Assessment of Some Livestock (Cattle, Sheep, Goat and Poultry) Population and Challenges of Raising Livestock Faced by Farmers in Imbru Ward, Numan LGA of Adamawa State.

K. S. NDYAKALAH[1], L. A USMAN[2], MUSA. N[3], PANUEL. B[4], N.N URUKU[5], M ABDULKADIR[6], O USMAN[7], I. N. YERIMA[8]

[1,3,4,6,7]*Department of Animal Health and Technology, Adamawa state College of Agriculture, science and Technology*

[2]*Department of Chemistry Education, Adamawa State College of Education, Hong.*

[5]*Department of Animal Health and Production Federal University Wukari*

[8]*Adamawa state College of Agriculture, science and Technology, Ganye*

Abstract- Evaluating livestock populations not only provides important perspectives on the economic consequences of the Agriculture sector but also helps identify gaps in productivity and sustainability. This study therefore, focused on the assessment of some livestock (cattle, sheep, goat and poultry) population and challenges of raising livestock faced by farmers in Imbru Ward, Numan LGA of Adamawa State. Structured questionnaire was used to collect data for this study. A total of 109 questionnaires were distributed, and 75 were successfully retrieved, giving a response rate of 69%. Majority of respondents (67%) were male, while 51% fall within the age range of 31–50 years. Most of the farmers (37%) have only primary education, which may influence farming practices and livestock management. Cattle farmers account for the highest proportion (33%) of livestock farmers, followed by goat farmers (27%), with sheep and poultry farmers equally distributed at 20% each. The data also showed that 87% of the respondents agree that feed and water availability are critical for livestock growth, while 81% believe that access to veterinary services plays a significant role in improving animal health. However, 32% reported challenges with climate conditions affecting livestock health. The most prevalent challenge reported by farmers was feed scarcity (64%), followed by inadequate veterinary services (53%). Climate-related problems, such as droughts and flooding, were reported by 43% of respondents.

Therefore, addressing these challenges to enhancing livestock production and is very essential and helps to improving the livelihoods of farmers in the study area.

Indexed Terms- Livestock, Livelihood, Sustainability, Veterinary, Drought.

I. INTRODUCTION

Agriculture is a multifaceted sector that includes livestock production, crop growing, fisheries, and forestry, all of which play a significant role in the well-being of many Nigerians, particularly farmers. It greatly contributes to individual income, food security, and the livelihoods of those who view it as a business, especially in rural areas. Livestock, as a component of agriculture, provides essential products such as meat, hides/skins, and milk, which are vital for both industrial and personal use. It also plays a role in the economic development of numerous countries engaged in livestock farming. In low and middle-income countries, livestock production accounts for around 20% of the agricultural gross domestic product (GDP), compared to nearly 50% for high-income countries, as noted by (LD4D, 2018).

Cattle ranching is widely acknowledged as a traditional occupation, often characterized by transhumance pastoralism, in which herders move their livestock between different grazing locations

throughout the seasons to find food and water (Umar & Ibrahim, 2021). Evaluating livestock populations not only provides important perspectives on the economic consequences of the sector but also helps identify gaps in productivity and sustainability. For example, conducting regular livestock censuses aids in assessing growth rates, mortality, and reproductive patterns, which are vital for creating effective livestock development strategies (Girei, 2023).

However, farmers who rear animal faces many challenges such as theft, disease, lack of pasture land, death and farmers-herders crises, all which contribute to low livestock population in Nigeria, it is essential to assess livestock population dynamics to reduce potential risks and enhance resilience. The stated factors above can have profound effect on socio-economic stability of the farmers and the country at large, (Bello & Musa, 2022).

In recent years, both government bodies and development organizations have worked to improve livestock production in rural regions by enhancing veterinary services, building farmers' capacities, and facilitating market access. Nevertheless, the effectiveness of these initiatives is frequently hindered by the absence of dependable data regarding livestock populations at the community level.

This study therefore, aims to address this issue by delivering a current assessment of the livestock population in Imbru Ward, with an emphasis on species composition, population trends, and the factors affecting livestock production. The results of this research are anticipated to enrich the existing knowledge on livestock management in rural Nigeria and offer suggestions for boosting livestock productivity in Imbru Ward, Numan LGA.

II. RESEARCH METHODOLOGY

Study Site The study area for this Research was carried out at Imbru Ward, Numan LGA, Adamawa State, Nigeria. Imbru, is located in Numan LGA of southern Adamawa State. Adamawa State, hs a state in the North-East geopolitical zone of Nigeria, bordered by Borno to the northwest, Gombe to the west, and Taraba to the southwest while its eastern border forms part of the national border with Cameroon. It takes its name from the historic emirate of Adamawa, with the emirate's old capital of Yola serving as the capital city of Adamawa State.

Research Design
This study adopted a descriptive research design to assess the population size, distribution, and composition of livestock species in Imbru Ward. Descriptive research helps answer the "what," "how," and "why" of a phenomenon, providing insights into the relationships between variables. This design was appropriate for the study as it enabled the collection of data by measuring central tendencies, correlations, and variations.

A quantitative research approach was used to provide numerical evidence, relying on deductive reasoning to derive meaningful conclusions. This approach helped gather precise data related to livestock populations, trends, and challenges faced by livestock farmers in the area.

Population and Sampling Design
The target population of this study consisted of livestock farmers in Imbru Ward, Numan LGA. The primary focus was on farmers who rear cattle, goats, sheep, and poultry. Based on a preliminary survey, the total population of livestock farmers in the area was estimated to be 150 farmers.

Sampling Technique
This study used stratified random sampling to ensure adequate representation of each livestock category (cattle, goats, sheep, and poultry). Within each stratum, farmers were randomly selected to participate, ensuring that every livestock category was proportionately represented in the sample.

Data Collection Methods
This study employed structured questionnaires to collect primary data from livestock farmers.

Questionnaire Design
The questionnaire contained closed-ended questions to gather quantitative data. It was divided into the following sections:
• Section A: Demographic Information
• Section B: Livestock Population and Distribution

- Section C: Factors Affecting Livestock Production
- Section D: Challenges Faced by Farmers
- Section E: Recommendations for Improvement

A five-point Likert scale was used to measure responses, with the following options:
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Data Analysis Methods

Data analysis involves transforming collected data into meaningful information. This study employed both descriptive and inferential statistics for data analysis. According to Cooper and Schindler (2008), descriptive statistics summarize data to identify trends and patterns, while inferential statistics help draw conclusions about the population. The collected data were sorted, coded, and entered into the Statistical Package for Social Sciences (SPSS) for analysis. Descriptive statistics, such as frequencies, means, variances, and standard deviations, were used to analyze the data. Additionally, inferential techniques, such as correlation analysis, were employed to determine the relationships between livestock population trends and factors affecting production.

III.   RESULT AND DISCUSSION

This chapter presents the findings from the data collected, with a focus on the population size, distribution, and composition of livestock in Imbru Ward, Numan Local Government Area (LGA). It also analyzes the factors affecting livestock production, challenges encountered by farmers, and potential areas for improvement. A total of 109 questionnaires were distributed, and 75 were successfully retrieved, giving a response rate of 69%.

Table 1: Demographic Information of Respondents

Demographic Variable	Categories	Frequency	Percentage (%)
Gender	Male	50	67%
	Female	25	33%
Age	18 – 30	20	27%
	31 – 50	38	51%
	Above 50	17	22%
Educational Qualification	No Formal Education	15	20%
	Primary Education	28	37%
	Secondary Education	22	29%
	Tertiary Education	10	14%

The majority of respondents (67%) were male. The association of neuter attending is that agriculture activities are gender impressionable as wives are mainly not lucky to own farms on account of cultural biases and depressed talent. However, frequently they do so either by legacy from their persons or their late husbands' and in precious cases buys land. While 51% of the farmers fall within the age range of 31–50 years. Fasina (2005) and Nwachukwu (2008) stated that the drift of youth to towns and cities has made the use of family labour impossible as farming activities are left in the hands of old or aged people. Most of the farmers (37%) have only primary education. This is because primary education has a positive impact on livestock production by improving farmers' ability to adopt new technologies and manage resources efficiently, leading to increased productivity and income. This finding correlates with that reported by Fazilah (2012).

Table 2: Livestock Population and Distribution

Livestock Category	Population	Sample Size	Percentage (%)
Cattle Farmers	50	36	33%
Goat Farmers	40	29	27%
Sheep Farmers	30	22	20%
Poultry Farmers	30	22	20%
Total	150	109	100%

This section analyzes the distribution and population size of livestock across various categories. Cattle farmers account for the highest proportion (33%) of livestock farmers, followed by goat farmers (27%), with sheep and poultry farmers equally distributed at 20% each. The highest percentage of cattle to other livestock might be as a higher market value, larger size, and greater demand for beef and dairy products. This may also be due to the high threats involved in poultry industry as reported by Ironkwe and Ajayi (2007).

Table 3: Factors Affecting Livestock Production
The following table summarizes the respondents' opinions on the factors influencing livestock production in the area:

Statement	Agree (%)	Disagree (%)
Availability of grazing land affects production.	74%	26%
Access to veterinary services improves livestock performance.	81%	19%
Climate conditions influence livestock health.	68%	32%
Availability of feed and water impacts livestock growth.	87%	13%

The data showed that 87% of the respondents agree that feed and water availability are critical for livestock growth, while 81% believe that access to veterinary services plays a significant role in improving animal health. The highest percentage obtained by availability of grazing might be due high rate of crop cultivation in the study area by farmers to feed their family. This finding disagrees with that of Olugasa et al. (2013) who reported that most animal production activities are located in rural areas or remote areas inaccessible to proper veterinary services and many that are accessible find the high cost of veterinary services prohibitive. Hence, they resort to the easily available quacks that wreak havoc on the animal industry by using expired vaccines, fake drugs and wrong prescriptions for treating diseases. However, 32% reported challenges with climate conditions affecting livestock health.

Table 4: Challenges Faced by Livestock Farmers
The study identified several challenges confronting livestock farmers in Imbru Ward:

Challenge	Frequency	Percentage (%)
Inadequate Veterinary Services	40	53%
Feed Scarcity	48	64%
Climate-Related Problems	32	43%
Poor Market Access	27	36%
Livestock Diseases	35	47%

The most prevalent challenge reported by farmers was feed scarcity (64%), followed by inadequate veterinary services (53%). This finding agrees with that of Olugasa et al. (2013) who reported that most animal production activities are located in rural areas or remote areas inaccessible to proper veterinary services and many that are accessible find the high cost of veterinary services prohibitive. Hence, they resort to the easily available quacks that wreak havoc on the animal industry by using expired vaccines, fake drugs and wrong prescriptions for treating diseases. Climate-related problems, such as droughts and flooding, were reported by 43% of respondents as one of the challenges in the study area. The scarcity of feed shown in the study area may due to lack of pasture land available for rearing animal. It may also be due use of herbicides in farm and environment for controlling weeds.

CONCLUSION

The findings of this study highlight that livestock farming plays a vital role in the economic activities of Imbru Ward. However, several challenges, including feed scarcity, poor veterinary services, climate-related risks, and limited market access, pose significant threats to livestock productivity. The study therefore, concludes that addressing these challenges is essential for enhancing livestock production and improving the livelihoods of farmers in the area. The results also indicated that with improved support systems, such as better veterinary

services and access to reliable markets, the performance of livestock farming can be significantly enhanced. Furthermore, fostering climate-resilient practices would help mitigate the impact of adverse weather conditions on livestock health and productivity.

REFERENCES

[1] Bayer, W., & Waters-Bayer, A. (2022). Pastoralism in Sub-Saharan Africa: Challenges and opportunities. *Journal of Livestock Systems, 10*(1), 12-25.

[2] Bello, K., & Musa, A. (2022). Socio-economic impacts of livestock farming in rural Nigeria. *African Journal of Rural Studies, 14*(3), 133-146.

[3] Fasina, O.O. (2005). Rural-urban migration in the 21st century Nigeria: a case study of Ondo State. Appl. Tropical Agriculture J., 10, 53-57.

[4] Fazilah Idrisa, Zaharah Hassana, Azizah Ya'acoba, Saran Kaur Gillb and Noor Aziah Mohd Awalc (2012). The role of education in shaping youth's national identity. Procedia Social and Behavioral Sciences. 59, 443 – 450.

[5] Girei, A. A. (2023). Livestock production and challenges in rural Nigeria: A case study of Adamawa State. *Nigerian Journal of Animal Science, 5*(2), 67-79.

[6] LD4D. (2018). Fact check 2: livestock and economy. Edinburgh, UK: Livestock Data for Decisions.

[7] M. O. Ironkwe and F. O. Ajayi (2007). Assessment of the impact of extension services on livestock production in Omuma local government area of rivers state. Global Journal of Agricultural Sciences vol. 7 no. 1 2008: 49 - 5. ISSN 1596 – 2903.

[8] Nwachukwu, I. (2008). Youth development for agriculture and rural transformation in Nigeria. Proceedings Nigeria Rural Sociology Association, pp. 11-14.

[9] Ibrahim, M., & Umar, N. (2018). Market access and livestock farming in Northern Nigeria. *Journal of Rural Development, 12*(3), 89-101.

[10] Olugasa, B.O; Emikpe, B.O; Oluwayelu, D.O; Cadmus, S.I.B; Ayinmode; A.B & Oluwole, O.E. (2013). Field evaluation of immunogenicity of five commercial vaccines against Newcastle disease in poultry farms in Ibadan, Nigeria. Nigerian Veterinary Journal, 33(2), 475–482.