

BIODIVERSITY ECONOMY: GAME MEAT



forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



ENVIRONMENTAL PROTECTION &
INFRASTRUCTURE PROGRAMMES

GAME MEAT

Game meat has been identified as one of the major role players in the wildlife economy. Game meat is the meat of animals and birds that is traditionally hunted for sport or food instead of being raised on a farm under controlled circumstances. It is the meat obtained from animals that are mostly found in game reserves. Game meat not only promotes and presents opportunities for land-use planning, environmental management and agricultural planning but also supports economic growth, food security and contributes to the Gross Domestic Product (GDP) of the country through provisioning of employment opportunities. Game meat production is one of the areas which challenges the inequalities of the wildlife sector through enabling transformation. The most commonly produced and consumed game meat in South Africa is impala, kudu, wildebeest and springbok. Although ostrich meat is game meat, it is predominantly produced through conventional livestock farming methods.

The game meat industry performs predominantly in the informal market whilst about 10% of game meat enters the retail market following the formal (compliant) related process. The industry in general is very fragmented. The aim of this strategy will be to create a formalised game meat industry, to achieve economies of scale

necessary for commercial ventures based primarily on game meat production, harvesting, processing, distribution, and marketing.

KEY CHALLENGES FACING THE GAME MEAT INDUSTRY IN SOUTH AFRICA

- Game meat industry is predominantly an informal industry which is fragmented without a common goal;
- The regulatory environment is often not well understood and is deemed to be complex / impractical by industry;
- The market demand, consumption and market needs of the game meat industry is relatively unknown;
- The game meat industry lacks a value chain approach to 'bind' the industry and to unlock the game meat potential;
- The game meat industry is highly untransformed;



- There is high level of incompliance with regulations within the game meat industry; and
- The major impact of Foot and Mouth Diseases on game meat exports from SA to the world including the European Union (EU) regulations inhibits the industry.

VISION OF THE DRAFT GAME MEAT STRATEGY FOR SOUTH AFRICA

A formalised, thriving and transformed game meat industry in SA that contributes to food security and sustainable economic growth.

PROPOSED STRATEGIC GOALS:

- **Goal 1:** To increase game meat production from the current 59,184 tons per annum to >100,000 tons per annum by 2030.
- **Goal 2:** Increased compliance (meat fit for human consumption) of game meat from the current 10% to 85% by 2030.
- **Goal 3:** To increase the number of thriving Previously Disadvantage Individuals (PDIs), women and youth ranchers and other Game Meat Value Chain Actors from the current <4% to >25% by 2030.
- **Goal 4:** To grow job opportunities in the game meat sector by 10% per annum by 2030.
- **Goal 5:** Shift from an informal by-product of hunting to commercial meat production, processing and marketing industry with >30 large production enterprises, >5 large harvesting enterprises, and >10 large processing enterprises by 2030.
- **Goal 6:** 1 million hectares of community owned land brought into game meat production with associated localised value chains by 2030.



STRATEGIC OBJECTIVES (SOs) TO GROW AND TRANSFORM THE GAME MEAT INDUSTRY IN SOUTH AFRICA:

- **SO1:** Create an enabling policy, regulatory and legislative framework;
- **SO2:** Establish institutional framework or governance structure (towards formalising game meat trade);
- **SO3:** Conduct market intelligence (to determine the size, the scale and performance of the industry);
- **SO4:** Establish the supply, demand and consumption of the industry;
- **SO5:** Explore technological support systems (to ramp up the rural throughput abattoirs and traceability) systems;
- **SO6:** Ensure transformation of the industry by bringing the PDIs and rural communities as owners and owners of large game meat operations;
- **SO7:** Imbued skills, knowledge education amongst role players;
- **SO8:** Initiate marketing, branding and communication programmes to raise awareness about the significance of the game meat for live hood, health, food security and the local economy;
- **SO9:** Enabling development of large commercial ventures in the game meat industry; and
- **SO10:** Enabling development of large game production and associated value chains in community owned areas.



Strength

- Marginal land use.
- Hardy animals (adaptable) that need less management.
- Adaptation to environment – lesser parasites (internal and external).
- Higher yield per hectare (browsers and grazers).
- Less losses of game due to pilfering.
- Harvesting more favourable for quality meat production when correctly harvested.
- Less drought sensitive.
- Coordinated system of game meat production will enhance better veld management and losses due to drought (particularly in FMD infected areas).
- Some species breed better when numbers are harvested frequently.
- Investment in tourism, accommodation, transport, hunting equipment etc, contributes positively to the game market in general.
- South Africa has a variety of game species – serves a niche market.
- Most game ranchers are also conservationist with a focus on sustainability.
- Skilled game ranchers in breeding, conservation, translocation of animals etc, exists in SA.



Weakness

- Lack of transformation: Industry is not representative of the demographics of SA.
- Governance of the industry is complex (various national, provincial and local government departments involved) without an integrated approach and overlapping mandates.
- Not all ranchers conform to the rules of the game.
- Lack of adequate data and statistics per species to determine the size of the industry.
- Lack of a coherent Wildlife Policy to govern the industry.
- Current regulatory framework inhibiting sectoral growth.
- Varying operating procedures and rules of the game for ranchers.
- Species adaptation when translocated and its effect on biodiversity.
- Lack of skills to adequately control diseases which may impact on exports.
- High capex needed for initial setup of game ranching seasonality of farming operations.

Opportunities

- Wildlife Economy Certification Scheme could offer various benefits to incentivise producers and value chain actors to conform to standards proposed and instituted in an aid to contribute to biodiversity conservation.
- Building a national brand for the game meat industry and related products.
- Growing demand for game meat industry and related products.
- Growing demand for game meat products locally (as a healthy protein alternative).
- Education/training opportunities due to new jobs developing within the industry.
- Investment into game farming from a transformational perspective inclusive of mentorship programs could aid in increasing supply.
- Intraregional trade as a result of bilateral agreements.
- Bring rural communities into mainstream wildlife economy.
- Job creation.
- Industry could contribute to eradicate food insecurity.
- Mixed production systems could lead to sustainable land management.
- Variety of species could become a competitive edge.
- Consider tax incentives for ranchers that conform to all standards/compliance.



Threats

- Smaller farm units may result in feeding systems threatening the organic, free range ethos of game meat.
- Rangeland management (if not executed effectively) and competition for land use.
- Unhealthy breeding systems may weaken the genetic pool of the species for example colour variants.
- Intensive ranching systems may affect conservation and biodiversity.
- Pandemics linked to food create food safety concerns (such as Covid-19).
- Climate change, specifically droughts with the effect that farmers will need their animals instead of offering free range products.
- Disease outbreaks.
- Increase in stock losses (pilfering/poaching).
- Lack of consistent supply of electricity severely impacts on rural abattoir operations.
- Corruption/ Political lobbying.

Strength

- Less stress on animals when harvesting is done correctly.
- Learner carcasses not as prone to bacterial contamination – carcasses dry off easier.
- Less slaughter contamination due to drier intestinal content in winter months.
- Less stress on the animals due to no transportation of live animals from ranch to abattoir.
- More options to supply the market directly from ranch reducing product input costs.
- Branding of product as free range opposed to farmed game – unique product against New Zealand and other farmed game to serve the needs of the global market.
- Free range game farming practices mostly deployed in SA.
- Industry creates vast numbers of jobs.

Harvesting to Processing

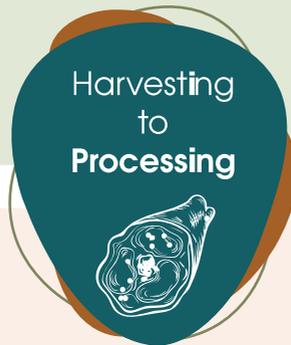


Weakness

- Lack of consistent supply.
- High incidences of no meat inspections or hygienic slaughter techniques deployed.
- Regulatory/legislative framework not in place resulting in illegal practices where prices are undercut.
- Permitting and licensing processes are not integrated (each province deploys own processes [9 + 1 system]).
- More expensive processes to harvest game than livestock.
- Poor harvesting and slaughtering practices result in poor quality products.
- Limited time to harvest i.e. night harvest/winter time/dark moon etc.
- Poorer bleeding ability due to culling rather than stunning prior to bleeding.
- Condemnation of carcasses by poor shots in the subsistence hunting practices/ slaughter/safety practices deployed.
- Lack of consumer education that highlights the health advantages of game meat.
- Limited control in rural areas and isolated environments when harvesting.

Opportunities

- Innovative product development opportunities to ensure sustainability: Processed / Canned Game Meat/ Ready Made Meals.
- Innovative technology could create more cost-effective assurance of a quality product.
- Ideal opportunity to introduce commodity based trade for harvesting of game in FMD infected areas.
- Skills development specifically in basic meat hygiene as well as in meat processing could offer educational, entrepreneurial and career opportunities. An example is to add meat safety inspections to a PH's curriculum.
- Job creation.
- Create enabling environmental (specifically in relation to legislation).
- Develop minimum standards from ranching, to harvesting to market.



Threats

- Danger of introducing residues in farming practices that may harm the organic nature of game meat products.
- Smaller processing units are more difficult to manage from a food safety perspective as many 'garage' meat processors surfaced.
- Danger of ranchers transgressing animal disease control.
- Pandemics linked to food safety concerns.
- Butcheries accepting 'grey' meat and then process and sell into retail market (need to police butcheries).



BIODIVERSITY ECONOMY

Biodiversity is globally recognised as a cornerstone for economic growth and sustainable development. South Africa, as one of the mega-biological diverse countries, has established mechanisms in which its biodiversity can be sustainably used to contribute towards addressing unemployment, poverty and inequality in the country.

The biodiversity economy of South Africa encompasses the businesses and economic activities that either directly depend on biodiversity for their core business or that contribute to conservation of biodiversity through their activities. The wildlife economy as one of the sub-sectors of the biodiversity economy; is centered on game and wildlife farming or ranching activities that relate to the stocking, trading, breeding and hunting of game animals, and all the services

and goods required to support this value chain. Broadly it includes three areas: wildlife ranching, wildlife activities and wildlife products.

The Department of Forestry, Fisheries and the Environment (DFFE) supports the development of the biodiversity economy through the implementation of projects relating to job creation, redress and transformation of the sector. These projects varies from providing training for anti-poaching initiatives, to fencing, land rehabilitation and infrastructure development in community game reserves and local, provincial and national protected areas. These projects are implemented as part of the national Expanded Public Works Programme (EPWP), providing poverty and income relief through creation of temporary work opportunities for the unemployed to carry out socially useful activities.

ADVANTAGES OF GAME MEAT PRODUCTION

- R5 million invested in cattle over 5 years has a return on investment of about 4,8% while investment in sable antelope for the same amount and period the return on investment could be as high as 45,2%.
- Game meat generates on average R220.00 per hectare of economic output while livestock farms generates an average of R80.00 per hectare.
- Game farming requires more labour-intensive work such as managing fences and firebreaks; thus creates about 3 times more jobs than livestock farms.
- Game animals require less water, have lower nutrient requirements, grow faster, mature earlier and have the ability to put on weight in sub-optimal grazing conditions while making efficient use of natural vegetation.



- Indigenous animals are better suited to deal with climate change.
- Game animals are generally more parasite and disease resistant, thus less medicine and antibiotics are required.
- Game animals have different feeding niches making it possible to stock different species together.
- Game animals promote biodiversity conservation.
- Game animals are less impacted by bush encroachment.
- Game animals are not dependent on grain based feeds thus need lower input costs required.

HEALTH BENEFITS

Game meat is a healthier alternative to the more traditional red meat products as it is higher in minerals and protein and has a lower fat content. For example, blue wildebeest and impala meat are both classified as lean meat as it has 21g and 22g of protein per 100g meat respectively; very low intramuscular fat contents and good fatty acid profiles.

Game meat has a lower percentage of inflammatory omega-6 fatty acids and more of the good fatty acids such as anti-inflammatory omega-3. However, as with livestock this varies with species, age, gender, anatomical location, season and diet.

- Game meat is generally free from hormones and antibiotics.
- Game meat is a reliable source of iron and zinc.
- Game meat is organic.
- Game meat contains an important acid for muscle growth – conjugated linoleic acid (CLA). The benefits of including CLA-rich meat in one's diet include the following:
 - Increased metabolic rate
 - Enhanced muscle growth
 - Lowers cholesterol and triglycerides
 - Lowers insulin resistance
 - Reduces food-induced allergies
 - Boosts immune system

ECONOMIC OPPORTUNITIES

- South Africa needs to double its food production in the next 35 years. Red meat production in the country is not sufficient and meat is imported to supplement local production. Water availability is the single most important factor that limits agricultural production in South Africa. Furthermore, the situation is likely to become dire due to rapidly increasing demand from other sectors of the economy and climate change. Game

meat is a viable option to ensure accessibility of red meat to South Africans, and even further afield.

- Currently game meat contributes R9.1 billion a year (0.27%) to the GDP of South Africa. This has a great potential to increase exponentially as the game meat industry grows.
- Potential game meat export is estimated over 60 000 tons which equates to about R4 billion annually.
- Formal and informal game auctions generate as much as R500 million each year.



ENVIRONMENTAL CONSIDERATIONS

The country and the world as a whole is facing a global problem of failing to conserve their environment and natural resources. Production of game meat has less impact on the environment than conventional livestock production. Furthermore, through breeding of healthy trophy specimens, superior genetic material can be conserved in game reserves and parks for future generations to ensure the survival of healthy specimens.

TRANSFORMATION

In the past the wildlife economy has contributed to the creation of over 100 000 jobs. It has a high potential for creating even more direct and indirect jobs in South Africa. Transformation of the wildlife industry remains inadequate and the majority of the sector is still untransformed. It is envisaged that transformation can be supported through land redistribution, sponsorship and training of Previously Disadvantaged Individuals (PDIs) and communities to own and manage game farms or reserves, abattoirs and meat processing facilities, and game auctioning and sales.



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