

## GIS Mapping of Sheep Population and Distribution Pattern in the Derived Savannah of Nigeria

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**Abstract :** The location, population, and distribution pattern of sheep are severe challenges to agribusiness investment and policy formulation in the livestock industry. There is a significant disconnect between farmers' needs and the policy framework towards ameliorating the sheep production constraints. Information on the population, production, and distribution pattern of sheep remains very scanty. A multi-stage sampling technique was used to elicit information from 180 purposively selected respondents from the study area comprised of Oluyole, Ona-ara, Akinyele, Egbeda, Ido and Ibarapa East LGA. The Global Positioning Systems (GPS) of the farmers' location (distribution), and average sheep herd size (Total Livestock Unit, TLU) (population) were recorded, taking the longitude and latitude of the locations in question. The recorded GPS data of the study area were transferred into the ARC-GIS. The ARC-GIS software processed the data using the ARC-GIS model 10.0. Sheep production and distribution (TLU) ranged from 4.1 (Oluyole) to 25.0 (Ibarapa East), with Oluyole, Akinyele, Ona-ara and Egbeda having TLU of 5, 7, 8 and 20, respectively. The herd sizes were classified as less than 8 (smallholders), 9-25 (medium), 26-50 (large), and above 50 (commercial). The majority (45%) of farmers were smallholders. The FR CP (%) ranged from  $5.81 \pm 0.26$  (cassava leaf) to  $24.91 \pm 0.91$  (Amaranthus spinosus), NDF (%) ranged from  $22.38 \pm 4.43$  (Amaranthus spinosus) to  $67.96 \pm 2.58$  (Althemanthe dedentata) while ME ranged from  $7.88 \pm 0.24$  (Althemanthe dedentata) to  $10.68 \pm 0.18$  (cassava leaf). The smallholders' sheep farmers were the majority, evenly distributed across rural areas due to the availability of abundant feed resources (crop residues, tree crops, shrubs, natural pastures, and feed ingredients) coupled with a large expanse of land in the study area. Most feed resources available were below sheep protein requirement level, hence supplementation is necessary for productivity. Bio-informatics can provide relevant information for sheep production for policy framework and intervention strategies.

**Keywords :** sheep enterprise, agribusiness investment, policy, bio-informatics, ecological zone

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