

# Uses of the value chain approach in livestock and beef

*Theo Knight-Jones*

*Animal health challenges to Southern Africa–EU beef export trade*

*Gaborone, Botswana*

*8-9 September 2015*



**ILRI**  
INTERNATIONAL  
LIVESTOCK RESEARCH  
INSTITUTE



# Value chain approach

## What is it & when is it used?

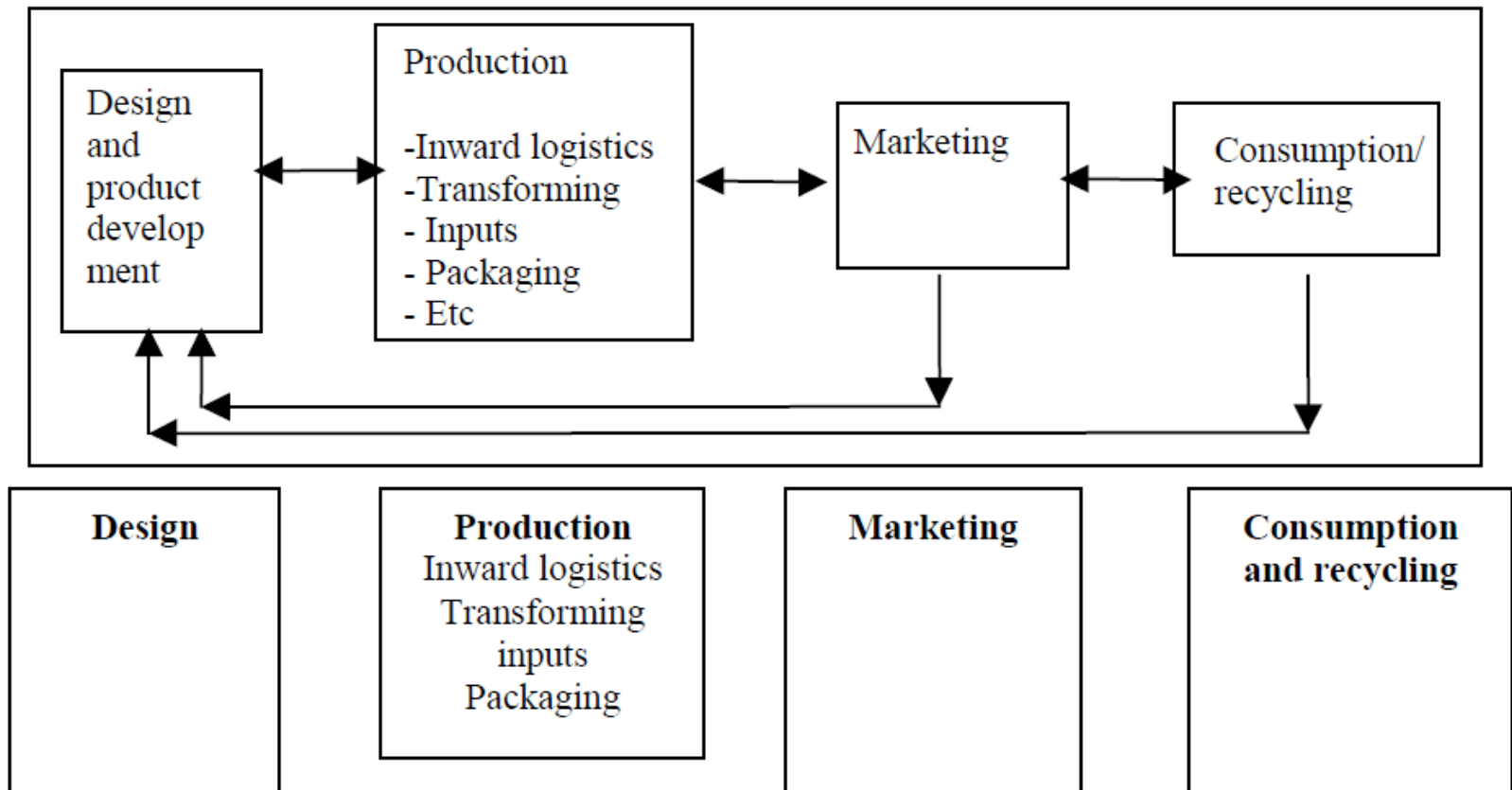
Who has participated in a value chain workshop/analysis?

Different for different people

- Ask an economist
- A veterinary epidemiologist
- Development sociologist

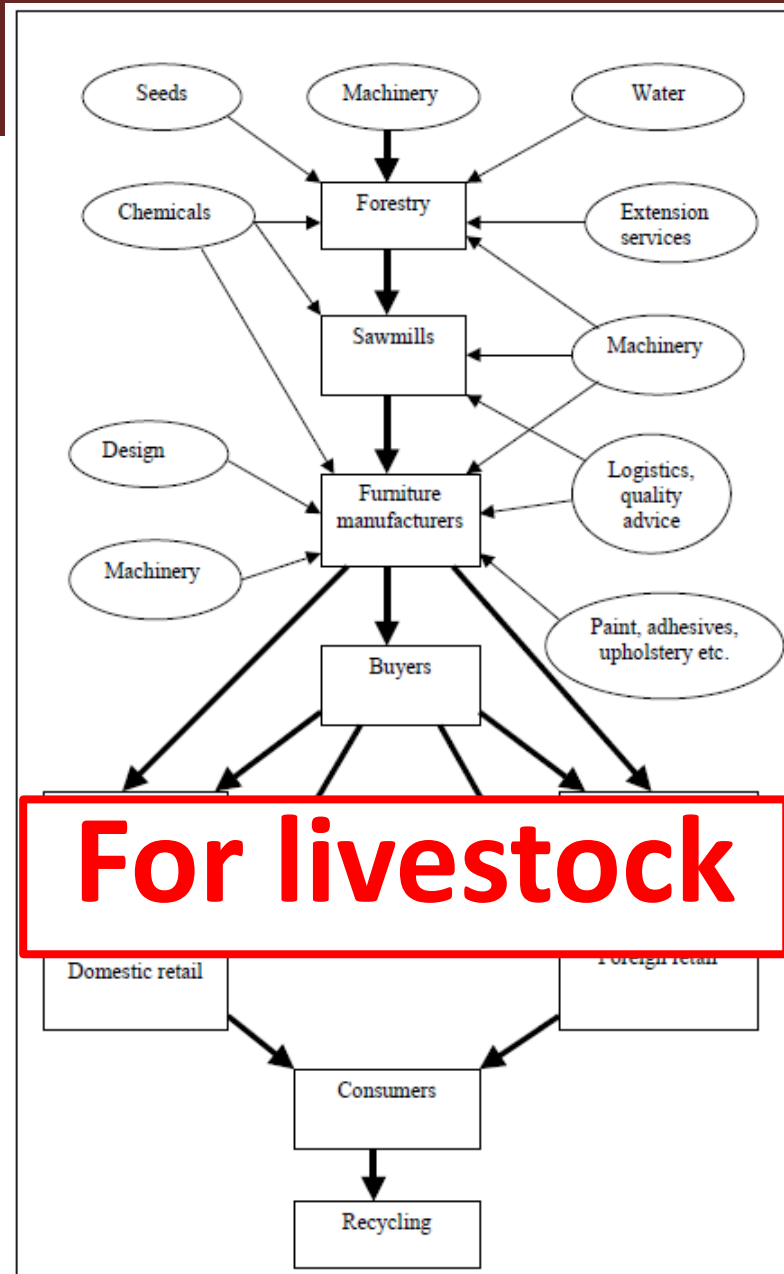
# Economist

“The *value chain* describes the full range of activities required to bring a product or service from conception, through production (involving physical transformation and inputs of services), delivery to final consumers, and final disposal after use.”



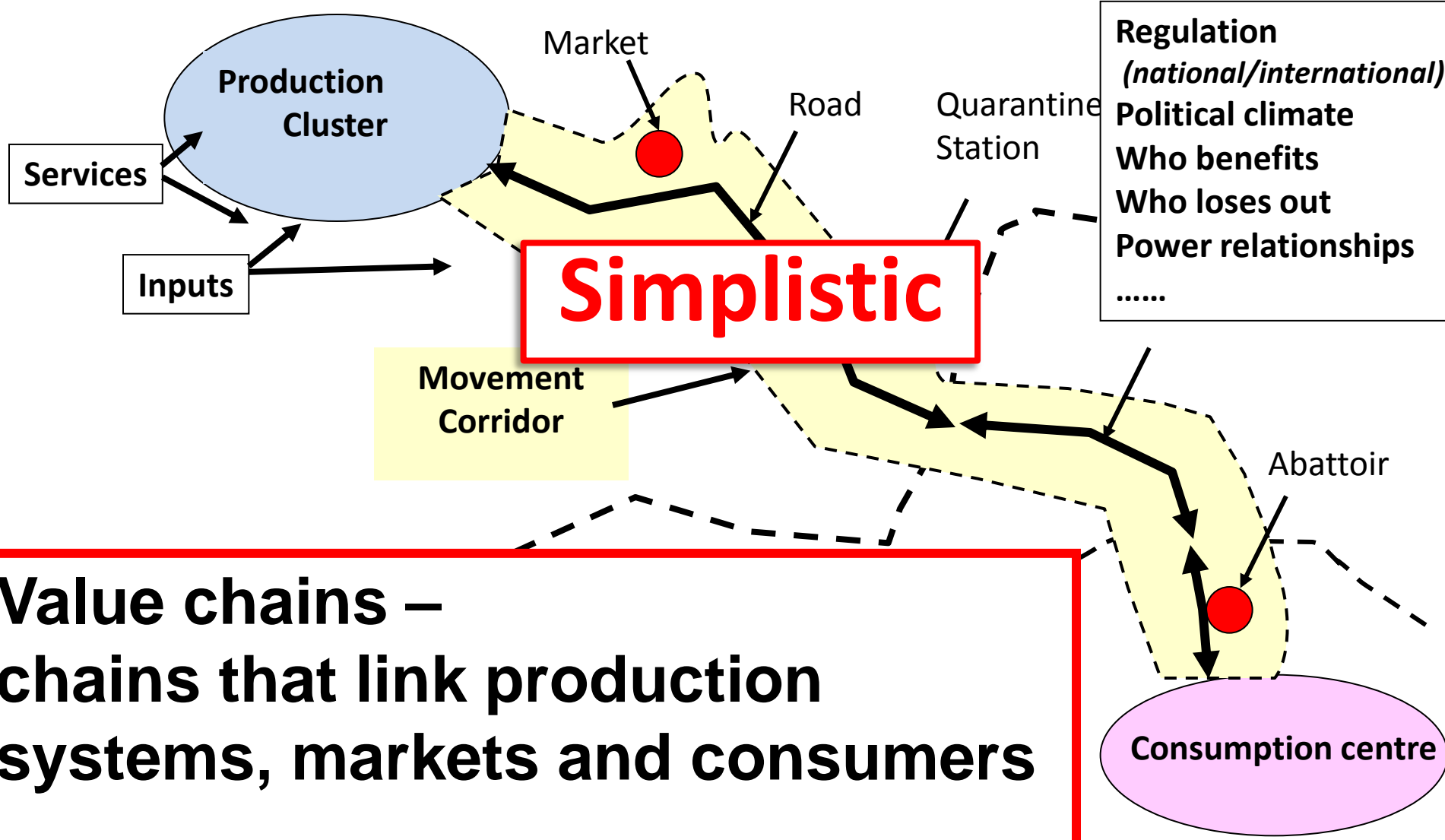
# Forestry, timber and furniture value chain

Products



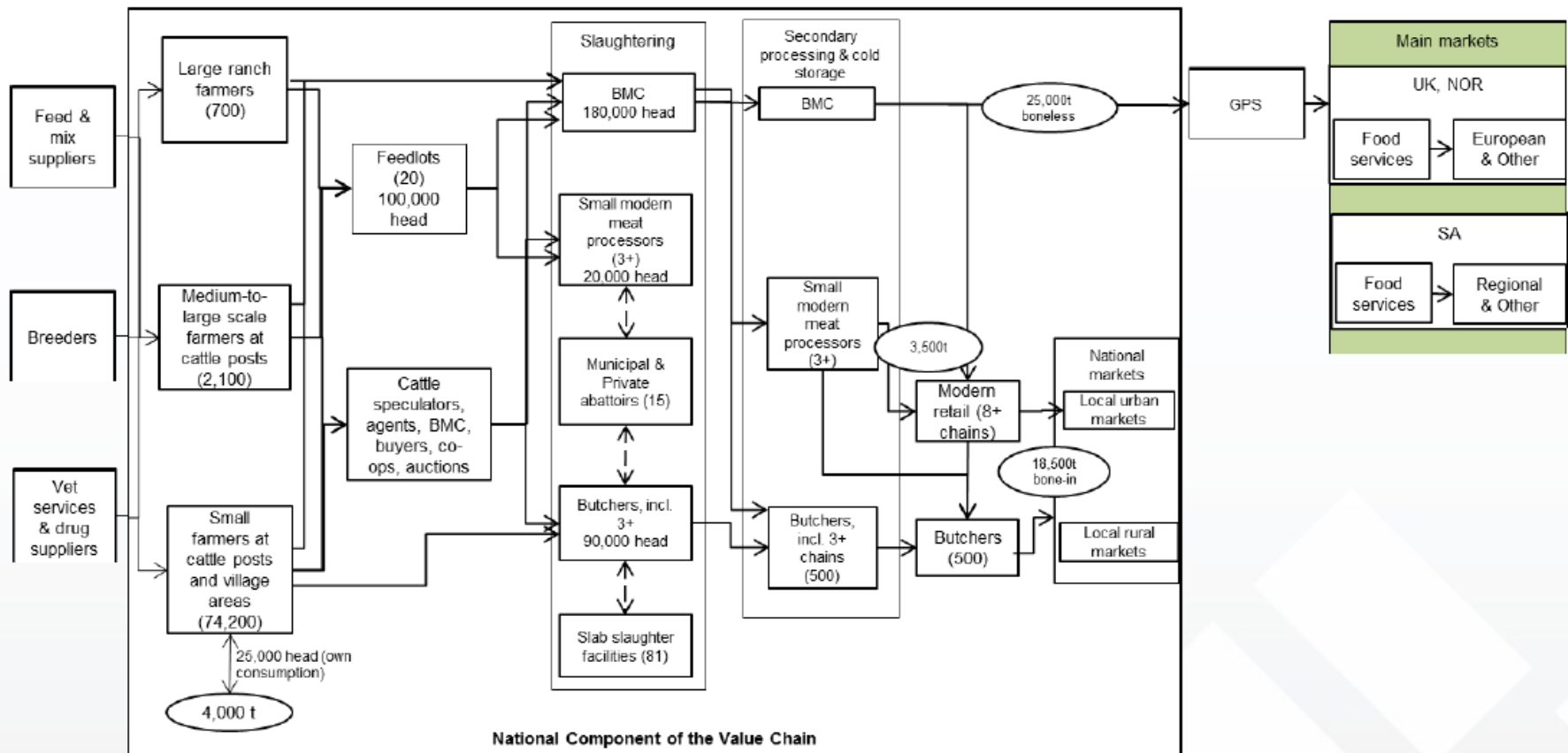
- Activities in the value chain add value to the product
- Private sector actors do so to make an individual profit
- Public sector to benefit overall economic wellbeing (facilitate trade, comply with trade standards, certification, taxation, regulation)

Economic analysis – Understand process, strengths, weaknesses, opportunities, considering the dynamic response of people & environment



**Value chains – chains that link production systems, markets and consumers**

# Botswana beef value chain



## Support Services

Vet. Inspection
Transport
Finance
Tracking & disease control
Extension
Education & Training
Research

→ Sale  
 -→ Service

## Table of Contents

Preface.....	6.3 Ranch system.....	13.2 Weaknesses.....
Acknowledgements.....	6.4 Feedlot system.....	13.3 Opportunities.....
Executive summary.....	6.5 Profitability of the different production systems.....	13.4 Threats.....
Background to the study.....	6.5.1 Farm-level analysis.....	<b>14 Strategic options and recommendations.....</b>
Value-chain approach.....	6.5.2 Feedlot-level analysis.....	14.1 Production level.....
End markets for Botswana beef.....	6.5.3 Summary of main findings.....	14.2 Trade and transport level.....
The beef value chain in Botswana.....	<b>7 Processing.....</b>	14.3 Slaughter level and the BMC.....
Conclusion.....	7.1 Slaughtering.....	14.4 Processing level.....
Acronyms.....	7.2 Secondary processing.....	14.5 Market level.....
<b>PART I Introduction.....</b>	7.3 Profitability of beef processing.....	14.5.1 EU, yes or no? Or not only?.....
<b>1 Study background and objectives.....</b>	7.3.1 Profitability of the BMC.....	14.5.2 Other export markets.....
<b>2 Value-chain methodology.....</b>	7.3.2 Profitability of a butcher.....	14.5.3 The domestic market.....
<b>3 Brief history and review of Botswana's beef subsector.....</b>	<b>8 Distribution.....</b>	14.6 Support services level.....
3.1 Pre-independence era.....	8.1 Wholesale distribution.....	14.6.1 Input supply.....
3.2 Emergence of the Botswana Meat Commission, 1965–1983.....	8.2 Retail.....	14.6.2 Veterinary services.....
3.3 The beef subsector in crisis and structural change in the economy.....	<b>PART III Systemic and sustainability issues.....</b>	14.6.3 Livestock Identification and Trace-back System.....
3.4 Government response strategies.....	<b>9 Support services.....</b>	14.6.4 Extension.....
3.5 BMC response strategies.....	9.1 Inputs.....	Policy level.....
3.6 Disease management in Botswana's beef subsector.....	9.1.1 Feed and fodder.....	Restructuring of the beef subsector and the BMC.....
3.7 Botswana's beef subsector today.....	9.1.2 Veterinary drugs.....	<b>Conclusions.....</b>
<b>PART II Value-chain analysis.....</b>	<b>PART III Systemic and sustainability issues.....</b>	Issues covered in this study.....
<b>4 End markets for Botswana beef.....</b>	<b>9 Support services.....</b>	Additional end-market information.....
4.1 Introduction.....	9.1 Inputs.....	<b>Annex 3 – VC mapping quantitative analysis details.....</b>
4.2 Dynamics of the global beef market.....	9.1.1 Feed and fodder.....	<b>Annex 4 – Domestic cattle price data by region.....</b>
4.2.1 Current status.....	9.1.2 Veterinary drugs.....	<b>Annex 5 – Profit and loss analysis background.....</b>
4.2.2 Key trends.....	<b>9.2 Transport.....</b>	<b>Annex 6 – Key informants.....</b>
4.3 Botswana's beef trade patterns.....	9.3 Working capital.....	<b>Annex 7 – Botswana's agro-ecological zones and crop suitability.....</b>
4.3.1 Fresh and frozen beef.....	9.3.1 Investment finance.....	<b>References.....</b>
4.3.2 Other beef value-chain products.....	9.3.2 Working capital.....	..... 107
4.3.3 Comparing Botswana to Namibia.....	9.3.3 Livestock insurance schemes.....	..... 109
4.4 Markets outside sub-Saharan Africa.....	9.4 Transport.....	..... 111
4.4.1 European Union market.....	9.5 Extension.....	..... 111
4.4.2 Other markets outside of Africa.....	9.6 Research and development.....	..... 114
4.5 Sub-Saharan African markets.....	<b>10 Policy issues.....</b>	..... 114
4.5.1 South Africa.....	10.1 National Development Plan.....	..... 115
4.5.2 Other sub-Saharan African markets.....	10.2 Laws and regulations.....	..... 117
4.6 The domestic market.....	10.3 The BMC Act.....	
4.7 Summary and conclusion.....	10.4 Rangeland and wildlife management.....	
<b>5 Value-chain map and channels.....</b>	<b>11 Governance, margins and impact on smallholder farmers.....</b>	
5.1 Value-chain map.....	11.1 Governance mechanisms.....	
5.2 Various channels.....	11.2 Pricing and margin distribution.....	
5.2.1 Introduction.....	11.2.1 Pricing.....	
5.2.2 Export channels.....	11.2.2 Margin analysis.....	
5.2.3 Domestic channels.....	11.3 Impact on smallholder farmers.....	
5.3 Points of leverage.....	<b>PART IV Strategic analysis and recommendations.....</b>	
<b>6 Production.....</b>	<b>12 Vision for the subsector.....</b>	
6.1 Introduction.....	<b>13 SWOT analysis.....</b>	
6.2 Communal system.....	13.1 Strengths.....	

No stone unturned - 172 pages

# Value chain analysis - purpose

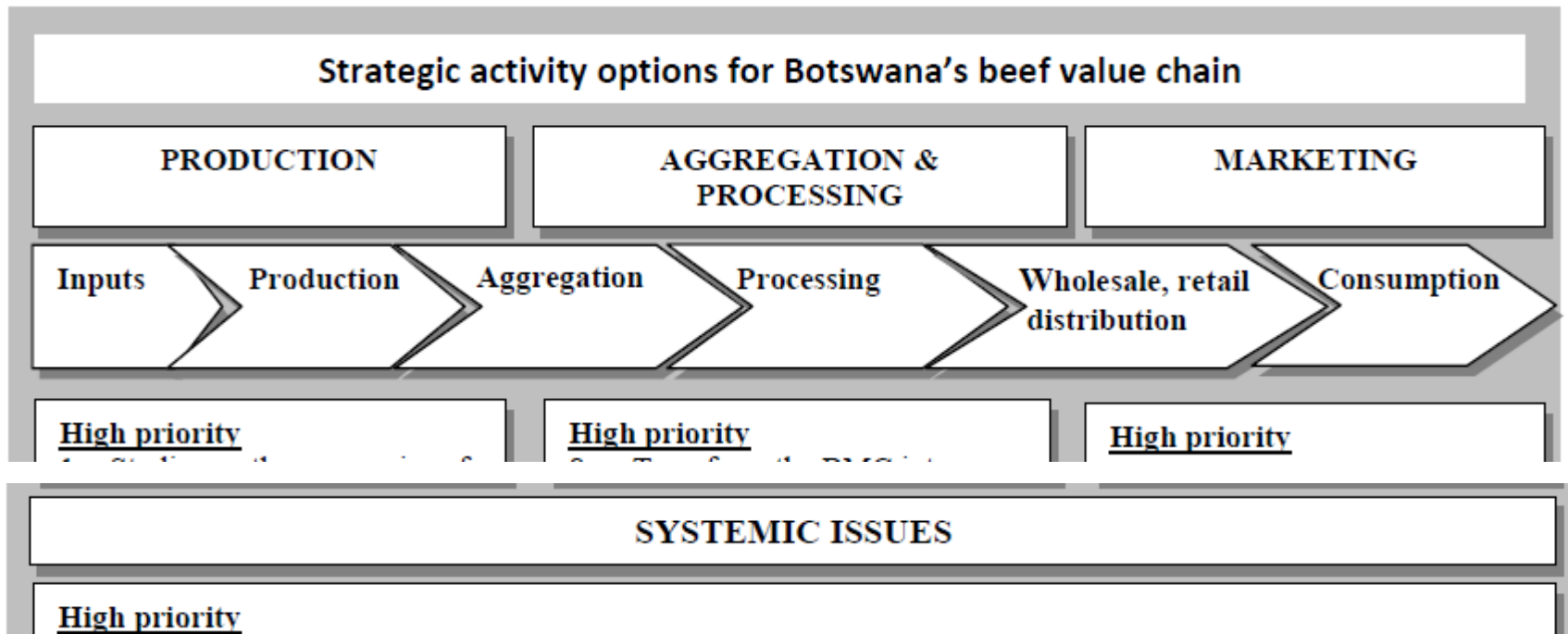
Identifies & investigates:

- Bottlenecks
- Holistic strategies for upgrading
- Assesses how value in an end market is created by activities conducted by actors supported by service providers
- How actors are influenced by the business environment in which they operate
- Goes beyond linkages between suppliers and buyers
- Dynamic, evolving & reacting
- Focus on key growth and upgrading opportunities



# Value chain analysis - purpose

## Outputs



# Porter's value system

## **For each step - Separate different aspects**

- *Supply (inbound logistics, operations, outbound logistics, marketing & sales, after sales)*
- *Transformation of inputs into outputs (production, logistics, quality & improvement)*
- *Support services (strategy, human resources, management, technology development & procurement)*

Assess costs and profitability at each step

# Porter's value system

- Identify core competences -> outsource where not competitive
- Improve efficiency
- Identify where you have a competitive edge and maximise profits
- Identify other parties whose behaviour affects success
- Efforts to improve efficiency will not affect parts of chain in the hands of others
- Also true for national economic management – improving efficiency of a few firms may be unsuccessful if sector/economy wide inefficiencies

# Value chain and risk analysis

Requires:

## 1. Value chain analysis

- Understand livestock production systems
- Who are stakeholders and how do they behave

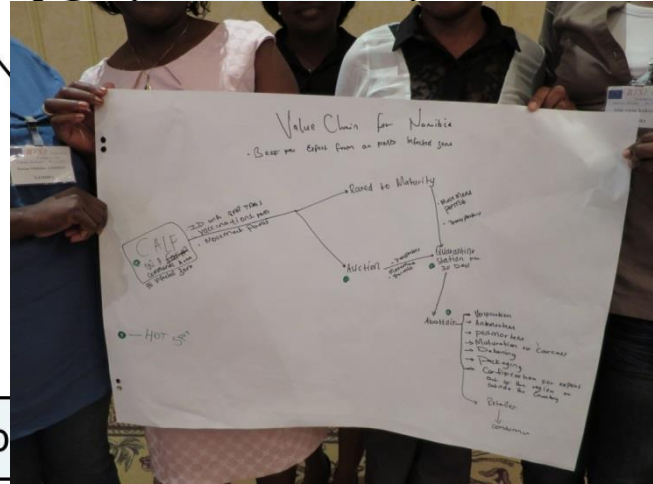
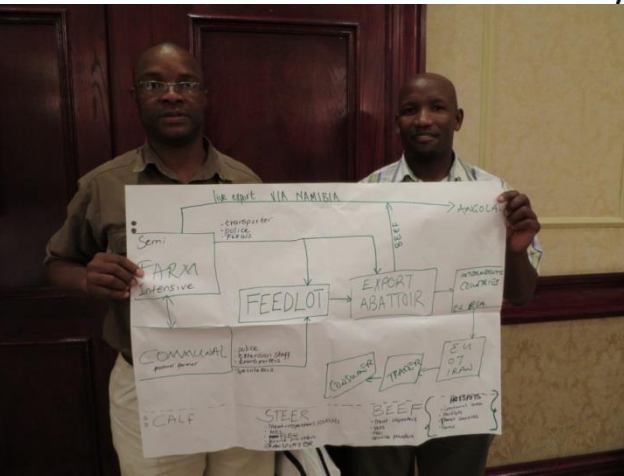
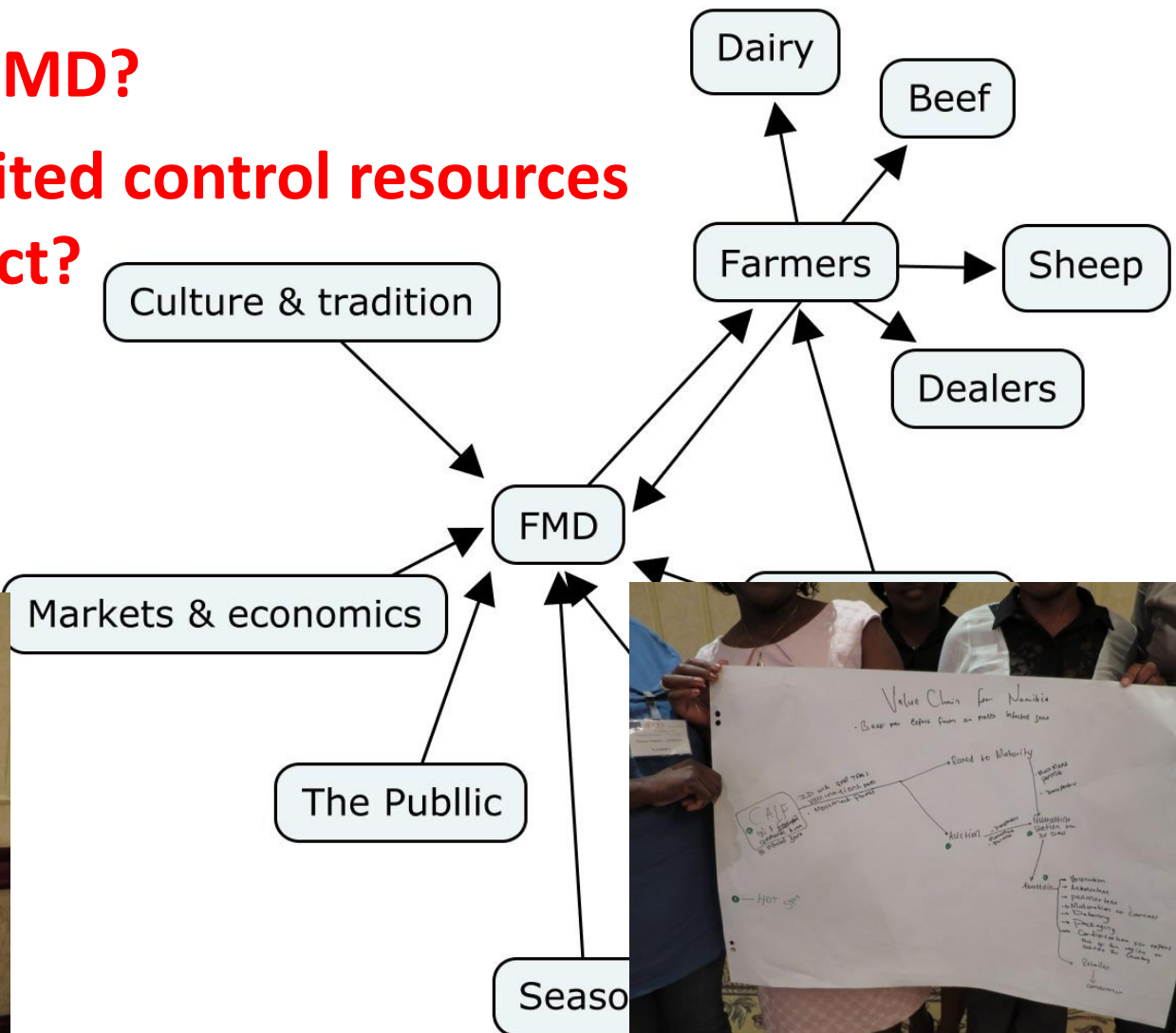
## 2. Risk analysis

- Evaluate disease risks and control measures within livestock production systems
- Identify risk hotspots to target control efforts

FAO, 2011, A value chain approach to animal diseases risk management – Taylor & Rushton

**Who is most important in the control spread of FMD?**

**Where to focus limited control resources for maximum impact?**





Common grazing



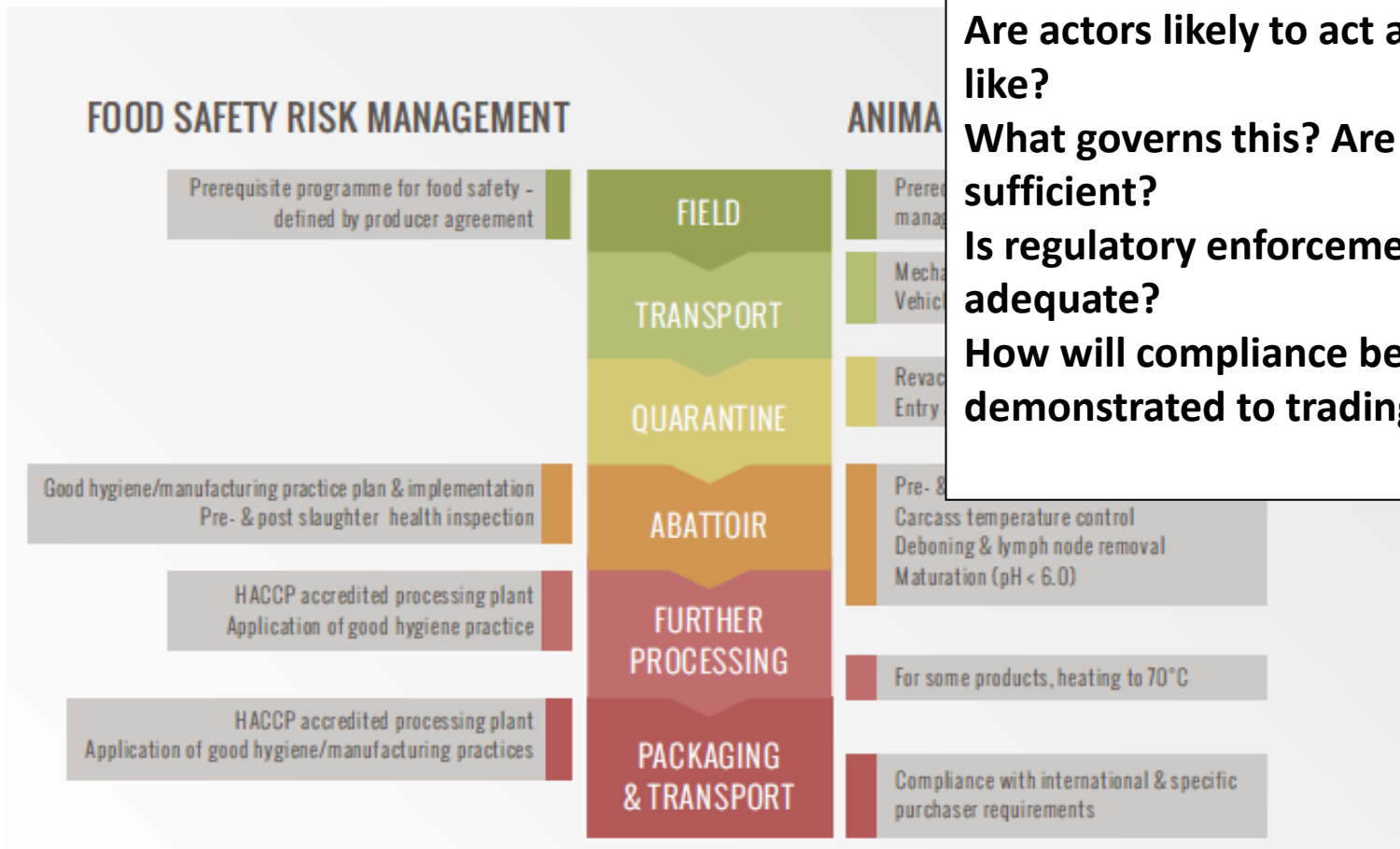
Animal market

# Other value chain approaches

- Value chain approaches also used for food safety assessment
- Chain of actors involved in creation of final product
- All can impact on quality of final product
- Safety/quality related to input costs (margins/profits?)
- Regulation important
- Dynamic

# Commodity based trade

## Food safety and animal disease risk management along beef value chain



Are actors likely to act as you would like?

What governs this? Are incentives sufficient?

Is regulatory enforcement adequate?

How will compliance be recorded & demonstrated to trading partners?



# Value chain approach

## Conclusions

- **A (comprehensive) approach to assess a production process**
- **Involves consideration of inputs, services, actors involved in the process and the environment they operate in**
- **Understand how actors (consumers, regulators, producers, services) behave & why - and estimate how they would respond to changes**
- **Assess costs, efficiency and competitiveness of steps and how this effects final product value and profits**
- **May use value chain approach to assess other things (hazards & risks)**

*Questions?*



# Suggested interventions are interlinked and address key constraints in the beef export value chain

