

Socioeconomic analysis of cattle ownership status and management systems among rural farming households in Ijebu division, Orgun state

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ABSTRACT

This paper emanates from the background that livestock farming, whether small animals or large animals, are the mainstay of rural economies in developing Africa. A descriptive research design was adopted to investigate the socio-economic characteristics of cattle owners/managers, ownership status, management systems adopted by these farmers. Correlation analysis was also used to determine the relationship between certain farming household's characteristics and cattle asset as insurance in times of financial crisis. Findings showed that the largest proportion of the respondents (43%) were between the age of 30 and 40 years. It also showed that a large proportion of the respondents were married (87%). Cattle ownership/management was dominated by male residents (69%) with more than a third of the respondents (36%) having no formal education while the larger proportion of the respondents had secondary school education as their highest qualification (40%). A relatively small size of cattle was observed among the majority (65%) with less than 30 heads of cattle. About just a quarter of the respondents were owners of the cattle being managed on a full time basis (24%). Not more than 38% of the respondents practiced the intensive system of cattle rearing. None of the respondents was employed in the civil service while majority of the respondents were farmers (57%). There was a significantly very strong positive relationship between the ages of respondents and the years of experience gained in cattle rearing ($p < 0.01$), a significantly relatively weak negative relationship between the ages of respondents and their use of cattle as an insurance asset ($p < 0.1$) and a significantly relatively strong positive relationship between cattle ownership status and the use of cattle as an insurance asset ($p < 0.01$).

Keywords: cattle, management, grazing, ownership, rural

INTRODUCTION

In the first two decades entering into the 21st century, projections have shown that in developing economies, meat demand will rise significantly (Rosegrant, *et al.*, 2001, Alexandratos and Bruinsma, 2012). In Nigeria, subsistence farming of the livestock nature, contribute the most of the meat industry (Momoh & Ochaba, 2002). The demand side of the Nigeria populace for meat is sourced from the subsistence livestock farmers (Olaloku, 2006).

Chanie *et al.* (2013) posits that the prosperity of the rural economies in Africa is strongly tied to livestock farming. It is as though it forms the life force of the rural economies. At times when rural households fall on hard times and seek means of liquidity, livestock farming forms the requisite asset base from which the much needed relief can be drawn. In fact, Ajala (2004) opined that livestock industry is an integral part of the cultural life and system of Nigeria's peasant population.

Various authors have written asserting and validating the idea of the livestock industry traditionally driving the rural economy (Olaloku, 2006; Njoku, 2005; Oluwatayo and Oluwatayo, 2012). Livestock industry in rural Africa, sub Saharan Nigeria inclusive, are usually limited by availability of funds and as such easily accessed and maintained livestock, are usually common place. Large animals are usually hard to maintain in terms of supplementary feeding and housing and demands more attention which would deter from other primary economic activities in which the livestock farmers could otherwise be involved in. As such smaller animals requiring smaller spaces for confinement and which could easily be left to wander and scavenge are preferred. As Egahi *et al* (2012) pointed out, sheep and goats are important to domestic economy and source of wealth and Nigeria, with flock distribution and ownership pattern as requisite tools for economic planning especially because of their importance in small holder farming system. Livestock ownership pattern generally varies based on the peculiarity of the area with ownership types being largely gender-specific and in some instances, age-restrictive. Large-sized animals and livestock are predominantly owned in rural areas of Nigeria by subsistence farmers of the male gender while smaller sized animals are owned by women who are less physically intimidated by the size.

The place of cattle and livestock ownership in strengthening the asset base of rural and urban farmers in Nigeria cannot be ignored. The opportunities are as colourful and beautiful as the spectrum of colours in a rainbow. Cattle ownership is a significant source of household asset base for most rural farming households and could be viewed as a more fluid means of funds compared to other forms of assets given the fact that they could be easily converted to cash. Though faced with a number of limitations capable of impinging on productivity and inadvertently on profitability of the farming enterprise, livestock farming is still a mainstay of most rural peasants in developing Africa, Nigeria inclusive.

Various limitations exist among the rural livestock farmers that make their practice quite problematic and at times unprofitable. There is of course the problem of feeding, management system and some other technical issues such as unavailability of improved stocks, record keeping and health problems (Ettu, 2012). The management system adopted by the farmers or flock owners, determine to a large extent their performance and the influence on the economic status of the owners. In fact, small ruminants in tropical Africa are usually reared and kept under traditional extensive management system, grazing freely and feeding *ad libitum* on household waste products from human consumption. The adequacy of this system however, remains to be argued. As Osho and Fasina (2006) presented in their work, the extensive system of management is fraught with attendant high mortality rate as well as losses from various types of accidents. Though, somewhat profitable for sheep, goat and other smaller animal production, the traditional management system may yield higher output and rate of return but the system is arguably more attention demanding in sheep than in goats which makes it more recommendable for older men, retired from other active duties hence having more time at their disposal.

Some of the problems encountered in livestock production can be categorised under technical and socio-economic factors (Ettu, 2012). The most problematic of all the problems discussed can be discussed under the categorisation of technical factors. The factor is feeding which if done inadequately has implications on the quality of livestock production. This problem makes most owners of large and small livestock animals to adopt management practices that allow for animals to supplement whatever feed they can provide, or in some cases, the animals are allowed to roam freely and source for food. As Ettu (2012) pointed out, it is some of these poor management practices that are responsible for low productivity among livestock farmers in Nigeria.

The decision to adopt various management strategies could of course emanate from the dire need to improve feeding for better productivity and to enhance the food and financial securities of the livestock farmers. As Dayo *et al.* (2009) pointed out, poor grazing potentials, prohibitive prices of concentrate feed among many other restrictions are affecting livestock production especially of the ruminant category. Allowing animals to roam may afford them the opportunity of choosing palatable forages of their own choice especially during dry seasons when herbaceous crops are dried. Suleiman *et al.* (2014) pointed out that tropical trees and shrubs are important components of the fodder resources for livestock and wildlife. Of course, they are easier to access when the animals roam and feed *ad libitum* as they graze.

The objectives of this study were therefore:

- i. To describe cattle ownership status among rural farming households in Ijebu Division of Ogun State.

ii. To describe the socio-economic characteristics of the selected rural farming households.

iii. To determine the relationship between selected socio-economic characteristics of the farming households and their cattle ownership status.

RESEARCH METHODOLOGY:

A descriptive research design was used for this research. A multistage sampling technique was adopted for the purpose of the research. The first stage involved a random selection of 4 Local Government Areas (LGA) out of the 6 LGAs making up the division in Ogun State. The selected LGAs are Ijebu Ode, Ogun waterside, Ikenne and Ijebu North LGAs. The second stage involved a selection of prominent agrarian settlements within each of the LGAs where there are pronounced evidence of cattle rearing. The research areas are agrarian Ibi Ade area of Ogun waterside, agrarian Ikenne settlement in Ikenne LGA, agrarian Ijebu Ode settlement in Ijebu Ode LGA and Ago Iwoye in Ijebu North LGA, which all have pockets of agrarian peri-urban settlements widely known in the south western Ogun State of Nigeria, as hubs of farming activities, livestock as well as crop farming. The third stage involved a

random selection of 100 farming households (25 households per research area) without any bias for the type of farming practiced as the primary household occupation except that they are households involved in some way in cattle rearing and/or other small animals. There was no defined population of rural farmers that could be used as sampling frame due to loosely organised and informal farming groups in the area. There was therefore a reliance on information by community leaders as to which households were farmers with handfults or more of cattle being reared. It was this information that guided the population in each area from which the sample was randomly drawn. The instrument used for data gathering is a structured questionnaire which was used to elicit responses from the respondents on their socio-economic characteristics, cattle ownership status, cattle management systems adopted and productivity outcomes resulting from the adopted management systems, among many other relevant questions. Data obtained was analysed using descriptive statistics such as frequency distribution. Inferential statistics such as correlation analysis was also used to determine the strength of joint movement between any two or more variables of interest as well as the direction of the joint movement.

RESULTS

Table 1: Socio-economic characteristics of head of farming households

Variable	Frequency	Percentage	Cumulative percentage
<u>Age of Household head</u>			
20 to 30 years	19	19.0	19.0
31 to 40 years	43	43.0	62.0
Above 40 years	38	38.0	100.0
Total	100	100.0	
<u>Marital status of household head</u>			
Single	13	13.0	13.0
Married	87	87.0	100.0
Total	100	100.0	
<u>Sex of Household head</u>			
Male	69	69.0	69.0
Female	31	31.0	100.0
Total	100	100.0	
<u>Educational status of household head</u>			
No formal education	36	36.0	36.0
Primary education	17	17.0	53.0
Secondary education	40	40.0	93.0
Tertiary education	7	7.0	100.0
Total	100	100.0	

Source: Field Survey, 2014

Table 2: Cattle size being managed

Head(s) of cattle	Frequency	Percentage	Cumulative percentage
Below 30	65	65.0	65.0
Between 21 & 30	25	25.0	90.0
Between 31 & 40	7	7.0	97.0
Above 40	3	3.0	100.0
Total	100	100.0	

Source: Field Survey, 2014

Table 3: Cattle ownership status

Ownership status	Frequency	Percentage	Cumulative percentage
Own cattle/herd	24	24.0	24.0
Custodian by commission	28	28.0	52.0
Custodian without commission	48	48.0	100.0
Total	100	100.0	

Source: Field Survey, 2014

Table 4: Cattle Management System

	Frequency	Percentage
<u>Intensive System</u>		
Total confinement	38	38.0
Fodder crops fed	26	26.0
Concentrate fed	24	24.0
Total	88*	88.0*
<u>Semi-Intensive System</u>		
Night confinement	15	15.0
Concentrate fed	0	0.0
Fodder crops fed	8	8.0
Freely range at daytime	13	13.0
Tethered occasionally	3	3.0
Total	39*	39.0*
<u>Extensive System</u>		
Free ranging	47	47.0
No tethering	44	44.0
No confinements	47	47.0
Total	138*	

Source: Field Survey, 2014, * figures appear higher than the total number of respondents due to multiple responses for each management system.

Table 5: Cattle rearing supplementary occupations

	Frequency	Percentage	Cumulative percentage
Civil servant	0	0.0	0.0
Farmer	57	57.0	57.0
Trading	32	32.0	89.0
Others	11	11.0	100.0
Total	100	100.0	

Source: Field Survey, 2014

Table 6: Correlation analysis of selected cattle rearers' characteristics

		Age of respondent	Educational attainment	Years of experience	Cattle rearing status	Asset insurance
Age of respondent	PPMC sig(2tailed)	1	0.021	0.865***	-.268	-.399*
Educational attainment	PPMC sig(2tailed)	0.021	1	-.192	0.000	-.098
Years of experience	PPMC sig(2tailed)	0.865***	-.192	1	-.168	-.094
Cattle rearing status	PPMC sig(2tailed)	-.268	0.000	-.168	1	0.587***
Asset insurance	PPMC sig(2tailed)	0.253	1.000	0.478	0.478	0.007
	PPMC sig(2tailed)	-.399*	-.098	-.094		1
	PPMC sig(2tailed)	0.081	0.680	0.693	0.587***	0.007

*significant at 0.10 level, **significant at 0.05 level, ***significant at 0.01 level

Table 1 shows the age distribution of the cattle farm owners/managers. The largest proportion of the respondents (43%) were between the age of 30 and 40 followed by those who were above 40 years (38%). A relative small proportion of the respondents were less than 20 years of age. It also showed that a small percentage of the cattle farm owner/ managers were single (13%) while a large proportion of the respondents were married (87%). The socio-economic characteristics from the table also showed that cattle ownership/management was dominated by male residents (69%) compared to 31% of the female residents. More than a third of the respondents (36%) had no formal education while the larger proportion of the respondents had secondary school education as their highest qualification (40%); 17% of the respondents had primary education as their highest education qualification while less than a tenth had a tertiary education (7%).

Table 2 shows the size of cattle owned or managed by the respondents. Among the respondents, a relatively small size of cattle was observed among the majority (65%) with less than 30 heads of cattle. About a quarter of the respondents had cattle size between 30 and 40 heads (25%) while a tenth of the respondents had cattle size above 40 heads.

Table 3 shows the cattle ownership status of the respondents with about just a quarter of the respondents being owners of the cattle being managed (24%), while almost half of the respondents were custodians who were not paid any commission for managing the herds (48%). The remaining 28% of the respondents were managing the cattle in their custody for a fee or commission.

Table 4 shows the cattle management system adopted by the respondents. It is shown in the table that not more than 38% of the respondents practiced the intensive system of cattle rearing. This 38% of the respondents practiced total confinements of the animals with 26% of this percentage feeding the animals fodder crops while 24% of the respondents fed the animals with concentrates. Again, not more than 15% of the respondents practice semi-intensive system; of this, only 8% feed their animals fodder occasionally while 13% allow their animals to range freely. None fed their animals concentrate in this case. Only 3% of the respondents practicing semi-intensive system tether their animals.

Table 5 shows the alternative job types engaged in by the respondents. None of the respondents was employed in the civil service while majority of the respondents were farmers (57%) while 32% were traders; the remaining 11% were involved in other forms of income generating activities like handcraft.

Table 6 shows the correlation analysis for selected socio-economic variables against the use of cattle as insurance asset in times of financial crisis and ownership status of cattle. The result shows a significantly very strong positive relationship between the ages of respondents and the years of experience gained in cattle rearing ($p < 0.01$). There was a significant relatively weak negative relationship between the ages of respondents and

their use of cattle as an insurance asset ($p < 0.1$). There was also a significantly relatively strong positive relationship between cattle ownership status and the use of cattle as an insurance asset ($p < 0.01$).

DISCUSSION

Findings from the research showed that large livestock like cattle are usually not owned or managed by individuals who are advanced in age, as those among the respondents who were less than 20 years, owning or managing cattle was less than a fifth of the total respondents interviewed (19%). Age as a restrictive factor could be an outcome of the younger rural population have lesser financial means to purchase or own large livestock like cattle and the lesser available time to cater for only cattle to the exclusion of other economic activities since cattle tend to be attention demanding compared to other smaller livestock like goats and sheep. It was also discovered that most of the cattle owners/managers were married and were mostly male confirming the position of Egahi *et al.* (2012) that livestock ownership pattern was age restrictive and gender sensitive. Of course, it is common logic that cattle ownership would be dominated by the men and not by women who are easily intimidated by the large size of the animal. The highest educational qualification of the cattle owners/managers was also divers, showing that most of the respondent had a secondary school leaving certificate.

Cattle size owned/managed by majority of the respondent was less than 30 heads of cattle probably due to ease of access to credit or funds to have/maintain larger sized herds. Credit needs especially for resource poor rural dwellers with little or no collateral security is a major limitation to cattle ownership and a major culprit in perpetuation of poverty in rural areas.

The study also found out that about 1 of every 4 cattle herd was being kept or managed by their owners in the rural area. The implication of the above is that 3 of every rural cattle herd in the study area are owned by perhaps people within the community who had means to procure and raise cattle but lacking the requisite time or skill; or they may be owned by others who are resident in urban areas but recourse to rural areas for farming where requisite labour, skills and grazing land are ample and cheap. Thus, if the financial opportunities abound for the rural dwellers, the probability remains high that more rural dwellers would own their cattle herd, increase income and break the vicious circle of poverty that they would otherwise be enmeshed in.

Ettu (2012) identified the most problematic of all the problems of livestock as technical factors under which is feeding. If done inadequately, it has implications on the quality of livestock production. Major fallout of the challenge of feeding in livestock rearing is the adoption of management practices that allow for animals to supplement whatever feed they can provide, or in some cases, the animals are allowed to roam freely and source for food. As Ettu (2012) pointed out, it is some of these poor management practices that are responsible for low

productivity among livestock farmers in Nigeria. Findings from this research showed that about 4 in every 10 of the respondents practice intensive system of cattle rearing while about 5 in every 10 of the respondents practice extensive system with little or no supplementary feeding to complement the animals foraging during the day. This has implications for productivity and on the income potentials of the cattle enterprises (Dayo *et al.*, 2009)

The type of occupation majority of the respondents had was farming and trading which are occupations which demand lesser time than occupation types such as the civil service. Time availability is arguably one of the key determinants of the possibility of being cattle rearer, a possible reason why those who are advanced in age and retired consider it as an alternative source of income (Osho and Fasina, 2006).

Cattle were used as insurance asset when the farmers fall on hard times. However, it was discovered in this study that it was less frequently used among the older respondents than among the younger respondents. A possible explanation could be that the younger farmers are likely to have lower asset base available for liquidity compared to the older farmers who are likely to have gathered a larger asset base over the years from which to liquidate any financial crisis they may be faced with. Of course, the life cycle hypothesis of wealth explains this better (Jhinghan, 2010). The study also found that the use of cattle as insurance asset was more common among the cattle owners than among the managers, as logic suggests.

CONCLUSION

- i. It can be concluded that rearing of large animals like cattle is age and gender restrictive with the older farmers and those of the male sex being favoured.
- ii. Cattle size owned and managed by the rural farmers was largely limited by access to credit required for expansion of the cattle business.
- iii. Availability of time was a key factor responsible for cattle rearing with those who had more time at their disposal being more predisposed to cattle rearing.
- iv. Cattle were considered an asset that could be easily liquidated in times of difficulty and serve as an insurance against unexpected risks.

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