biological value of animal product proteins is higher than that of grain or vegetable products, with egg protein often used as reference protein. Animal foods are also major suppliers of essential nutrients that are often inadequate in rural diets, such as vitamin A and iron. For example, the quantitative contribution of iron per unit product is much higher in red meat because of a higher bioavailability. Furthermore, worldwide milk and dairy products are recognized as the most balanced food for humans and, in contrast to general perception, South African beef and dairy products⁽¹⁹⁾ as found in studies at Irene, are not such major contributors to the fat and cholesterol intake of the population.

1.3.3 Natural resource utilization

The fact that almost 80% of the agricultural land allows only animal husbandry implies that livestock production is primarily natural resource dependent and consequently has a prime responsibility towards the sustainable usage of this valuable but vulnerable resource. It also implies that the only way the vegetation resource can be used for food production is through herbivory. Therefore, a good understanding of the dynamics and interaction between rangeland, pastures, climate and livestock is essential for sustainable livestock farming

Livestock production from rangeland depends on net fodder production. If the condition of the rangeland is healthy livestock production will be optimal and also more sustainable. Unfortunately the productivity of many rangelands are not healthy or they have been seriously eroded (to 40-50% of potential) by *inter alia* desertification, overgrazing, bush encroachment and the loss of palatable plant species. Should this deterioration be allowed to continue, sustainable livestock production will be jeopardized.

One of the causes of the present low turnover, inefficiency and vulnerability of the livestock sector is inadequate feeding, both quantitatively and qualitatively. Therefore, any significant technological development and managerial improvement that will improve productivity of the natural vegetation or planted pastures, will impact positively on present and future livestock production and food security.

Because of the close interaction between livestock and the natural resource, this section is refer to a companion document: "Natural Resource Base Implementation Framework for the National Livestock Development Strategy".

1.3.4 Agricultural GDP, growth and trade

Agriculture and related industries contribute about R65 billion⁽²⁾ a year (2001/02) to the South African economy or more than 10%⁽³⁶⁾ of the GDP. The figure may even increase to more than 30%, depending on how many backward and forward linkages are included. The share of livestock products of agricultural GDP is 41%, versus 34% for field crops and 25% for horticulture, further illustrating the significance of the livestock sector. The real growth rate in agricultural produce has increased by 1.7%⁽¹⁶⁾ per annum since 1960, which is in line with current population growth, the respective sectors being livestock 1.9%, field crops 1.0% and horticulture 2.9%. The share of livestock products amounts to only 10% of the export earnings of agriculture of about R12 billion, indicating a possible potential to exploit lucrative and niche markets. As an importing sector the livestock sector plays a significant role in stabilizing the economies of neighbouring SADC countries with major imports of, in particular, beef cattle and small stock for slaughter and other purposes.





The total value of livestock imports amounts to about R1000 million.

1.3.5 Backward and forward linkages

1.3.5.1 *Employment and job creation opportunities*

Studies have shown that 1% ⁽³⁶⁾ contribution of the agricultural sector to the aggregate GDP results in a 2% increase in the aggregate GDP, due to the interrelatedness and linkages with other sectors of the economy. Job creation consequently also benefits, as the agricultural sector is known to create the second largest employment multiplier per Rand invested, the construction sector being the largest. It is also observed that investment in agriculture generates more long term or permanent employment opportunities than the construction sector. Another comparison indicates that investment of R1 million in the agricultural sector creates twice the number of jobs than, for example, in the manufacturing sector. Furthermore, nine of the top ten employment generators in the economy are to be found in agri-business. From a livestock perspective, included in the nine is meat products, animal feeds, dairy products, oils and fats and canning. According to SAMIC, ⁽¹⁶⁾ there are currently about 425000 people employed in the livestock sector. This implies that an average 2125000 people depend on livestock for their income. A study in the Western Cape Province indicated that the livestock sector has employment multipliers of 88.4 person years, versus 70.8 and 92.8 person years for the field crop and horticulture sectors respectively.

the multiplier effect is much higher in the processing sectors than the primary livestock sectors as shown in Table 1.1, although the difference would be less if the backward linkage to the input sector of primary livestock industries, for example basic farm requirement companies, were to be included. The study nevertheless clearly indicates that the driving force behind employment creation in the livestock industry lies within the processing sectors and not within the primary sector.

Table 1.1 Employment multipliers for the livestock industry (1985) (16)

Sector	Employment multipliers
Meat products	11.7
Animal feeds	10.0
Dairy products	8.24
Meat animals	1.92
Milk	1.57
Poultry	1.48
Animal fibre	-1.17

1.3.5.2 *Poverty relief and socio-economic development*

Agricultural activities in rural areas are closely associated with economic and socio-economic upliftment ⁽⁵⁾. If increased and improved, stabilization tends to result, poverty is reduced and urbanization will inevitably slow down. Urbanization is on the rampage in South Africa, as elsewhere in Africa, with 60% of the population expected to be urbanized by 2010. Urbanization impacts on rural stability in two ways, viz.: it threatens the well-being and sustainability of rural socio-economic environments and puts further pressure on resources to produce even more for urban needs. Therefore, well-planned agricultural and agri-business development in rural areas is crucial for stability and to delay uncontrolled urbanization.

About 40% of the total population of South Africa of which the majority is poor is, to some extent, dependent on rural agricultural production. Increased production and agri-business development will generate income and employment which will contribute positively towards reducing poverty levels and improve the economic and food security position in these areas. A study in the Eastern Cape ⁽³⁶⁾ is a case in point: Agriculture, through the various backwards and forward linkages with non-agricultural industries, multiplied its

¹ The employment multiplier indicates the number of jobs generated in the economy for each new job generated in specific sector.

direct contribution by a factor of 1.84 to generate 9.86% of the regional GDP and stimulated employment by a factor of 1.59, i.e. 35% of the employment in the region.

The relationship between agriculture and human development also goes further than income, employment and food security⁽³⁵⁾. The dignity provided by economic activity and food security through self-employment and personal initiatives may be realized by a productive farming and agri-business sector, and also through the many linkages created in the rural economy. It is furthermore also important from a gender perspective, in view of the large number of women involved in rural farming.

The role of the livestock sector in this scenario provides a decisive perspective. Globally, livestock makes a significant contribution to the livelihoods of an estimated 700 million people, the majority of whom are poor and reside in the developing world with corresponding environmental constraints similar to those experienced in South Africa. A study by the FAO⁽¹²⁾ predicts that by 2020 the livestock sector will be the most important sector providing for dramatic increases in meat, milk and egg consumer demand between 2000 and 2020. The expected increase in demand for livestock products in the developing world and in the analogous South African rural environment, should present itself as an opportunity for market and business development.

The prediction, now known as the "Livestock Revolution"⁽⁸⁾, is based on the principle that once the income of people rises, for example from subsistence to income generating, they diversify their diet and eat more meat, milk, fish and eggs instead of traditional staple foods. An example on income elasticity² is an illustration³. It is further underpinned by continuing population growth and increased urbanization, which increases the need for all kinds of food but primarily livestock-based food products. The emerging farming and agri-business sector in South African rural areas, because of the primarily livestock based livelihood, stands to gain enormously provided the right policies, technologies and projects are put in place to facilitate taking advantage of these opportunities.

1.3.5.3 Value-adding and agri-business

The forward linkages to the food industry provide a further perspective to livestock's importance to the national economy. The food and beverage industry is one of South Africa's most significant and economically vibrant sectors. It is also the largest manufacturing industry.

The consumption of food products (including beverages and tobacco) constitutes 20% of the country's expenditure on GDP⁽³⁶⁾. It also constitutes the largest share (32%) of private consumption expenditure, the nearest successor, transport and communication, being only 15%. For that purpose, the food industry is dependent on the agricultural industry for more than 30% of inputs, of which livestock products contribute a third. These consists of about 60% agricultural product value delivered to processing plants, 12% to the value added by the manufacturing process, 13% to the fixed capital investment and 13% to the direct employment.

Value-adding and agri-business development has major implications for competitiveness and rural development:

Competitiveness in domestic and global markets

Agri-business and supply chain management are significant in the quest to increase competitiveness in both domestic and global terms. With deregulation and free trade, farmers and agri-businesses increasingly have to position themselves as business driven competitors in a less controlled, "free market" global environment. Amongst others, this requires business integration within the supply chain, linking input suppliers, producers, processors, traders and the consumer, to effect and support value adding.

² Income elasticity indicates the effect of a change in income on the demand for the product. If it is more than one, it indicates that for every Rand increase in income the consumer is prepared to spend more than a Rand on the product.

³ The income elasticity for beef and mutton & lamb in black rural South Africa⁽⁷⁾ is 1.33 and 1.52 respectively, which are high in comparison to other products. The change is accentuated in urban areas, where incomes are higher and lifestyles more sophisticated. For example, the aggregate income elasticity for urban blacks for dairy products is 0.97 versus 0.35 for rural blacks⁽²⁹⁾.

⁴ Competitiveness is defined as the ability of an industry, sector or firm to trade on a sustainable basis at competitive prices within the global environment.





An analysis of the competitiveness⁽⁴⁾ of the agricultural industry assists in establishing inefficiencies and weaknesses in the supply chain, whilst emphasizing elements that will facilitate a competitive advantage in global markets and satisfaction of local customer demand alike.

According to the Agricultural Business Chambers⁽¹¹⁾ assessment, there was an increase of 12% or 5 index points in competitiveness from 1999 to 2000, the actual figures being from 0.41 to 0.46, which resulted in a 7% increase in investment in agriculture. This upward trend, furthermore, has persisted since 1992 when the index was negative at -0.16. Processed agricultural products, illustrating the importance of value adding, have been performing particularly well with an increase of 16.8% in the value of exports from 1999 to 2000. From a livestock perspective the competitive advantage of primary and value added products is however not competitive to only marginally competitive, with indexes of -1.82 for mutton & lamb, -0.18 for beef, -0.05 for pork, -0.12 for cheese, -0.06 for butter and 1.13 for milk over the period 1995 - 2000. There were nevertheless positive responses for milk and butter since 1998 that should be encouraging. Comparative indexes for selected non-livestock products in 1999/00 are 2.07 for wheat flour, 16.3 for maize meal, 2.76 for refined sugar, 2.79 for wine, 12.7 for grapes and 0.74 for onions. Clearly, if the livestock sector is to target specific export markets, major challenges in managing the supply chain will have to be addressed.

Rural agri-business development

The production of food in rural areas has major responsibilities towards domestic sustenance, meeting the requirements of a growing and more urbanized population and creating a sustainable agri-business environment within communities to create jobs and wealth, and delay the flocking to urban areas (see 1.3.5.2).

If efficiency remains at present levels (see 2.2.2) most of the increased production will have to come from the emerging agricultural sector and higher potential areas (Refer to a companion document: "National Resource Base Implementation Framework for the National Livestock Development Strategy"), as further expansion in commercial agriculture will be limited by climate, soil potential or fertility and erosion.

Production in underdeveloped rural areas is however low, even in high potential areas, and it is characterized by wastage and environmental damage. If food can be effectively stored and processed and further value can be added in rural areas, food security, nutritional standards and food safety will improve. Processing in rural areas will also allow effective recycling of waste to production lands, thereby reducing the environmental pollution sometimes associated with urban processing. From a livestock perspective, adding value to hides, skins, wool, hair and cashmere within communities will provide opportunities to also cash in on the lucrative tourism market. Thus, local agri-business development would be crucial for attracting investment, creating new and linking up with existing markets on the periphery, even export, and increase the supply of a variety of longer shelf life and home industry products to benefit both rural and urban populations. From the arguments advanced in 1.3.5.2, the livestock sector will have to provide the major share of agri-business development in rural areas.

Status of the Livestock Industry





2. CURRENT STATUS OF THE LIVESTOCK INDUSTRY

2.1 Livestock Numbers and Distribution

2.1.1 Introduction

Livestock is farmed throughout South Africa with numbers and species varying according to climatic conditions (Refer to a companion document: "National Resource Base Implementation Framework for the National Livestock Development Strategy" - Fig. 2.1 (a) to 2.1 (c)). The western two-thirds of the country is relatively dry and primarily only suitable for livestock. Modern, highly sophisticated and intensified systems of livestock production are run parallel with subsistence, communal pastoral systems.

Indigenous species and breeds that are well adapted to the environment have been preserved through many years. This is a unique benefit, and these breeds should be maintained at all cost in order to promote (especially) efficient extensive livestock production. Their role should not merely be regarded as breeding material to be upgraded with exotic breeds but rather to provide a broader and unique contribution to the national gene pool. Over the years, many imported breeds, types and their crossbreeds, that are now well adapted to local conditions, also made important contributions to the development of the livestock industry.

2.1.2 Totals in the RSA

The estimated numbers of different livestock species and their distribution in the provinces are presented in *Tables 2.1* and *2.2* and *Maps 2.1 to 2.6*. In the companion document: "National Resource Base Implementation Framework for the National Livestock Development Strategy" - (*Fig. 2.1 (a), 2.1 (b) and 2.1 (c)*) the distribution of livestock is also presented within biomes.

The estimated numbers for cattle, sheep, goats and pigs are given in *Table 2.1*. The Eastern Cape has the largest concentration of cattle, sheep, goats and pigs in the country.

TABLE 2.1: Estimated Livestock Numbers in the RSA(Thousands)(2002)(9)

Province	Cattle	Sheep	Pigs	Goats	Commercial sows
Western Cape	501(3.6)*	2901(0.7)	234(1.7)	256(4.0)	16.5
Northern Cape	493(1)	7890(1)	16(1)	513(10)	?
Free State	2 320(2.8)	6 013(2.8)	106(2.2)	86(15.7)	8.5
Eastern Cape	3 197(71.0)	8 625(34.4)	270(80.1)	3 201(76.0)	3.5
KwaZulu-Natal	2 805(54.6)	858(18.4)	189(1)	952(74.3)	17.0
Mpumalanga	1 375(37.8)	1 663(1.1)	238(3.3)	106(34.6)	11.6
Limpopo	1 181(62.9)	196(53.4)	182(29.0)	1 087(95.3)	11.4
Gauteng	276 ⁽¹⁾	82 ⁽¹⁾	172 ⁽¹⁾	8 ⁽¹⁾	13.2
North West	1 816(30.2)	734(28.5)	172(6.0)	771(80.0)	18.3
TOTAL	13 964(40.8)	28 952(12.1)	1 579(26.5)	6 9809(69.5)	100 +

**The contributions made by the communal areas are presented as percentages in brackets.⁽¹⁾ Figures not available for communal areas.*

KwaZulu-Natal has the second highest number of cattle, followed by the Free State. The Provinces with the lowest numbers of cattle are the Western Cape, Northern Cape and Gauteng. The calculated percentage dairy cows, as percentage of total cattle numbers in the RSA, is 21%. The calculated percentages dairy cows for the different Provinces are: In the Western Cape 58%, the Eastern Cape 34%, Gauteng 27%, KwaZulu Natal 25%, Mpumalanga 18%, Free State 13%, North West 9% Northern Cape 5% and Limpopo 4%.

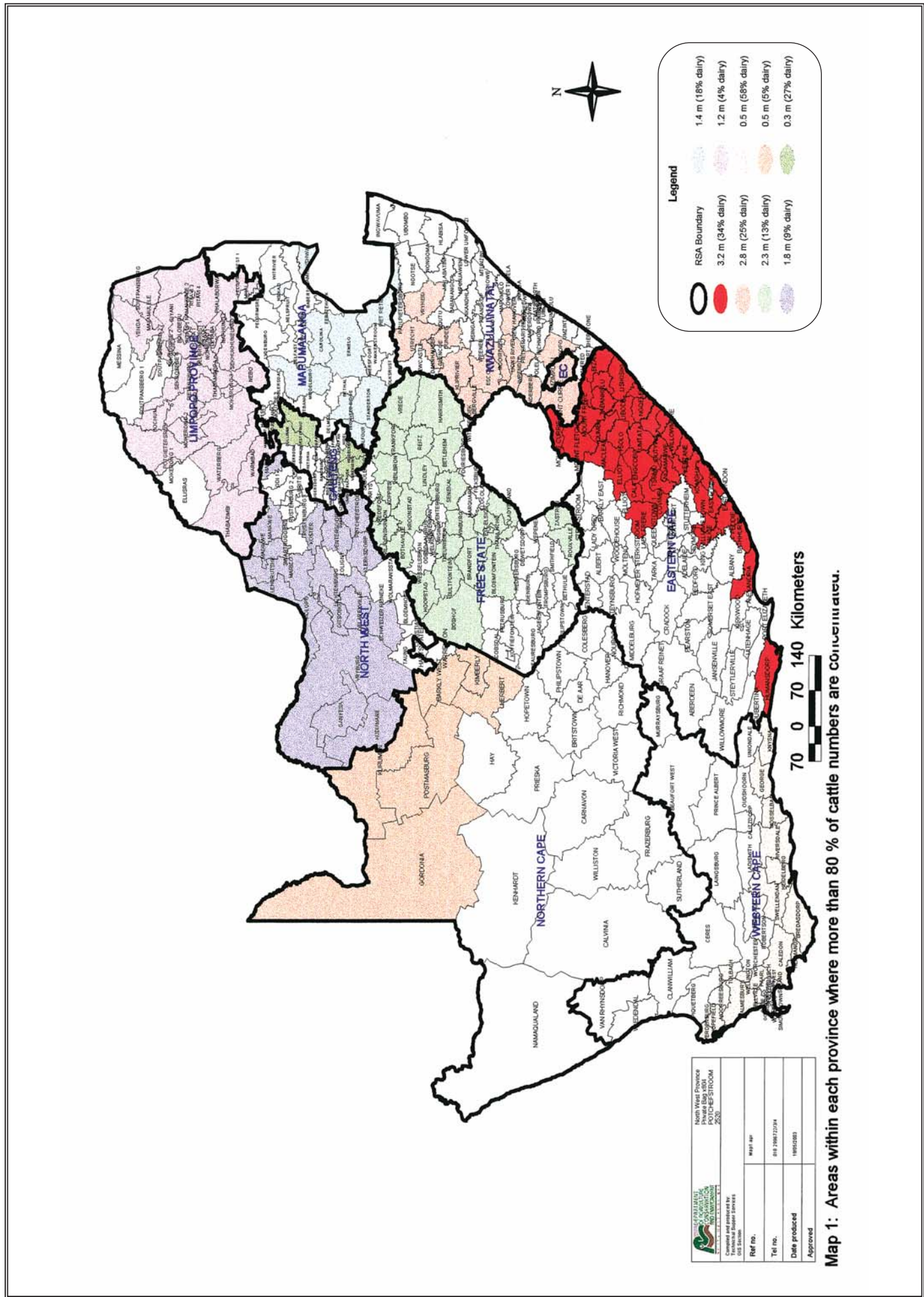
The concentration of sheep is in the Eastern Cape, Northern Cape and the Free State with North West, Limpopo Province and Gauteng having small numbers. Goat numbers are high in the Eastern Cape, Limpopo Province and Kwazulu-Natal with comparatively low numbers in Mpumalanga, the Free State and Gauteng.

After the Eastern Cape, the concentration of pigs is in Mpumalanga, followed by the Western Cape with comparatively low numbers in Gauteng, North West and the Free State, and very few in the Northern Cape.

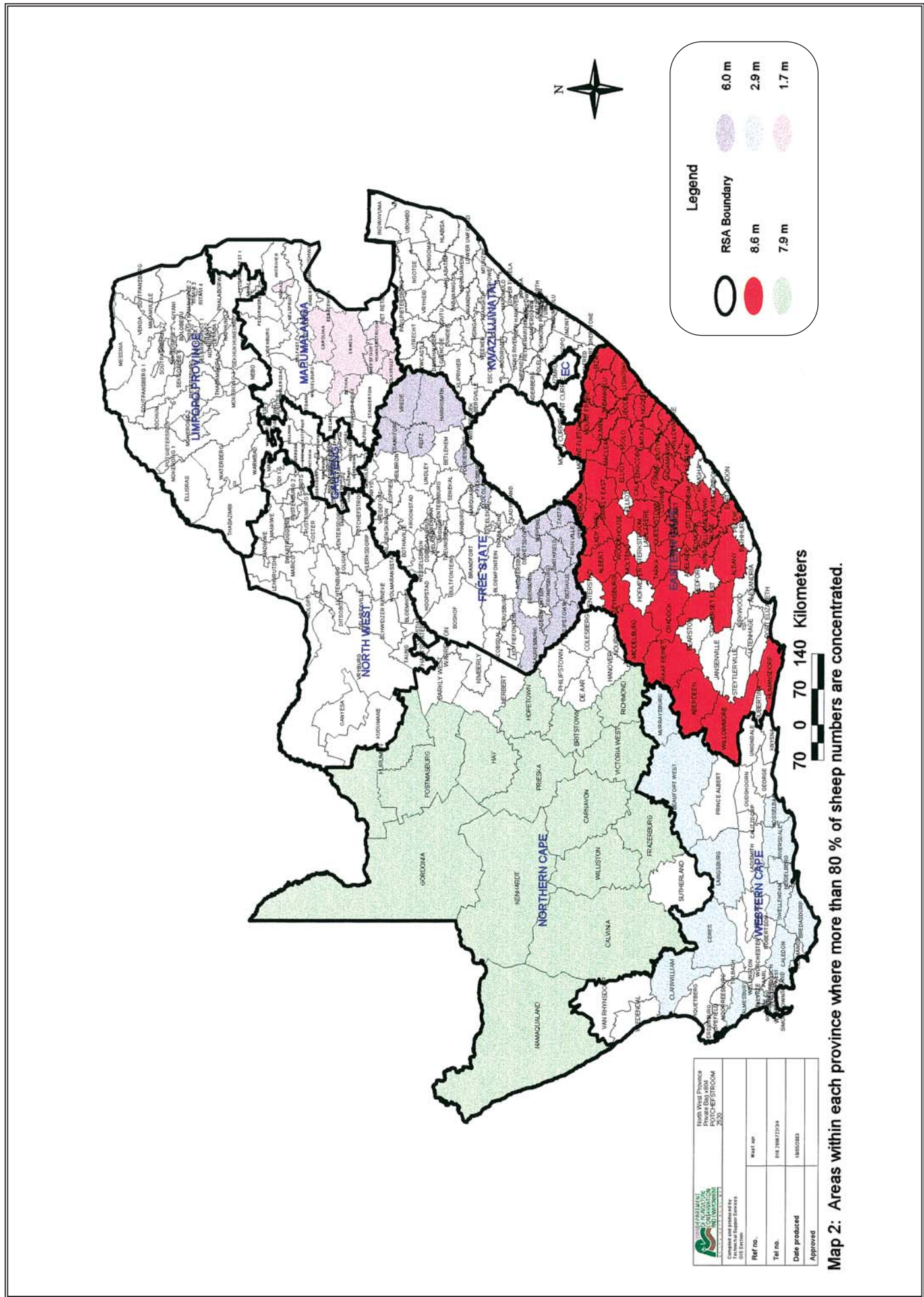
The number of commercial sows is also depicted in *Table 2.1*. Total pig numbers, although providing some indication of the distribution in the country, are less useful because firstly it is difficult to determine if and when piglets are included in the census and secondly total counts are not well correlated to the figure of marketable pigs, which sows are. A case in point is the Eastern Cape.

The estimated numbers for poultry and ostriches are presented in *Table 2.2* and illustrated in *Map 2.5* and *2.6* respectively.

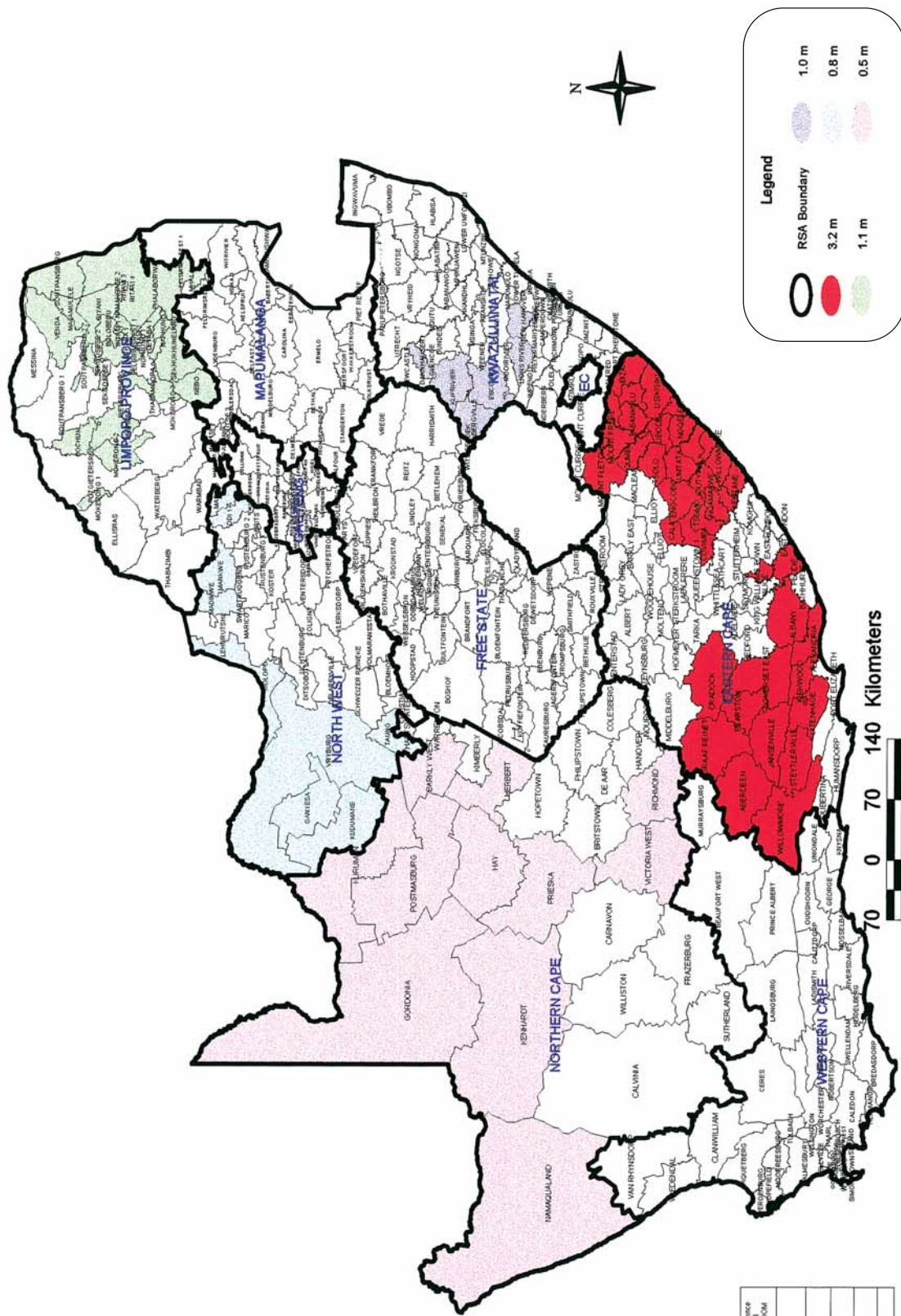




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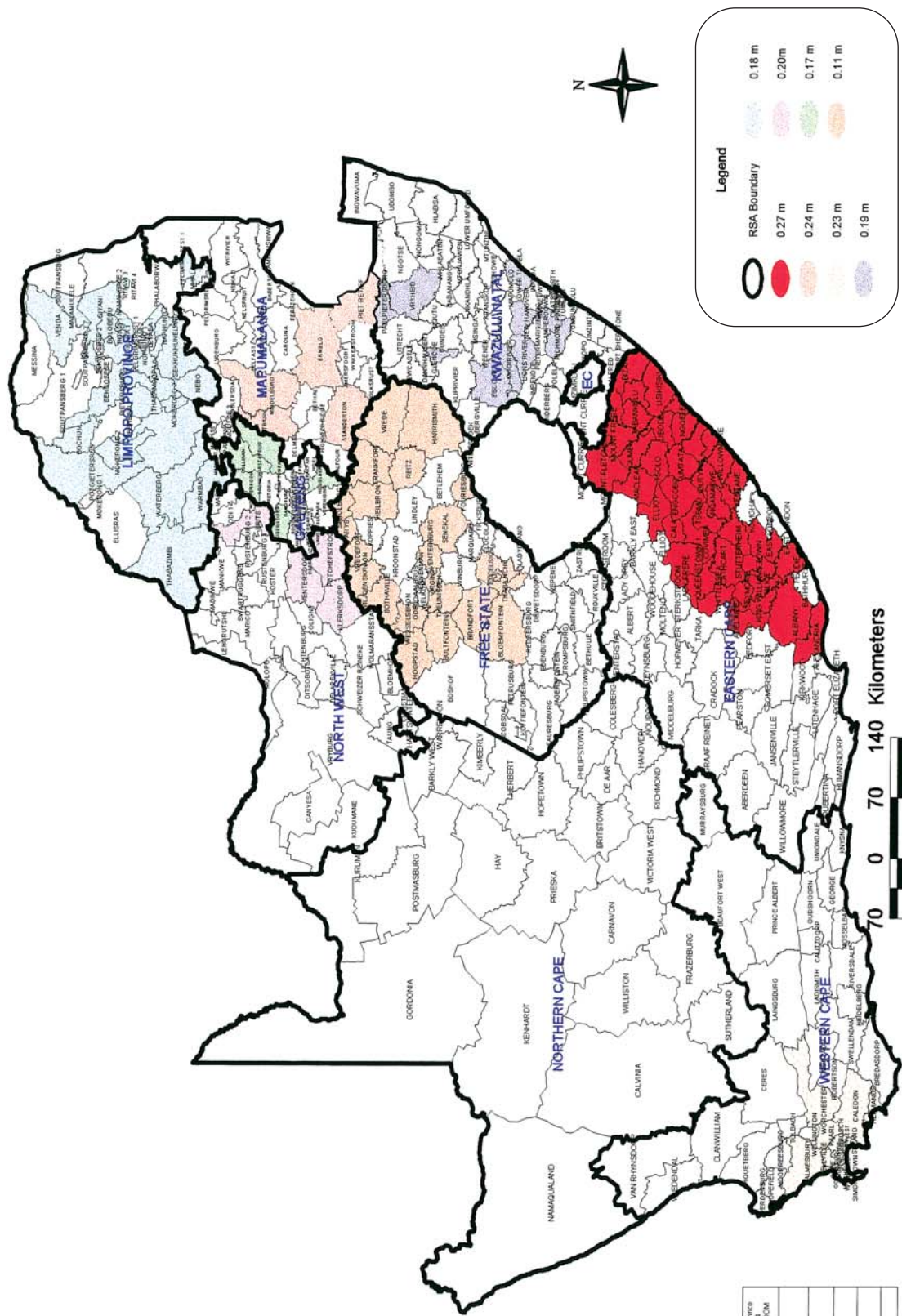


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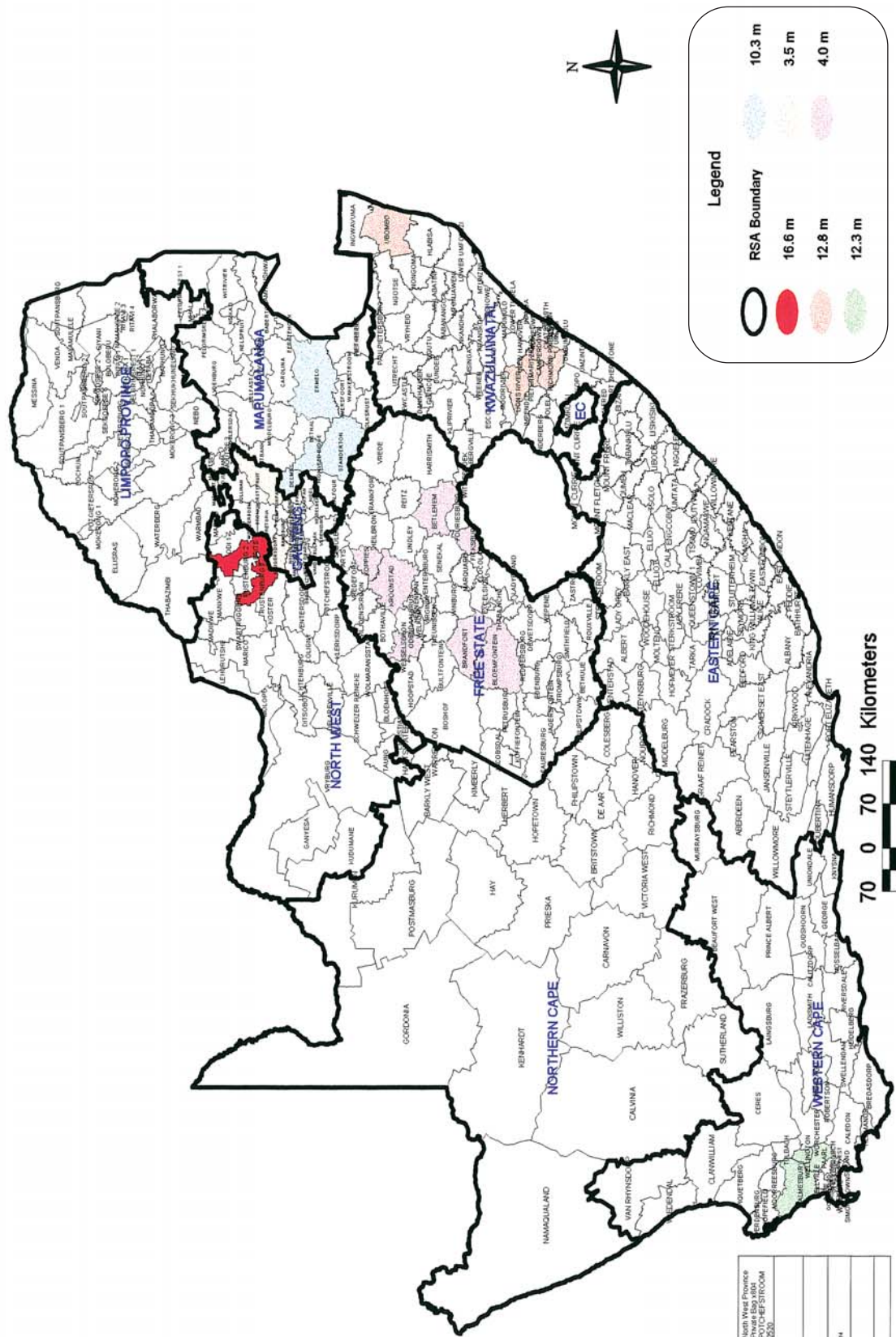
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Map 3: Areas within each province where more than 80 % of goat numbers are concentrated.



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Map 4: Areas within each province where more than 80 % of pigs numbers are concentrated.



North West Province Department of Agriculture, Forestry and Fisheries P.O. Box 1250, Windhoek	
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Tel no.	061 298 722/234
Date produced	18/06/2003
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Map 5: Areas within each province where more than 80 % of poultry numbers are concentrated.

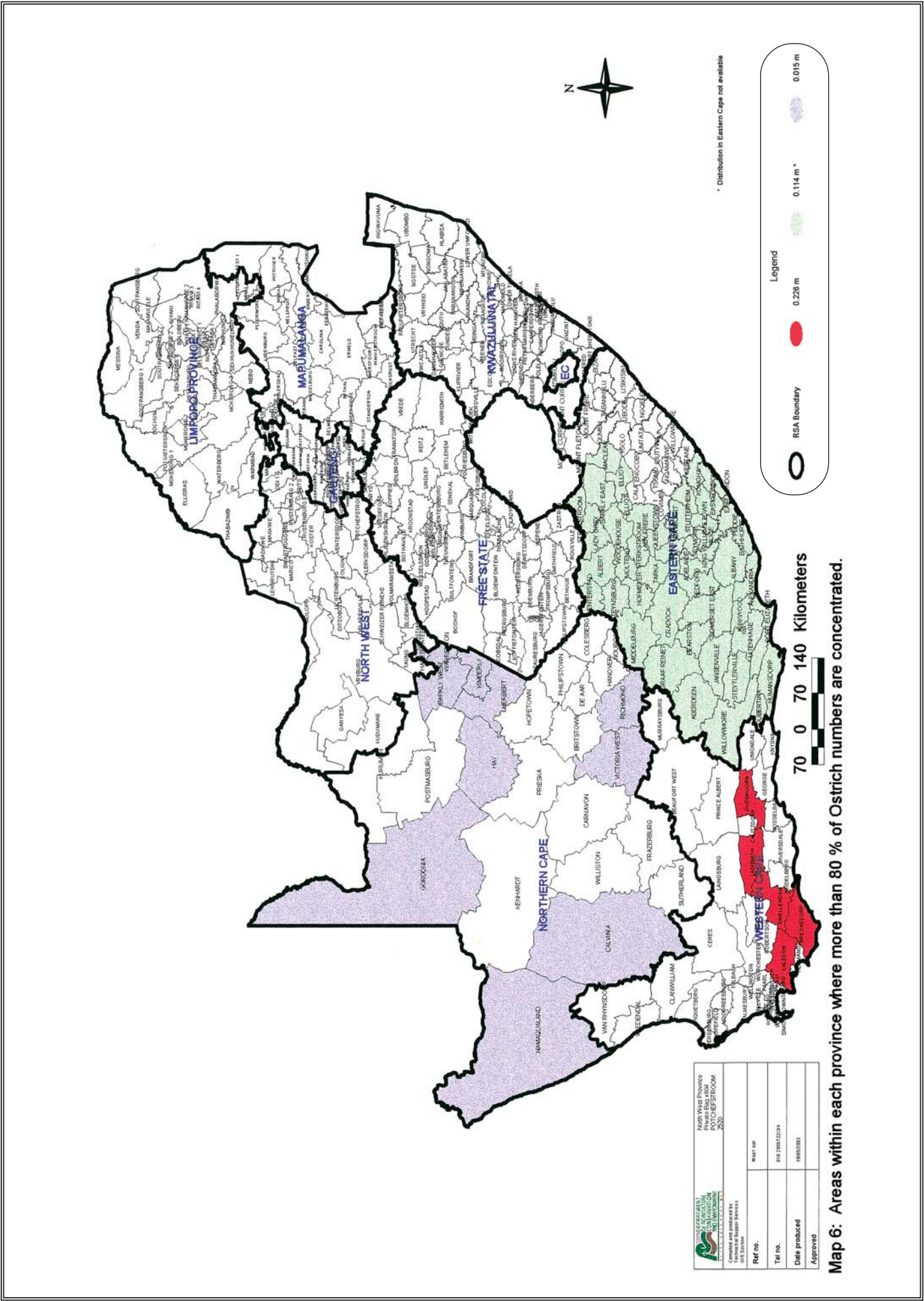




TABLE 2.2: Estimated Poultry and Ostrich numbers(Thousands) (2002)

Province	Poultry ⁽¹⁰⁾	Ostriches ^{(10)(26)*}
Western Cape	12 345	226.4
Northern Cape	23.8	13.7
Free State	3 540	5.72
Eastern Cape	1 518	13.9
KwaZulu-Natal	12 804	Figures not available
Mpumalanga	10 300	0
Limpopo	825	0.3
Gauteng	4 044	4.45
North West	16 585	12.99
TOTAL	61 986	377.4

* Calculated

The North West Province has the largest number of poultry, followed by KwaZulu-Natal, the Western Cape and Mpumalanga. The Northern Province and the Northern Cape have the lowest poultry populations. Ostriches are concentrated in the Western Cape, followed by the Eastern Cape, Northern Cape and North West, with very low numbers in the Northern Province and Mpumalanga.

2.1.3 Contribution from communal areas

The estimated contribution from the communal areas to the total cattle (beef and dairy), sheep and goat numbers in the RSA is 40,8%, 12,1% and 69,5% respectively (*Table 2.1*). The communal areas in the Western Cape and the Free State make relatively small contributions to the numbers of cattle (3.6 and 2.8%). The communal areas of the Eastern Cape (71.0%), Limpopo (62.9%), KwaZulu-Natal (54.6%) and Mpumalanga (37.8%) make significant contributions. The communal areas contribute significantly to the sheep numbers in Limpopo (53.4%), the Eastern Cape (34.4%), North West (28.5%) and KwaZulu-Natal (18.4). It must be borne in mind, however that the total sheep numbers in these Provinces with the exception of the Eastern Cape, are relatively low. The contributions made by the communal areas to the total sheep numbers in the other Provinces are relatively low, ranging from 1.1% in Mpumalanga to 0.2% in the Free State. As with cattle, the contributions made to the total goat numbers by the communal areas in Limpopo (95.3%), the Eastern Cape (76.0%) and KwaZulu-Natal (74.3%) are high. The total goat numbers in these provinces are also relatively high. Comparatively high contributions from the communal areas are also made in North West (80.0%), which in total has a moderate number of goats.

The estimated contribution of the communal areas to the total numbers of pigs, poultry and ostriches in the RSA is 26,5%, 32,6% and nil% respectively. (KwaZulu-Natal, Gauteng and the Northern Province were excluded, because figures that distinguish between communal and commercial farming areas are not available). Also being the Province with the highest pig population, the communal areas in the Eastern Cape account for the largest proportion of pig numbers in the Province (80,1%). In the Limpopo Province, with an average pig population compared to the others, 29,0% of the pigs are found in the communal areas. The contributions made by the communal areas to the pig populations in the other Provinces are relatively low, ranging from 6,0% in the North West to 1,7% in the Western Cape.

2.1.4 Distribution within Provinces

2.1.4.1 Cattle, sheep and goats

The concentrations of livestock grazers and browsers within the different provinces are also presented in *Maps 2.1* to *2.3*. Only the provinces that have a combined contribution of 80% + to the national number of the specific species are indicated.

The cattle populations (dairy cattle included) are concentrated along the coastal areas of the Western and the Eastern Cape, the western parts of KwaZulu-Natal, the north-eastern and central areas of the Free State and the southern parts of Mpumalanga.

In the North West Province, most cattle are found in the north-western and south-eastern areas whereas in Limpopo the distribution is even. The small cattle population of the Northern Cape is mainly found in the northern districts.

The large populations of sheep in the Eastern- and the Northern Cape are widely spread over the two provinces. The sheep population of the Free State is concentrated in the eastern and southern districts and that of Mpumalanga in the southern-central districts. In the Western Cape most sheep are found in the northern (Karoo) area and along the coast, as far to the east as Mossel Bay.

The high goat population of the Eastern Cape is concentrated in the eastern and the south-western parts and that of KwaZulu-Natal in the central-western and central areas. Most of the goats in the Limpopo Province are found in the eastern region and in the North West Province the highest populations are found in the western areas and the far north-eastern area. Most of the goats in the Northern Cape are concentrated in the northern parts as well as two districts in the southern part of the province.

2.1.4.2 **Pigs, poultry and ostriches**

The concentrations of pigs, poultry and ostriches, within the different provinces, are presented in *Maps 2.4 to 2.6*. Only those provinces that together make a contribution of 80% + to the national number of the specific specie are shown, as previously indicated.

With the exception of the southwestern part of the Western Cape, the pig populations are concentrated in the northern and the eastern parts of the country. In the Eastern Cape pigs are mainly found in the communal areas with alarmingly low numbers in the commercial areas. In Limpopo pigs are primarily in the communal areas and the western and southern commercial districts. In KwaZulu-Natal the highest pig populations are in the midland area and two districts in the north. Most pigs in North West are found in the eastern parts whereas the pig populations in the Free State are widely spread over the province except for the southern and western areas.

With the exception of a few districts in the western area of the Western Cape, poultry are concentrated in the mid-eastern parts of the country. The highest populations in North West are found in three districts in the eastern area of the province and in KwaZulu-Natal in a few districts in the midland area and one in the north. The poultry populations of Mpumalanga are concentrated in the south and those in the Free State in a few districts in the east, north and central parts. In Gauteng poultry numbers are concentrated in the districts of Bronkhorstpruit and Krugersdorp.

Ostrich production is concentrated in the western parts of the country and limited to a few southern districts of the Western Cape. Distributional data for the Eastern Cape was not available. In the Northern Cape the ostrich populations are concentrated roughly on the borders of the province.

2.2. **Production and Efficiency**

2.2.1 **Production and price trends**

The trends in commercial production of the different commodities during the past three decades are given in Table 2.3.





Table 2.3: Percentages* of growth/decrease in commercial production of livestock commodities in South Africa during the past three decades(1972 - 2002)⁽¹⁾

Commodity	% Growth/decrease
Chicken	+397
Eggs	+245
Beef	+27
Fresh milk	+21
Mutton	-61
Wool	-56
Butter	-80
Cheese	+96
Condensed milk	-52
Whole milk powder	+40
Skimmed milk powder	-30
Pork	+52
Mohair(2)	+5

⁽¹⁾ Estimated that 70% of the national beef cattle herd is found in the commercial sector and 30% in the communal sector

⁽²⁾ Indigenous (including Boergoat) accounts for 40% of all goats, and Angora for 60%

* Calculated

During the past three decades poultry showed by far the largest growth in production with moderate growths for beef, pork and certain dairy products (fresh milk and cheese). Decreases in the production of mutton, wool and dairy products like butter, condensed milk and skimmed milk powder occurred.

In Figures 2.1 to 2.4 the producer prices (1975-2000) for different commodities, as related to the expected prices if adjusted for the long-term inflation indexes, are presented.

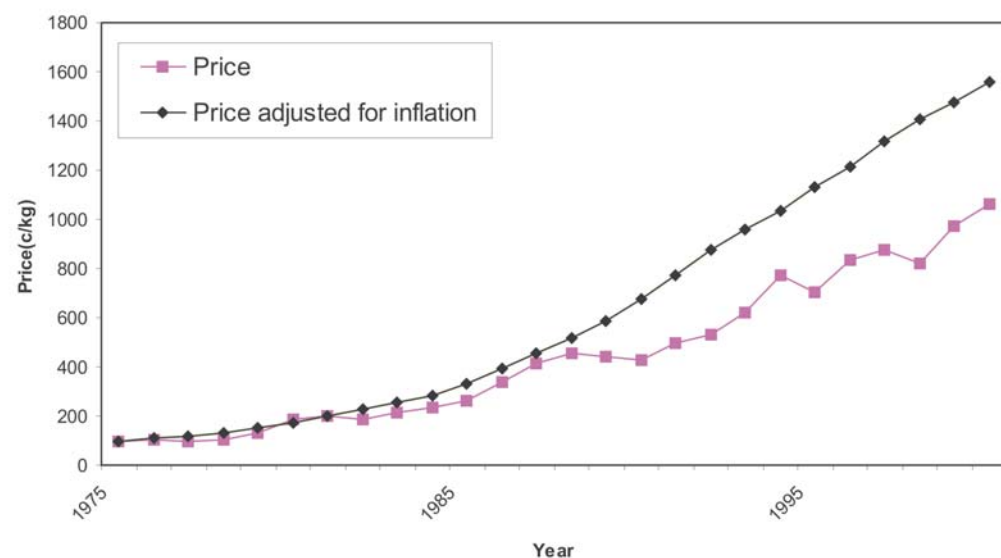
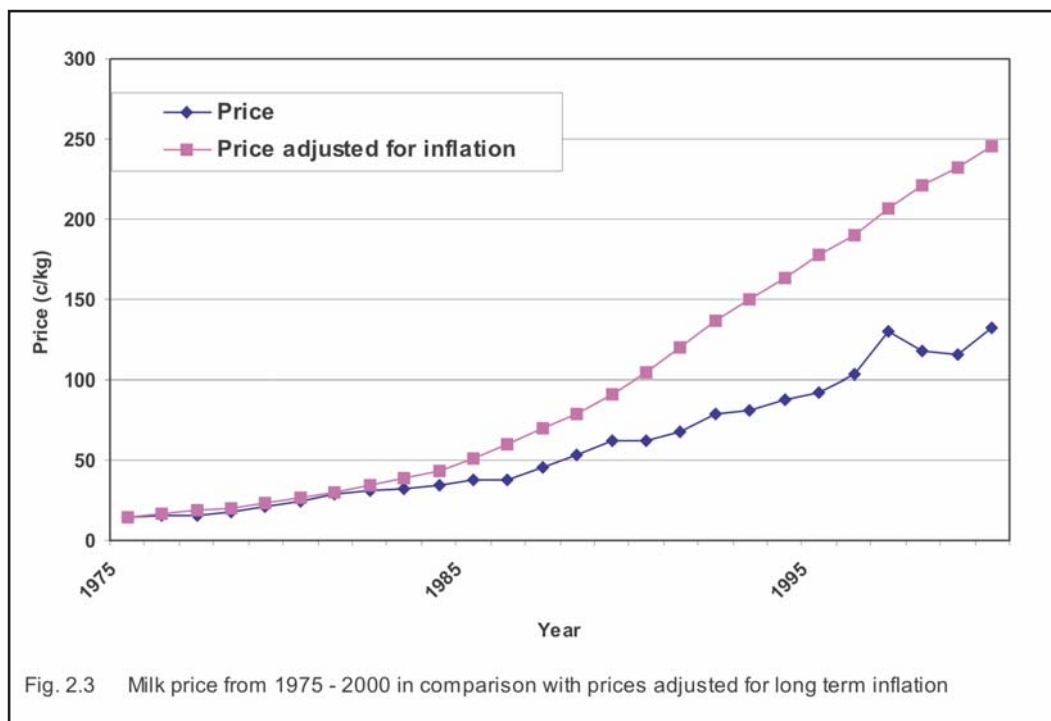
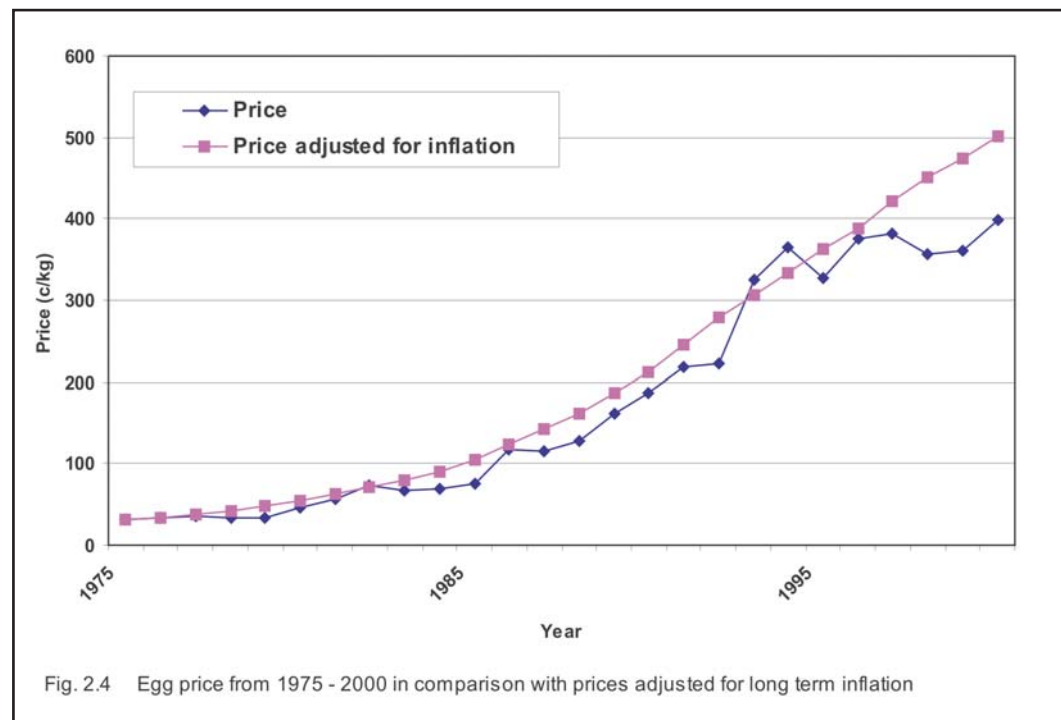
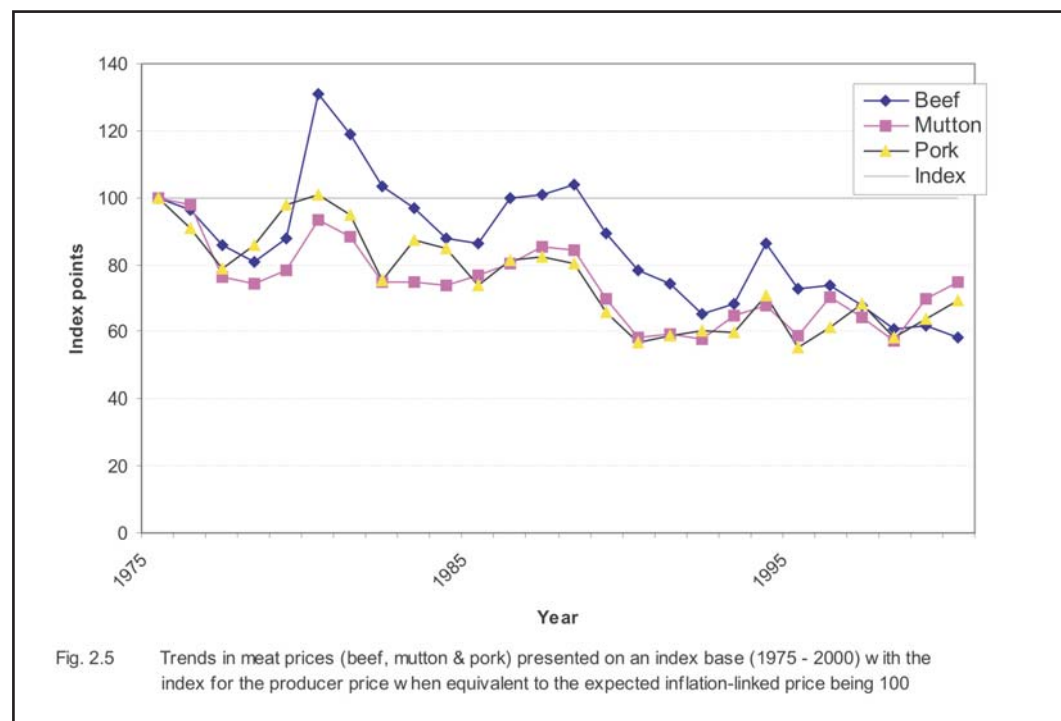


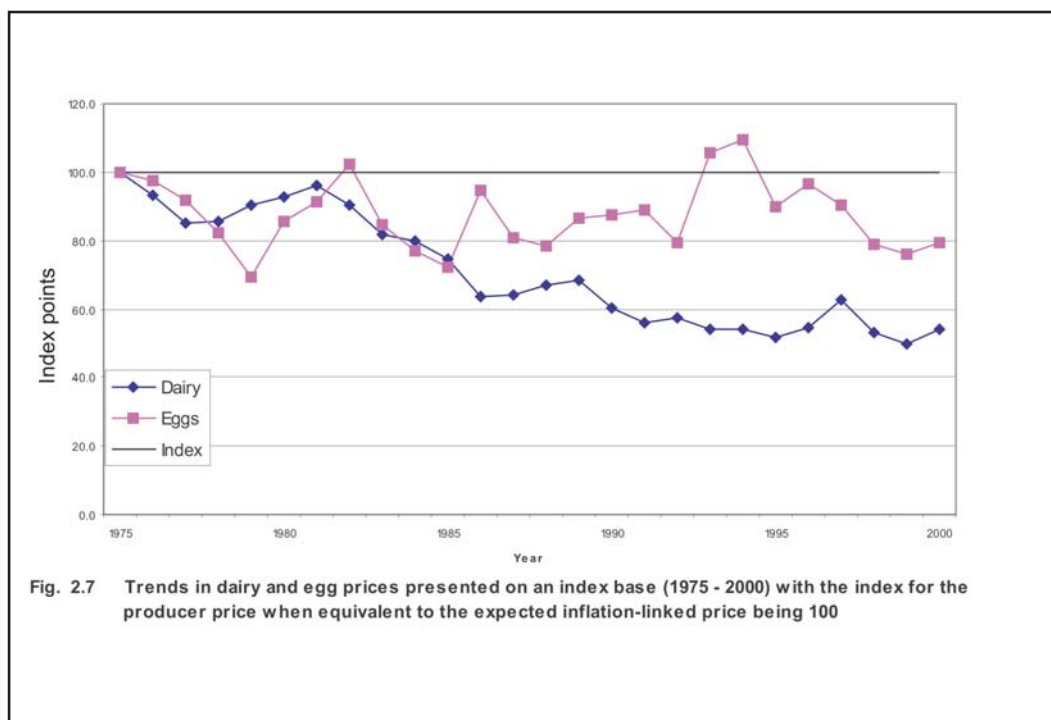
Fig. 2.1 Red meat price from 1975 - 2000 in comparison with prices adjusted for long term inflation





In Figures 2.5 to 2.7 the price trends are presented on an index basis in order to give an indication of the relative differences.





From *Figures 2.1 to 2.4* it is clear that the producer red meat and wool prices were from the late 1980's consistently below the expected prices, as adjusted for the inflation rate. The same applies for pork and milk prices from the mid 1980's. Egg prices were from the late 1970's lower than the inflation adjusted prices although they were for a short period during the mid 1990's better than the inflation adjusted prices.

From the late 1980's onwards, the prices for all three of the meat commodities were less favourable in comparison with the inflation rate than they were before that period (*Fig 2.5*).

The general trend for the milk price of being below the inflation index price was comparable (indices as low as 60) to that for the mutton and pork prices (*Fig's 2.5 and 2.7*). Egg prices, although for the largest part also below the index of 100, were in general closer to the index than those of beef, mutton, pork or milk. Wool prices (*Fig 2.6*) were up to the late 1980's relatively favourable compared to the inflation rate. From the late 1980's though, prices dropped to levels lower (indices of as low as 40) than those for beef, mutton, pork, milk and eggs. This was especially true for non-Merino white wool.





2.2.2 Efficiency

The production efficiency (expressed as % off-take) of beef cattle and sheep in the commercial sector was calculated from the numbers slaughtered as percentage of total numbers over years. This is presented in *Figure 2.8*.

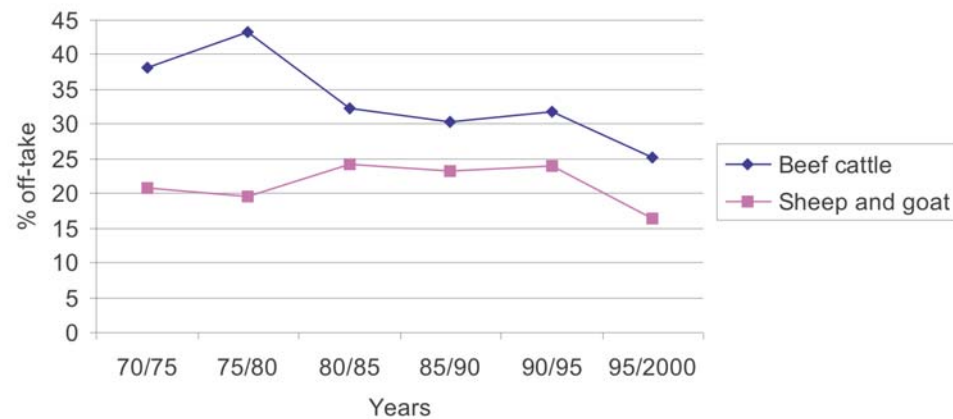


Fig 2.8. Percentage off-take ¹⁾ for beef cattle and small stock in the commercial sector over years (1970 - 2000)

¹⁾ Slaughterings as a percentage of total numbers

The off-take for sheep in general was higher than for cattle. The decrease in the off-take for beef cattle from the late 1970's was apparently due to an increase in beef cattle numbers. This was associated with a change in the composition of the herd, where the percentage of breeding cattle increased at the expense of oxen that occurred in larger percentages before the late 1970's in the national herd. The decrease in off-take for sheep from 1996 was caused by a drastic reduction in slaughtering.

In *Table 2.4* the off-take percentages of the different species in South Africa, are compared to those of other countries/regions.

Table 2.4: Off-take percentages(a) of different species in South Africa compared to other countries/regions(13)

Country/Region	Cattle	Sheep	Goats	Pigs
South Africa (commercial)	23	29	33	125
South Africa(emerging) ⁽³²⁾⁽¹⁾	8**	36**	10 ⁽²⁸⁾⁽¹⁾	51
Australia	28	28	137	186
New Zealand	37	68	79	204
European Union	34	65	72	164
United States of America	38	50	Not available	170
South America*	20	50	30	82

* Argentina, Brazil, Paraguay and Uruguay

** Other citations give figures as low as 3% to 5%

... The communal sector does not make a large contribution in total

(a) Calculated

In the communal areas, except for production, livestock are also kept for other reasons. The reasons may vary from keeping them as status symbols, to ritual purposes, diluting the benefits of income generation. The calculated off-take rates for beef cattle, sheep, goats and pigs in the commercial sector are 23%, 29%, 33% and 125% respectively. In the emerging sector the corresponding figures are 8%, 36%, 10% and 51%. There seems to be ample room for improvement in production efficiency, as measured by off-take, for cattle, goats and pigs in the emerging sector when compared to the commercial sector. With the exception of the Eastern Cape, the communal areas do not make a significant contribution to sheep production and therefore the figure in *Table 2.4* is not of much value. The calving percentage in the emerging sector is estimated at approximately 35% compared to the 70% in the commercial sector, which further emphasizes the vast opportunities for improvement in the emerging sector, and therefore to the national economy and food security.

The off-take for cattle, goats and pigs in the emerging sector of South Africa is also lower than those of other countries/regions. In the commercial sector of South Africa the off-takes for cattle, sheep and goats compare well with that of South America, with the off-take of pigs significantly higher. Whereas the off-take for cattle and sheep in the commercial sector compares well with that of Australia (extensive production systems), the off-takes for pigs and especially goats are much lower than in Australia. The off-takes for cattle, sheep, goats and pigs in New Zealand, the European Union and the United States of America are much higher than in the commercial sector of South Africa.

Higher efficiencies in the livestock industries of South Africa (both sectors) are therefore possible and should be strived for. The benefits will accrue to the farmers. It will also counteract unnecessary imports of beef from neighbouring countries, the European Union and Australia, as well as mutton and lamb from Australia and New Zealand, and it will increase the opportunity to develop niche export markets.

2.3. Products

2.3.1 Gross value

The gross value¹ of livestock products for the period 1991/92 to 2001/02 is shown in *Table 2.5* in comparison to horticultural and field crop products. In *Table 2.6* the gross value of individual livestock products for the same period is depicted.

Table 2.5: Gross value of agricultural production,* R million (% of total)(2)

	1991/92	1993/94	1995/96	1997/78	1990/00	2001/02
Field crops	6 116.2 (27.6)	9 990.0 (35.5)	13 305.2 (36.4)	13 305.2 (31.6)	14 401.2 (31.6)	27 083.8 (41.0)
Horticulture	5 457.2 (24.7)	6 199.6 (22.0)	8 503.0 (23.3)	10 385.1 (24.9)	12 293.7 (27.0)	15 623.3 (23.7)
Livestock products	10 553.4 (47.7)	11 972.8 (42.5)	14 708.9 (40.3)	18 159.4 (43.5)	18 885.8 (41.4)	2 330.1 (35.3)
Totals	22 126.8	28 162.4	36 517.1	41 747.2	45 580.7	66 046.2

¹ The statistics of different sources do not correspond very well. Also, statistics for the informal sector are mostly unavailable therefore the figures should be interpreted with caution. This may affect the livestock-based statistics more than others because rural areas concentrate mainly on livestock production





Table 2.6: Gross value of livestock products, R million (% of total)(2)

	1991/92	1995/96	1999/00	2001/02
Wool	427.7(4.05)	540.7(3.68)	545.3(2.89)	928.7(3.98)
Mohair	86.2(0.82)	104.1(0.71)	152.9(0.81)	110.2(0.47)
Karakul pelts	1.9(0.00)	3(0.00)	3.2(0.00)	3.7(0.00)
Ostrich products	50.4(1.43)	283.6(1.93)340.6 ⁽²¹⁾	180.1(0.95)302.6 ⁽²¹⁾	327.6(1.40) 524.0 ⁽²¹⁾
Poultry**	2 790.9(26.4)	4 901.8(33.3)	6 258.5(33.1)	7 945.4(34.1)
Eggs	1 004.4(9.52)	1 499.6(10.2)	1 887.4(10.0)	2 396.6(10.3)
Cattle & calves**	2 871.4(27.2)	2 939.4(20.0)	4 174.3(22.1)	4 584.9(19.7)
Sheep & goats**	883.6(8.37)	895.9(6.10)	1 153.6(6.11)	1 309.6(5.61)
Pigs**	471.3(4.47)	539.8(3.67)	784.1(4.15)	873.5(3.74)
Fresh milk	985.0(9.33)	1 655.3(11.3)	2 058.7(10.9)	761.8(11.8)
Dairy products	593.9(5.63)	952.6(6.48)	984.8(5.21)	1 136.8(4.87)
Other	286.5(2.71)	394.8(2.68)	702.9(3.72)	951.3(4.08)
Totals	10 553.4	14 708.9	18 885.8	23 330.1

** Slaughtered

The gross value of livestock products comprises on average more than 41% of agricultural production, and tends to decline in comparison to field crops and horticulture. Horticulture shows a consistent trend, averaging about 25%, whereas field crops due to a hike in prices of commodities since 2001 increased proportionally. On average for the period field crops contributed 34% to total agricultural production, which increased threefold from R22 billion to R66 billion over the 10 year period. It should be noted that the figures do not include all primary and processed or otherwise value added products.

Within livestock products, the contribution of fibre products (wool, mohair and karakul pelts) has been relatively constant over the 10-year period, at 4.35%, whereas broiler and egg production has increased market share. The production of beef carcasses as the major source of red meat lost ground, so did sheep and goats, whereas pigs maintained their comparatively low position. In the dairy group, fresh milk production increased slightly and other dairy products declined correspondingly, to maintain the share of dairy of the livestock market at about 16%. Ostrich products, being still primarily regionally produced, contributed only 1.4% to the gross value of livestock production. It is however clear that there is great disparity in the sources consulted.

2.3.2 Contribution to foreign exchange

The Rand value of imports of livestock products is shown in *Table 2.7(a)* and the corresponding volumes imported in *Table 2.7 (b)*. The value of all imports increased since 1992, reflecting partially the increase in Rand-Dollar exchange rate but mainly increases in volume. Particular large increases resulted in poultry meat since 2000, with substantial increases also for mutton & goat meat and dairy products. Imports of fibre products are rather insignificant. The livestock share of all agricultural imports amounted to 6% (R value). The comparable export figures since 1992 are illustrated in *Table 2.8(a)* and *2.8(b)*.

Substantial increases in poultry meat exports occurred since 2000, but the net advantage was still in favour of imports. Egg exports also increased dramatically since 2000, and also recorded a net export value. Wool and mohair recorded record volumes in 2000 and high prices in 2002. Cheese & curd was prolific in 2002, but during the 10-year period South Africa was a net importer of dairy products.

Table 2.7(a): Imports of selected livestock products, R million(33)(34)

	1992	1995	2000	2002
Beef*	29.9	186.1	77.7	42.8
Pork*	7.1	73.3	93.9	110.8
Mutton & goat**	62.7	35.8	139.4	65.0
Meat offal	4.8	26.5	41.9	65.7
Poultry meat	0.22	1.3	457.9	592.7
Eggs	0.28	0.69	0.14	1.6
Butter	2.4	43.5	54.5	19.2
Cheese & curd	3.7	68.7	63.3	93.4
Hides & skins	2.3	34.8	77.8	90.1
Mohair & other	0.36	0.01	2.0	0.07
Wool	5.3	0.51	7.0	17.9
Total	119.06	471.21	1 015.54	1 099.27

* Include fresh, chilled or frozen meat, plus meat & edible offal, salted, in brine, dried or smoked.

** Include fresh, chilled or frozen meat.

Table 2.7(b): Volumes of selected livestock products imported, tons

	1992	1995	2000	2002
Beef	6391	48 536	12 942	42.8
Pork	1212	12 686	10 981	110.8
Mutton & goat	11 594	9 415	53 242	65.0
Meat offal	2 195	8 943	16 211	65.7
Poultry meat	90.0	270	144 259	592.7
Eggs	26.9	141	16.4	1.6
Butter	244	4 429	5326 ⁽¹⁵⁾	19.2
Cheese & curd	275	3 423	3 064 ⁽¹⁵⁾	3116 ⁽¹⁵⁾
Hides & skins	29.1	289	629	717
Mohair & other	7.21	0.04	16.9	0.18
Wool	310	24.4	265	316
Total	2 2374	8 8156	246 952	211 740

Table 2.8(a): Exports of selected livestock products, R million(33)(34)

	1992	1995	2000	2002
Beef	211.1	122.8	66.3	133.9
Pork	7.4	8.8	93.9	110.8
Mutton & goat	0.47	1.9	0.80	4.1
Meat offal	1.0	3.3	1.9	6.3
Poultry meat	1.6	0.34	93.2	236/2
Eggs	5.6	6.6	19.1	80.1
Butter	6.0	5.4	14.7	22.8
Cheese & curd	1.0	1.9	30.1	109.6
Hides & skins	117.8	173.3	101.1	86.2
Mohair & other	73.0	92.4	204.1	210.1
Wool	336.1	404.3	399.4	616.3
Total	761.07	821.04	942.7	1 526.3





Table 2.8(b): Volumes of selected livestock products exported, tons

	1992	1995	2000	2002
Beef	33 195	18 846	3 546	11 120
Pork	1 586	1 152	978	1 110
Mutton & goat	77.7	211	56.1	126
Meat offal	263	589	313	464
Poultry meat	336	49.6	13 056	17 747
Eggs	1 224	1 392	2 862	10 598
Butter	564	518	1 383 ⁽¹⁵⁾	1 501 ⁽¹⁵⁾
Cheese & curd	139	179	1 752 ⁽¹⁵⁾	4 585 ⁽¹⁵⁾
Hides & skins	91.8	132	76.8	67.2
Mohair & other	3 365	2 225	7 359	2 727
Wool	19 390	15 491	28 866	11 535
Total	60 232	40 785	60 248	61 580

2.3.3 Consumption trends

2.3.3.1 Consumer expenditure

The consumption expenditure of the population on various food products is illustrated in Table 2.9. The trends are for the 10-year period 1991/92 to 2001/02.

Table 2.9 Private consumption expenditure on food, R million (% of total) ⁽²⁾

	1991/92	1995/96	1999/00	2001/02
Meat	16 732.0(34.3)	24 486.0(33.2)	30 151.3(29.5)	39 117.3(30.4)
Milk, dairy & eggs	4 182.8(8.6)	6 346.7(8.6)	8 766.5(8.6)	10 657.4(8.3)
Bread & grain	9 851.6(20.2)	16 639.9(22.6)	27 057.8(26.4)	35 808.9(27.8)
Sugar	1 807.0(3.7)	2 628.3(3.6)	3 101.7(3.0)	3 578.4(2.8)
Oils & fats	1 896.6(3.9)	2 481.2(3.4)	3 398.9(3.3)	4 397.8(3.4)
Potatoes	2 099.9(4.3)	2 984.2(4.1)	4 354.9(4.3)	5 067.1(3.9)
Vegetables & fruit	6 509.5(13.3)	9 410.7(12.8)	13 464.3(13.2)	14 937.2(11.6)
Other	4 308.0(8.8)	6 497.7(8.8)	9 029.5(8.8)	11 356.4(8.8)
Coffee, tea, coca etc	1 455.7(3.0)	2 195.6(3.0)	3 051.0(3.0)	3 837.3(3.0)
Total food	48 843.1	73 670.2	102 375.9	128 757.8

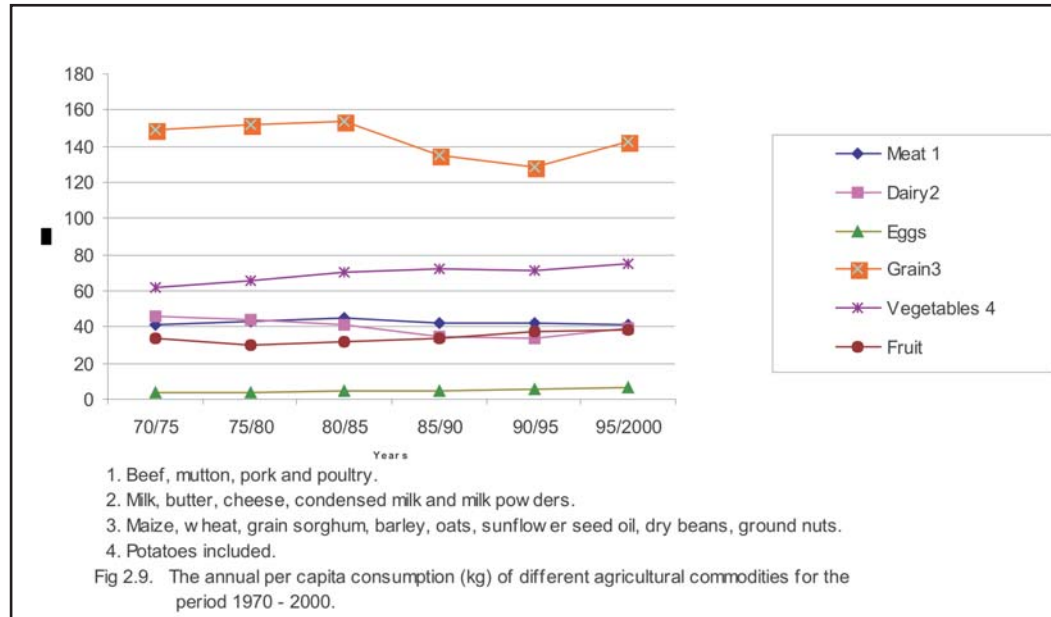
Because of demand and price, meat and meat products comprise at about 32% by far the largest share of the consumer Rand, followed by bread and grain products at 24%, vegetables & fruit 13% and dairy produce plus eggs 8.5%. The expenditure on bread & grain products increased rather sharply over the period, to some extent at the expense of meat & meat products. This points to the lower income groups and the poor finding it more difficult to meet the high nominal price of meat and meat products. There is, therefore, a tendency by them to rather purchase easy accessible high volume per Rand foods, even though the consumer price index increase since 1995 was higher for grain products (31.5%) than for meat (18.6%). The comparable increase in consumer price index for milk, cheese & eggs and vegetables was respectively 32.9% and 37.7%, and although high, the influence is negligible because of the comparatively small contribution to the consumer's food basket. Nationally, alcoholic beverages and tobacco constitute 29% of total consumer expenditure on food, beverages and tobacco.

The estimated per capita food expenditure, as an indication of food security, varies significantly between the different provinces. The highest expenditure is found in Gauteng and the lowest in the

Limpopo Province. With the expenditure in Gauteng given an index of 100, the indices for the other provinces decline in the following sequence: Western Cape (87), Northern Cape (63), Free State (61), Mpumalanga (60), North West (51), KwaZulu-Natal (47), Eastern Cape (39) and Limpopo (31).

2.3.3.2 Per capita consumption

The per capita consumption of livestock products over time, in comparison with other agricultural products, is presented in *Figures 2.9 and 2.10*.



The annual per capita consumption of grain products by far exceeds other products but that is consistent with the fact that maize and bread are staple foods. Grain consumption has declined since the 80's when it averaged about 135 kg per person per year. The per capita consumption of vegetables is about 70 kg and fruit 35 kg since 1980/85. The per capita consumption of total animal products contributed about 25% to the total food basket (*Fig 2.9*) averaging about 85 kg per year. A further breakdown of animal foods is depicted in *Table 2.10*.

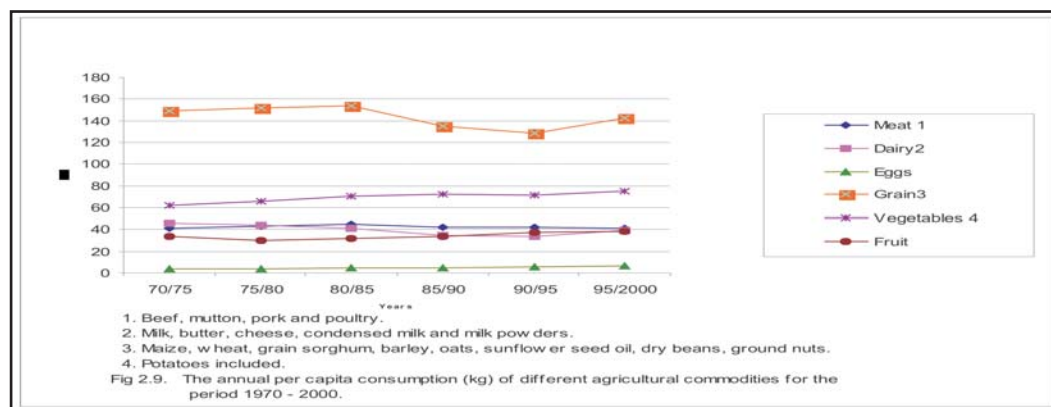


Fig 2. 10. The annual per capita consumption (kg) of animal products (food) in relation to other food (1970 - 2000).

Since 1991/92 white meat (chicken) has surpassed beef as the principal meat in the food basket, the major reasons being price, convenience and availability. Mutton, lamb and goat meat consumption also declined, whereas pork consumption remained relatively constant over the period. White meat began exceeding the total red meat consumption by 1996, but in both cases consumption has since stabilized if yearly variations are taken into account. The consumption of eggs increased whereas that of dairy products tended to decline.





Table 2.10: Per capita consumption of animal foods, kg / year(2)

	1991/92	1995/96	1999/00	2001/02
Beef & veal	19.2	15.3	14.8	13.7
Pork	3.0	3.4	3.1	2.8
Mutton, lamb & goat	5.1	4.1	3.7	3.7
Total red meat	27.3	22.8	21.6	20.2
White meat	17.2	21.1	23.4	22.3
Eggs	5.7	6.7	6.8	6.9
Fresh milk	31.3	37.4	35.0	35.1
Condensed milk & milk powder	1.1	1.0	0.9	0.9
Butter	0.4	0.3	0.2	0.3
Cheese	1.1	1.0	0.9	0.8
Total	84.1	90.3	88.8	86.5

2.3.3.3 Nutritional value

Based on the long-term averages of 85 kg animal foods, 70 kg vegetables, 135 kg grain, 35 kg fruit and 35 kg sugar per capita per year, a calculation was made to determine the energy, protein and selected nutrient contribution to the food basket^{(17) (18) (19)}. The calculation indicated a 15-20% contribution of animal foods to the energy intake of the consumer, 50-55% to the protein intake, 55-60% to the lysine intake, 30-40% to the vitamin A intake, depending on how much green leafy and yellow-red vegetables were allowed for in the calculation, 40% to the calcium intake and 20% to the iron intake. If the bioavailability of iron is used rather than the absolute value, the contribution would have increased to above 25% because of the high bioavailability of iron in red meat. The calculations clearly illustrate the essential role of animal foods to the well-being of the food-vulnerable groups of the South African population, who mainly experience imbalances or shortages of protein, essential amino acids, vitamin A, calcium and iron (anaemia). Also, for preventing osteoporosis in the elderly the high bioavailability of calcium in milk and dairy products is well recognized.

2.4. Industry Organisations and Stakeholders

The industry, with the exception of the informal and in some cases the emerging sector, is in general well-organized with many bodies representing different commodities at farm level as well as institutions in the value-adding chain. Their functions include support and coordination at both domestic and international level.

2.4.1 Farmer support bodies

The main supporting and liaison bodies are AgriSA which primarily serve commercial farming and the National African Farmers Union (NAFU) which primarily serve the emerging and resource poor sectors. Government recognizes these bodies as they were represented on the committee that drew up the Strategic Plan for South African Agriculture in 2001. Other bodies with similar functions in the commercial and emerging sectors are the Red Meat Producers Organisation (RPO) and the equivalent National Emerging Red Meat Producers Organisation (NERPO), catering for cohesion and commonalities between the different sub-sectors of the red meat producers. They also go beyond these functions as the NERPO Mission statement⁽²⁵⁾ would imply: "To facilitate the empowerment of its members in order that their social and economic well-being can improve and enable them to utilize market opportunities on a sustainable basis".

The following is a selected list of farmer support bodies representing different commodities and services: South African Poultry Association (SAPA), South African Pig Producers Organisation (SAPPO), South African Feedlot Association (SAFA), South African Federation of Livestock and Meat Brokers, South African Ostrich Producers Organisation (SAOPO), the National Wool Growers Association (NWGA), the Mohair Producers Organisation, Milk Producers Organisation of South Africa (MPOSA), South African Game

Ranchers' Organisation (SAGRO), South African Stud Book and Animal Improvement Association (SA Stud Book), the National Livestock Improvement Schemes and various breed societies.

2.4.2 Processing industry and value-chain bodies

In the meat industry the following is important: South African Meat Processors' Association, National Ostrich Processors of South Africa (NOPSA), National Federation of Meat Traders, Skin, Hides and Leather Council, South Africa Meat Distributors and Allied Workers' Union, Association of Meat Importers and Exporters and the Red Meat Abattoir Association (RMAA). In the dairy industry the South African Milk Processors (SAMPRO) manufacture and distribute dairy products, whereas South African Poultry Association (SAPA) includes representatives from the poultry processing and retail industries.

An important body supporting agri-business and value-chain management is the Agricultural Business Chamber (ABC) consisting of a number of commodity business chambers and which is an integral part of AgriSA. The ABC represents agricultural companies, agricultural co-operatives, agricultural co-operatives and agri-businesses in the developing agricultural sector, companies which arose out of the conversion of agricultural co-operatives, and other agricultural business enterprises and organizations. A number of these is livestock based. The mission informs ABC's focus: ⁽¹¹⁾ "to improve the competitiveness and performance of its members by negotiating and positioning for a positive agri-business environment". Some of its strategic tasks include: strategic liaison with Government and the business environment, the provision of strategic support systems for its members, organizational development and recruitment of members, capacity building in the agri-business environment and agri-business intelligence. The ABC also associates with Business South Africa and international bodies such as the International Federation of Agricultural Producers (IFAP) and the International Chamber of Commerce (ICC).

2.4.3 Umbrella and coordinating bodies

These include those with a loose forum or federation arrangement and others that have mandated and executive functions for the industry as a whole. The major bodies in this category are the Meat Forum, Wool Forum, Mohair Forum, SAPA for some purposes, the South African Milk Federation (SAMFED) until 2002, which was a forum where the primary and secondary dairy industries could discuss common ground issues and which has since been supported by the formalized Milk SA with mandated and executive powers on behalf of the total industry. Cape Wools SA, Cape Mohair SA Ltd and the South African Meat Industry Company (SAMIC) are mandated with executive powers by the respective forums.

The functions of SAMIC ⁽³¹⁾ as a representative of these bodies can be highlighted: It is the national representative structure of the red meat industry and all sectors of the industry plus the National Consumers' Union are represented on the Board of the Company. It has both strategic and operational functions, in the latter case being responsible for specific services required by the industry. Some of the major objectives include: enhance the industry's domestic and global competitiveness; stimulate demand and consumer confidence - both in domestic and export markets; create alliances with government, and influence legislation; monitor trade and macro-economic conditions to ensure sustained viability and growth; develop a common position on agricultural policies as they affect the red meat industry; maintain and exploit the high health status and genetic potential of South African livestock species; promote product and process improvement; and promote humane and environmentally compatible practices.

2.5. Government Support

2.5.1 Regulatory environment

The Department of Agriculture (DoA) has the mandate of providing a broad based enabling environment encompassing all agricultural activities from the provision of farming inputs, farming itself and value adding. In this context the policy and legislative functions of the DoA should continuously be reviewed, amended and altered to provide for changing circumstances in the production and marketing environment. As it is, the DoA (24) is currently responsible for some 30 pieces of legislation covering a broad spectrum of issues. The following list of Acts has bearing on the livestock industry:





- Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947). To be replaced by the Agricultural Production Enhancement Agents Bill
- Animal Protection Act, 1962 (Act No. 71 of 1962)
- Livestock Brands Act, 1962 (Act No. 87 of 1962), repealed by the Animal Identification Act, 2002 (Act No. 6 of 2002).
- Fencing Act, 1963 (Act No. 31 of 1963)
- Subdivision of Agricultural Land Act, 1970 (Act No. 10 of 1970), to be repealed by the Sustainable Utilization of Agricultural Resources Bill
- Plant Improvement Act, 1976 (Act No. 53 of 1976)
- Livestock Improvement Act, 1977 (Act No. 25 of 1977), repealed by the Animal Improvement Act, 1998 (Act No. 62 of 1998)
- Veterinary and Para-veterinary Professions Act, 1982 (Act No. 19 of 1982)
- Perishable Products Export Control Act, 1983 (Act No. 9 of 1983)
- Agricultural Pests Act, 1983 (Act No. 36 of 1983)
- Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983), to be repealed by the Sustainable Utilization of Agricultural Resources Bill
- Animal Diseases Act, 1984 (Act No. 35 of 1984), to be repealed by the Animal Health Act, 2002 (Act No. 7 of 2002)
- Agricultural Research Act, 1990 (Act No. 86 of 1990)
- Agricultural Product Standards Act, 1990 (Act No. 119 of 1990)
- Agricultural Produce Agents Act, 1992 (Act No. 12 of 1992), repealed by the South African Abattoir Corporation Repeal Act, 2005 (Act No. 17 of 2005)
- South African Abattoir Corporation Act, 1992 (Act No. 120 of 1992), repealed by the South African Abattoir Corporation Repeal Act, 2005 (Act No. 17 of 2005)
- Societies for the Prevention of Cruelty to Animals Act, 1993 (Act No. 169 of 1993)
- Marketing of Agricultural Products Act, 1996 (Act No. 47 of 1996)
- Genetically Modified Organisms Act, 1997 (Act No. 15 of 1997)
- Animal Improvement Act, 1998 (Act No. 62 of 1998)
- Subdivision of Agricultural Land Repeal Act, 1998 (Act No. 64 of 1998)
- Onderstepoort Biological Products Incorporation Act, 1999 (Act No. 19 of 1999)
- Meat Safety Act, 2000 (Act No. 40 of 2000)
- Animal Identification Act, 2002 (Act No. 6 of 2002)
- Animal Health Act, 2002 (Act No. 7 of 2002)
- Land and Agricultural Development Bank Act, 2002 (Act No. 15 of 2002)
- South African Abattoir Corporation Repeal 1 Act, 2005 (Act No. 17 of 2005)

The DoA and the Department of Health (DoH) (29) share the judiciary and regulatory responsibilities of issues pertaining to food safety, such as animal health, veterinary public health, human health, residues etc. but specific roles and responsibilities are not well defined. Whereas in this context the DoA is responsible for Act 36 of 1947, Act 71 of 1962, Act 119 of 1990 and Act 35 of 1984, the DoH is responsible for the Foodstuffs, Cosmetics and Disinfectants Act of 1972 (Act No. 54 of 1972), Health Act of 1977 (Act No. 63 of 1977) and the Medicines and Related Substances Control Act of 1965 (Act No. 101 of 1965). To effect better coordination one Food Safety Act administered by both departments is currently being developed.

The Department of Land Affairs (DLA), functioning under the same Ministry as the DoA, has the function of managing land restitution and orderly distribution and development of land. It therefore has direct bearing on agricultural development in South Africa.

The Department of Trade and Industry (the dti) is a fourth national department that provides assistance to the agricultural industry, on both the supply and export side. The dti therefore associates primarily with agri-business, providing market assistance schemes, assisting with contracts, especially for SMME's, providing facilities for external exhibitions and bringing out potential importers to South Africa.

Other important bodies that nationally oversee marketing and financial support include the National Agricultural Marketing Council (NAMC), Land Bank and the Agricultural Development Bank.

At provincial level regional departments of agriculture and provincial health authorities act under the auspices of existing regulations with particular functions, for example veterinary services, health inspection functions and extension delegated from the National authority to the relevant provincial authorities. For some functions, such as control measures to ensure safe and quality milk, local authorities have the responsibility. From the provincial perspective, regional departments serve the provinces with many similar functions as the national authority including R & D and land restitution.

2.5.2 Strategic and operational framework

Government, through the responsible ministries and provincial governments, gives direction, guidance and support to effect growth in the economy and prosperity, with particular action plans to:

- Move the economy to a high growth path.
- Increase competitiveness and efficiency.
- Raise employment levels.
- Reduce persistent poverty and inequality.

In the agricultural context this manifests into three overall strategies to affect a united and prosperous agricultural sector: equitable access and participation strategy, global competitiveness and profitability, and sustainable resource management. The DoA, ⁽²³⁾ ⁽²⁴⁾ as the custodian of government's vision for agricultural development, should lead and support with appropriate partners and stakeholders, sustainable agriculture and rural development through facilitating: creation of required facilities and infrastructure; elimination of skewed participation; optimization of growth, remunerative job opportunities and incomes in the agricultural sector, enhancement of sustainable management of natural agricultural and ecological systems; access to sufficient, safe and nutritious food; playing a prominent role with regard to trade negotiations and agreements to ensure that the needs and aspirations of the agricultural sector are addressed; development and maintenance of applicable agricultural statistics; and knowledge and information management. Specific to the livestock sector is control of livestock diseases, control of animal movement, veterinary diagnostics and border control of animal products.

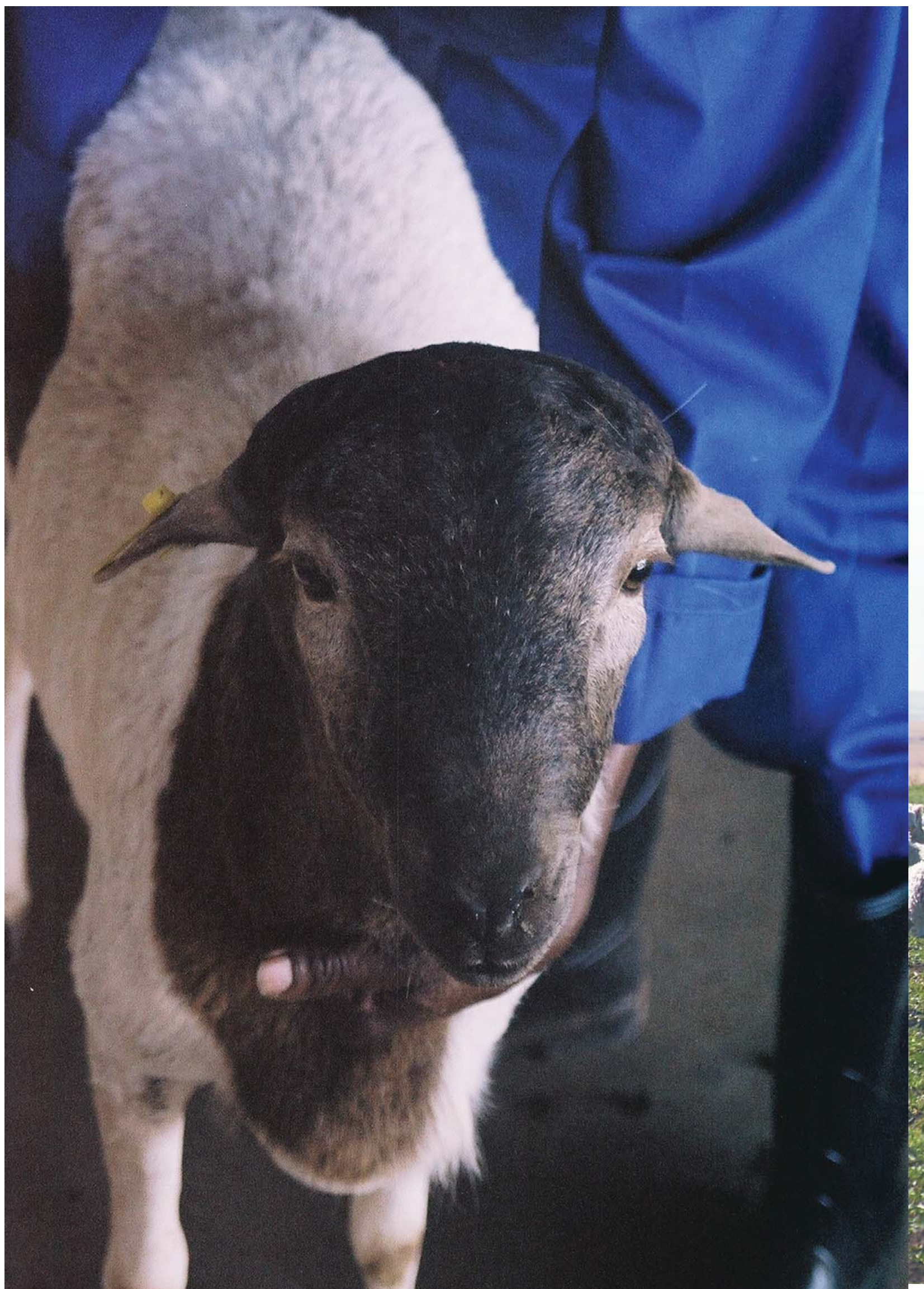
2.5.3 Research, extension and training structures

The Agricultural Research Council (ARC) of South Africa is a national facility mandated by the Agricultural Research Act of 1990 (Act No. 86 of 1990) to be primarily responsible for research and development (R&D) in the country. It reports to the Ministry of Agriculture. Pertaining to livestock, the ARC has four institutes with appropriate expertise and infrastructure: Animal Improvement, Animal Nutrition and Products, Onderstepoort Veterinary and Range and Forage. These institutes collaborate to provide a coordinated service within an umbrella Livestock Business Division.

The services of the ARC is supplemented and regionally expanded by research capacities in the provinces and by various tertiary institutions. Well-known national and provincial facilities are found at stations such as Cedara, Döhne, Elsenburg, Glen, Grootfontein (DoA), Mara, Nooitgedacht, Potchefstroom, Tsoelike, amongst others. These capacities also assist the formal extension service, which is the responsibility of the provincial departments of agriculture, although effective interaction and co-ordination are still lacking.

Agricultural training is conducted at various levels, commencing at secondary level (agricultural schools) and proceeding to various options at tertiary level, ranging from agricultural colleges under the jurisdiction of the national and provincial departments of agriculture through technikons to universities. Recently, the ARC and provincial R&D institutions have also commenced providing National Skills Framework accredited short courses to support industry at various levels of employment.





Constraints and Challenges





3. CONSTRAINTS AND CHALLENGES

3.1 Equitable access and Participation

It is estimated that approximately 28% of the ruminant livestock listed under "Current status" are owned by the emerging and subsistence sectors. These percentages vary from province to province and for the various species but it does indicate that there is a definite relatively untapped resource base that can serve as a point of departure in developing the livestock industry in those sectors. It may be in the interest of the industry to do away with labels for different farmer groupings when considering certain aspects of a National Livestock Strategy, because the basic principles of animal production are universally applicable to all livestock producers, holders or owners. These include aspects such as proper animal nutrition, rangeland management, humane care, animal health and animal management to effect production. That access and participation have to be equitable, should in these instances be taken as a given so that the broader issues may be addressed to the benefit of the industry as a whole. The current system of classification is very similar to the compartmentalization of the past, because it tends to make distinction between certain groups within the livestock industry with the sole purpose of treating different groups differently. This in itself serves to defeat the core objective of the National Agricultural Sector Strategy that seeks to ensure equitable access and participation. The objective implies the levelling of the playing field and it should not be by benefiting one at a cost of the other - i.e. all livestock producers should share equally in the benefits derived from the industry.

Several issues have been identified as being of special importance in ensuring equitable access and participation:

3.1.1 Partnership

In order to ensure equitable access and participation it is important to consider the issue of partnerships within the livestock industry. The industry is faced with a dualistic system at present, represented by those who actively engage the formal marketing channels (commercial producers) and those who are on the fringes of the formal marketing channels (emerging producers). The latter grouping is open to exploitation by the system due to a lack of knowledge of market conditions, pricing structures and marketing opportunities. The industry as a whole is fragmented as indicated by the existence of a Red Meat Producers' Organisation and an Emerging Red Meat Producers' Organisation. The question has to be asked whether the industry can afford this kind of duplication when all the producers, irrespective of scale or scope, are pursuing identical interests, i.e. marketing and promoting red meat in the quoted instance. However, many commodity groupings already do not make this distinction, encouraging membership from various sectors, opening opportunities such as:

3.1.1.1 Mentorship

The National Livestock Strategy has to be instrumental to ensure the optimal use of all resources, including human resources. It is imperative that the knowledge and experience of livestock producers (commercial and emerging) become common property for the improvement of the industry as a whole and subsequently for the benefit of all livestock owners. Here knowledge and experience (at various levels - indigenous, commercial, marketing, management, etc.) need to be exchanged and a system of mentorship on local level can accomplish this successfully. Initially it will be mentorship that logically develops into cooperation among a wider group of producers who are in pursuit of the same goals. In establishing a mentorship program it has to have certain objectives.

3.1.1.2 Economic empowerment

The pursuit of equitable access should have as its primary objective the economic empowerment of those previously excluded from the more lucrative formal marketing channels. Currently, deep rural livestock owners do not have ready access to formal markets for a variety of reasons ranging from transport, through road infrastructure to lack of knowledge (isolation). It is essential that the industry be structured in such a way as to ensure that all livestock owners have equal opportunity to exploit the financial benefits accruing from their chosen career in livestock production. Currently, deep rural livestock owners stand alone in their endeavours, especially with reference to identifying suitable markets.

3.1.2 Land reform

Land reform is vital for equitable access and participation, especially in the commercial sense, i.e. economically viable units that ensure sustainable production in the long term. Although a land reform program has been formalized (LRAD) it appears that funding is delaying the process. If access and participation are to include subsistence livestock owners, land use privileges in communal areas also need to be attended to by standardizing community members' rights to benefit from communal rangelands. This principle is narrowly linked to poor livestock performance in these areas due to insufficient infrastructure, large numbers of livestock, lack of management strategies and nearly zero marketing. However, livestock in these areas contribute significantly to household food security, a role that may not be underestimated. It is also imperative that land reform is linked to improved agricultural, and specifically livestock, production.

Land reform programmes should be based on the optimal utilisation of the natural resource base, which should dictate the implementation of either extensive production systems (with less beneficiaries) or more intensive production systems (more beneficiaries). The more intensive the system, the more capital and management intensive it becomes.

According to the companion document: "Natural Resource Base Implementation Framework for the National Livestock Development Strategy", the largest part of South Africa is suitable only for extensive livestock production/game farming and this has to be borne in mind with the land reform programme. Currently, land reform under the LRAD program is resulting in large numbers of beneficiaries on pieces of land that create false expectations from what can be achieved from the land resource. Although there is a certain degree of change of ownership of land, many beneficiaries are farm workers who remain on the farm in that capacity to share in the profits of the venture. In essence this means that their status remains unchanged with the exception that they are now co-owners of the land. Alternatively, the current system of redistribution is coercing beneficiaries to explore intensive production systems that are capital intensive in their development.

3.1.3 Support services

Equitable access and participation will only be achieved through the initiation of adequate support services to provide ongoing support to new entrant livestock producers. These support services can be grouped into three main categories:

3.1.3.1 *Structural*

This refers to the organisational structure of the livestock industry at a national and provincial level and includes government support through the DoA and the provincial structures that provides policy guidelines and a conducive market environment (both domestically and internationally), but also structures such as commodity organisations or even species organisations (e.g. beef cattle, goats, etc.). For equitable access and participation to be achieved the industry needs to be structured formally in such a way as to be of use to the livestock producer on the macro level, providing not only technical assistance but also market information and guidance. The current fragmented organisational structure needs to be revised in order to focus livestock producers and to get them working collectively rather than individualistically, which impacts negatively on competitiveness and profitability of the industry.

3.1.3.2 *Financial*

Financial support forms the cornerstone of any commercial enterprise. At present, the majority of livestock owners are not able to access sufficient finance due to a variety of reasons, the main one being land ownership that usually forms the basis of equity. It is therefore often difficult to obtain sufficient loans through which the beneficiary can be put on track of commercial production. From that perspective land reform and finance are interdependent, illustrating the impact of one on the other. At a completely different level personal financial management is also a skill that needs to be developed, i.e. personal budgeting, banking and banking procedures, risk management etc., as it is also a potential pitfall in long-term planning at farm level.





3.1.3.3 **Market access**

If all the requirements of equitable access and participation have been achieved, but market access is omitted the whole exercise is futile. To become a successful livestock producer the farmer firstly has to efficiently produce excess livestock for marketing. This principle lies at the primary production level and is associated with many of the points already listed (land, finance, etc.). Once production has reached the level where excess livestock is to be disposed of, market access has to be ensured through the formal, recognised channels. One would expect that measures are in place to ensure ready market access within the parameters of a free-market environment if the first steps are taken correctly (structure, finance, etc.). Appropriate marketing structures are an integral part of the overall industry structure and all livestock producers will then be in a position to benefit from these structures making for equitable access and participation. The latter part of this section, i.e. equitable participation is to a large extent a voluntary option on the part of the livestock producer. If the playing field has been made even it would be foolhardy for any livestock producer not to participate in the system while all the while being informed and therefore in a position to question decisions that are made at any level of the structure on their behalf.

3.2. **Competitiveness and Profitability**

The core strategy envisages two objectives on the agricultural front and therefore also on the livestock front and these are domestic as well as global competitiveness and profitability. For the livestock industry to thrive it has to remain competitive in the domestic market and retain its share of consumer spending. One example of achieving this is to be in a position to price its products favourably when compared to competitors such as plant proteins e.g. soya. In general, the industry must be sufficiently profitable to ensure continued interest from current livestock producers and potential future livestock producers otherwise the industry will not be sustainable in the long-term.

Equally important is the fact that South Africa and therefore the livestock industry are part of the global village. This implies that livestock producers compete over international boundaries with SADC countries and further a field with EU and Mercosur countries as well as any number of other countries for the consumer Rand here at home. In this regard, trade agreements have to be carefully structured to ensure the viability of the domestic livestock industry without being excluded from the global economy so that export opportunities can be exploited to the benefit of livestock producers. There are several aspects that are of primary importance when it comes to ensuring competitiveness and profitability and these include:

3.2.1 **Inputs**

Production inputs are many and varied in the livestock industry. It is said that facets of input costs are among the "uncontrollables" from the perspective of the livestock producer in as far as they cannot change them. Some of these are:

3.2.1.1 **Labour**

Any livestock production enterprise has certain minimum labour requirements and, depending on mechanisation, these may rise as the level of intensity of production increases, with more intensive enterprises (pigs, dairy, etc.) generally requiring greater labour forces while working on relatively low returns on units produced. In this regard labour legislation and minimum wage legislation may place certain restrictions on the competitiveness and profitability of the enterprise, as it does in all industries. However, livestock production generally makes use of unskilled or low-skilled labour, creating opportunities for those in that position. If this is linked to the current land reform patterns the two principles are working against one another in the case of emerging farmers on redistributed land, i.e. intensive systems as only option versus labour and wage legislation.

3.2.1.2 **Costs**

The greatest challenge faced by any agricultural enterprise at present is the input cost: output price disparity that exists. Input prices are constantly increasing at or above inflation rate while output (produce) prices move horizontally for extended periods of time (as illustrated in other parts of the document), i.e. profitability is continuously shrinking. This

phenomenon not only acts against the long-term sustainability of existing livestock enterprises but also acts against the establishment of emerging and new entrant livestock producers. This has to be addressed domestically, regionally and internationally as trade agreements and a host of other policy decisions impact directly on the relationship of input costs and output prices. It does not mean that the market has to be controlled with set floor prices and the like but the livestock entrepreneur needs some assistance in limiting risk, otherwise agriculture in general and livestock production in particular will not be in a position to play a leading role in job creation, income generation, stabilisation and food security as envisaged since 1994.

3.2.1.3 **Capital**

The cost of capital is high, especially on production inputs, while turnover rates are relatively slow, especially in certain fields of livestock production, e.g. stud breeding. This impacts directly on profitability while also affecting competitiveness in terms of staying abreast with new technological developments, etc. Capital cost in South Africa must also be compared to other countries where interest rates are as low as 4%, allowing for considerably more manoeuvrability when it comes to pricing produce on both domestic and global markets. Another perspective (and addressed under 3.2.3.1) is subsidisation of production by governments when produce enters the global markets in order to encourage export. These are all elements that impact directly on the competitiveness of local livestock producers because subsidised products from other countries find their way onto our supermarket shelves where the locally produced, non-subsidised product has to compete for the consumer Rand.

3.2.2 **Efficiency of production**

In order to be both domestically and globally competitive production efficiency has to be comparable to that of competitors. It is necessary to harness all variables (natural resource base, financial arrangements, human resource base, inputs, skills and abilities and a multitude of other factors that impact on efficiency) in such a way as to ensure that the end product is the result of efficiency at all levels. Efficiency of production can be measured in various ways, ranging from biological off-take through sustainability of production to purely economical returns. The challenge is to find the ideal balance between all three components, i.e. maximum economical returns through optimal biological production that will ensure long-term sustainability. If the latter is achieved it should contribute greatly to competitiveness and profitability. If the domestic livestock industry is to compete effectively on the global markets it should take cognisance of consumer preferences with regard to humane production practices, traceability, phyto-sanitary requirements, organic production, distrust of feeds of animal origin (e.g. bone meal, carcass meal, feather meal), etc.

As the natural resource base (refer to a companion document: Natural Resource Base Implementation Framework for the Livestock Development Strategy") is ideally suited to "natural" production practices, South Africa is ideally positioned to answer all these requirements. In addition, certain commodities are more suited to intensive production systems that play an important role in converting "waste" products from the food industry into animal protein for human consumption. In these systems production efficiency is usually high but returns are low due to high capital and operational input costs. A principle that has to be understood in the livestock industry is that of decreasing returns where biological performance can be increased by added inputs whereas economic returns reach a point where they may start decreasing despite increased outputs. This is especially true in livestock systems where biological production is maximised at the expense of economic reward.

In this regard, it is imperative that in land reform programs, feasibility studies should be thoroughly conducted *before* specific projects are implemented. Short and long term financing and the necessary markets, infrastructure and empowerment of new entrants in terms of knowledge and skills must be in place before the project commences.

If the potential production efficiency of the current livestock resource base can be realised under the given natural resource conditions, competitiveness and profitability will be increased to answer in the domestic demand for animal products while containing input





costs to acceptable levels. The potential exists to produce excess animal products for export purposes without enlarging the animal resource base in terms of numbers.

3.2.3 Market

Deregulation and trade liberalisation have had important implications and consequences for agriculture in South Africa. ^{(7) (20)} This is no different for the livestock sector, in fact may be more, because of being only marginally competitive in comparison to many agronomical and horticultural commodities. The challenge is to find a balance between cheap, yet acceptable, animal-based products for the consumer, maintain and create job opportunities, develop and empower the emerging sector and increase competitiveness, both in the domestic and international markets. The domestic and import / export markets are discussed separately to illustrate particular constraints and challenges but the interdependence should be recognized.

3.2.3.1 Domestic scene

Demand for livestock products is a function of price, quality, availability (including convenience), acceptability, and price of alternatives, perceptions about safety, health and nutritional value, social and cultural preferences, diversity and general wealth of the buyer. The success in marketing is measured by the ability to deliver to the consumer the right product at the right time at the right price. Therefore, the challenge is a production and value chain approach that is primarily *consumer* driven.

Although there are differences, also between commodities, by and large the livestock sector is still not focused on demand and taking opportunities to increase its market share among customers. A major challenge for the industry and the individual commodities would therefore be to identify and address those constraints that have major influences in preventing them from attaining their targets in the market.

A few examples (simplified) should illustrate major constraints in particular commodities: The broiler industry has increased its share of the meat market through being highly efficient in production, and delivering a convenient product according to all social and cultural preferences at an affordable price. However, because of deregulation and trade liberalisation input costs and cheap imports are of major concern. The consumption of pork is traditionally low in the country which points to major promotion campaigns. Other constraints include production costs and inconsistency of quality because of stress related handling techniques. Goat and game meat as fresh and value added commodities are mainly untested in the market (with a few exceptions), whilst having obvious advantages from a health and dish diversification point of view. Milk and dairy products have outstanding nutritional and health benefits and offer many opportunities for diversification, but the industry sometimes lacks innovation. Other major constraints are high collection cost of milk, (29) (5 l / km² / day vs. 94 -892 l / km² / day of major dairy countries), perceived lactose intolerance in the black population and variable quality because of opportunistic distributors. Supply of livestock products is apart from demand also a function of production efficiency, input costs, and price to the producer, environmental constraints, theft, availability of markets and availability of capital. A few comments will suffice.

Environmental constraints on extensive production systems are comprehensively discussed in the companion document: "Natural Resource Base Implementation Framework for the Livestock Development Strategy". Stock theft has become a major concern in both the commercial and rural sectors. A study in the Eastern Cape ⁽⁴⁾ has shown that the loss due to stock theft amounted to R600 million per annum which is about 20% of the GDP of agriculture in the Eastern Cape, and of particular concern, about 90% of the burden is borne by the communal sector.

A further concern is the apparent widening of the gap between producer and consumer prices the past decades. For example, the aggregate producer share of the consumer price of beef and mutton & lamb has declined from 51% in 1991 to 44.5% in 1999. ^{(2) (20)} Whilst this could point to higher preparation costs and SPS requirements, it also suggests some inefficiency and unnecessary competition in supply chain management.

An important question is how the emerging livestock sector can participate meaningfully in the market economy. In this context a distinction should be made between communal (basically subsistence) farming and the emerging commercial sector.

Deregulation did not have a major effect on communal producers, (20) because both before and after deregulation they were not actually part of the formal marketing system in the country. Major constraints face this sector; including insufficient fencing and resting of grazing lands, uncontrolled movement of animals from one area to another, stock theft and very little infrastructure. Deregulation, in contrast to the communal sector, should have benefited the emerging commercial sector as the market since 1996 is "open" to everybody. They, however, still found it difficult to compete with the commercial producers when it comes to quality and volumes. The emerging producer also does not have the supporting systems in place to compete effectively. A major challenge consequently is to train and empower the emerging sector through effective extension services and other means, and to establish appropriate support and infrastructure to facilitate a more commercially orientated approach towards livestock farming and marketing. An example of the challenge facing the emerging cattle farmer is to increase the off-take rate to levels comparable to that of commercial beef production which could yield an income in excess of R2 billion.⁽¹⁴⁾ If, in addition, calving percentage can be increased to 70% an additional 1.7 million head of cattle can be added to the supply chain, (20) which could well change South Africa's position from a net importer to a net exporter of beef.

3.2.3.2 Import and export

With trade liberalisation international markets became more accessible to South Africa and South African markets also to many countries that have a competitive advantage. The principle is sound because the consumer should have the benefit to buy a diversity of products at affordable prices - even more so because of the food security argument in rural and peri-urban South Africa. Also, governments should have the means to reduce inflation and create favourable conditions for employment, free trade agreements (FTA'S) have particular advantages and competition promotes efficiency. The proviso is that the playing field should be level and fair.

Some trade partners that livestock products are imported from, mostly developed countries, pay subsidies to their producers. In addition, their exporters often receive export refunds, creating a further distortion and uneven playing field because South African producers do not receive any subsidies. The extent of support in various countries is shown in Table 3.1, using the index of Producer Support Estimate (PSE). Only New Zealand had a lower PSE than South Africa in 1998.

Table 3.1: International comparison of PSE's(%) (1998)(7)

Country	PSE
New Zealand	0.8
South Africa	2.7
Australia	6.8
Hungary	11.8
Canada	16.1
Mexico	16.7
Czech Republic	17.5
USA	21.6
EU	45.3
Japan	63.2
Iceland	68.9

It is consequently justifiable to protect the local industry through measures such as tariffication, sanctioned by the WTO, but tariffs should not have as aim the isolation of any industry from international competition, but rather stimulation of balanced trade. A particular problem that undermines the industry is dumping as experienced by the broiler industry and unscrupulous importers that abuse the tariff system by way of under-invoicing to pay a lower tariff. The estimated loss in tariff income on the importation of red meat





amounts to about R50 million per year.⁽²⁰⁾ Counteracting measures⁽⁷⁾ are beginning to show success but a concerted effort by all role players is required to stop tariff fraud. The advantage is to both government and the industry.

Although having various advantages, FTA's should nevertheless be carefully considered. It would be important to take into account the export capacity of the intended partner. A case in point is the possible implication of a FTA with Mercosur on the red meat industry. If under the agreement red meat is awarded preferential status and the involving countries can export all domestically demanded red meat at preferential rates, it would mean that the marginal tariff will decline to the preferential tariff, and the domestic prices will drop correspondingly. With their large export potential Mercosur can supply the total domestic deficit, resulting in price changes that can hurt the red meat industry.

A major challenge for the livestock industry is to increase its share in the export market through vigorous pursuit of opportunities that arise. Export introduces foreign capital influx and it correlates with competitiveness. Also, through being more competitive investment increases, concerns about imports diminish and the industry can put scarce human and capital resources to better use in the industry.

As indicated the livestock industry, with a few exceptions, is not competitive to only marginal competitive in the global market. Furthermore, the share of livestock products in the total agricultural export earnings amounts to only 10%. If the transition towards a "Livestock Revolution" (see 1.3.5.2) with major contributions from rural farming and agribusiness is to realise, export markets should be developed. This will affect major challenges in efficiency of production, traceability, food safety measures, supply-chain management, branding and trade mission focus.

3.2.4 Supply chain performance

The market, whether global or domestic, is dictated by trade relations, orientation and adaptation, and increasingly by consumer preferences and perceptions. To be a successful competitor will require effective management, quick response to opportunities, quality of product and investors that will only invest if there is sufficient return. Diversification and partnerships, especially in the international market would be further keys to success.

The emphasis on partnerships and an agricultural value chain¹ approach arose because world-wide it is recognized that the traditional commodity marketing of being price / volume orientated, of having short term planning horizons and an "arms-length" trading culture, is failing to deliver sustainably (and therefore profitably) to dynamic and global customers who seek consistent quality, service, innovation and transparent integrity from their suppliers. Those companies, sectors, industries, regions and countries that are slow or fail to recognize the considerable challenges that this presents run the risk of being left behind, as the most profitable and growing parts of the global agri-food industry will be strategically targeted by those who have successfully grasped and implemented this approach. If an attractive growth point happens to be in South Africa such a global role-player may take over the market at the expense of domestic initiatives.

According to a study commissioned by the Agricultural Business Chamber,⁽¹¹⁾ the agri-food industry is potentially well-positioned to exploit the opportunities that this change in market environment and trading culture presents. The economic climate within the country is generally favourable, so is the exchange rate (although it fluctuates) to target increased export and become a global player. However, the agri-food industry will not succeed and become more competitive if the trading culture remains focused only on increased volumes of commodities rather than on what the market requires. Markets with innovative value-added products^{(3) (11)} should be targeted and for that, efficient management in the supply chain is crucial. From the livestock industry perspective it is of concern that, with a few exceptions, the agricultural value-chain approach⁽¹⁴⁾ has not been pursued vigorously, in fact competitiveness is often hampered by "in-house fighting" between producers, distributors and processors. Developing and adopting the agricultural value chain approach to effect successful agri-business establishment in rural areas will require an integrated approach, with elements of policy, governmental interventions, infrastructure development, identification of viable areas or communities and processes, effective link-

ages between production systems, for example between commercial and emerging farmers, post-production inputs, co-operative structures and partnerships. Above all, it will require major inputs in building knowledge and practical skills, as well as mentorship. A particular challenge is to increase participation and representation of black entrepreneurs in agri-businesses and investing in such ventures to build trust and to facilitate exploitation of the principle of contract suppliers and downstream partners.

The competitiveness of agri-businesses and how they attract further investment is, apart from supply chain management, also a function of a number of factors on the periphery. Respondents ⁽¹¹⁾ from large firms in the agri-food industry listed high and fluctuating interest rates, poor long term sales outlook, costly and cumbersome labour regulations, high crime levels and related social problems such as HIV and AIDS as their five major obstacles, whereas those from small firms indicated high interest rates, uncertainty about government economic policy, the application of labour regulations, uncertainty about future labour relations, and crime and related problems as their five most important obstacles. These should be addressed simultaneously if the livestock industry and agri-food businesses are to increase their competitiveness and profitability.

3.2.5. Enabling policy and legislative environment

3.2.5.1 General

The support services provided by the DoA and the Provincial Departments of Agriculture are of cardinal importance. This affects all role players, whether commercial or emerging. Should governmental institutions neglect these responsibilities it could weaken the position of producers in the domestic and international market. Three of the main issues affecting the livestock industry are food safety, animal health and land reform. The first two have common grounds from particular perspectives but also specifics, and are therefore considered separately.

3.2.5.2 Food safety

Food safety is linked with worldwide public health as well as sustainable development, and is related to three different desired outcomes: better human health and nutrition from locally produced and imported food, enhanced agricultural production and social equity, and increased market access for food exports. Policy and regulatory frameworks worldwide tend to favour control of product standards in the international trade arena, through benchmarking against and implementing the standards guided by the FAO / WHO Codex Alimentarius Commission. ⁽³⁷⁾

For emerging economies and sectors such as in rural South Africa, it is often difficult to meet these standards because of lack of resources. Also, the challenge of providing the food insecure with sufficient energy and nutrients may be regarded as more pressing than food safety issues. However, food security and safety are interrelated and should not be separated, as food security is about people's access to nutritious and safe food. Insufficient intake of nutrients is also part of a broader poverty context, in which food safety threats may have dramatic consequences such as food-borne pathogen related diarrhoea and death. In this context, a two-tier policy choice to on the one hand implement a micronutrient food fortification or supplementation programme and on the other to provide safer food to reduce the widespread incidence of food-borne diseases, appears paramount. Linked to this is more forceful implementation of the objectives of the strategy of the DoA to ensure access to sufficient, safe and nutritious food.

It is generally agreed that a threat to the industry is insufficient control of product standards by responsible Government Departments. Sophisticated food quality and safety assurance systems are in place, mainly but by far exclusively in the formal (commercial) sector. This is backed by a reasonable effective web of government policies and regulations, but an integrated framework of government action and public-private partnership is lacking, partly due to the dismantlement of several product boards that used to have tight connections with the ministries of Agriculture, Health and Trade & Industry. The tight connections should be re-established with the organizations that replaced the boards or took over the functions (SAMIC, Milk SA, SAPA etc). The challenge furthermore, is to effect better co-ordination between the relevant authorities which could be facilitated by one Food





Safety Act,⁽³⁷⁾ enforced by both the departments of Agriculture and Health and a single food control body, while incorporating several private (e.g. IMQAS, Agri Inspec, Dairy Standards Agency etc), provincial and local government authorities to enforce sector/commodity-specific safety and quality standards. Countrywide, minimum food safety standards based on Codex guidelines should be implemented, with trade offs to feasibility, food production systems and basic good agricultural and manufacturing practices, especially in remote rural areas.

3.2.5.3 *Animal Health*

Effective control of highly contagious and notifiable diseases with, in particular, international trade implications such as BSE, Foot-and-Mouth, African Swine Fever and Newcastle is non-negotiable. Recent outbreaks⁽³⁰⁾ in South Africa and border threats from neighbouring countries have had major impacts on livestock movement, killings and foreign earnings that cannot be repeated. It is paramount that border and fence control, International Organisation of Epizootics (OIE) requirements, vaccination programmes, regular sampling for notifiable diseases, dealing with game diseases that affect livestock, support of the ARC-Onderstepoort Veterinary Institute and the Onderstepoort Biological Products to ensure vaccine development and production should not be interrupted.

From a food safety point of view zoonosis¹ and insufficient hygiene measures, in particular the emerging and informal sectors are of concern. For example, with renewed outbreaks, bovine brucellosis and tuberculosis remain a threat in the beef and dairy industries whereas some 50% of milk tested countrywide showed more than 300 000 somatic cells per ml. It would appear that the application of the Health Act⁽²⁹⁾ is not consistent and that government officials collecting samples are not sufficiently trained, whereas the equipment used is sometimes technically obsolete.

3.2.5.4 *Land tenure and restitution*

The communal system makes it more difficult to address sustainable development. Ownership often brings responsibility and a long term approach, thereby supporting conservation of the resource and orderly marketing. Currently major constraints face this sector, including insufficient fencing and resting of grazing lands, uncontrolled movement of animals from one area to another, jeopardizing the health of the national herd, poor infrastructure and many others. The challenge facing government and affected role players such as traditional leaders is to address these problems and to effect major interventions towards a market orientated approach.

Although subsistence farming could contribute to household food security, the efforts thus far to maintain such systems appear to be counter-productive and result in the wasting of limited land, human and financial resources.

With the acquiring of more land through restitution and other means, these lessons should be taken to heart. New land should be given ownership and supported to empower the emerging commercial livestock sector. Cognisance should also be taken of biomes, the distribution of animals, eroded areas and production potential of land as highlighted in National Resource Base - implemented Framework 1, in order to effect well-planned livestock and integrated production systems. An option for small-scale operations in this and the communal context is to be linked in a cooperative arrangement where they act as suppliers to value adding agri-businesses and receive shares.

3.2.6 *Risk management*

3.2.6.1 *Environment*

Extensive livestock farming is primarily done in the more arid part of the country, receiving less than 500mm of rain. In addition, the precipitation is seasonal and even erratic in distribution within the season. Therefore, seasonal, yearly and prolonged droughts should be recognized in risk management of livestock farming. Aggravating circumstances are eroded and bare areas of overgrazed rangeland, promoting run-off and therefore less effective usage of the precipitation for fodder production. Also, the dry season coincides with winter and therefore low temperatures that effectively prevents any growth from build-up moisture, resulting in the material losing its nutritive value, even becoming moribund.

Risk management because of environmental constraints have two components: conservative planning based on lower than expected rainfall which relates to the number of animals a piece of land can maintain, and provision of extra fodder for the periods when the rangeland provides little, to sustain or limit fluctuation in animal production. An associated aim is to conserve the plant and soil resource for future generations. These principles appear simple, yet the history shows that livestock farming in general has not been very effective in realizing these objectives - therefore they remain major challenges.

3.2.6.2 *Pests and diseases*

The concern that major and notifiable diseases may pose a major threat to the well being of the national herd because of inadequate control measures has been discussed under 3.2.5.3. The initiative by the DoA and the provincial authorities therefore to increase the veterinary and diagnostic capacities in the provinces with facilities and personnel, also into the more remote rural areas, is to be applauded, but the task in terms of resources, training and control is immense and consequently a major challenge.

The presence of mycotoxins in livestock feeds poses a direct threat to livestock production, but also indirectly has food safety implications. This requires careful control and monitoring by appropriate laboratories but also R & D support to develop techniques to modify or transform mycotoxins to non-toxic substances. Also, toxic plants and particular invaders still pose a threat to livestock production, especially where the natural vegetation is overgrazed, and should be controlled.

3.2.6.3 *Crime*

Crime has reached unacceptable high levels in the farming and rural communities ⁽⁴⁾ (20). It has direct bearing on the emotional, economic and social well-being of these communities, but it also affects the economic viability of neighbouring towns as their businesses are largely farmer dependent. Effective measures of protecting and eliminating crime are the democratic right of citizens. It is also imperative if inroads were to be made in the goals of reducing poverty, upliftment, empowerment, job creation and sustainable rural development through livestock and other agricultural means.

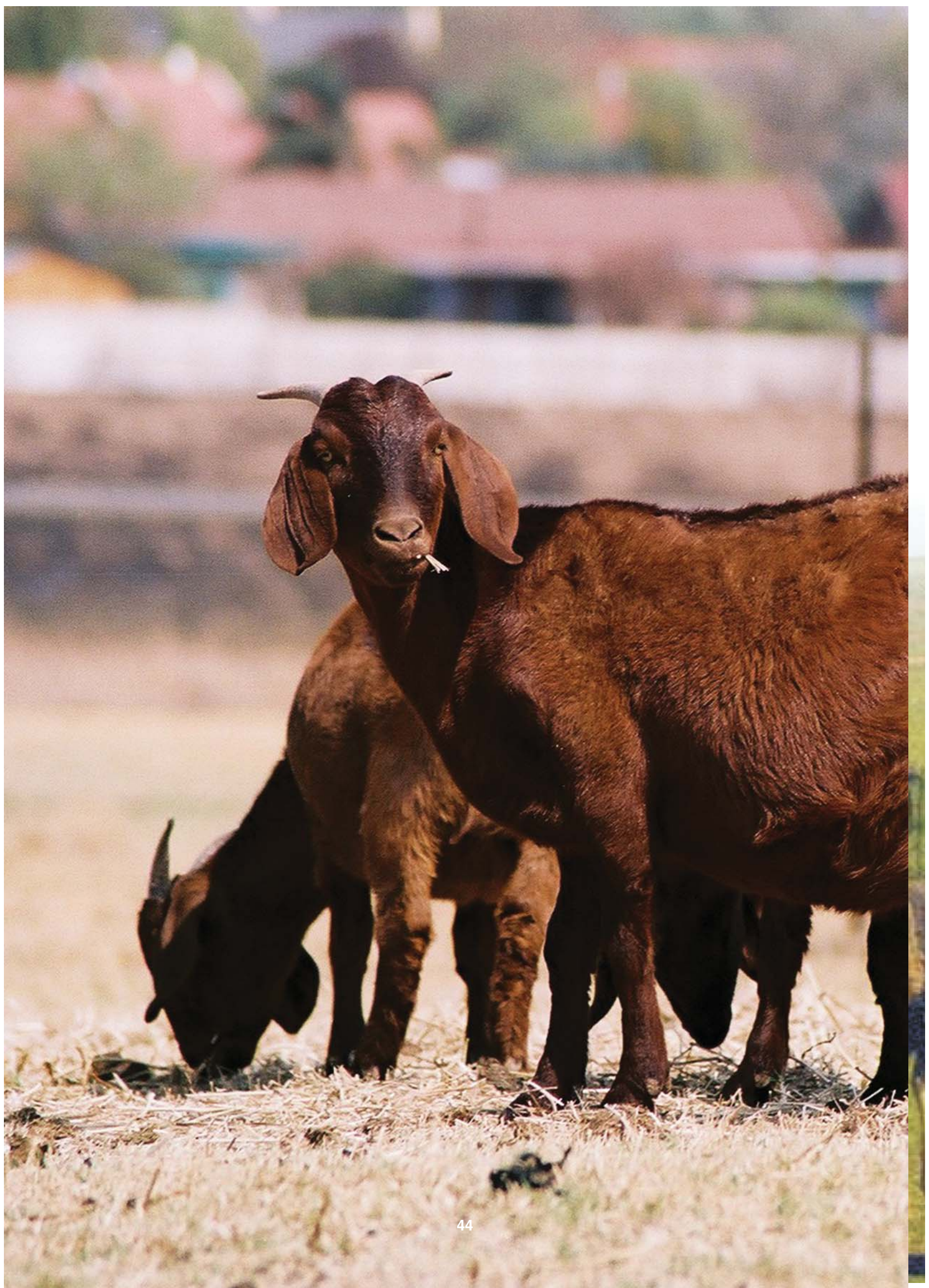
3.2.6.4 *Unstable prices*

Instability of producer prices goes hand in hand with a free market system. Whereas fluctuations increase risk they can be managed as they do tend to follow trends that are repeatable. Farmers became used to a floor price system until the eighties but since had to adapt and learn to make use of forecasts, prediction models and futures markets. To assist them in managing sometimes widely fluctuating prices, government and commodity structures should collect reliable and up-to-date statistics, supported by efficient prediction services.

3.3 **Sustainable Resource Management**

Refer to a companion document: "Natural Resource Base Implementation Framework for the National Livestock Development Strategy".





Interventions & Recommendations





4. INTERVENTIONS AND RECOMMENDATIONS¹

Although some reference and recommendations are made to natural resource management in this chapter, the importance and extent of the problem warranted a focused approach. Suggested interventions and recommendations are therefore dealt with in the companion document: "Natural Resource Base Implementation Framework for the National Livestock Development Strategy".

4.1 Core Strategy: Improve Global Competitiveness and Profitability

4.1.1 Enabling environment

The support and facilitating services provided by the DoA, DoH, the dti and the associating and corresponding departments in the provinces are cardinal to the economic welfare of all role-players, whether resource poor, emerging or commercial. Particular challenges include increasing the productivity and efficiency of resource poor and emerging farmers through supporting and encouraging sustainable development and providing the framework for the orderly production and marketing of primary and value added products. Priority support functions *inter alia* are providing infrastructure, information, institutional links, facilitating market development, providing safety and security, an environment that ensures healthy animals and safe and quality products to the consumer, and research, technology transfer and training.

4.1.1.1 Infrastructure in rural areas

Lack of infrastructure such as fences, roads, farm buildings such as wool sheds, abattoirs, tanneries and storage and processing facilities are serious constraints to sustainable development (Refer to the companion document: "Natural Resource Base Implementation Framework for the Livestock Development Strategy")

Government (national, provincial and local) must provide funds through financial institutions such as the Land Bank and the Development Bank of South Africa to commission business plans and attractive projects to institutions that provide infrastructure such as engineering firms, Transnet and Eskom.

4.1.1.2 Information and statistics

Vital statistics to provide up-to-date information and to effect better planning differ unacceptably between sources. Also, statistics for the informal and emerging sectors are mostly unavailable or based on estimates.

The capacity (human resources, skills, budget and equipment) must be developed and maintained to provide accurate information and statistics. Effective liaison and linkages between institutions collecting information and statistics such as Statistics South Africa, Agricultural Statistics, Customs and Excise and commodity organizations must be established. Investigations must be commissioned and facilitated to ascertain optimum communication methods to communities and emerging farmers and entrepreneurs.

4.1.1.3 Institutional links

A prerequisite for becoming more profitable and competitive in the global environment is to join forces in the production and value adding chains. From an enabling environment point of view this means effective government-to-government, government-to-industry organisations and government-to-private sector stakeholder linkages. Whereas there are interaction and communication the ties must be strengthened and where applicable formalized. ITCA is an example of effective linkages between the DoA and the provincial departments. However, other ties are too *ad hoc*:

- For trade, the DoA (agricultural produce, SPS and veterinary control), the Department of Health (food safety) and the dti (import and export facilitation and control) must liaise more formally and develop common strategies.
- The DoA and industry organisations (AgriSA, NAFU, Milk SA, NWGA, SAMIC, SAPA etc) correspondingly need regular and formalized meetings to review strategies and monitor progress. Also, both parties must encourage resource poor and emerging farmers to join

industry organisations to benefit from the associated information and knowledge base, mentorship, common interest and collective bargaining advantages.

- The DoA and the dti must have close ties with agri-business (ABC for example) to encourage and facilitate the agricultural value chain approach, particularly in rural areas which require effective linkages between commercial and emerging farmers, post-production inputs, cooperative structures and increasing participation and representation of black entrepreneurs in agribusiness investing in rural ventures.

4.1.1.4 **Market development and trade**

Whereas the dti has the prime responsibility to enhance trade the DoA, as the custodian of all agricultural activities from the provision of farming inputs, farming itself and value adding, must closely liaise to support domestic and international agricultural (livestock) markets. With regard to the international scene ⁽²⁰⁾¹:

- The DoA must play a more prominent role in trade negotiations and agreements to ensure that the needs and interests of the agricultural sector are addressed and protected
- The DoA must ensure that countries, in particular the USA, accept that the South African veterinary protocol is on par with that of the first world to enable export of perishable animal products
- The envisaged FTA with Mercosur countries must either be reconsidered or a special protocol must be drawn up for meat (beef and chicken)
- Tariffs must be reviewed more frequently to negate the effects of dumping and unscrupulous importers that abuse the tariff system. The Board of Tariffs and Trade should also revisit the implementation of a fixed tariff system, calculated by means of a formula, to protect industries from disruptive trade practices such as subsidised imports and producer support systems.
- The development and implementation of a traceability system for export certification must be accelerated. The role of the Intergis 2000 system therein must be established and the auditing of a National Traceability system must be done by a competent independent third party.

4.1.1.5 **Safety and security**

Stock theft is a major concern in both the commercial and emerging sector, with indications that rural development may be seriously affected. Further aggravation is the persistent violent crime targeting farmers.

Effective policing, supporting structures and decisive sentences of perpetrators must be put in place, e.g. the sentences for stock theft must be increased. The SAPS must put supporting structures in place to assist self-protection systems and stock-theft committees in communities, interact regularly and plan collectively. The regulations of the Animal Identification Bill must be put in place as a matter of urgency.

4.1.1.6 **Animal health and conservation**

The national herd (all species) is an asset both in terms of the sustenance it provides and the biodiversity to ensure long term viability and sustainability. To that effect: facilities ⁽²⁰⁾ must be created and maintained to optimize the utilization of the national herd, animal health and the national rangeland (refer to the companion document: "Natural Resource Base Implementation Framework for the Livestock Development Strategy"). From that perspective:

- The DoA is responsible to finance the Livestock Improvement Schemes that provide the pivot of optimal utilization.
- The DoA must conserve gene pools vital to adaptability and productivity and must put preventative measures in place to limit export of comparative advantageous genetic material (Boer goat, Nguni, Bonsmara and ostriches are examples).
- The DoA and associates must provide effective control and monitoring of highly contagious, notifiable zoonotic diseases). Measures include border control and fencing (where required), complying with OIE requirements, regular vaccination programmes, regular and representative sampling and analysing for FMD and BSE to support the status-free declaration, monitoring cattle versus game farming in the context of endemic diseases, and financial support to the ARC-OVI and Onderstepoort





Biological Products.

- Veterinary service is a national responsibility and cannot be delegated to provincial and regional level. A constitutional change must be introduced urgently.

4.1.1.7 **Food safety and quality**

Food safety standards are developed to support safe and quality food to all consumers domestically and wherever food is imported from. The benchmark for regulatory frameworks and products is that of the FAO/WHO Codex Alimentarius Commission that South Africa adheres to. Food safety and quality are ineffectively monitored and must be addressed urgently. This is the result of:

- Inadequate budgets in the DoH and corresponding provincial departments.
- Inadequate well-trained staff to regularly monitor and collect samples for analysis.
- Insufficient government supported accredited laboratories with up-to-date equipment for diagnostic, analytical, pathogenic, residue and mycotoxin testing.

Whereas the responsibility is that of government it is recommended that because of budget and facility constraints, public-private partnerships should be formed and mandated to develop a countrywide network of monitoring agencies and laboratories. Food safety issues in rural communities with inadequate nutrition have the further dimension of susceptibility to food-borne pathogen related diseases. A two-tier policy and strategy to implement a food fortification and supplementation programme in addition to providing safer food is therefore paramount.

- Better coordination between the DoH and the DoA to facilitate improved delivery on food safety and security is required. The promulgated one Food Safety Act and Food Control Agency will enhance this process and must be implemented as soon as possible. Studies must be commissioned and funded to support the integration of minimum food standards based on Codex guidelines, food production systems and basic good agricultural and manufacturing practices in the remote rural areas. Meat inspection, classification and the execution of meat hygiene standards at abattoirs must be done independently from the abattoir owner.⁽²⁰⁾ Outstanding regulations to that effect still delay the implementation of the Meat Safety Act (Act 40 of 2000) to the detriment of hygiene and safety practices.

4.1.1.8 **Input costs**

For the livestock industry to remain competitive in both the domestic and the global markets, it must be in a position to price its products favourably in comparison with those of competitors. In this regard, input costs play a major role.

The extent in which legislation like Labour legislation and minimum wages can effect input costs, must be meticulously scrutinised by the dti, DoA and Organised Agriculture. Trade agreements, which impact directly on the relationship of input costs and product prices, must be handled with much circumspect by the dti and DoA.

4.1.1.9 **Research, extension and training**

Government and industry share the responsibility in this regard. However, within the context of an enabling environment government must provide and maintain the resources and facilities to ensure effective R & D, extension and training. These resources and facilities have deteriorated alarmingly, in some instances even to the extent of almost No. return.

To rectify:

- The R & D budget needs to be increased to in excess of 2% of agricultural GDP to be in line with competitors in the global market.
- Networks and formal linkages between ARC, DoA, provincial and tertiary institutions must be established to pool capacities and limit duplication. Redundant capacities must be phased out or restructured to fit in with capacities and programmes that are more responsive to markets and national objectives.
- Optimal structured capacities need to be well-equipped with highly skilled and motivated staff paid market related salaries that work in environments with up-to-date equipment.

- Paid mentorship programmes and sourcing of particular expertise from abroad must be introduced.
- Specific training programmes for extension staff to become subject specialists but also skilled in socio-economic approaches to technology transfer and training must be introduced as a matter of urgency.
- Specific to animal health: veterinary graduates must do a one year compulsory community service and critical vacancies of animal health technicians filled as soon as possible, to assist in addressing the serious shortage.
- Formal training at secondary and tertiary institutions must be supported by skills-based training programmes by the ARC and DoA and provincial R & D institutions, and selected industry capacities, utilizing the NSF outcomes-based approach introduced by the Department of Labour. These include farming and entrepreneurial skills.

4.1.2 **Industry responsibility**

The previous section discusses the responsibility of various government sectors to establish a framework and environment conducive to enhanced competitiveness and profitability. Industry, although operating basically independently as private initiative, nevertheless has particular responsibilities in a collaborative and partnership framework with government sectors to ensure a viable and sustainable enabling environment. They also need to implement industry-specific strategies and recommendations in this context to achieve objectives.

4.1.2.1 **Commodity implementation plans**

This document provides a framework and recommendations to take the livestock industry forward. It is important that the different sectors in the industry respond to it, in order to illustrate commodity-specific constraints and objectives. This will provide a framework whereby government and industry sector structures can collectively and in partnership address issues to improve competitiveness and profitability.

All industry sectors (commodities) should develop business and implementation plans aligned with this strategy and implementation framework.

4.1.2.2 **Competitiveness in global markets**

The competitive advantage of primary and value added livestock products in the export market are low with few exceptions. This points to inefficiencies in production processes and supply chain management.

Commodity organisations should commission investigations into the reasons for suboptimal efficiencies, develop strategies for R & D and non-R & D interventions and commit funds to these.

4.1.2.3 **Domestic market share**

Poor or stagnated market share has a number of reasons that collectively points to non-responsiveness to consumer demand. The reasons may relate to consumer ignorance or perceptions, promotion, quality and diversity of products, price and availability. The fact of the matter is that most animal food products have low to medium per capita consumption patterns, particularly in some market segments. If the goal of both the expectations of the livestock sector of being a major addressee of poverty relief and food security and a profitable sustainable enterprise is to be realized, consumer preferences of all cultures will have to be considered.

Commodity organizations and relevant companies will have to increase their commitment and focus to understand and satisfy the needs of consumers through surveys, promotion, innovation and R & D input, and invest more in such efforts as in the past.

4.1.2.4 **Emerging sector**

For effective rural development the emerging farmer and agri-business sector needs to be fast-tracked towards independence. To that effect, training, mentorship, introduction into commercial and cooperative structures, and investment in emerging and fledgling agri-businesses are paramount.





The commercial farming and agri-business sector must take co-responsibility to:

- Support training, mentorship and demonstration programmes. Apprenticeship principles are recommended.
- Support infrastructural and business premise training.
- Recruit such farmers and entrepreneurs to organized agricultural structures.
- Assist formation of co-operative structures with shareholding by participants.
- Promote and assist participation and representation of black entrepreneurs in agri-business.
- Invest in these ventures to build trust and to facilitate utilization of contract suppliers and downstream partners.

4.1.2.5 Enabling environment

This has been indicated as the responsibility of government structures (4.1.1). However, resources are mostly inadequate and measures of control and implementation are often to the advantage of particular industries or commodities.

These industries or commodities should share responsibilities through partnerships and other means, because they have the know-how and have often created capacities to that effect. Examples in the border control, illegal import, food safety, quality and hygiene-monitoring arena include Agri-Inspect, Dairy Standards Agency and IMQAS.

4.1.2.6 Research and development

The responsibility of government is discussed in 4.1.1.9. Basically, R & D capacity must be maintained and government should also support generic research aimed towards the improvement and sustainability of the enabling environment.

Industry responsibility is to support R & D which is for own benefit. To that effect:

- Planning, prioritizing and monitoring structures that are lacking for some commodities need to be established in association with R & D service providers.
- Business plans indicating required R & D interventions must be developed.
- Financial support for R & D must be increased as the current investment by the livestock industry is totally inadequate compared to its competitors. A benchmark appears to be 1% of the industry GDP.
- Ways to collect R & D funds such as introduction of a statutory levy must be investigated as a matter of urgency.

4.2 Complementary Strategy: Integrated and Sustainable Rural Development

Interventions and recommendations dealt with under 4.1.1.1, 4.1.1.2, 4.1.1.3, 4.1.1.5, 4.1.1.7, 4.1.1.8 and 4.1.2.4 apply.

4.2.1 Food and income security

Production of food and fibre in underdeveloped rural areas is mostly inadequate and often characterized by wastage and environmental damage. If food can be effectively stored and processed and further value can be added in these areas, food security and nutritional standards will improve. Adding value to hides, skins, wool, hair and cashmere within communities and sold will contribute to sustenance.

Specific projects must be commissioned by the DoA and corresponding provincial departments to support such initiatives through R & D, technology transfer, training and SMME development.

4.3. Core Strategy: Equitable Access and Participation

4.3.1 Co-ordination of actions and partnerships

In order to ensure equitable access and participation it is important that co-ordination of actions and partnerships within the livestock industry should be addressed.

The amalgamation of Producer Organisations like the RPO and NERPO must be seriously considered. Formal mentorship programmes between the commercial and the emerging sector must be established. Farmers' Unions and Producer Organisations must initiate these.

4.3.2 Support Services

Equitable access and participation will only be achieved through the provision of support services to new entrant livestock producers.

The current fragmented organisational structure of the livestock industry must be formally structured to be of use to the livestock producer, providing not merely technical assistance but also market information and guidance. The DoA and the PDoA's should take the initiative. Sufficient financing facilities especially for new entrants must be put in place. The initiative must come from the DoA, PDoA's and the Banking Sector. Appropriate marketing structures at all levels of agriculture must be put in place by the DoA and the dti.

4.4 Core Strategy: Ensure Sustainable Resource Management

4.4.1 Complimentary Strategy: Knowledge and innovation

4.4.1.1 Natural resource utilization

The constraints imposed by climate and soil in South Africa dictate that the livestock sector should play an important role in terms of sustainable agricultural production.

The DoA, PDoA's and ARC must contribute to make sure that the natural resources are utilised optimally for livestock production. Continuous technology development, technology transfer and application of this knowledge is imperative.

4.4.1.2 Nutritional value

Wrong perceptions exist that animal product foods are the major contributors to detrimental cholesterol. Also, the nutritional benefits should be emphasized.

Wrong perceptions like these should be rectified by the provision of objective information. Specific product promotional programmes must be introduced and regularly repeated. Industry Organisations and more specifically Producers' Organisations should play a leading role.

4.4.1.3 Production potential and efficiency

The full production potential of well-adapted indigenous breeds/species are not realised yet.

The full production potential of well-adapted indigenous breeds must be exploited by the co-ordination of the actions and responsibilities of different role players e.g. Universities, the ARC, Provincial Departments of Agriculture, Producer Organisations and Breed Associations.

In general comparison with other countries, there is room for improvement of the biological efficiency (in terms of percentage off-take) of livestock production in South Africa. Such improvement will lead to higher profitability and better global competitiveness of enterprises.

In order to improve biological efficiency the following must be focused on:

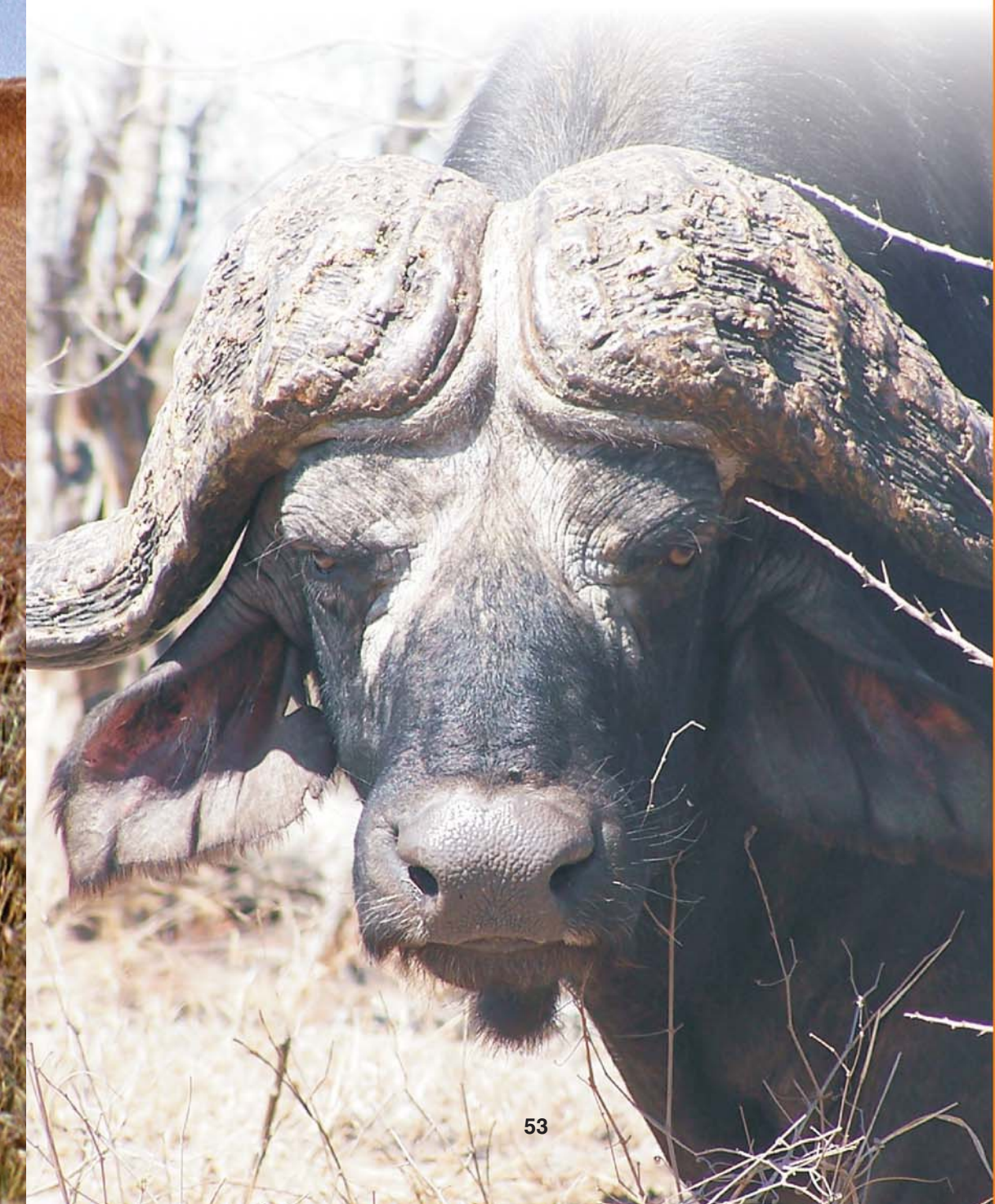
- Sustainable utilisation of animal feed sources e.g. rangeland, cultivated pastures, licks and concentrates.
- Utilisation of well-adapted stock breeds or species.
- Efficient management programmes in terms of nutrition, reproduction and animal health.

The ARC, DoA, PDoA's, Universities and Breeding Organisations must contribute to these through research and technology transfer.





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