FUDMA Journal of Sciences (FJS)
ISSN online: 2616-1370
ISSN print: 2645 - 2944
Vol. 5 No. 2, June, 2021, pp 399 - 403
DOI: https://doi.org/10.33003/fjs-2021-0502-630

EFFECTS OF BANDITRY ON RUMINANT ANIMAL PRODUCTION IN KATSINA STATE

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ABSTRACT
Ruminant animal production has recently come under a big threat due to the challenges of insecurity. This study was conducted to assess the effect of banditry on ruminant animal production in Katsina state. Using a two-stage sampling procedure, 60 ruminant animal farmers (keeping cattle, sheep and goats) in the state were selected for the study. In the first stage, three livestock markets from each of the state agricultural zones namely: Mai'dua, Charanchi and Sheme markets were purposively selected based on the volume of ruminant animal sold there. The use of livestock markets was because of the difficulty of accessing the famers in their homes due to the prevalent security challenges in the study area. In the second stage, 60 questionnaires were randomly distributed to ruminant animal producers identified in the markets. However, only 44 were used due to incomplete information. The information gathered was analyzed using descriptive statistics. The study revealed that 66% of the respondent were within the age of 41-60 years, married (93%) and educated (57%). Similarly, majority of the respondents (64%) have large families. According to the study, the most prominent system of production used was Semi-intensive (29%) and forage was the major source of feed (70%). The study concluded that banditry has significantly reduced the ruminant production in the study area with untold negative effect on their standard of living and that government should improve security in the study area.
Keywords: Ruminants, farming, banditry, production

INTRODUCTION

Much of the North-Western Nigeria is savannah, but the region is also interspersed with vast forests, some of which are home to thousands of mostly Fulani herders (also known as pastoralists). These forests were once under the watch of forestry authorities, but they gradually became hideouts for criminals including cattle rustlers, highway robbers, kidnappers and cannabis growers (International Crisis Group, 2020). Motorcycle-riding armed bandits operate out of abandoned forest reserves ransacking communities in Nigeria's north-west (Nduka, 2020). The region shares about two thirds of Nigeria's 1,497 km international boundary with Niger Republic, which is weakly regulated. Numerous illegal crossings, coupled with pervasive corruption among border officials, enable the traffic of illicit merchandise such as firearms (International Crisis Group, 2020).

Starting in 2011 and accelerating since 2014, the North West has suffered a surge of attacks by bandits. The situation has been further exacerbated by the proliferation of deadly criminal gangs, thriving in a region awash with arms and which state security forces struggle to control. The attacks largely occur in the rural areas, and have spread from their epicenter in Zamfara state to Kano, Kaduna, Katsina, Kebbi and Sokoto states in the North West and into Niger state in North Central Nigeria. Accurate fatality records are unavailable, but several reports point to at least 8,000 people killed from 2011 to the present, predominantly in Zamfara state and mostly over the last five years (International Crisis Group, 2020).

Larger percentage of the population (about 80 per cent) is made up of farmers, pastoralists, agro-pastoralists or small-scale entrepreneurs. Livestock farming in the region has been the major component of agribusiness that is making significant impact on the level of income of the youth (National Research Council of the National Academy, 2003). It serves as sources of farm power and manure and serves the daily needs of the populace as source of protein especially during festivities like Christmas or Sallah. During such occasions, there used to be unprecedented demand for them thereby making their prices to skyrocket (Siegmund-Shultze, and Rischkowsky, 2001; Thys *et al*., 2005).

The ruminant animal farmers make substantial contributions to the economies of the North West Nigeria, in terms of supporting their own households and supplying animal protein (meat and milk) to villages, towns and urban cities but ruminant production is being strangled by armed banditry. This study is

therefore designed to investigate the effect of banditry on ruminant animal production in the North-West Nigeria.

MATERIALS AND METHODS

Study Area

The research was carried out in Katsina State, North-Western Nigeria. Katsina state spans a land mass of 24 192Km2 whose coordinates of 120 15″N 70 30″E with population of 5,801,584 according to 2006 population census (Wikipedia, 2020). The state consist of thirty four (34) Local Government Area and three Agricultural zones namely; Ajiwa, Funtua and Dutsin-Ma zones with a lot ruminant farming activities. The study adopted a two-stage sampling method. In the first stage, three livestock markets were purposively selected from each of the Agricultural zones in the state based on the volume of ruminant livestock marketing in in the area. These markets are Maiadua livestock market from Ajiwa zone, Charanchi livestock market from Dutsin-Ma zone and Sheme livestock market in Funtua zone. The use of livestock markets was based on the fact that the respondents' confidence is boosted to freely share the needed information in view of the nature of study which borders to large extent on security issues. Accessing the villages where the farmers are resident was difficult because of the volatile security condition in those areas. A random sample of twenty ruminant animals, that is (Specify the ruminant animals here) was taken from each market to get a total of sixty respondents. A total of twenty (20) well-structured questionnaires were administered to the respondents in each market with the aid of trained enumerators. However, some of the questionnaires were rendered invalid because of the missing pieces of vital information because of the sensitivity of the research. A total forty-four (44) respondents that gave complete information needed in the study. SPSS version 20 was used to analyze the data obtained in the valid questionnaires.

RESULTS AND DISCUSSION

Socio-economic characteristics

The socio-economic characteristics of the ruminant animal producers in the area of the study is shown in Table 1. The age structure revealed that 36% of the ruminant farmers were within the age range of 51-60 years of age and then closely followed by 30% within the 41-50 years age range while those from 70 years and above had a percentage of 2% which is lowest. This implies that most those involved in ruminant animal production are still active and would have been gotten verse experience in livestock production. They will be well favourable disposed to new development in latest production techniques. Aruwayo *et al.* (2018) reported that farmers within active farming age could adopt new techniques. Aruwayo *et al.* (2017) reported that experience increases with age which is an advantage for ruminant production. The study revealed that 93% of the respondents are married. This implies that they may likely be conscious of their responsibilities and be dedicated to work. The respondents' could use the children as family labour. The education level of the respondents were shown to be highest in Quoranic with 43% while primary and secondary education had 11% each. Kannabiran *et al*. (2017) and Gadzama *et al.* (2018) reported that a good level of education among similar categories of farmers. Very few of them attained tertiary education as shown with 2% and 5% for OND/NCE/Degree and postgraduate education respectively. The education level of these respondents confer advantages such as being conversant with latest developments in ruminant production, ability to also adapt latest production techniques and exploit opportunities inherent in livestock farming along marketing opportunities. Aruwayo *et al.* (2019) reported that the level of education observed in the study could boost their productivity through improved adoption of innovations and skills of the respondents in ruminant production. Education is always valued as a tool of independence to oneself from ignorance and enables the person to play non-traditional roles (Kasanga, 2005). Aruwayo *et al.* (2021) reported that poor education may imply that the livestock producers may not have been touch with the modern way of rearing animals except those that might have diffused from other farmers around them. The study revealed that the respondents had large household as shown with household sizes with 36%, 48% and 16% having household sizes of between 1-10, 11-20 and 21-30 respectively. The large household size is of advantage since they could readily serve as regular labour supply. The large family size could have positive impact on farming since they may constitute family labour (Aruwayo *et. al.*, 2019). The research findings shows that 61% of the farmers operate on full time while the rest also worked in civil service, as artisans, traders and livestock processors. This could imply that those who are not involved in other occupation or vocation will be able to concentrate on the ruminant production while the ones that have other occupation can derive advantage from multiple resources to support livestock production. Aruwayo (2019) reported that farmers who have other occupation would have more resources to support livestock production which could increase their productivity and consequently, their standard of living.

Table 1: Socio-economic characteristics of ruminant animal producers

Variables	Frequency	Percentage
Age (Years)		
20-30	3	7
31-40	9	20
41-50	13	30
51-60	16	36
61-70	2	5
70 and above	1	2
Marital Status		
Single	1	2
Married	41	93
Divorced	2	5
Educational Status		
Quranic Education	19	43
Primary School	11	25
Secondary School	11	25
OND/NCE/Degree	1	2
Postgraduate	2	5
Household Size		
1-10	16	36
11-20	21	48
21-30	7	16
Livestock Occupation		
Full-time	27	61
Part-time	17	39
Other Occupation n=17		
Civil Service	6	35
Artisans	1	6
Trading	7	41
Livestock processing	3	18

Source: Field survey, 2021

Production systems used by the Ruminant animal farmers

The production system used by the farmers in the study area is shown in table 2. Twenty-nine percent (29%) and (28%) of the farmers adopt semi-intensive and intensive systems respectively while 20% of them utilize extensive system. From this study, it could be seen that more of the farmers adopt intensive and semi-intensive. This could imply better management practices for improved productivity but they could be bearing higher cost of production. The security that pervades the entire study area might have influenced this adopted systems of production. Aruwayo *et al*. (2019) reported in similar study that the ruminant animal farmers adopt intensive system of farming because of the security challenges and the rustling of animals in the area of study which increased the cost of production.

Table 2 Production systems used by the ruminant animal farmers

System	Frequency	Percentage
Extensive	9	20
Semi-intensive	13	29
Intensive	12	28
Extensive and intensive	4	9
Extensive and Semi-intensive	1	2
Intensive and Semi-intensive	5	12

Source: Field survey, 2021

Feeds and feeding of ruminant animals in the study area

Table 3 below shows that forages are the main source of ruminant animal feeds. Feeds and feeding are part of the major challenges faced by ruminant animal farmers. This is more serious in the situation of banditry attacks in the study area. According to table 3, about 70% of the respondents rely on forage for feeding their animals. Other material used is supplements as indicated by 39% of the ruminant farmers. According to Sansoucy (1995), provision of multi-nutrient blocks as supplements has had the widest impact. Those who used concentrates and kitchen wastes are 32% and 5% of the respondents respectively. The principles for using these as the basis of the diet of ruminant animals are the same as for cereal stovers (FAO., 2012). Forages are very important in any type of management system adopted by the farmers. It becomes challenging both for the farmers and the animals if they cannot freely go out with their animals to graze or go to harvest forages for their animals due to the fear of bandits and rustlers. Ruminant animal farmers in Nigeria are mostly nomadic, semi nomadic and pastoral farmer's, therefore ruminant production is based on natural pasture as the major feed source (Horne *et a*l., 1998). Ruminants in the tropics in general, are raised predominantly on grass which are inherently poor in digestibility, nutritive value and unavailability in off season (Lamidi and Ologbose, 2014).

Table. 3 Feeding materials used for ruminant animals

Feed material	Frequency	Percentage
Forage	31	70
Supplements	17	39
Concentrates	14	32
Kitchen wastes	02	5

The major feeding materials used for ruminant animals are revealed on table 4. Those who combine grazing and purchase of feed materials accounted for 41% while those who buy feeds alone accounted for 30%. The farmers who graze alone and those who used crop residue alone are 20% of the respondents respectively. Buying of feeds and feed materials becomes mandatory when farmers cannot go out freely to graze their animals or go to the feed to harvest forages freely without the fear of being attacked.

Table 4 Major sources of feed for ruminant animals

Feed Source	Frequency	Percentage
Grazing (forages)	09	20
Purchase of materials	13	30
Grazing (Forages) and purchase of feed materials	18	41
Crop residue	02	20

Effects of banditry on ruminant animal production

According to table 5 below, of the people interviewed, 52% have experienced banditry attack at least once while the rest have friends, colleagues, relatives and neighbors who have experienced attack in recent times. Looking at the effects of banditry on ruminant animal production in the study area, about 30% of the farmers noted reduced income as a major effect. About 61% of the farmers in the area engaging in full-time animal production business. This effect has definitely affected the major aspects of life in the study area. In fact, 41% of the respondents see it as threat to livestock business in general. Other notable effects are reduced access to feeds (14%), death of loved ones (11%) and forceful relocation (7%). These are setbacks for the growth of ruminant animal production in the area. According to Adeola *et al.* (2021), as a result of banditry, some households have experienced drastic negative change in some things they have always enjoyed in the course of their animal production engagements.

Table 5. Effect of banditry on ruminant animal production

Banditary attack on livestock farmers	Frequency	Percentage
Those that experience attack	23	52
Those who did not experience attack	21	48
Reduced Access to feed	6	14
Reduced income	13	30
Indebtedness	2	5
Relocation	3	7
Payment of Ransom	4	9
Death of love ones	5	11
Threat to Livestock business	18	41

CONCLUSION AND RECOMMENDATIONS

It can be concluded that banditry has significantly reduced the ruminant animal production in the study area with untold negative effect on their standard of living.

Government and its agencies are implored to intensify effort at improving on eradicating banditry in the study area so that farmers can concentrate on their productive activities.

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