Value Chain Analysis of Goats in Zambia: Opportunities and Challenges of Linking Smallholders to Markets

Thelma Namonje-Kapembwa

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Presentation Outline

- Introduction
- Overview of the Goat Production
- Data and Methods
- Key Findings
- Recommendations
Zambia’s livestock sector plays a pivotal role in the socio-economic development of both the rural and urban population:

- Provision of food and nutrition in people’s diets,
- Social and cultural events
- Act as a risk buffer by providing an alternative source of income in case of crop failure

Smallholder farmers, for the most part, dominate the sector:

- Low productivity among the smallholder livestock farmers is still of concern in Zambia’s livestock sector

Goats are the second most popular owned livestock by most smallholder farmers in Zambia:

- Their ability to utilize a broad range of feed resources and adapt to marginal conditions presents an opportunity for income generation among the resource poor households
Livestock revolution taking place

- Evidence - as people emerge from poverty, consumption patterns change
  - Consume more high protein foods derived from livestock
- Projections of Zambia’s total meat demand from 2012 to 2027 show that
  - (120 to 600) thousand tonnes of meat
  - (260 - 1200) million litres of milk
- Population growth, urbanization, increasing incomes
- Increase demand for livestock/livestock products

Background/Introduction
Introduction/Background

With the prevailing farm structures and increasing land constraints in Zambia, opportunities for income generation from field crops are limited

Small livestock rearing is, therefore, suited for the rural farm households to invest in and take advantage of the rapid increase in income and population growth

Despite these opportunities, the small livestock sector is still underdeveloped sector is characterized by the limited supply of goat meat in the formal markets
What factors influence producers’ choice on marketing channels for goats and what factors influence their marketing behavior
Data and Methods

- Study used a value chain analysis approach to gain an understanding of the factors surrounding the marketing of small livestock
- Using primary qualitative data from eight selected districts in Southern, Western, Central, Eastern, and Lusaka provinces in Zambia and nationally representative household survey data
  - Focus group discussions
- The study used descriptive analysis and econometric methods such as linear regression model and probit model to analyze the factors influencing the choice of marketing channel
- The study highlights the factors surrounding the production and marketing of small livestock
Overview of the Goat Value Chain
Goat Value Chain Map for Zambia
# Changes in Goat Production and Sells over Time

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>National herd size of Goats</td>
<td>1,098,453</td>
<td>2,151,890</td>
<td>2,908,466</td>
<td>165%</td>
</tr>
<tr>
<td>Average herd size per HH</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>17%</td>
</tr>
<tr>
<td>% of Households Owning</td>
<td>15.12</td>
<td>30.68</td>
<td>35.1</td>
<td>132%</td>
</tr>
<tr>
<td>% of Households selling goats</td>
<td>33.67</td>
<td>38.42</td>
<td>34.26</td>
<td>2%</td>
</tr>
<tr>
<td>Average number of goats sold</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>-33.33%</td>
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</tbody>
</table>


Most smallholder farmers do not participate in the livestock market and for those who participate, the size of the transaction has been found to be very small (Negassa and Jabbar 2008).

The production system is not adequately market-oriented and births are more important than purchase from the market in building and maintain the herd size and flocks.

Low livestock market participation is prevalent among households with an alternative source of livelihoods and those with low herd sizes (Barrett et al. 2006).
Market Participation

Livestock sales may increase current cash income and thus consumption. Sales come at the cost of decreased future income and consumption. Farmers try to maximize herd size and limit marketed animals.

Herd size and dependence on livestock have an influence on household livestock marketing behavior.
## Results Factors Influencing Choice of Market

<table>
<thead>
<tr>
<th>Variables</th>
<th>Selling to Small scale Traders</th>
<th>Selling to Individual Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herd Size of Goats</td>
<td>0.0028*</td>
<td>-0.0033*</td>
</tr>
<tr>
<td></td>
<td>(0.0017)</td>
<td>(0.0017)</td>
</tr>
<tr>
<td>Female head (=1)</td>
<td>0.1430*</td>
<td>-0.1257*</td>
</tr>
<tr>
<td></td>
<td>(0.0764)</td>
<td>(0.0762)</td>
</tr>
<tr>
<td>Female Decision Maker (=1)</td>
<td>-0.1946***</td>
<td>0.1863***</td>
</tr>
<tr>
<td></td>
<td>(0.0634)</td>
<td>(0.0632)</td>
</tr>
<tr>
<td>Education level</td>
<td>0.0020</td>
<td>-0.0019</td>
</tr>
<tr>
<td></td>
<td>(0.0053)</td>
<td>(0.0053)</td>
</tr>
<tr>
<td>Distance to the Markets</td>
<td>-0.0009</td>
<td>0.0010</td>
</tr>
<tr>
<td></td>
<td>(0.0007)</td>
<td>(0.0007)</td>
</tr>
<tr>
<td>HH access to price information (=1)</td>
<td>0.057*</td>
<td>-0.0604</td>
</tr>
<tr>
<td></td>
<td>(0.0456)</td>
<td>(0.0455)</td>
</tr>
<tr>
<td>Disease incidence (=1)</td>
<td>-0.0254</td>
<td>0.0293</td>
</tr>
<tr>
<td></td>
<td>(0.0425)</td>
<td>(0.0426)</td>
</tr>
<tr>
<td>Animals Vaccinated (=1)</td>
<td>0.0729</td>
<td>-0.0672</td>
</tr>
<tr>
<td>Observations</td>
<td><strong>726</strong></td>
<td><strong>726</strong></td>
</tr>
</tbody>
</table>
Herd sizes of the animals had an influence on the marketing channel that was used by the farmers.

With increased herd size, transportation cost also increased which is another factor that influences the choice of the marketing channel (Bruyn et al. 2001)

Households sell their small livestock largely to meet their immediate needs for cash

Livestock act as a store of wealth, a risk management tool and as such, marketing behavior of smallholder farmers is driven more by income needs rather than price changes or demand
Goat Marketing

In the absence of formal financial markets for rural households, keeping livestock represents a means of finance and self-insurance.

However, under the current conditions, formalization of the goat market is difficult because the herd size of goats for the majority of the farmers is still very small.

Linking most producers to the markets may require horizontal arrangements such as selling as a group which is difficult to achieve when most farmers use their livestock to sort out cash needs.
Goat Marketing

To move towards a formal system

• Farmers need to increase their overall herd sizes so that individual farmers are more capable of selling directly to processors
• There is a need to have a group of farmers that can supply to the processors who have a less chance of defaulting on the supply arrangements with the processors

Formation of small farmer groups and the

• Associations have the potential to increase the participation of small-scale livestock farmers in formal markets
• Marketing groups can help lower transaction costs, increase access to information and farmers can achieve greater economies of scale
Challenges in Goat Production

- High disease incidences and mortality rates
- Limited production knowledge and management skills in small livestock
- Limited access to veterinary and extension services
- Limited access to feed and water in dry seasons
Recommendations

**Reduce incidences of diseases**
- Sensitization of farmers on diseases of national importance and management diseases
- Improve training for vet assistant officers/para-vets

**Improve access to Inputs**
- **Public-private**
  Establish creative financial solutions that will enable farmers to access funds for investing in the livestock production

**Promote market Participation**
- Formation of livestock marketing groups
Thank you