



# Characterizing the livestock production system and enhancing the potential for Sontala community in Matobo District in Zimbabwe

Geoffrey Hove<sup>1</sup>, Zimphlophe Ndlovu<sup>1</sup>, Munyaradzi Madenga<sup>2</sup>, Robert Ndlovu<sup>3</sup>, Irenie Chakoma<sup>4</sup> and Godfrey Manyawu<sup>4</sup>

1. Department of Agricultural Technical and Extension Services, Gwanda, Zimbabwe
2. Department of Agricultural Technical and Extension Services, Matobo, Zimbabwe
3. Gwanda State University, Zimbabwe
4. International Livestock Research Institute (ILRI), Harare, Zimbabwe



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*Patron: Professor Peter C Doherty AC, FAA, FRS*

*Animal scientist, Nobel Prize Laureate for Physiology or Medicine–1996*

Box 30709, Nairobi 00100  
Kenya  
Phone +254 20 422 3000  
Fax +254 20 422 3001  
Email [ilri-kenya@cgiar.org](mailto:ilri-kenya@cgiar.org)

[ilri.org](http://ilri.org)  
*better lives through livestock*  
ILRI is a CGIAR research centre

Box 5689, Addis Ababa,  
Ethiopia  
Phone +251 11 617 2000  
Fax +251 11 667 6923

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# 1. Introduction

Gendered Feed Assessment Tool (G-FEAST) is a farmer-centred diagnostic approach, which employs the use of forms and spreadsheets, to collect and analyse the data. The assessment methodology provides a systematic and rapid assessment of feed resources at site level to develop a strategy for improving feed supply and use through technical and organizational interventions. The main objective is to identify gender aspects in households that affect livestock feeding practices and feed intervention uptake.

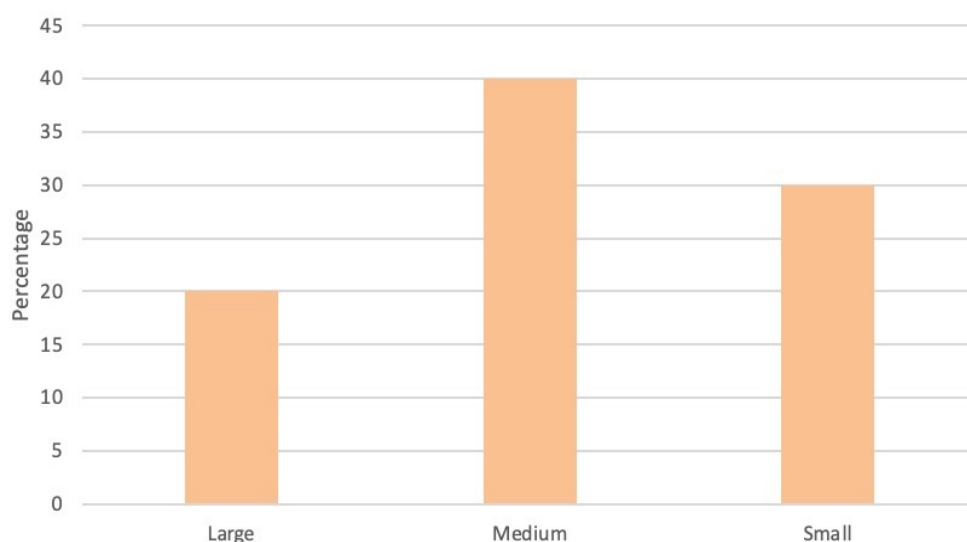
Sontala is located in Matobo District of Matabeleland South province of Zimbabwe. It is 125 km south of Bulawayo. The ward's main livelihood sources are livestock production (goat breeding), vegetable sales and remittances. The main livestock species kept in the area are goats, cattle and poultry. Farmers practice extensive livestock production and small-scale cropping under irrigation. The village has two seasonal dams and one perennial dam.

There were two groups of male and female gendered focus group discussions that were held at Sontala shopping centre on 05 May 2021. The study was conducted in partnership with agricultural extension service and Gwanda State University.

## 2. Farming systems

The farm sizes range from 0.5 to 6 ha. The smallest land holding ranges from 0.5 to 2 ha, medium land holding ranges from 2.1 to 4 ha while large land holding ranges from 4.1 to 6 ha. Thirty per cent of the households are in the small holder, 40% in the medium and 20% in the large land holding category (Figure 1).

Figure 1. Household land holding category in Sontala.



The farming system in Sontala is generally communal mixed farming with cropping and extensive livestock production interactions. Average farm sizes of 2 ha are under crop production. Fodder production is practised by 10% of the farmers.

Table 1 depicts farm sizes by gender of the household heads. It can be observed that across the three land holding categories, both men and women own land. The largest proportion of female headed households fall in the medium-scale farms category. In Sontala both male and female headed households have equal access to land.

Figure 1. Household land holding category in Sontala.

Farm size category	Males (%)	Females (%)
Small	30	70
Medium	65	35
Large	72	28

The land tenure system is communal and the land is governed by Matobo Rural District Council. A large proportion of the farms are jointly owned by husband and wife, followed by female headed farms and the least are owned by single men. Women and men can equally own land. Most farmers belong to the medium-scale farming sector which

have an average of 2 ha, which are used for crop production. The small-scale farmers own less than a hectare, which is used mainly for crop production. Grazing land is communally managed, with no or limited adherence to principles of rangeland management. Communal land ownership has constraints in that grazing is quickly depleted due to overstocking. There is no control of the number of livestock each farmer can keep at a time.

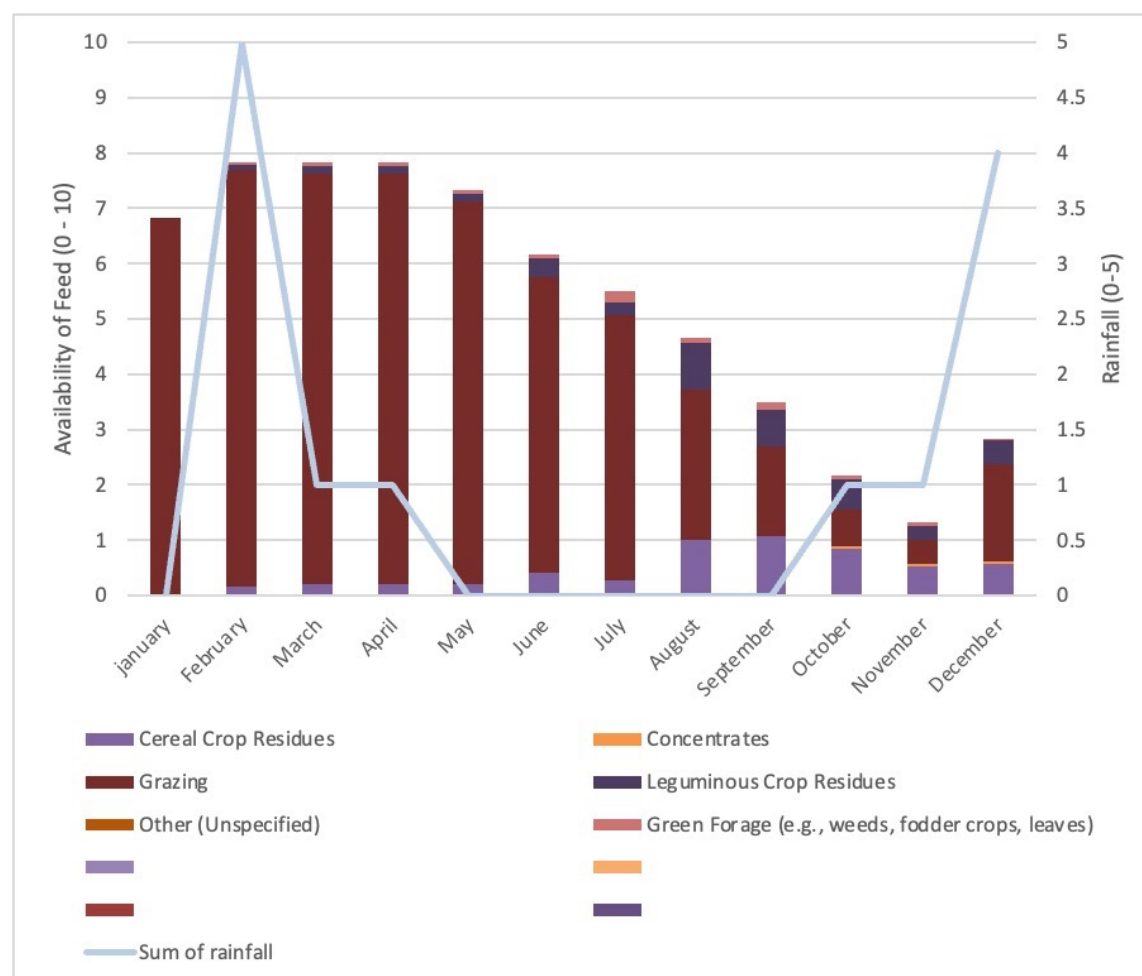
Hired labour is readily available but it is not affordable to some households especially to the female headed. Most female headed households cannot afford to hire labour, as they have limited financial resources.

## 2.1 Rainfall and water availability

Rainfall received in Sontala is mostly not adequate during the cropping season and this result in crop failure. Farmers reported that over the years, unpredictable weather patterns have negatively affected rainfed agriculture and livestock production. Normally, there is no rainfall during the dry season (May to September), as shown in Figure 2. Sontala receives high rainfall between November and March. Water for livestock is readily available during the wet season. During the dry season livestock travel long distances (more than three km) in search of drinking water.

The area has a perennial dam that supports irrigation and livestock throughout the year. During the dry season livestock and human are watered from seasonal boreholes and dams. The seasonal dams usually dry out in August. The ward has 12 boreholes, of which 6 are perennial. However, when these perennial boreholes are not functional during the dry season, the livestock and people travel long distances to access water as the remaining functional boreholes are overwhelmed. The rangeland yield follows the rainfall patterns, when the rainfall is high, rangeland productivity is high.

Figure 2. Sontala annual rainfall pattern and feed availability.



## 2.2 Irrigation

Seventy-five per cent of the households have access to irrigation facilities. Farmers irrigate vegetables in their gardens during the dry season. The crops grown in irrigation schemes include maize, tomatoes, cabbages, butternut and sugar beans. The constraints among some farmers accessing irrigation facilities are distance from the water sources, limited resources for the water conveyance system. Most of the youth are not members of the irrigation schemes because they (youth) migrate to towns and neighbouring countries like Botswana and South Africa in search of employment opportunities. Therefore, women are said to be the ones who are more active in irrigation schemes. Some farmers travel longer distances of more than 5 km to irrigable gardens, which deters other to partake in irrigation activities. During the dry season when the dam levels are low, there are restrictions on the use of water, resulting in reduction in irrigated land and reserving water for livestock.

The irrigation system used is less efficient and labour intensive. Farmers use bucket system for watering and this causes a constraint on the elderly. Overall, the area under irrigation is reduced due to high labour requirements of the bucket system. They also practice flood irrigation which is wasteful as most of the irrigation water is lost through surface evaporation. Most of the irrigated gardens are fenced with brush wood that can be easily broken by livestock. The village has four cropping seasons that is winter, summer, autumn and spring (Table 2).

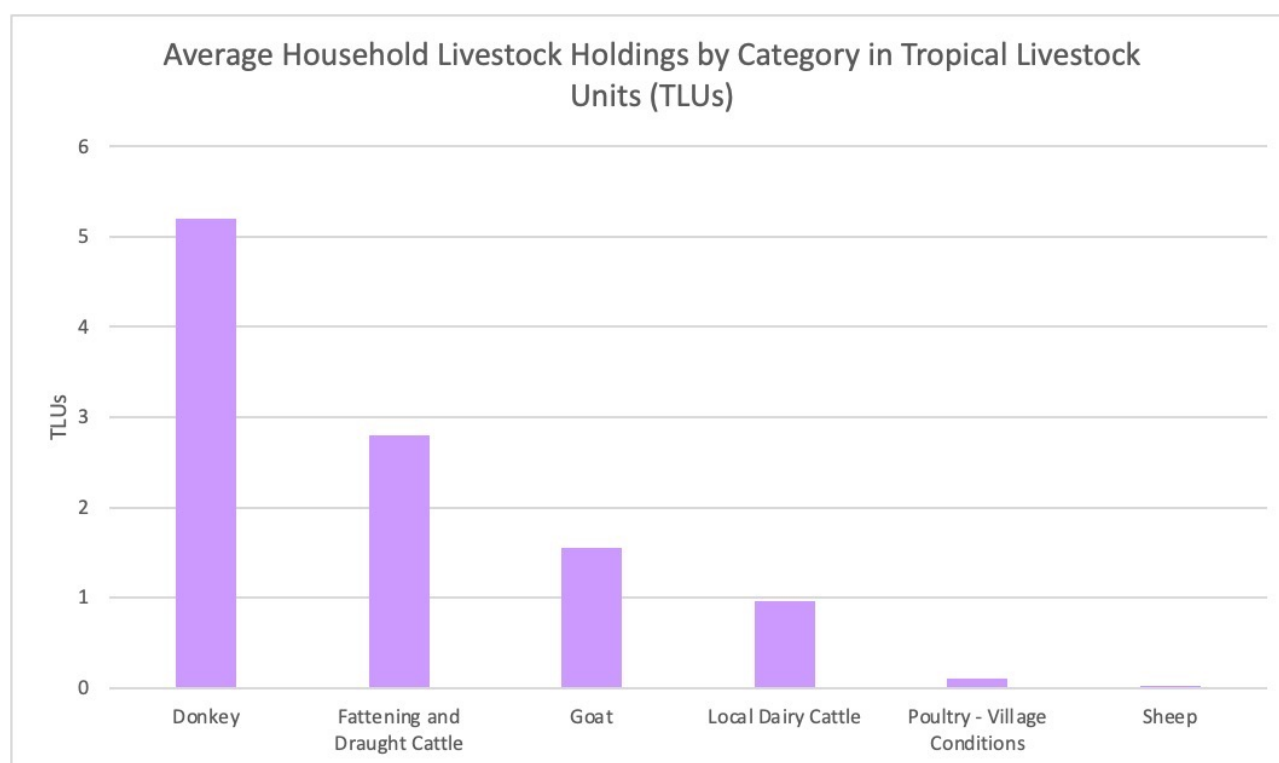
Table 2. Seasons experienced in Sontala

Season	Farming activity
Summer	Weeding, planting crops, pest and disease management
Autumn	Planting, fertilization, weeding
Winter	Harvesting, processing preservation and marketing
Spring	Water conservation, land preparation, dry planting, fertilization, inputs procurement, fencing

### 3 Livestock production system

Goat, cattle, donkeys, poultry and sheep are the livestock species kept by farmers in Sontala ward (Figure 3). The most common livestock owned by 95% of the Sontala farmers is goats. Goats are kept for meat, milk, cash and for traditional use like paying fine for wrong doing while donkeys are kept for draught power. Cattle are kept for meat, milk production, cash and paying bride price. Poultry is kept for egg, meat and income.

Figure 3. Average household livestock holdings by TLU.



The farmers practice extensive production system in all the livestock enterprises. The livestock rely on natural rangeland for grazing with minimum supplementation. The Sontala community practice random mating as the bull/buck runs with herd/flock hence the breeding system is not well defined. The rangeland is communally managed and is characterized by low biomass yields mostly from non-palatable grass species and bush encroachment which are signs of poor rangeland management. The local leadership who are the custodian of the natural resources shows limited knowledge on the roles they have on rangeland management. Decision-making on livestock sales varies from species to species, for cattle it is mostly jointly decided, for goats and sheep it is mostly men who decide, however for poultry the decision is made by women.

For agricultural activities credit is not available both from formal and informal sector. The available credit is for household use, such as buying food, paying school fees and medical expenses. The credit for non-agricultural use is

from village savings and lendings or from burial societies. All of the farmers are willing to access loans for agricultural activities but they lack collateral for them to access credit from formal sector.

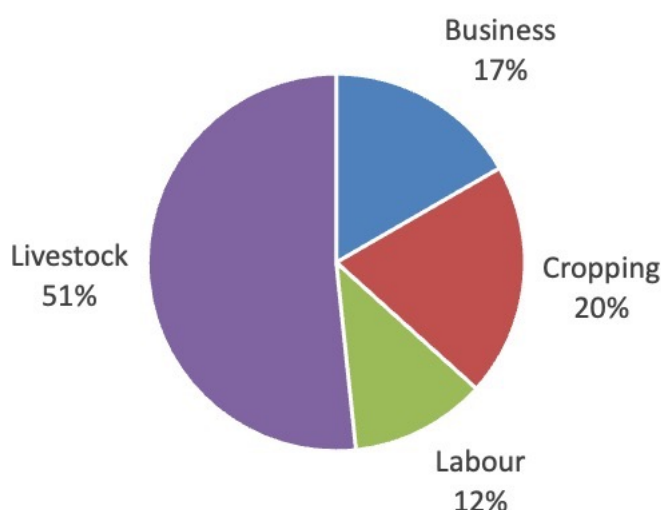
Crops inputs are sometime seasonally available at the local business centre. Livestock inputs are not available at the local market. The available inputs are expensive which makes them inaccessible to most of the farmers. Farmers' travel about 25 km to Maphisa to get the unavailable inputs, the distance costs 350 Zimbabwean dollar (ZWD) (USD 1 = ZWD 361.9000 at 07 July 2022). There are a resident extension officer and veterinary officer who resides 4 km away from the village and provide free of charge service to farmers.

Most of the farmers (85%) belong to cooperatives that are for irrigation gardens and development partners cooperatives like Sizimele. Women are the majority members of associations.

### 3.1 Major income sources

In Sontala ward livestock sales have the highest average household income of 51%, followed by cropping with 20% while labour is the least with 12% (Figure 4). The major income source is small livestock sales followed by vegetable sales. The men are decision-makers for high income earner enterprises like cattle sales while women are decision-makers for low livestock earners like poultry and small stock.

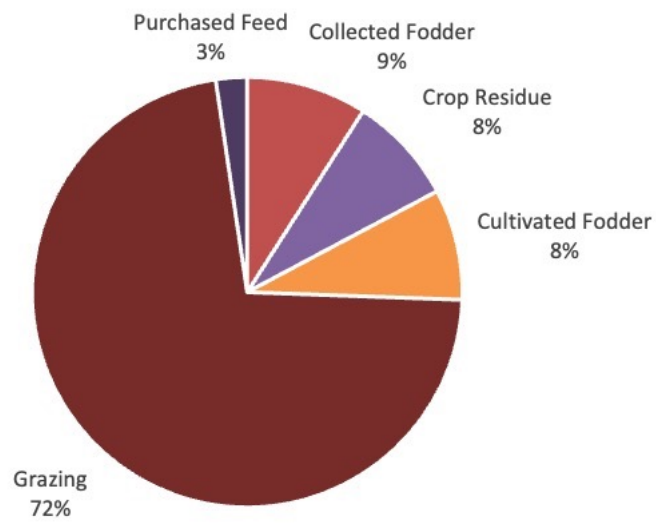
Figure 4. Sontala average household income.



### 3.2 Major feed sources

The major feed source is grazing (72%) and the least is purchased feed (3%) (Figure 5). Grazing is seasonally available. The highest rangeland yield is realized in autumn when the rain is highest. During the winter and summer seasons, feed is scarce both qualitatively and quantitatively. During the leaner season the livestock is supplemented with crop residues, cultivated fodder and purchased feed. Commercial feed is inaccessible to farmers because of unavailability at the local market and also it's expensive. During the dry season there is a decrease in nutritive value of rangeland species in terms of metabolizable energy, crude protein and minerals. Hence there is need to provide supplementary feed.

Figure 5. Metabolizable energy by source.



## 4 Major problems

The main challenges faced by farmers in livestock production include cattle diseases, lack of bulls, poverty related deaths, limited livestock feed and crop diseases and pest (Table 3).

Table 3. Main challenges in livestock production

Main problem	Who is affected most? (Small/medium/large farms; men/women; MHH/FHH)	Proposed farmer solutions	Ranking in women FGD
Cattle diseases	All	Having veterinary drugs at the local market at affordable price	1
Crop pest and diseases	All	Using indigenous knowledge system on disease management	2
		Having crop chemical at the local market at affordable price	
		Using indigenous knowledge system on crop pest and disease management	3
Lack of bulls	All	Providing community bulls	
		Using artificial insemination	4
Poverty deaths	All	Encouraging farmers to keep bulls	
		Preserving crop residues for feeding during the lean season	
		Capacitating local agrodealers to sale supplementary feed at affordable price	5
Limited livestock feed	All	Producing fodder crop	
		Producing fodder	
		Hay making	
		Providing stock feed	

### 4.1 Potential interventions

- Training farmers on fodder production, processing, feeding and preservation
- Training farmers on formulating ration
- Establishing fodder gardens for seed multiplication
- Assisting farmers with fodder seed as starter packs

- Drilling more boreholes in the villages to improve water availability
- Training farmers on water harvesting
- Linking farmers to the livestock markets
- Training farmers on livestock value addition like pen fattening.

LIPS-Zim is a four-year (Jan 2020–Dec 2023) project funded by the European Union. It aims to improve livelihoods in Zimbabwe’s semi-arid agro-ecological regions IV and V by increasing the adoption of climate-smart innovations in livestock-based production systems, and by improving the surveillance and control of livestock diseases. Led by the International Livestock Research Institute (ILRI), the project is implemented in partnership with the International Maize and Wheat Improvement Center (CIMMYT), the French Agricultural Research Centre for International Development (Cirad), the University of Zimbabwe (UZ), and the Department of Research and Specialist Services (DR&SS).

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