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The supply chain of game meat in South Africa and essential food safety management points

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International Research Forum on Game Meat Hygiene (IRGMH) conference

on

Game meat in focus

University of Veterinary and Pharmaceutical Sciences (UVPS) at Brno, Czech Republic,
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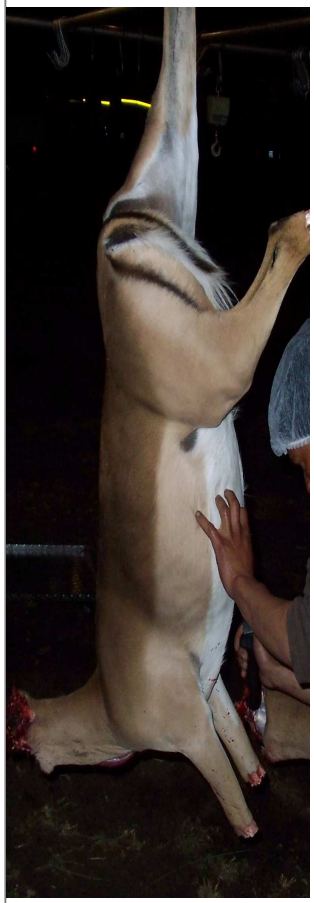
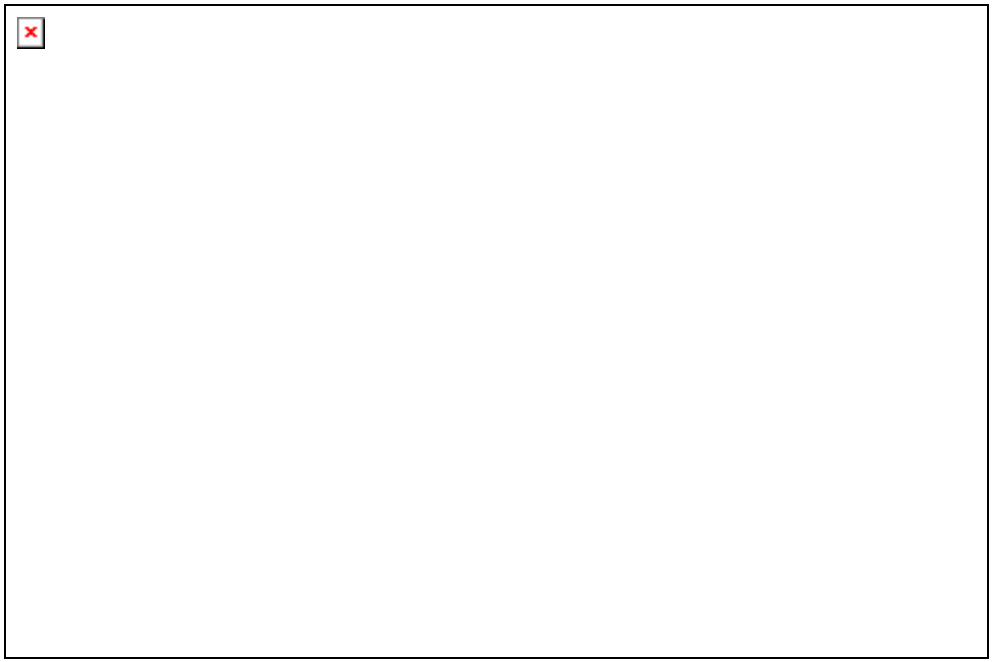
Difference of game meat supply chain

Game animals are killed and partially dressed on the game farm by removing the viscera of the thorax and abdomen, the head, feet, reproductive organs and lactating udders.



Difference of game meat supply chain

Meat from hunted game animals reach the consumer through the local formal and informal markets of which some is not inspected or approved.



Purpose

Systematically describe the supply chain for game meat in South Africa in order to understand the relevant links of the complete chain.

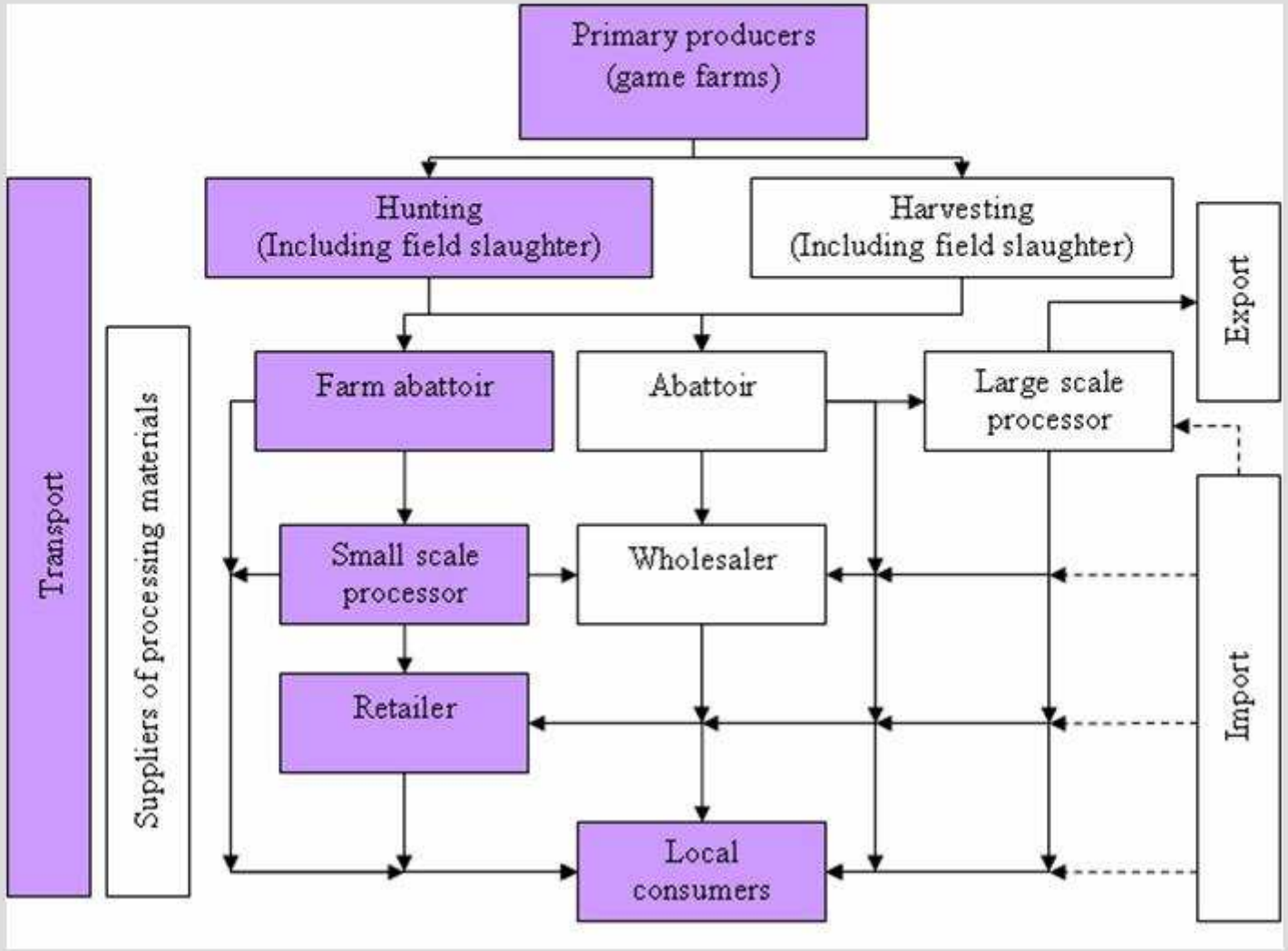
To determine the factors influencing compliance with food safety standards and to indicate the essential food safety management points that will ensure a safe game meat product to the consumer.

Methodology

Three-pronged approach with quantitative and qualitative dimensions:

- a desktop review;
- observations during harvesting and hunting events; and
- separate questionnaires to respective target groups which included game farmers, hunters, butcheries, authorities and consumers.

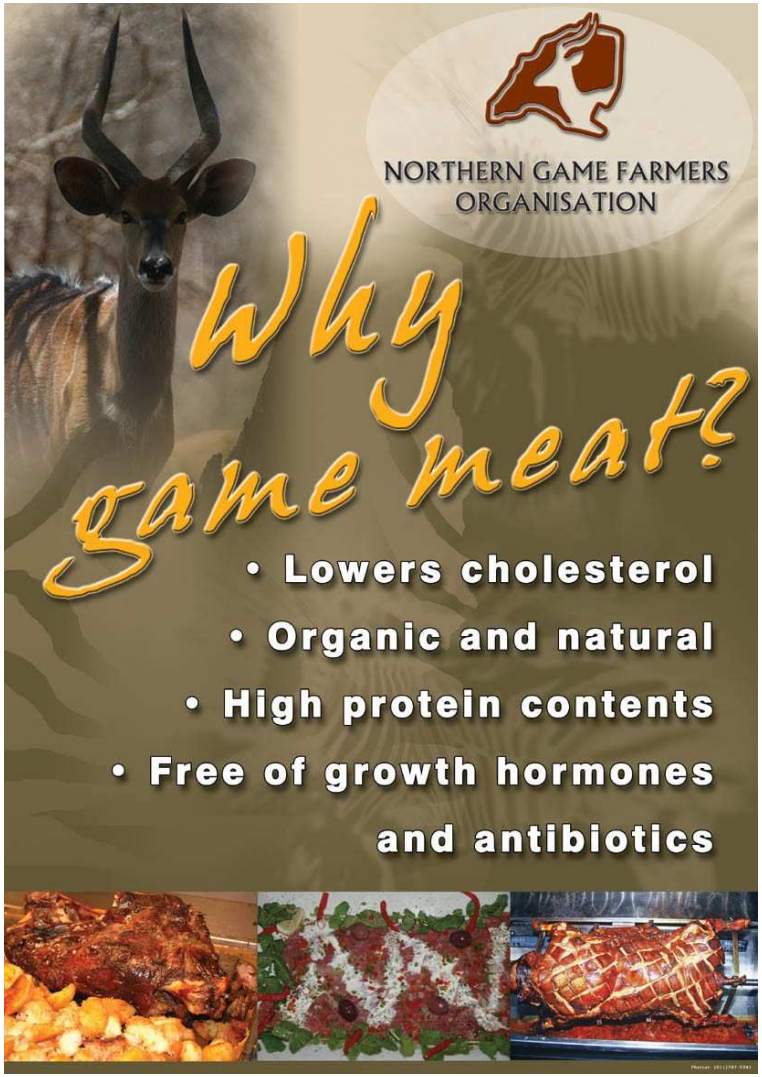
Results


Primary producers (game farms)
Hunting (Including field slaughter)
Harvesting (Including field slaughter)
Export
Transport
Suppliers of processing materials
Farm abattoir
Abattoir
Large scale processor
Small scale processor
Wholesaler
Retailer
Import
Local consumers

Farm abattoir - not necessarily approved by the authorities and where the slaughtering of game carcasses is done for own consumption or the local market.

Small-scale processor - a processor not yet approved by the authorities and where value adding is done on a small scale for own consumption or the local market.

Retailer - local or supermarket butchery, biltong shop, restaurant (including hotel), home industry, arts and crafts market, farmer market, or any other locality where the product is available to the consumer



Results: Consumer expectations and concerns

Game meat is becoming more popular in South Africa and the rest of the world

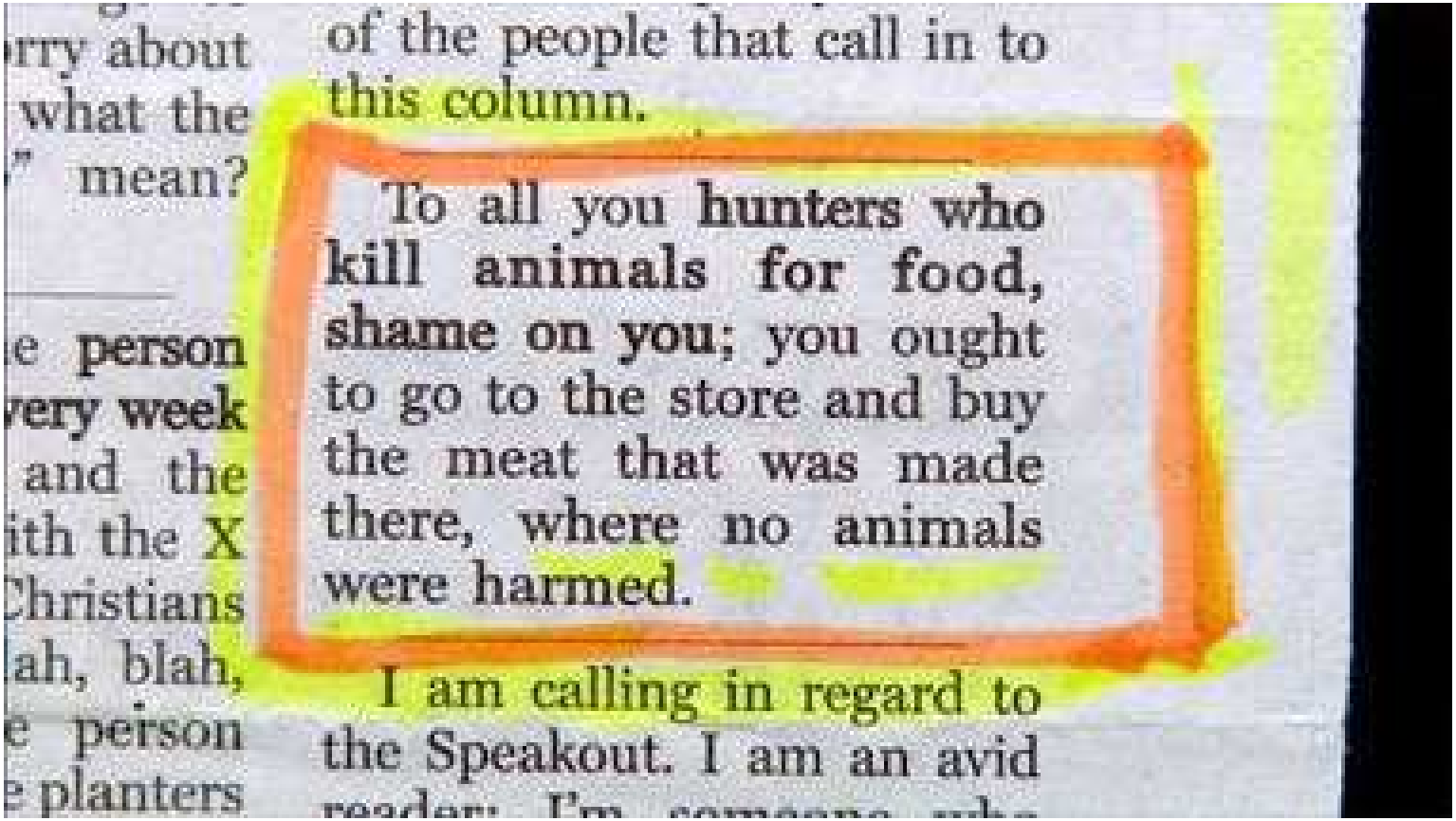
Results: Consumer expectations and concerns

- Game meat to be derived from wild free-ranged and hunted animals.
- Concerned about zoonotic diseases, disease causing micro-organism present in meat as well as presence of internal parasites.
- Consumers are very aware of diseases such as the recent swine flu that are of animal origin.

Results: Food policies – SA situation

- Meat Safety Act (Act 40 of 2000) does not adequately provide for the game industry
- Legislation is fragmented in the different levels of government and departments
- No uniform system that manages meat hygiene and safety - “farm to the fork”
- No integrated food safety plan for the game meat industry in South Africa

Results: Knowledge and training



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of the people that call in to this column.

To all you **hunters who kill animals for food, shame on you**; you ought to go to the store and buy the meat that was made there, where no animals were harmed.

I am calling in regard to the Speakout. I am an avid

Results: Knowledge and training

- Large variation in the levels of knowledge amongst the respective stakeholders towards aspects such as legislation, foods safety systems, hygiene management systems and inspection skills
- Conclusion: that there is a high proportion of unfamiliarity of these aspects with all stakeholders in the game meat industry

Results: Communication

- No single forum where the authorities from the different national departments on all levels of government as well as the industrial stakeholders of the supply chain can make an input to game meat control.

- The lack of such a forum leads inconsistencies in application of control strategies.

Results: Practices – Methods

•Game meat is derived from hunting or harvesting on game farms where game is killed by leisure hunters, trophy hunters, specie hunters or professional hunters.

Results: Practices – Harvested game

- The meat of harvested game mostly goes through a formal and well controlled process – controlled by Veterinary Public Notices (VPNs)
- Includes a field primary inspection on the farm by qualified meat inspectors followed by a final inspection at a registered abattoir prior to export.

Results

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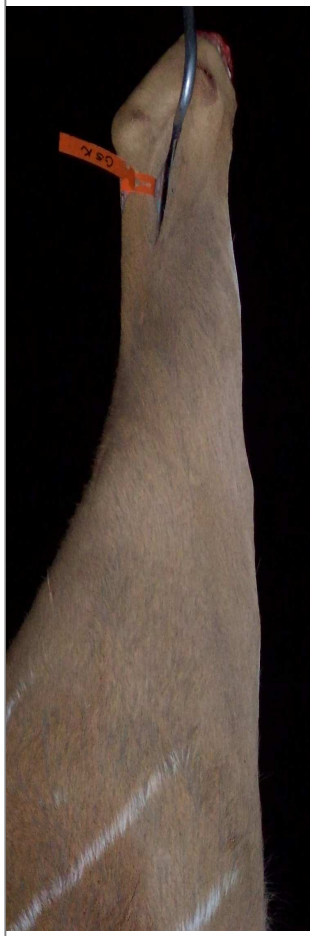

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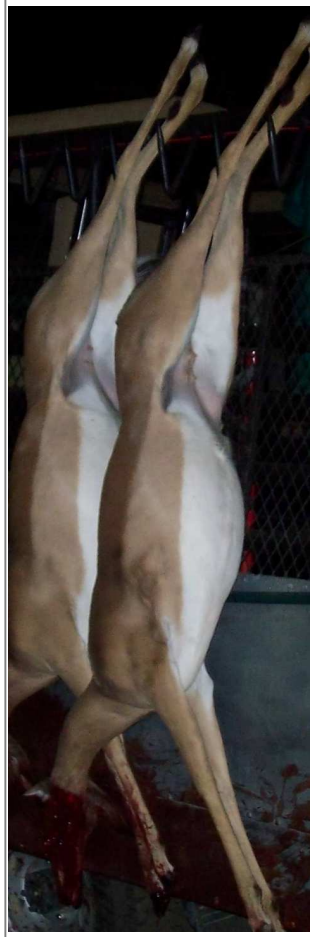

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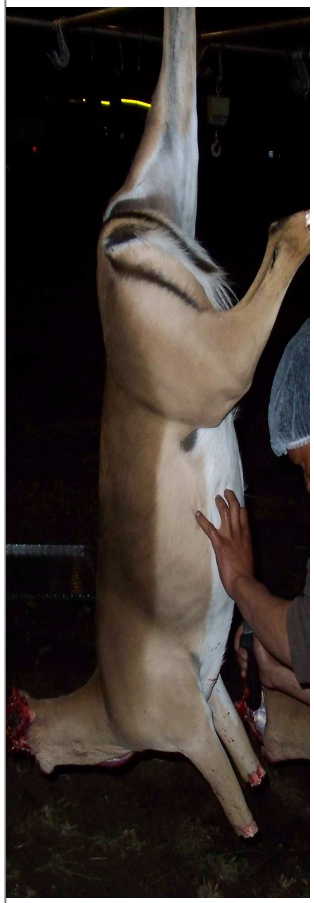

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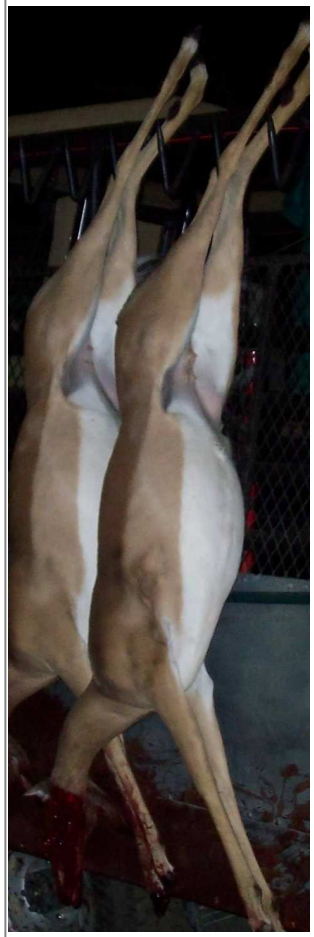

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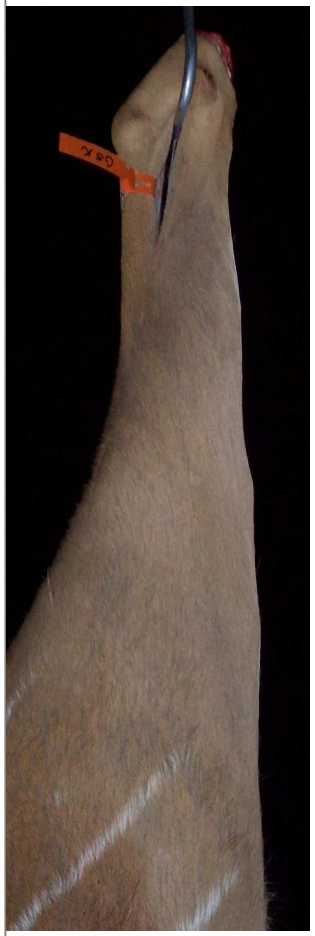


- Temperature control – data loggers
- Seal truck with seal number
- Documentation accompanying the vehicle

Results: On arrival at abattoir

- Origin data
- Break seal
- Temperature checks
- Remove hide / skin
- Complete primary inspection
- Further processing

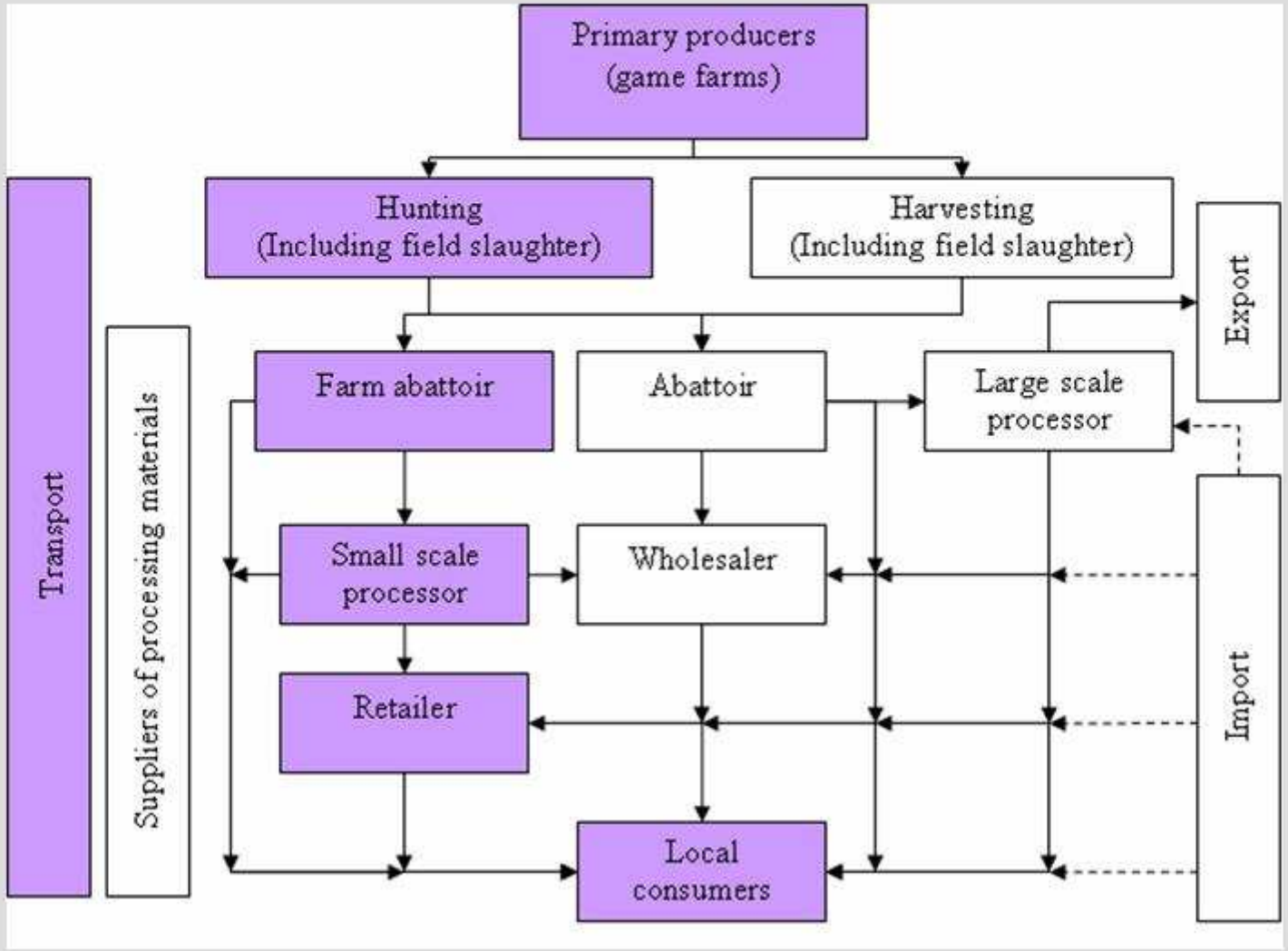
Results: Practices – Hunted game

Meat mostly processed on the game farms in unregistered farm abattoirs or taken to local butcheries where the carcasses are processed on the hunters' behalf.

Results: Practices

- Some of the meat and meat products reaches the local public through the sale of the meat to butcheries, restaurants and wholesalers while very little control is done by the relevant authorities.

Results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Local consumers

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Required control points on farm

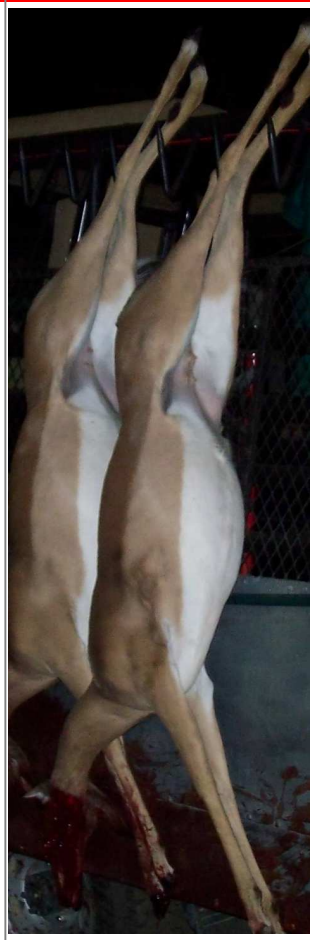
- Disease control
- Hunting and hunter control
- Slaughter facility approval and maintenance
- GMPs / GHP's
- Water control
- Training of slaughter and processing staff
- Hazard analysis and management
- Traceability

Required control after the farm

- Transport
- Butchery approval for game and control
- Small scale processor approval and control
- Training of slaughter and processing staff
- GMPs / GHP's
- Training of EHPs / meat examiners
- Hazard analysis and management
- Traceability and Labelling

Required control after the farm

- Transport
- Butchery approval for game and control
- Small scale processor approval and control
- Training of slaughter and processing staff
- Training of EHPs / meat examiners
- Hazard analysis and management
- Traceability Labelling



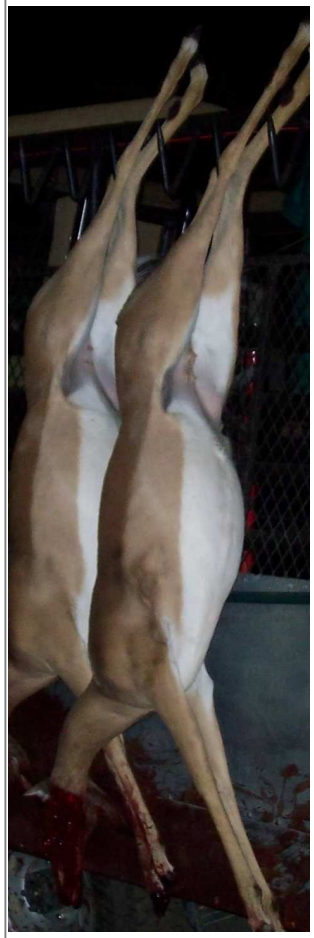
Required control for consumers

- Reading and understanding of labels
- Maintaining the cold chain
- Storage techniques
- Preparation techniques
- Good Hygiene Practices

Conclusion

- Nature of the game meat supply chain clearly sets challenges
- Imperative to develop a comprehensive food safety plan
- Formulation of uniform policies on all levels of government as well as the game and game meat industry
- Improve the current safety levels of game meat

Conclusion

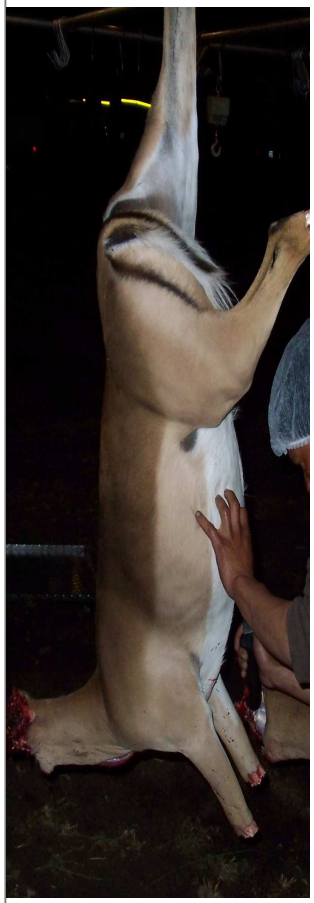


•Further investigation – research is still in process

•The description of a strategy on which activities can be developed to prevent potential food safety breakdowns in the supply chain for game meat.

Acknowledgements

- Prof Dr Louw Hoffman and Prof Dr Piet Jooste for the supervision and guidance
- CHASA, the South African Hunters and Game Conservation Association
- Wildlife Ranching South Africa for their support with the distribution of the questionnaires



Thank you

Any questions or comments will be welcomed

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