

# Characterizing feeds and feed availability in Sud-Kivu province, DR Congo



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## Introduction

- Animal husbandry in Sud-Kivu province of the Democratic Republic of the Congo (DRC) is gradually moving towards stall feeding, due to demographic pressure and scarcity of collectable forages.
- Feed is considered one of the main constraints faced by livestock production, especially in the dry season.
- The livestock feeding situation is exacerbated by unaffordable, fluctuating prices and inaccessibility of feed concentrates as well as lack of cultivated, improved forages adapted to marginal conditions that would not compete with food crops for land.
- This study aimed to assess specific constraints and opportunities in the current feeding systems, as well as feed availability in this area.

## Materials and Methods

The study was conducted in 4 sites representing the agro-ecological conditions of Sud-Kivu: Muhongoza (Kalehe *territoire*), Cirunga (Kabare *territoire*), Tubimbi and Kamanyola (both in Walungu *territoire*), and applying 2 approaches:

- Feed Assessment Tool (FEAST) applied (by Duncan et al. 2012):
  - Participatory Rural Appraisal (PRA) with 21 to 34 farmers per site, including all wealth categories, age and gender of farmers
  - Individual interviews to collect specific quantitative information from 9 households in each site.
- Forage identification: 2 key informants per site to show the forage species usually fed to their animals. Morphological description were conducted on those plants and their biotope before the identification of herbarium specimens.



PRA in Muhongoza – Kalehe *territoire*  
02° 04'10.4" S, 28° 53'54.6" E, 1585 m asl.



PRA in Cirunga – Kabare *territoire*  
02° 29'46.4" S, 28° 47'26.0" E, 2001 m asl.



PRA in Tubimbi – Walungu *territoire*  
02° 48'44.2" S, 28° 35'28.8" E, 1073 m asl.



PRA in Kamanyola – Walungu *territoire*  
02° 44'13.7" S, 29° 00'04.2" E, 973 m asl.

## Results

- Dominant feeding systems: Grazing (mostly by tethering) and collecting green forages from fields and roadsides.
- Only 37% of farmers cultivate forages on small spaces, without further extension due to lack of seeds and vegetative propagating materials; cultivated forages contribute only 6% to the diet of animals.
- 93 different forage species identified belonging to 19 botanical families (Table 1); dominant families were Poaceae, Asteraceae and Fabaceae.
- High linkage of feed availability to rainfall pattern with a great shortage from May to September (Dry Season) observed (Fig. 1).

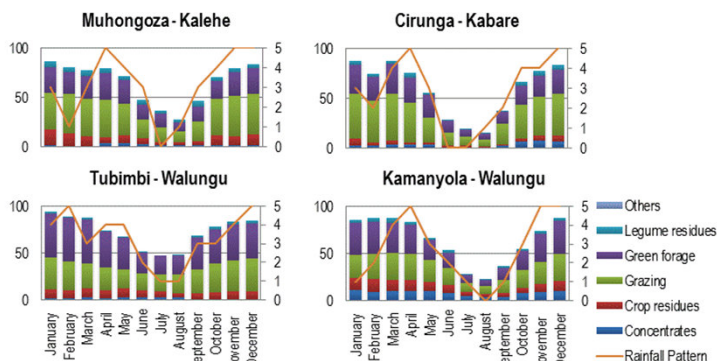


Fig. 1. Feed resource availability throughout the year as assessed by the FEAST method (Duncan et al., 2012) in four locations (Muhongoza, Cirunga, Tubimbi, Kamanyola) of three *territoires* (Kalehe, Kabare and Walungu)

Table 1. Forage species collected by farmers in Sud-Kivu and botanical families

| Botanical family | Representation of forage species |            |             |                  |
|------------------|----------------------------------|------------|-------------|------------------|
|                  | Kalehe (N)                       | Kabare (N) | Walungu (N) | General Mean (%) |
| Poaceae          | 15                               | 19         | 27          | 41.8             |
| Asteraceae       | 8                                | 11         | 19          | 26.0             |
| Fabaceae         | 3                                | 1          | 6           | 6.6              |
| Convolvulaceae   | 1                                | 2          | 2           | 3.4              |
| Cyperaceae       | 3                                | 1          | 0           | 2.7              |
| Amaranthaceae    | 0                                | 1          | 3           | 2.7              |
| Musaceae         | 1                                | 1          | 2           | 2.7              |
| Others           | 6                                | 5          | 9           | 14.1             |
| Total            | 37                               | 41         | 68          | 100.0            |

## Opportunities to overcome issues

- Identify socio-ecological niches for cultivated, improved forages with high biomass yield and tolerance to drought stress
- Places to establish the improved forages once adopted:
  - Roadsides near homestead
  - Banana plantations because of microclimate
  - Edges of fields in contour bands for additional erosion control
  - Sloping and degraded lands without competition for crop cultivation

## Acknowledgement

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