Goat Production and Distribution Pattern in Ibadan/Ibarapa Zone, Oyo State

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ABSTRACT

The availability, population, and distribution of goat at the system level are of great concern to the livestock policymakers. Most often, policy formulation and implementation on goat production had been faulty without meeting the desired objectives. Little information does exist concerning the distribution of goat production at the system level in the Ibadan/Ibarapa zone of Oyo state. Hence, this study on the mapping of goat production and distribution in the selected area 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 for capturing, storing retrieving, manipulating, analyzing and displaying 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 as observed in Ibarapa East, Egbeda and Ido LGA. The lower TLU observed in Ona-ara, Akinyele and Oluyole LGA can probably be due to the urbanization in those locations which has adversely affected goat production. 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 level are of great concern to the policymaker and livestock planning. 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 (3). (5,10) reported the relevance of geo-information techniques in agricultural development, examine the situation in Nigeria and consequently make a case for the adoption of geo-information techniques, and in particular Precision Farming techniques in Nigeria (9).

There is a paucity of information and coordination of goat production, market as well as other actors in the goat production value chain. Hence, there is a need to identify the location of the livestock producers with a view of agricultural planning and policy implementation. There is a dearth of information concerning the distribution of goat production at the system level. Hence, the study 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) 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.

The data collected was accompanied by the administration of a set of the 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: From Fig 1, the GIS mapping of Goat Production of farmers in Ibadan/Ibarapa zone was identified 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) namely Akinyele, Egbeda, Ibarapa East, Ido, Oluyole and Ona Ara. Ibarapa East had the highest TLU of 37 for Goat compared with other location. Egbeda closely followed with Goat TLU of 30. Ido, Ona-ara, Akinyele, and Oluyole had Goat TLU of 20, 6, 4 and 2 respectively. This probably could be due to the availability of abundant crop residues and feed resources in Ibarapa area coupled with a large expanse of land for goat production activities.
The population of goat farmers (as shown in Fig.2) with higher TLU of 30 goats was found in Egbeda, lower TLU of 6, 4 and 2 in Akinyele, Ona-ara and Oluyole suggested that 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. For commercial Goat production, using the spatial analytical tool of GIS, various activities of the goat production can be monitored, assessed and designed for possible intervention. Moreover, for commercial goat production favored siting of such farms in Ibarapa East.
Goat production and distribution pattern could be due to the availability of abundant crop residues and feed resources in Ibarapa area coupled with a large expanse of land for goat production activities. These findings agreed with (2, 4) 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 lower in Akinyele, Ona-ara, and Oluyole suggested that 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 (8) that reported low TLU of goat in the urban area compared with the agrarian communities in Ogun State. This was in contrast to the report of (1) that ruminant is produced in the rural areas in Niger. 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. Fig 2 showed the mapping of goat production and distribution pattern in the study area using a spatial analytical tool of GIS in the study area of Ibadan/Ibarapa zone, Oyo State. Pre-result revealed the prevalence of Crop-Livestock farming in the study area. This agreed with the findings of (6, 7) that reported mapping exercise using the spatial analytical tool of GIS. Moreover, Ibarapa East favored the establishment of commercial goat production compared with other locations in the study area.

Conflict of Interest

Authors declared that there was no conflict of interest.

References

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