

**NSAP****47th Annual Conference**
(JOS 2022)**CONFERENCE PROCEEDINGS**THEME
SECURING ANIMAL
AGRICULTURE AMIDST
GLOBAL CHALLENGES**SURVEY ON SMALL HOLDERS AND PASTORAL DAIRY GOAT'S FARMERS IN ADAMAWA STATE**¹Yahya, M. M. and ²Midau. A.¹ Department of Animal Science, Modibbo Adama University of Technology, Yola²Adamawa State University, Department of Animal Science, Adamawa State, NigeriaEmail: alexmidau@yahoo.com

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ABSTRACT

Study was carried out to investigate dairy goat farmers and constraints of goat production in Adamawa state. The study was conducted in the Benue trough block where more than 50% of the goat population of the state were found. Dairy goat farmers were found only in Girei, Song and Gombi local Governments. The milk produced by goats was poorly consumed in urban areas. Tradition was one of the reasons of non-consumption of goat's milk in the study area which comprised 84.58%, while low yield, odour and health conditions accounted for 15.17, 17.54 and 9.00 %, respectively. Breeds of goats reared in the study were Sokoto Red (67.90%), Sahel (6.25%) while other breeds and their crosses made up 25.83%. Farmer's reasons for keeping goats showed that 64.58% kept goats for income generation, 12.08% of them kept goats for milk production, 8.75% of people kept goats for their meat. While 2.50% of the people kept goats for using them during ceremonies. Other purposes apart from those mentioned above were 12.08%. The study reveals that dairy goats and their product are underutilized. Extra awareness on the benefits of goat milk in human nutrition and better technology for the milk processing is needed to improve the milk consumption in the area of study.

Keywords: Dairy, goats, pastoral, small holders**INTRODUCTION**

The goat has long been a popular milk animal in the old world, where it is often referred to as the poor man's cow. When travelling or vacationing, Asiatics frequently take their goats with them in order to be assured of milk supply (International Goat Association (IGA) (2019). Thus, it is interesting to recall that the late Mahatma Ghandi of India took two milk goats with him on his last visit to England (Esminger, 1970). The wild ancestors of the domesticated goats are *Capra aegagrus* of Persia and Asia Minor. The common goats of most Europe and Asia are derived from *Capra falconeri* the Angora goat from a class *aegagrus* and *falconeri*. Most modern African breeds of goats are believed to be derivatives of Asia and Mediterranean breeds. It is however common to classify African breeds based on coat colour, height and horn types (Akinwumi, 1992). Globally, goat production yields 60% of its value as milk, 35% as meat and 5% as skin. The world goat's population was estimated to be 706 million with more than 90% from developing countries. Nigeria has over 4% of the current world production (Zahraddeen *et al.*, 2008). Three distinct breeds are found in Nigeria which include the West African long-legged (Sahel, Arab, Maure, Taureg), Red Sokoto (Maradi) and the west African Dwarf (Cameroun Dwarf, Fouta Djallon and Kirdi). Many other types perhaps known as Borno White, Borno Red, Kano Brown and Maiduguri Brown are named according to their areas of origin (Devendra and McLeroy, 1987). With increasing human population, especially in high potential areas, there is an excellent case for a greatly increased number of milk goats. A family can keep a goat on small pieces of waste land or steep ground and feed crop residue. Five or six milk goats can be kept on same amount of feed and grazing area as required by the cow. One goat will provide sufficient milk for the family (Sachin, *et al.*, 2017). The purpose of the study is to investigate the small holders and pastoral dairy goat's farmers in Adamawa State.



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MATERIALS AND METHODS

Experimental Site

The research was carried out in the Benue trough block of the State (Adebayo and Tukur, 1999). Adamawa state is located at the North Eastern part of Nigeria. It lies between latitude 7° and 11°N of the equator and between longitude 11° and 14°E of the Greenwich meridian. It shares boundaries with Taraba State in the South and West, Gombe State in its Northwest and Borno to the North. Adamawa State has an international boundary with the Cameroon Republic along its eastern border. The state covers a land area of about 38,741km. The amount of sunshine hours ranges from 2500 in the south to 3000 hours per annum in the extreme north of the state. Maximum temperature is 40°C particularly in April while minimum temperature is 18°C between December and January. Rainy season begins in April and ends in October with a mean annual rainfall of 1150mm. Relative humidity ranges from 20-80% (Adebayo and Tukur, 1999).

Design/Data Collection

Eight (8) Local Government Areas were sampled for the study. Thirty (30) questionnaires were distributed randomly in each of the local government areas of the study area. A total of two hundred and forty (240) structured questionnaires were used. Information required included the age, sex, marital status, years of experience, whether goats are milked, use of the milk, reason for non-consumption of milk, breed of goats reared, reason for keeping goats, education level of respondents, system of management, source of labour, frequency of milking, mode of processing and problems of goats production. The experiment lasted for one year. A survey was conducted to identify small holders and pastoral dairy goat farmers in the state. Adamawa is one of the states with high concentration of livestock. A number of factors combine to dictate the types, population and spatial distribution of livestock over the state. The state is divided into four pastoral blocks based largely on similarities in ecological conditions (i.e. Toungo block, Jada-Mayobelwa block, Benue Trough block and Hong – Michika Block) (Adebayo and Tukur, 1999). The survey was carried out in the Benue trough block. It is the largest block covering about 11,000km² making up to 31.8% and contains 50.5% of the total goat population of the state. It is a grassland area characterized by the flood plains of the Benue and that of its tributaries such as rivers Gongola, Kilange and Ine. The study covers Fufore, Yola South, Yola North, Girei, Song, Demsa, Lamorde and Gombi Local Government areas of the state.

Statistical Analysis

Data obtained were analyzed using simple descriptive statistics (frequency distribution and percentages) and market price analysis. (SAS, 2013)

RESULTS AND DISCUSSION

The result of the investigation revealed that the thirty (30) questionnaires distributed in Yola North and Yola South local government areas of Adamawa State shows that the respondents did not used goat's milk for any purpose.

Table 1 Distribution of dairy goat farmers in the study

L. G. A.	Farmers interviewed	Goat Milkers	% of Farmers
Song	30	11	36.67
Gombi	30	8	26.67
Fufore	30	3	10.00
Lamorde	30	3	10.00
Demsa	30	2	6.670
Girei	30	2	6.670
Yola North	30	0	0.000
Yola South	30	0	0.000



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Distribution of dairy goat farmers in the Study is presented in Table 1. The result of the investigation revealed that in Song local government area of the state, dairy goat's farmers formed 36.67% of the respondents. Dairy goat's farmers were also located in Gombi local government area and constituted 26.67%. The result also revealed that in Fufore, Lamorde and Demsa local government areas dairy goat farmers were 10.00, 10.00 and 6.67% respectively as indicated in Table 1. Respondents in Girei, Yola North and Yola South formed 6.67, 0.00 and 0.00%, respectively of dairy goat's farmers in the study area.

The distribution of non-dairy goat's farmer in the study area is presented in Table 2.

In Demsa local government 93.3% of the respondent did not use goat milk. The data obtained from Girei, Fufore and Lamorde Local Government areas showed that 93.3, 90 and 90% of respondents respectively had never use goat as a dairy animal, while in Gombi and Song only 73.3 and 63.3% of the respondents respectively did not use goat milk for any purpose.

Table 2 Distribution of Non-dairy Goat Farmers in the Study Area

L. G. A.	Farmers interviewed	Non- Milkers	% of Farmers
Yola North	30	30	100.00
Yola South	30	30	100.00
Demsa	30	28	93.300
Girei	30	28	93.300
Fufore	30	27	90.000
Lamorde	30	27	90.000
Gombi	30	22	73.300
Song	30	19	63.300
Total	240	211	100.00

The result of the distribution of nondairy goats farmer in the study area; investigation from the 240 questionnaires distributed among the eight (8) local government areas of the study area showed that only 12.08% of the respondents have preference for goat milk. This shows that preference for cow milk was 87.92%. However, one of the major reasons for non-consumption of goat milk in the study area revealed by the investigation was that the tradition of the respondents do not allow them to consume goat milk and it accounted for 82.46%. Low milk yield from the goats as one of the reasons for non-consumption of goat's milk accounted for 15.17%. Some of the respondents in the study area stated that the odor of the milk could not allow them to take goat milk and it accounted for 1.42%. The data obtained from the experiment revealed that 0.94% of the respondents used to encounter health problems after consumption of goat milk as indicated in table 3. The above mentioned reasons combined together accounted for 87.92% of the respondents in the study area that did not consume goat's milk or did not consider goats as a dairy animal.

Distribution of Respondents According to Reasons for Non-Consumption of Goat Milk is presented in Table 3.

Table 3 Respondents According to Reasons for Non-Consumption of Goat Milk

Reason	No. of Farmers	Percentage (%) of farmers
Tradition	174	82.460
Low milk yield	32	15.160
Odour	3	1.4200
Health	2	0.9400
Total	211	100.00

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12.08% of the respondents have preference for goat milk, which was earlier observed by (Midau, *et al.*, 2010). This shows that preference for cow milk was 87.92%. However, one of the major reasons for non-consumption of goat milk in the study area revealed by the investigation was that the tradition of the respondents do not allow them to consume goat milk and it accounted for 82.46%, which was in accord with (Midau, *et al.*, 2010). Low milk yield from the goats as one of the reasons for non-consumption of goat's milk accounted for 15.17%. Some of the respondents in the study area stated that the odour of the milk could not allow them to take goat milk and it accounted for 1.42%. The data obtained from the experiment revealed that 0.94% of the respondents used to encounter health problems after consumption of goat milk as indicated in Table 3. The above mentioned reasons combined together accounted for 87.92% of the respondents in the study area that did not consume goat's milk or did not consider goats as a dairy animal.

Table 4. Distribution of Respondents According to Reason for Keeping Goats

Purpose	No. of Farmers	% of farmers
Income	155	64.58
Milk	29	12.08
Meat	21	8.750
Ceremonies	6	2.500
Others	29	12.08

As indicated in Table 4 the study revealed that majority of the goat keepers in the study area kept goats for income generation especially for taking care of the educational needs of their children, for purchase of drugs of cattle and for buying food items for the family especially when crop fails, and it constituted 64.58%. Farmers that kept goats for the purpose of milking them constitute 12.08% and was the second largest group after income. Others kept goats for their meat and it constituted 8.75% of the farmers in the study area. Some farmers in the study area reared goats in order to use them during ceremonies and they constituted 2.50%. The rest of the farmers in the study area kept goats for some reasons other than those mentioned above and constituted 12.08% of the farmers in the study area.

CONCLUSION

Goats are rarely used as dairy animals as only 12.08% of respondents in the study area used goats for dairy production. The dairy products were mostly consumed in rural areas. Tradition appears to be the major reason for non-consumption of goat's milk. Sokoto Red goats appear to be the major goat breed found in the state which accounted for 67.90% of goat's population. Most farmers in the state keep goats for income generation. While majority of goats in the state were in the hands of married men.

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