A study of rural livestock farmers' patronage of veterinary services for healthcare of small farm animals in Ogun State

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Abstract

This study on rural livestock farmers was conducted with a view to assessing the extent of patronage of veterinary services by the farmers in Ogun State, Nigeria. A multistage random sampling was used to select one hundred and twenty (120) livestock farmers, with a bias for small farm animals. Goat, sheep, rabbit, pig and chicken constituted the common small farm animals raised by the selected farmers. It was however observed the small farm animals were infected by certain pests and diseases that call for treatment. About 63.3 percent of the respondents take to self-treatment of their animals, using local control measures. Out of the remaining 36.7 percent of the respondents that patronised the veterinary services, only about 6.7 percent of them do so regularly. A chi-square test of the relationship between the socio-economic characteristics of the livestock farmers and patronage of the veterinary services (at 5% significant level) shows that there was significant relationship between patronage and age, educational status and experience in livestock management by the farmers. Also a test of correlation relationship between the cost of veterinary services and patronage shows a significant relationship between the two variables ($r_{\text{cal}} = 0.087$, and $r_{\text{tab}} = 0.574$ at 5% significant level). It was thus concluded that rural livestock farmers' patronage of the veterinarian services was low in Ogun State, with recommendations that the extension agency in the state should intensify effort in promotion of veterinary services among the livestock farmers for patronage

Key words: Rural livestock farmers, Patronage, Veterinary service, Healthcare and Small farm animals

Introduction

The dictum, "prevention is better than cure" applies, not only to ensuring a good health status of man at all times, but also to that of farm animals. This implies that a good livestock management routine should be put in place to prevent the outbreak of animal diseases and/or pest infestation among the farm animals, than to control them. According to Bourdin (1980) and

ILRI (1995), attack of farm animals by pests and diseases militate against the expansion of livestock production, and could be costly in terms of death, reduced performance and curative treatment. For instance, as indicated by ILRI (1995), diseases such as tick-borne diseases, anaplasmosis and babesiosis cost a total loss of about US\$ 170 million dollars per annum, while trypanosomosis costs about US\$500 million

dollars a year in Africa. In the same vein, Williams (1993) indicated that social loss in production efficiency caused by animal diseases range between US\$0.3 million in Zimbabwe to US\$141.5 million dollars in Nigeria between 1984 and 1986. It also brought about social losses in consumption to about US\$5.8 million and US\$660 million dollars in the two countries respectively. This notwithstanding, treatment of any infected farm animals becomes essential, as neglect of such animals would result in death.

Although, the rural livestock farmers are aware of the need to keep their farm animals in good health, they often do so through the use of traditional (indigenous) method of medicare for the treatment of the animals. This practice may not be sufficiently enough to ensure a good health of the animals due to poor knowledge and understanding of the aetiology of animal pests and pathology of animal disease by the farmers. Hence they would have succeeded in treating the observable symptoms of the disease without dealing with the parasite or actual cause of the diseases. This implies that the rural livestock farmers could not, and do not carry out proper diagnosis required for the purpose of administering the appropriate treatment. It therefore, suggests that rural farmers need to be assisted by resource person having good knowledge of the causative agents, mode of transmission and symptoms of the disease and pest for proper diagnosis of their farm animals. By this, it will be possible to administer appropriate curative and/or preventive measure for control of the farm animal diseases/pest (Blowey, 1993). To achieve this, the service of a veterinarian thus becomes essential. Over the years, the state extension agency, Ogun State Agricultural Development Programme (OGADEP), has promoted the potential merit of veterinary services, such as mange and PPR control, regular deworming and treatment of

livestock wounds etc., among the rural livestock farmers as proven animal health technology for adoption. It thus becomes essential to assess whether or not the farmers are making use of the services of the veterinarian for the treatment of their infected farm animals. Therefore, the study intends to:

1. describe the socioeconomic characteristics of the rural livestock farmers in Ogun State;
2. identify the small farm animals reared by the farmers and the farm animal pests and/or diseases commonly experienced by the farmers in the study area;
3. highlight the control and/or treatment measures employed by the farmers;
4. determine the extent of patronage the of the veterinary services by the livestock farmers;
5. examine the cost of the veterinary services patronise by the livestock farmers.

Hypotheses of Study:

H₀₁: There is no significant relationship between the socioeconomic characteristics of the livestock farmers and their patronage of the veterinary services

H₀₂: There is no relationship between the cost of veterinary services and patronage of the service by the livestock farmers

Materials and Methods

The study was carried out in Ogun State, Nigeria. The state covers a land area of about 16,409.26 square kilometre and falls between longitude 2°45'E and 3°55'E and latitude 7°0'N and 7°18'N. The state has humid agroclimate characterised by wet season of about eight months and dry season of about four months. The mean average rainfall distribution per annum was about 1400mm (Lawal-Adebawale, 2002) and relatively constant temperature of about 29°C

and humidity of about 80 percent. Rainfed agriculture is the dominant agricultural practice in the state with majority of the farm households producing arable crops such as maize, cassava, yam, melon, spices and vegetable. However, quite a number of them also rear small farm animals such as goats, sheep, rabbits and pigs, for economic purpose.

A multistage random sampling technique was used to select 120 of the farmers across the four agricultural zones in the state. This was attained by random selection of two blocks from each of the four zones to give a total of (2 x 4) eight blocks. From each block was selection of four cells to give a total of (4 x 8) 32 cells and from each cell, four livestock farmers were selected to give a total of (4 x 32) 128 respondents. However, eight of the respondents' responses to the interview schedule were later discarded due to inconsistency with other responses during data analysis, thereby leaving the total number of respondents that were eventually analysed at 120 respondents. Primary data on livestock farmers' socioeconomic characteristics, type of small farm animals raised, pests and diseases common to their livestock, treatment employed and frequency of patronage of veterinary services were obtained from the respondents through the use of interview schedule, focus group discussion and field observation for over a period of eight months in 2005.

Obtained data was subjected to both descriptive and inferential statistical analysis with a view to drawing sound conclusion and recommendations based on the research findings.

Results and Discussion

Socioeconomic Characteristics of the Livestock Farmers

Respondents in the study practised mixed farming in which food crops were cultivated alongside farm animal rearing. About 37.5 percent

of them however, take up livestock production as their major enterprise in addition to crop production while the remaining 62.5 percent were much into crop production than animal rearing. This could be because crop production does not require much investment as required by farm animal production. It is relatively less expensive to acquire crop production factors such as farmland, seeds, labour and other necessary inputs for crop cultivation than for animal production which requires much, even on a small scale, in terms of stock acquisition, feeding, healthcare and other management routine. This notwithstanding, the farm households still value the social and economic importance of farm animals and this might be why most of them reared farm animals alongside crop production.

Although, the male farmers dominate the ownership of the farm animals, their female counterpart were much responsible for the care and management of the farm animals. Not only that they feed the animals, but also ensure their safety and good health.

Over 70 percent of the farmers were married with average family size of about 8 persons per household. It is believed that other members of the household play significant part in the care of the farm animals. The mean age of the respondents was about 46 years, with average farming experience of about 16.2 years in livestock production. The wide difference between the average age and experience of the farmers is an indication that production of farm animals as farm enterprise is relatively recent among the respondents. This is ironical given the long years of history of the small animals and their use for social and economic purposes in Nigeria.

Common livestock production by the farmers

Table 1 shows that the common farm animals raised by farmers in the study area include sheep, goats,

rabbits, pigs and poultry. Goat was the most common small farm animal raised as indicated by 36.7 percent of the farmers. In line with Iyayi and Tona (2004) indication, goat keeping is more common amongst the rural livestock farmers probably due to their ability to thrive and survive on their own with little or no care. This was followed by sheep and poultry as observed with 33.6 percent and 14.2 percent of the respondents, respectively. These animals, alongside the goats were produced for social, economic and consumption purposes by the farm households. The low level at which pig was raised by the farmers might be due to religious and social dislike of the animal. However, the farmers raised these animals in combination of two or more, with sheep and goat standing out as duo livestock production, followed by sheep, goat and poultry production.

Table 1. Commonly raised small farm animals by farmers (120)

variables	frequency	percentage	mean/mode
Sheep	76	33.6	
Goat	83	36.7	
Rabbit	26	11.5	Goat
Pig	9	4.0	
poultry	32	14.2	
Total	226*	100	

Source: Field Survey (2005)

*Multiple responses

Common pests and diseases of animals in the study area

Table 2 shows the pests and diseases that have one time or the other affected the small farm animals (specifically sheep and goat) in the study area. Lice was identified as the most common pest of farm animals by 51.2 percent of the farmers, followed by mites as indicated by 40.5 percent of them. Tick was however, very low as known pest of livestock. Identified diseases of farm animals, on the other hand, include diseases such as stomatitis pneumoenteritis complex (kata/

PPR), dermatitis, foot rot, mange and caprine/ovine mastitis. Mange was the most common disease as indicated by 28 percent of the farmers. This is followed by kata and caprine/bovine stomatitis indicated by 16 percent and 14.9 percent of the respondents, respectively. Although, the farmers could not give the scientific name of these pests and diseases, they were able to describe the symptoms based on which the highlighted diseases were identified. The pests were however, identified by physical examination of the body of the animals. Such diseases have resulted in death of some of the animals, and in their being inactive and low production performance. This occurrence, as indicated by Owai (2003) call for the need to educate the farmers on the importance of preventing, and how to prevent the attack of pests and diseases on their livestock as this will save them the cost of having to treat the animals and from death.

Table 2. Common pests and diseases of small farm animal (sheep and goat)

variables	frequency	percentage	mean/mode
Pests			
Tick	14	8.3	
Lice	86	51.2	Lice
Mites	68	40.5	
Total	*	168	100
Disease			
Caprine/ovine mastitis	26	14.9	
PPR/Kata	28	16.0	
Dermatitis	17	9.6	Mange
Foot rot	25	14.4	
Mange	49	28.0	
Wound/injury	30	17.1	
Total	*	175	100

Source: Field Survey (2005)

*Multiple responses

Pests and diseases control methods

To prevent any of the infected animals from dying, the available option is to subject the animal to good treatment. In this wise, table 3 shows that most of the farmers, constituting 63.7 percent, take up the treatment by themselves, especially in the case of pest control. Commonly applied therapy include, bathing or smearing the animal

with used engine oil, izal, or mixture of kerosene and camphor. These recipes are known to have lethal effect on the pests, and since the farmers can make use of them with relative ease, they animals are thus effectively treated of any pest attack. It is however, not always easy for the farmers to treat disease as they do for pests, because diagnosis is required before an appropriate medication could be effectively administered. This of course can only be effectively handled by competent and skilful veterinarian. Although, farmers may have developed traditional medication for some or all these diseases, such as the use of herbs, this may not be as effective as the treatment a veterinary doctor would administer. This accounted for why about 36.7 percent of the livestock farmers employ the services of the veterinarian for treatment of diseases of their farm animals. This observation is similar to Weiser (1994) indication that rural livestock farmers employ both the traditional and modern methods of livestock disease and pest control.

Table 3. Methods pests and disease control by farmers (120)

variables	frequency	percentage	mean/mode
Treatment source			
Self treatment	76	63.3	Self treatment
Veterinarian service	44	36.7	
Total	120	100	
Pest treatment			
Used of engine oil	41	23.2	Use of Izal
Hand picking	47	26.5	
Izal	53	30.0	
Kerosene + camphor	36	20.3	
Total *	177	100	
Disease treatment			
Herbs	59	49.1	Use of Herbs
Drugs	28	23.3	
Vaccination	33	27.5	
Total	120	100	
Frequency of patronage			
Always			No patronage at all
Occasionally	8	6.7	
Rarely	12	10.0	
Never	24	20.0	
	76	63.3	
Total	120	100	

Source: Field Survey (2005)

*Multiple responses

Table 4. Average cost of the veterinary services patronised by the livestock farmers

Cost of veterinary services patronage	Frequency	Percentage Δ	Mean/mode
$\leq$ ₦1000	44	100	₦1774.19
₦1001 – 2000	39	88.6	
₦2001 – 3000	17	78.6	
₦3001 – 4000	13	29.5	
₦4001 – 5000	9	20.5	
$>$ ₦5000	2	4.5	
Total *	124		

Source: Field Survey (2005)

*Multiple responses

Δ Percentage was based on the 44 livestock farmers who patronised the veterinary services

However, only about 6.7 percent of the respondents always employ the services of the veterinary doctor whenever their farm animals are sick and about 10 percent of them does so occasionally. While 20 percent of the farmers rarely visit or welcome the veterinarian for treatment of their farm animals, about 63.3 percent of them never patronise the veterinary services at all. Based on this, it was realised that farmers in the study area have low patronage of the veterinary services. Adduced reasons for such low patronage include inaccessibility and inability to meet the cost of services rendered by the available veterinarian. For instance, out of the 44 livestock farmers who patronise the veterinarian services, only about 38.6 percent of them can afford the veterinarian services that cost more than ₦2000.00 per livestock treatment. Majority of them, constituting about 88.6 percent, can only afford services that do not cost more than 2000.00 per livestock treatment. On the average however, the rural livestock farmers can readily afford veterinary services that cost about ₦1774.86 (table 4). In view of this, it thus behoves the extension agency responsible to the farmers in the study area to put up veterinary services as part of its programme and/or link the livestock farmers to qualified veterinary personnel for easy access and patronage, and such services may need to be subsidized so that farmers could afford its cost.

Farmers' patronage of veterinary services

Summary of result of hypotheses:

From table 5 result of the chi-square analysis of the relationship between the socioeconomic characteristics of the livestock farmers and their patronage of the veterinary services shows that age, farming experience and level of education have significant relationship with patronage of the veterinary services. This implies that older farmers who have acquired a wealth of experience in livestock management, especially in control of pests and diseases of the livestock, know the worth of the veterinary services and as such have favourable disposition to patronage of the services. Such disposition or patronage could have been motivated by the certain level of formal education have acquired, because education makes them, not only enlightened, but also empowered to take sound decision to patronize their veterinary services for up-keep of good health of their livestock. In this wise, young, less experienced livestock and uneducated

livestock farmers need to be educated by the extension agents on the importance of, and worth of patronising the veterinary services, most especially for maintenance of good health of their livestock.

Table 6 shows the correlation result of the relationship between the cost of veterinarian services and patronage of the service, in which a significant relationship was observed between the two variables. This suggests that the cost of the veterinary services determines the extent to which the livestock farmers patronise the services. If the service charge were too high, this may discourage the farmers from patronising the services of the veterinarian, but if low, it will motivate patronage of the services.

However, given the cost of animal drugs and other medication which make the veterinary service expensive, there is need for supporting the livestock farmers financially so that they meet up with the demand of the veterinary services.

Table 5: Chi-square analysis of the relationship between the socioeconomic characteristics of the livestock farmers and their patronage of the veterinary services

Variables	X^2_{cal}	X^2_{tab}	df (α 0.05)	P value	Decision
Age	22.159	21.03	12	0.036	S Reject H_{01}
Gender	6.156	7.83	3	0.043	NS Accept H_{01}
Marital status	6.998	12.59	6	0.321	NS Accept H_{01}
Educational status	28.117	21.03	12	0.005	S Reject H_{01}
Farming experience	24.055	16.92	9	0.040	S Reject H_{01}

Source: Field Survey (2005)

Table 6: Correlation relationship between the cost of veterinarian services and patronage of the service by livestock farmers

variables	r_{cal}	r_{tab}	df (α 0.05)	Decision
Cost and patronage of service	0.087	0.574	16	S Reject H_0

Source: Field Survey (2005)

Conclusion and recommendations

It was observed by this study that most of the livestock farmers raised small farm animals under extensive and semi-intensive management, but with poor routine management which predisposes their animals to disease and pest infestation. Although, most of the farmers (about 63.3 percent) embarked on indigenous method of treatment, some of them (constituting 36.7 percent) called on the veterinary services for treatment. It was however observed, that high cost of veterinary services discouraged the farmers from regular and consistent patronage of the services. In this wise, the following recommendations were suggested as a way to ensure good livestock routine management practices and encouragement of patronage of the veterinary services:

1. The livestock farmers should have good livestock routine and hygienic management
2. Farmers should examine the body of their livestock regularly for quick detection of injury and infestation and separate any infected animal(s) from the non-infected ones.
3. There should be occasional vaccination of the farm animals so as to prevent the animals from being attacked by pests and diseases, especially during disease outbreak
4. The state extension agency should promote veterinary services among the livestock farmers for patronage
5. Government should subsidise veterinary drugs and services so as to make it affordable for the livestock farmers.

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