



CATTLE SYSTEMS IN MISAJE AREA, CAMEROON: BIOMASS RESOURCE PRESSURE AND DECENTRALISATION CHALLENGES



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INTRODUCTION



Livestock production is an important component of the agricultural sector in Cameroon. The country has a land mass of 46.944 million ha, of which 6.3% is under crop production, 36.5% under livestock, 42.1% under forest and 14.8% under water.

Thirty percent (30%) of the rural population derive their livelihood from livestock husbandry which contributes 16% of the agricultural sector. This marginal contribution to the agricultural GDP could partially be attributed to the prevailing cattle production system; the dominant livestock species in terms of number and distribution which are mostly grazed extensively in the Northwest, Adamawa, North and far North regions.

Lack of adequate nutrition all-year-round is one of the major causes of the low productivity of these animals. Effects of dry season, drought, expansion of agricultural activities and urbanisation have constantly exerted constraints on dependence on natural pasture as a sole nutrient source for ruminant nutrition.

The trending government agenda, MINPLADAT 2009, drawing lessons from its first poverty reduction strategy, is a vision which projects an image of the country by 2035 to be a democratic emerging country united in its diversity. An important issue of this emergence plans is decentralization and the outcome of land tenure; considering that current cattle husbandry practices are generally extensive on communally-owned lands. Within this vision, and for the beef cattle industry to emerge alongside other sectors by the projected time, information on the current cattle practices and their challenges at important cattle production areas are needed to serve as clues for the design and effective implementation of local development strategies in future decentralized communities.

OBJECTIVE OF STUDY - The aim of the study was to audit the prevailing cattle farming systems and profile the challenges on their sustainability in Misaje area.

MATERIAL AND METHODS

A) STUDY AREA - Misaje grazing area is located in the Bamenda highlands of the Northwest Region of Cameroon. It lies between latitude 6°59' S and longitude 10°55' E. The mean altitude is 1000m a.s.l. with extremes of 300m and 1800m. The average annual rainfall varies from about 1500 to 1700 mm. The area is characterized by two main seasons; rainy from mid-March to mid-October and dry from mid-October to mid-March, and temperatures are mild. It is drained by numerous streams and rivers constituting natural watering points for both domestic animals and wild life. It is a complex mosaic of montane woodlands, tree and shrub savannah, grass savannah (predominantly *Hyparrhenia rufa*), farms and fallow fields derived from tropical montane forests. The soils are acidic, low in major nutrients and have high phosphorus requirements.



Misaje sub-tropical transition savannah in dry (on the left) and rainy (on the right) season.

Approximately 80% of the area is covered by savannah. Ruminants account for 90% of the total breeding stock. Studies indicate that Misaje area alone holds 26.7% of available natural grazing land (1,054,914ha) in the Northwest Region of Cameroon. According to MINEPIA reports, each ruminant is entitled to about 4m²/day of grazing land with a stocking rate of 1.44ha/animal on average. Experts hold that the ideal stocking rate in the highlands is 2.21ha/animal/year. There is currently clear evidence of overgrazing and pasture degradation mostly during dry season.

b) DATA COLLECTION - Data was collected through a combination of field visits, a structured questionnaire and interviews with cattle farmers grazing in the Misaje area within January 2011 to March 2012. One hundred and sixty four transhumant grazers were selected randomly from the subdivision that holds about 415 grazers, sharing common natural grazing zones administered by "ardorates" (chief herdsman). The interviews were conducted at either the transhumance location of the herds or at the "waldes" (homesteads) of the owners. The survey collected information on socioeconomic characteristics of farmers, land tenure situation, cattle production characteristics, as well as access to farming support services and infrastructure.



CONCLUSIONS

Decentralisation and transfer of natural resource management to rural communities can present an opportunity for pastoral farmers because it should ensure better access to pastures. It is equally plausible that access to land by the Mbororo cattle-rearing minority risks being marginal, because of their low representation on relevant local decision-making bodies. There is also the risk of various local taxes that may be an obstacle to access to pastures. In the absence of specialised seed-stock breeders and organised pasture development and

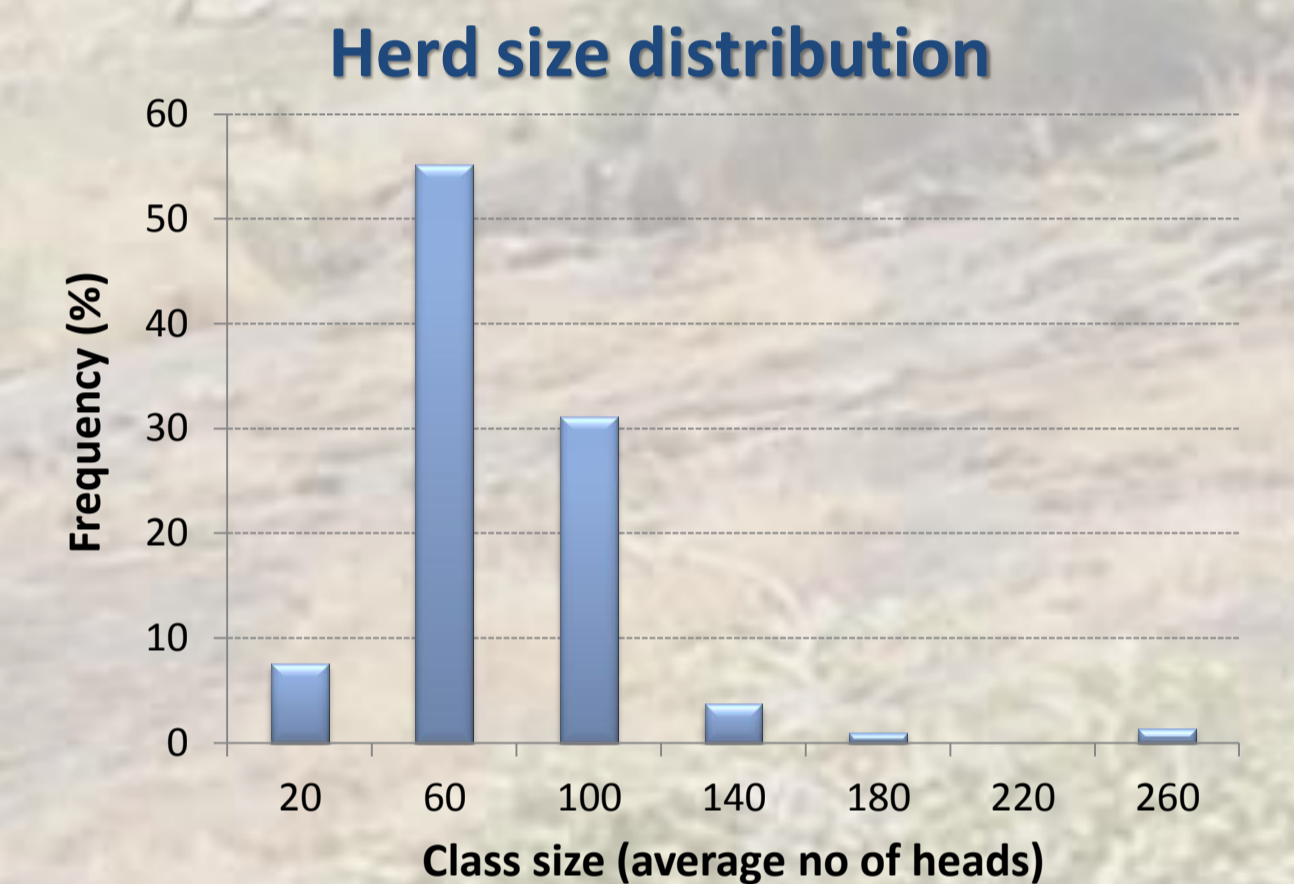
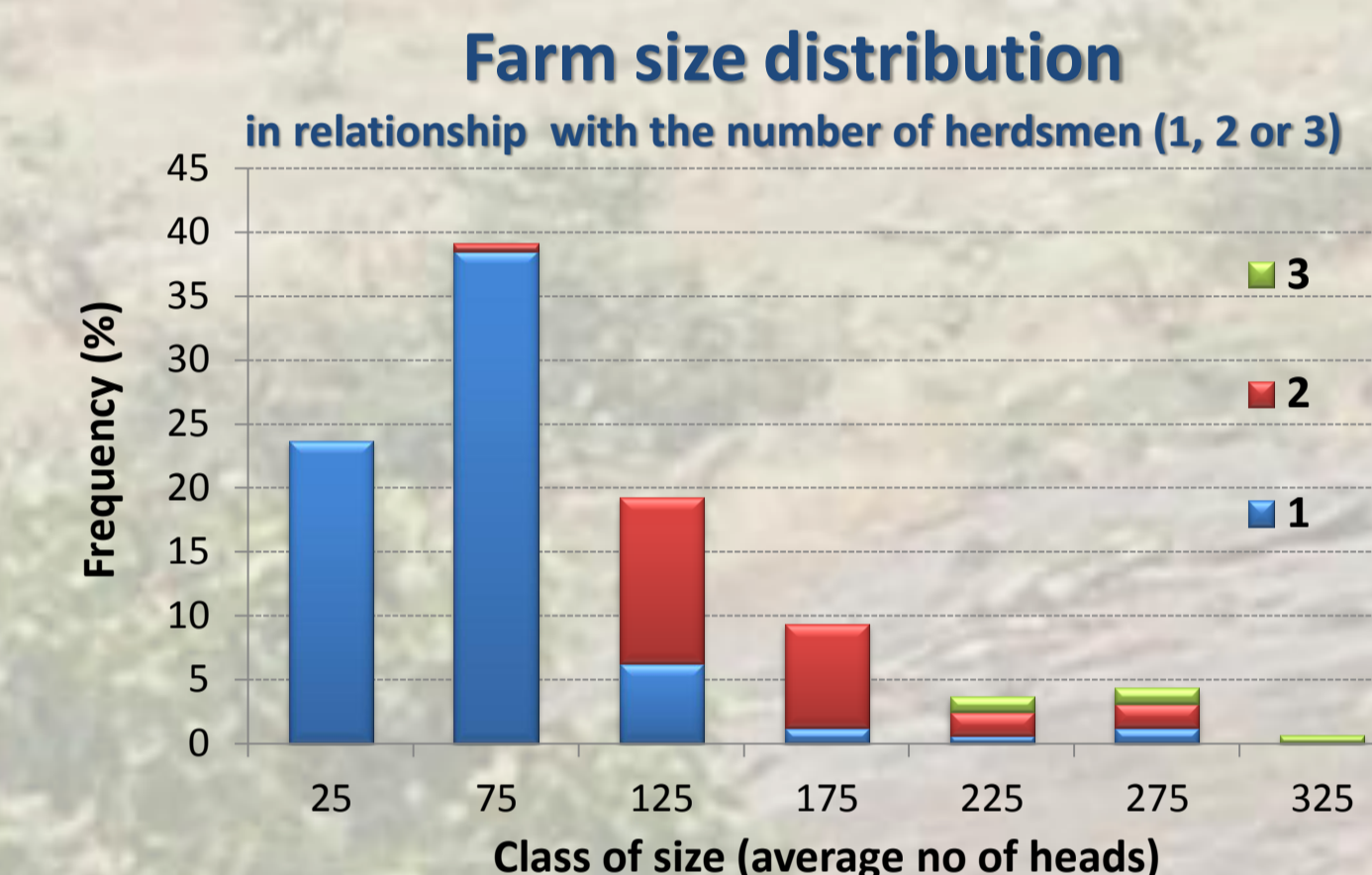
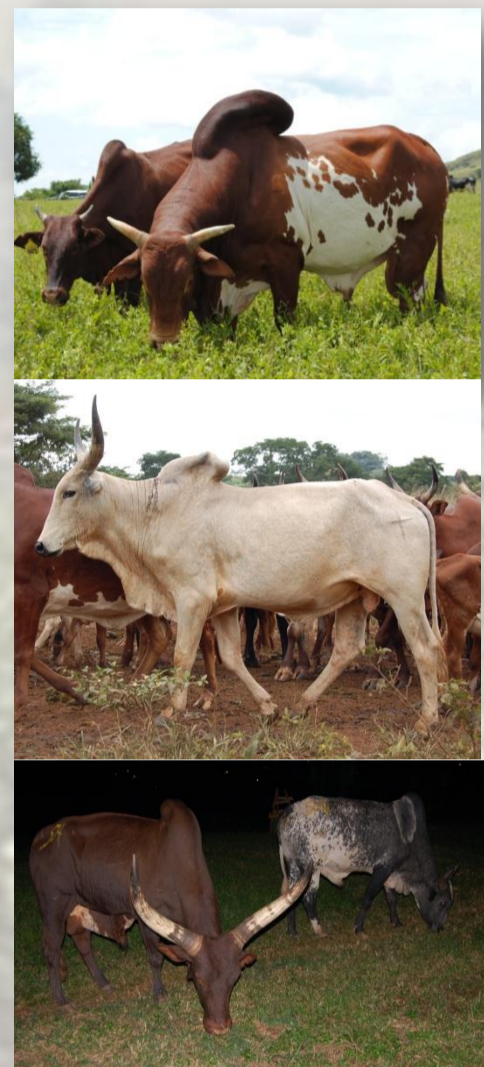
RESULTS & DISCUSSION

In a survey of 164 farmers, who managed 213 herds with 17000 cattle, 88% are landless and predominantly of the minority Mbororo cultural decent, while 12% are indigenous farmers including a 38,000ha ranch, breeding 6200 Goudali cattle, owned by a parastatal; SODEPA. Except for SODEPA ranch, transhumance is the main pastoral system. Acute shortage of pasture during the dry season, avoidance of cattle theft and of farmer-grazer conflicts were identified as the main causes of transhumance by all respondents.

Three main zebu breeds were identified in transhumant herds. One hundred and forty one herds were of homogeneous breeds (Goudali 27.2%, Aku 22.1%, Djafun 16.9%) while 72 herds were of mixed breeds. Minimum, mean and maximum herd size were 23, 79 and 270 respectively, while most of the herds (55%) fell within 40-80 class size.

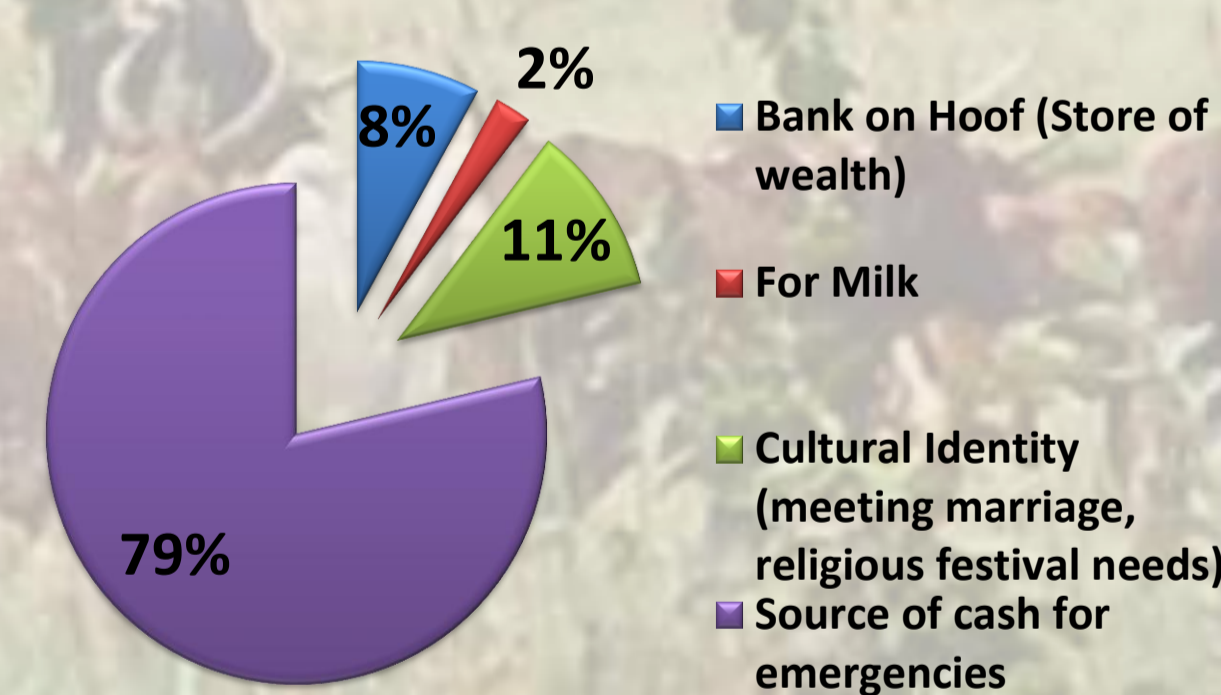
Breed prevalence in farms and herds.

| Genotype | Farmers | % | Herds | % | herds/farmers |
|-------------------------|------------|-------------|------------|-------------|---------------|
| GOUDALI (GO) | 53 | 32,3 | 58 | 27,2 | 1,1 |
| AKU | 40 | 24,4 | 47 | 22,1 | 1,2 |
| DJAFUN | 28 | 17,1 | 36 | 16,9 | 1,3 |
| GO & AKU | 14 | 8,5 | 20 | 9,4 | 1,4 |
| GO & DJAFUN | 23 | 14,0 | 43 | 20,2 | 1,9 |
| DJAFUN & AKU | 6 | 3,7 | 9 | 4,2 | 1,5 |
| Total/Average | 164 | 100 | 213 | 100 | 1,3 |
| Pure breed | 121 | 73,8 | 141 | 66,2 | |

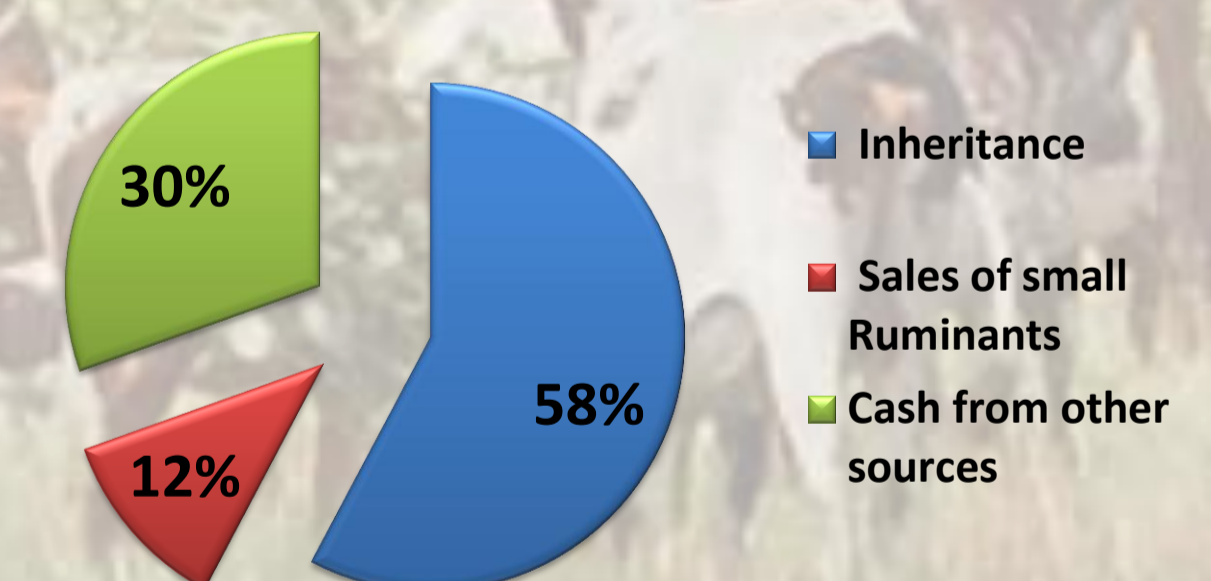


Analysis of primary drivers for cattle keeping shows that 79% of production is motivated by the need for a source of cash in times of emergencies, 11% for merely cultural value – meeting marriage, births, and religious ceremonial needs, 2% for milk, while 8% was driven by the need for a means of storing wealth. The supply of beef to the family of the herd owners was not indicated as a primary reason for cattle keeping. This is probably so because the main source of meat for the household are small ruminants and traditional poultry reared in all the homesteads visited. The source of cattle for breeding varied from cash obtained from sales of small ruminants (12%), through purchases from cash from other sources (30%) to inheritance from ancestors (58%).

Primary driver for keeping cattle

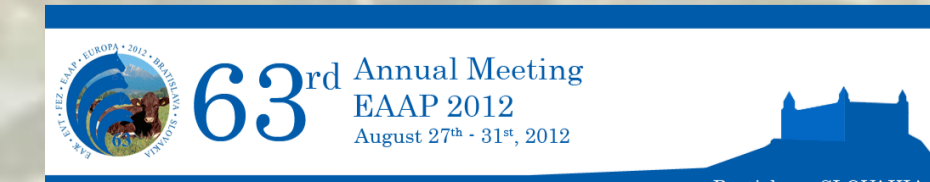


Source of cattle



Generally, selection of breeding stock is done arbitrarily because of the absence of precise animal performance records. However, testicular size, apparent state of health, size of hump, color of hair coat were considered in the selection of bulls retained in breeding herds. The SODEPA ranch was noted as the main source of breeding heifers and bulls for the Goudali breed in the area. Apart from micro-mineral licks, feed supplementation with farm residues is not practiced. The only pasture maintenance action was off-season bush fires. However, a combination of natural pasture rotation and bush fires was noted in SODEPA ranch. Cultivation of cereals; notably maize, was intended for domestic use only.

Streptothricosis, cowdriosis, blackquarter, ephemeral fever, foot and mouth disease, and trypanosomiasis were noted to be the most prevailing cause of morbidity and mortality. Other causes of herd losses include poisonous plant intoxication (mostly by ingestion of *Spondiathus preuesii*), snake bites, fractures and electrocution by lightning during stormy weather. Invasion of pastures by undesirable plant species in overstocked areas, especially bracken fern (*Pteridium aquilinum*) and *Chromolena odorata* in wet season pastures, infestation of pasture lands by tse-tse fly, were checked by all respondents as factors influencing current grazing pattern in the locality. Except for the ranching system where heifers and young bulls are the main products put in the market, sales of cattle in the transhumant farming system is usually in the form of distress sales of culled animals to butchers.



maintenance plans, the prevailing situation is chaotic and unsustainable; lacking essential elements for genetic progress in the breeds. Good management practices with clearly defined breeding objectives and a corresponding organisational and infrastructural components that target breed conservation and genetic improvement in a productive public-private partnership context are recommended to adequately enable the subsector contribute significantly its potential in economic development.