Cattle production pattern and feed resources in the derived savannah ecological area of Oyo State, Nigeria

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Introduction

Forage availability for ruminant production is the main challenge, especially in the dry season. The low qualitative and quantitative forages necessitate looking inward for other feed resources (FR) for cattle production at the system level. The study tries to investigate cattle distribution patterns and FR in the derived savannah ecological area of Oyo State, Nigeria.

Results

The cattle production and distribution pattern (TLU) were 100, 70, 6, 4, 3, and 2 for Ido, Ibarapa East, Egbeda, Ona-ara, Akinyele, and Oluyole local government areas, respectively (as shown in Figure 2 and 3).

Table 1 showed the nutritional composition of available feed resources in the study area. The C.P (%) from 6.54±0.2 (*E. indica*) to 23.08±0.3 (*L. leucocephala*), ndf from 28.42±0.3 (*Moringa oleifera*) to 67.16±0.2 (*E. indica*), adf 15.79±0.3 (Maize gluten) to 45.56±0.3 (Cowpea haulm).

Figure 1: Cattle Mapping Procedure

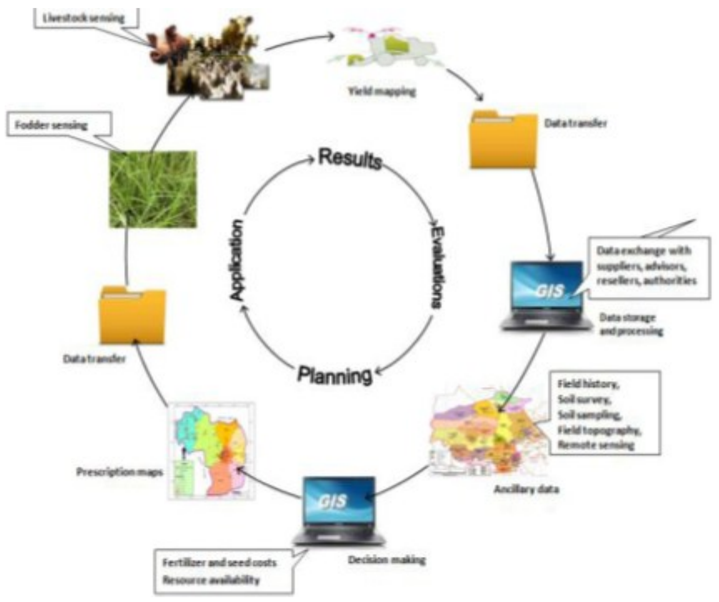


Figure 2: Cattle Distribution Pattern

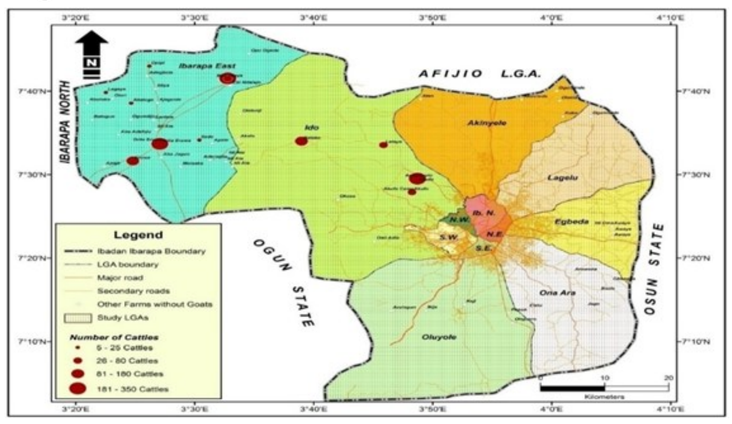
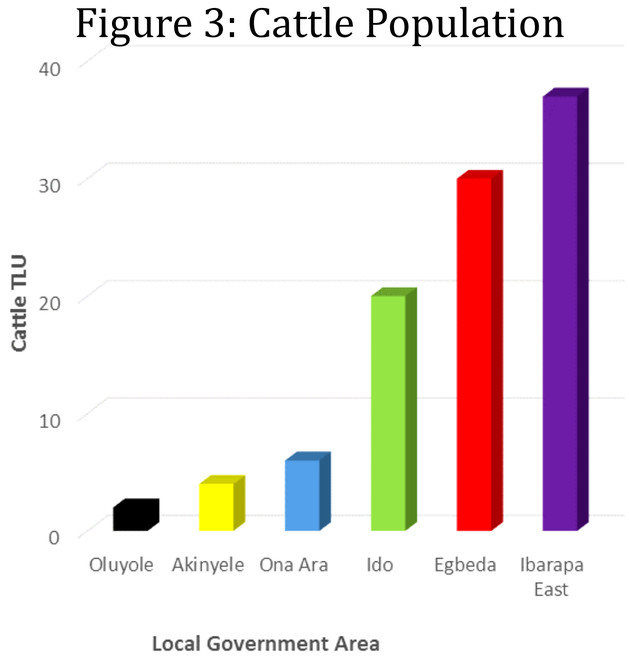
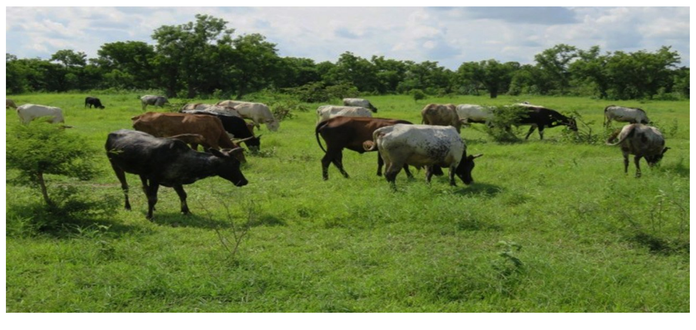


Figure 4: Nutritional Composition of Feed Resources

Feed Resources	Ash (%)	CPdm (%)	NDFdm (%)	ADFdm (%)	ADLdm (%)	Me (MJ/ Kg DM)
Tithania diversifolia	14.22	22.66	39.52	28.18	6.18	9.46
Centrocema pubescence	11.40	18.21	36.79	32.21	6.53	8.56
Albizia lebbeck	12.58	17.33	35.98	32.08	7.36	8.06
Albizia saman	11.45	17.70	29.94	28.43	7.78	7.61
Pueraria phaseloides	13.10	16.54	45.40	36.80	6.88	7.58
Ficus exasperata	12.66	20.06	32.49	28.49	5.08	9.18
Panicum maximum	9.25	8.06	62.04	33.91	4.78	8.02
Elucin Indica	10.45	6.54	67.16	40.20	4.59	6.94
Moringa oleifera	11.60	19.98	28.42	20.69	5.11	8.62
Palm fronds	9.89	18.93	48.92	33.62	8.28	7.13
Maize gluten	3.50	16.93	45.83	15.79	3.46	9.77
Cyanodon tectora	13.14	12.37	53.55	33.92	4.05	7.77
Cowpea haulm	6.34	7.59	55.54	45.56	9.64	8.04
Cassava leaf	9.39	23.05	30.21	24.99	6.61	8.96
Cyanodon spp	12.70	9.96	59.74	37.98	3.16	7.56
Leucaena leucocephala	10.67	23.08	32.26	24.18	6.04	8.79
Leucaena leucocephala	10.67	23.08	32.26	24.18	6.04	8.79

Figure 3: Cattle Population





Materials and Methods

A three-stage-sampling technique was used to purposively elicit information from 215 respondents from study area. Farmers' location, livestock population (measured in tropical livestock units, TLU) and distribution were recorded and taken with the GPS. The ARC-GIS software processed the data into location using the ARC-GIS model 10.0 (Figure 1).

Samples of FR fed to cattle were identified, collected and analyzed for chemical compositions: Crude Protein (CP), Neutral Detergent Fibre (NDF) and Acid Detergent Fibre (ADF) with Near Infra-red reflectance spectroscopy (NIRS); a mixed feed global calibration Model using the software package WIN ISI.

Conclusions

The nutritional status of the available feed resources in the study area are of desirable quantity and quality on naturally fertile land that can support viable cattle production investment. The relevance of bio-informatics in livestock production, policy and marketing in the derived savannah of Nigeria.

Acknowledgement

I would like to appreciate the International Livestock Research Institute (ILRI, Ibadan, Nigeria) for the opportunity to analyze feed resources with NIRS (Near Infrared Spectroscopy).