

GOAT PRODUCTION AND DISTRIBUTION PATTERN IN IBADAN/IBARAPA ZONE, OYO STATE, NIGERIA

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ABSTRACT

The availability, population, and distribution of goat at the system level are of great concern to the livestock policymakers. Hence, this study on the mapping of goat production and distribution in Ibadan/Ibarapa zone of Oyo state was undertaken. A three-stage sampling technique with 270 sampling population was used. Six Local Government Areas (LGAs) with a high prevalence of crop-livestock production system, three villages per LGA and fifteen respondents per village were purposively selected. Distribution pattern of goat population (Tropical Livestock Unit, TLU) was appraised with spatial analytical tools following standard methods. The Global Positioning System (GPS) was used to locate the population of farmers and appreciate the spatial distribution of goat production among farmers in the study area. A GIS (Geographic Information System) is a computerized database management system which was used to capture, store, retrieve, manipulate, analyze and display spatial information. Ibarapa East LGA had the highest TLU (37) for Goat when compared with Egbeda, Ido, Ona-ara, Akinyele and Oluyole LGA with TLU of 30, 20, 6, 4 and 2, respectively. The availability of abundant crop residues and feed resources in Ibarapa area coupled with a large expanse of land encouraged goat production activities in Ibarapa East, Egbeda and Ido LGA. In conclusion, using the spatial analytical tool of GIS, various activities of the goat production can be monitored, assessed and designed to meet market intervention.

Keywords: Crop residues, Global positioning system, Goat population and distribution, Ecological zones.

INTRODUCTION

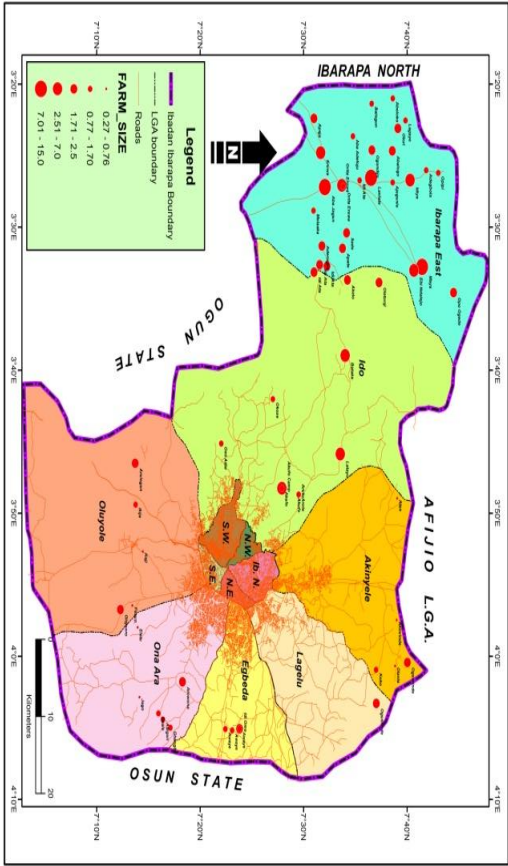
Income from goat production in the derived savannah area of Nigeria is generally low mainly due to inadequate linkage to market. The availability, distribution, and population of goats at the system (village) level are of great concern to the policymakers and livestock planners. The local and uncoordinated market appears to be the only avenue for sales in an area with a high intensity of goat production. However, with the launch and subsequent operation of NigeriaSat 1, the need to exploit the merits of geo-informatics in agriculture in Nigeria is ripe (Nigeria Sat 1 report, 2003). Olatoye and Odularu (2013), Sosina (2017) reported the relevance of geo-information techniques in agricultural development, examine the situation in Nigeria and consequently made a case for the adoption of geo-information techniques, and in particular Precision Farming techniques in Nigeria. There is paucity of information on coordination of production and marketing as well as other actors in the goat production value chain. There is a need to identify the location of the livestock producers with a view to driving agricultural planning and policy implementation. This study therefore assessed goat production and distribution pattern in the Ibadan/Ibarapa zone, Oyo state, Southwest, Nigeria.

MATERIALS AND METHODS

The study was carried out in the Ibadan/ Ibarapa Area of Oyo State of Nigeria (as shown in Figure 1). The area is ethnically heterogeneous with a high concentration of smallholder crop and livestock farmers, considered as the occupational group with a high incidence of poverty. A three-stage-sampling technique was used to elicit information from 270 respondents. Ibadan/Ibarapa Zone of Oyo state was purposively selected for the study. Six cells (LGAs- Akinyele, Egbeda, Ibarapa East, Ido, Oluyole and Ona Ara) were randomly selected for the research, three villages were randomly selected in each cell and fifteen farmers were selected using the snowball selection technique. The data obtained from the Participatory Rural Appraisal were analyzed using descriptive statistics. The GPS of the farmers' location, livestock population and distribution 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 into location using the ARC-GIS model 10.0 from the GIS unit of the Department of Geography, University of Ibadan.

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Fig.1: Map of Ibadan/Ibarapa area study area



The data collected were accompanied by the administration of a structured questionnaire (conducted through an interview session) which was designed to obtain information on socioeconomic characteristics of the farm owners and characteristics of the sampled farms. Data were analyzed using descriptive statistics.

Results

Mapping of Goat Production and Distribution in Ibadan/Ibarapa zone in Fig 1 showed; the GIS mapping of Goat Production of farmers in Ibadan/Ibarapa zone using the GPS location. The GPS was used to locate the population of farmers and appreciate the spatial distribution of goat production among farmers in the study area. The graphical representation shows the Tropical Livestock Unit (TLU) of goat kept by the farmers in the Ibadan/Ibarapa zone. GIS map showed the location of the various farmers' involved in Goat production in the study area. Fig. 2 revealed the Goat production data collected from the Local Government Areas (LGA) Ibarapa East had the highest TLU of 37 for Goat. Ido, Ona-ara, Akinyele, and Oluyole with Goat TLU of 20, 6, 4 and 2 respectively.

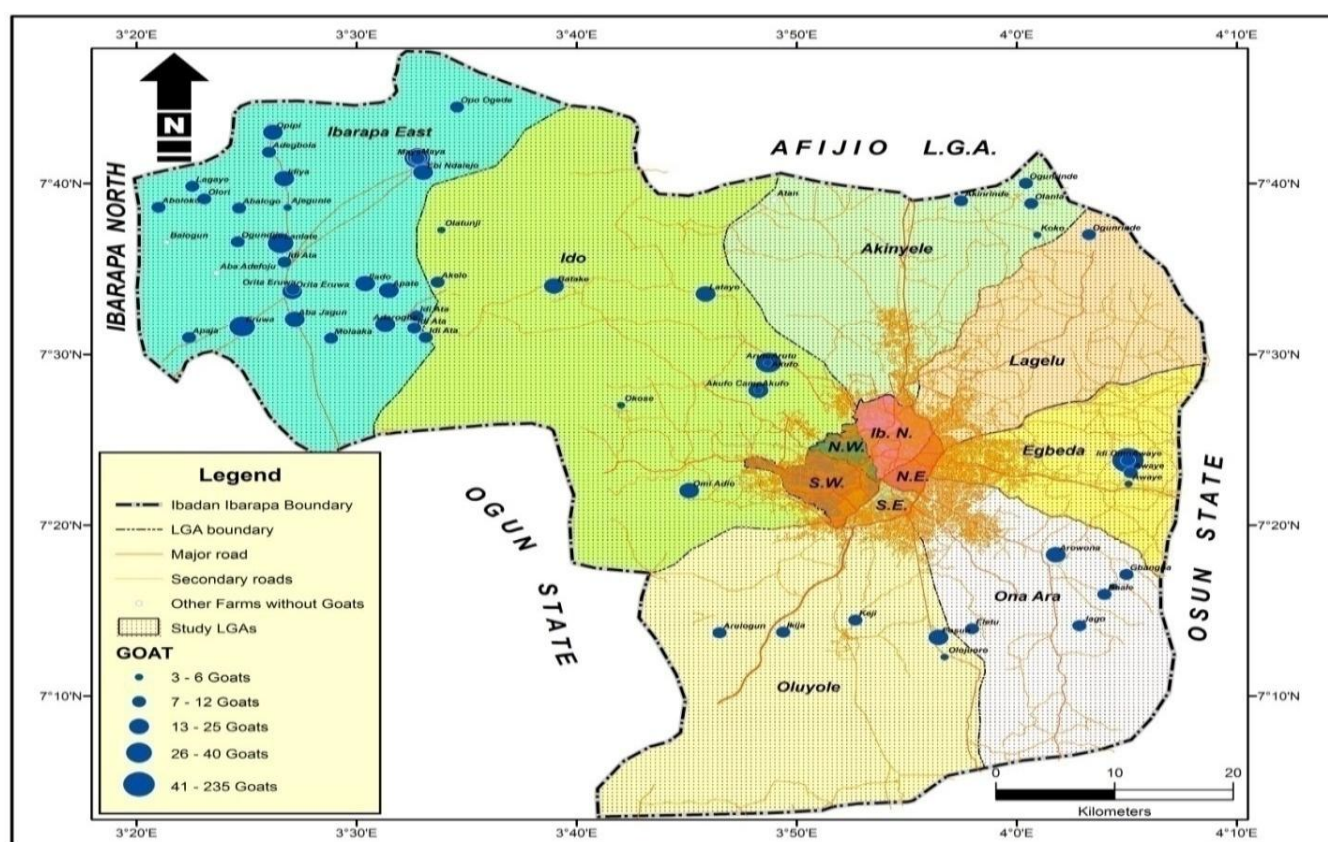


Fig.2: GIS/GPS Mapping of goat production pattern in Ibadan/Ibarapa zone, Southwest, Nigeria

DISCUSSIONS

Goat production and distribution patterns could be due to the availability of abundant crop residues and feed resources in the Ibarapa area coupled with a large expanse of land for goat production activities. These findings agreed with Olafadehan and Adewumi (2011) and Fakoya (2007) that reported similar findings on cattle and goat production among agro-pastoralist in South West, Nigeria. The high populations of goat farmers found in Egbeda and the lower populations in Akinyele, Ona-ara, and Oluyole suggested that the rain-forest ecological zone still favored small ruminant production especially the dominant West African Dwarf (WAD) Goat. The average herd sizes of goat farmers were similar in Akinyele, Oluyole, and Ona-Ara. This was probably due to the urbanization of the area that affected the goat production adversely. The result supported the work of Onwuka *et al.* (1997) that reported low TLU of goat in the urban area compared with the agrarian communities in

Ogun State. This was against the report of Amole and Ayantunde (2016) that ruminant is produced in the rural areas in Niger state. For commercial goat production and distribution, using the spatial analytical tool of GIS, various activities of the goat production can be monitored, assessed and designed for possible intervention. Spatial analytical using GIS revealed the prevalence of Crop-Livestock farming in the study area. This agreed with the findings of Olugaza *et al.* (2014); Omodele and Okere, (2014) that reported mapping exercise using the spatial analytical tool of GIS. About the TLU, Ibarapa East is highly favorable for the establishment of commercial goat production compared with other locations in the study area.

RECOMMENDATION

The adoption of information technology (GIS) by farmers in a modern goat production management system that will link production to market in a demand-driven economy is therefore recommended.

Conclusion

In conclusion, the distribution pattern of goat in Ibadan/Ibarapa area of Oyo State showed clearly that Ibarapa East LGA is the most favorable for goat production. This is justifiable because of the abundance of feed materials and large expanse of agricultural land in the area.

Conflict of Interest

Authors declared that there was no conflict of interest.

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