

OPERATIONAL MODES OF PROVIDING LINKAGE BETWEEN
VETERINARY EXTENSION SERVICE AND LIVESTOCK
FARMERS IN OGUN STATE, NIGERIA

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ABSTRACT

The study was conducted to (1) determine the kinds of veterinary extension services that are provided to livestock farmers; (2) determine the frequency of farmers contact with extension agents in relation to the extent of adoption of animal health innovations, and (3) identify the various constraints to veterinary extension service in the area of the study.

Multistage sampling technique was used to randomly select 120 livestock farmers and eight veterinary agents from Ogun State, Nigeria, as respondents to a structured interview schedule and a structured questionnaire respectively. The instruments sought to elicit information on the frequency of contact between the agents and the livestock farmers; on the frequency of contact on each of the various services provided to the farmers; and on the constraints to adoption of animal health innovations by farmers. Relative frequency and chi-square (χ^2) analysis were carried out on the data collected.

Findings of the study revealed that livestock farmers that had contacts with veterinary agents had higher rate of adoption; that the agents had preference for large scale/commercial farmers at the expense of small to medium scale farmers; and that the agents engaged more in vaccination of animals, supply of vaccines, drugs and other animal health care inputs; and meat inspection.

The need for and the strategies to make agents to also focus appropriately on the educational and communication dimensions of veterinary extension service are highlighted by the study.

Key Words: Linkage, Veterinary Extension Service,
Livestock Farmers.

INTRODUCTION

Veterinary extension has developed within the Agricultural Extension service system with the primary

function of educating livestock owners on the prevention and control of livestock diseases; and treatment of diseased animals. Also, it educates the general public on livestock diseases

that are communicable to man through consumption of animal products such as milk and meat, and in some cases through contact with a diseased animal; and on how best to avoid getting infected by such diseases.

The 1991 Annual Report of the Ogun State Ministry of Agriculture and Natural Resources listed the activities of the veterinary division to include:

1. Keeping the stock and domestic animals in good health through the prevention, control and treatment of their diseases in order to enable them provide good quality protein in the form of meat, milk, etc., for the use of the community.
2. Offering educational services to all livestock owners and potential farmers on all aspect of livestock production to enable them to avoid errors of management, hygiene, nutrition, etc. which predispose animals to various disease conditions.
3. Providing effective up-to-date diagnostic services to serve as complimentary aids in providing a near efficient veterinary service.
4. Identifying animal diseases enzootic and conducting research and fully investigating them so as to completely determine the etiology and evolve effective methods of treatment and control.
5. Controlling movement of animals.
6. Preventing and controlling transmission of diseases of animals which are communicable to man (Zoonoses).
7. Ensuring that meat and meat products intended for human consumption are safe and wholesome, and that they are hygienically prepared.
8. Maintaining a high standard of flaying and drying of hides and skins, and extending tanning technologies to tanners.
9. Liaising with Federal and other State veterinary services as well as educational and international veterinary bodies on matters relating to animal diseases diagnosis and control.

The activities of the veterinary division, as stated above, show that veterinary extension aims specifically at increasing productivity, promoting sound health and quick marketability of animals products through the provision of up-to-date information to livestock farmers on prevention, control and treatment of animal diseases. Veterinary extension service forms a major strategy towards the realization of a policy goal of increasing protein intake per head of the population.

Nigeria is endowed with about 200 million livestock and they provide income, employment, food, farm energy, manure, fuel and transport for rural people (Abdu *et al.*, 1994). However, disease constitutes the most important limitation to livestock farming in Nigeria. Government has made frantic efforts at solving problems of livestock diseases but such efforts have met with little success in the past due to lack of effective veterinary extension service programme.

According to Sackey *et al.* (1994), Kamara (1985), Swoope (1978) and Johns (1978), veterinarians protect the health of animals and also play extremely important roles in the control of over 80 human ailments which may be acquired from animal sources; and the protection of the public from diseases transmissible through food supplies. David-West (1987) stressed the importance of veterinarians in effecting animals' protection against ravaging epidemics, "it is sad history to reflect today on the socio-economic effects of the 1983 rinderpest disaster which costs Nigeria ₦500 million".

Prior to the establishment of veterinary services in the country, efforts made to improve livestock production proved abortive due to the presence of animal diseases (Esebuio, 1979). But due to the efforts of veterinarians, David-West (1987) reported an increase in cattle population in Nigeria from 3.5 million in 1918 to over 10 million today. Sackey *et al.* (1994) and Abdu *et al.* (1994) also acknowledged the contributions of veterinarians to the improvement of livestock productivity in general. Veterinarians role in public health was also acknowledged by Okolocha and Kabir (1994).

Although veterinary practice commenced in Nigeria as early as 1914 and

despite the availability of about 1,400 registered veterinary surgeons in Nigeria today, the nation's livestock resources are yet to witness desirable level of improvement. Specifically, the Veterinary Division in Ogun State of Nigeria claimed in its 1991 Annual Report to have disseminated information on the prevention, control and treatment of animal diseases but the declining productivity of livestock farmers is yet to be reversed as there continues to be slow rate of increase in the number of animals and animal products available for consumption and for sale within the State.

The low returns to the veterinary extension efforts claimed by the State, as indicated above, inspired an investigation into the operational modes of providing veterinary extension service to livestock farmers in the State. This was to determine the level of emphasis placed on educational and communication aspects of extension service in relation to other aspects such as clinical services, veterinary drug supplies, public health services, vaccination, treatment of diseased animals, commercial and regulatory activities.

Specifically, the objectives of the study were to (1) determine the kinds of veterinary extension services that are provided to livestock farmers; (2) determine the frequency of farmers contact with extension agents in relation to the extent of adoption of animal health innovations; and (3) identify the various constraints to veterinary extension service in the area of the study.

RESEARCH METHODOLOGY

The study was carried out in the four divisions (Egba, Egbado, Ijebu and Remo) comprising Ogun State, Nigeria. Each division has about five veterinary stations from where services are provided to livestock farmers in the surrounding towns and villages. Thirty livestock farmers were randomly selected through balloting technique from each of the four divisions to make a total of 120 that responded to an interview schedule. Also, two veterinary officers were randomly

selected through balloting technique from each of the four divisions in the State to make a total of eight that responded to a questionnaire. The instruments were structured to obtain information mainly on the frequency of contact between veterinary extension agents and livestock farmers; and the extent of veterinary agents' contact on each of the various services provided to farmers in the State i.e. vaccination of animals and clinical services, meat inspection, supply of animal health care inputs, and educational and communication services. Information was also obtained on constraints to adoption of animal health innovations by livestock farmers. Percentage analysis and chi-square test were applied to the data collected and they were used to describe the results of the analysis.

The three major hypotheses tested in the study are as follows:

- HO₁: There was no significant relationship between adoption of animal health innovations by livestock farmers and their contact with veterinary extension agents.
- HO₂: No significant relationship existed between frequency of visits to livestock farmers and the various constraints faced by veterinary extension agents.
- HO₃: There was no relationship between agents' contacts with livestock farmers, and the extent to which services were provided to such farmers in terms of: (a) vaccination of animals, (b) supply of animal health care inputs, (c) animals and meat inspection, and (d) educational and technology dissemination services.

RESULTS AND DISCUSSION

(a) The Veterinary Extension Agents:

The veterinary agents who served as respondents in the study were within the active age range of 30-50 years with 50.0 per cent holding the Doctor of Veterinary Medicine (DVM) degree certificate and the remaining 50.0 per cent were holding HND Animal Production Technology and

Health certificate. None of them had less than five years experience on the job and majority (62.5%) had between 51-100 livestock farmers on their client list. While 50.0 per cent of them claimed to have been visiting their farmers "when necessary", 25.0 per cent were visiting monthly and 12.5 per cent each visited fortnightly and on weekly basis. The extension methods most commonly used by the agents were demonstrations (87.50%) and public enlightenment campaigns (50.0%). The type of veterinary services provided mostly to livestock farmers were: animals and meat inspection (100.0%), supply of animal health care inputs (100.0%), administration and supply of veterinary drugs (87.50), and treatment of diseased animals (75.0%). On the other hand, 37.50 and 25.0 per cent have been disseminating information and educating farmers respectively on prevention, control and treatment of livestock diseases. The agents identified lack of means of transport and high costs of vaccines and drugs as the major constraints to their effective functioning.

(b) The Livestock Farmers:

Majority (56.67%) of the livestock farmers were over 50 years in age while the remaining 46.33 per cent were within 31-50 years age range. They comprised 75.0 per cent males and 25.0 per cent females. Majority (74.17%) were married and about 78.3 per cent of the farmers had between 6-12 years of formal schooling which suggest that most of them are literate and therefore are likely to readily benefit from extension services. None of the farmers had less than five years of experience in livestock farming. About 74.2 per cent had no other job apart from farming and 77.5 per cent had annual income less than ₦12,000. This shows that they were mostly small scale farmers.

About 40.8 per cent of farmers claimed to be contacting veterinarians in respect of diseased animals while the remaining 59.2 per cent used other means such as traditional animal health practices to solve such problems. According to the farmers, they became aware of veterinary extension activities through other livestock farmers

(31.2%), veterinary agents (24.2%), public enlightenment campaigns (17.5%), publications (10.0%) and other sources such as veterinary drug salesmen, posters, etc. (16.6%).

Table 1 shows that 32.5 per cent of the total number of respondents claimed that they had never had contacts with veterinary extension agents while 27.5 per cent had occasional contacts. Among the remaining 15.8 per cent had contacts monthly, 15.8 per cent had contacts fortnightly, 5.0 per cent had contacts weekly and 3.3 per cent had contacts daily with the agents. All the farmers (100.0%) claimed that none of the various types of veterinary extension services were adequately provided to them by the agents.

As shown in Table 2, the farmers attributed difficulties in adopting animal health innovations to: lack of credit facilities (80.83%), high costs of drugs and vaccines (74.16%), inadequate information and lack of training and educational programmes on animal health innovations (60.0%) and inability to acquire standard equipments and facilities which could promote good health of animals (52.50%).

(c) Testing Hypotheses:

The results of the tested hypotheses are summarised in Table 3 and are discussed as follows:

- 1) The result obtained on the first hypothesis (H_{01}) shows that significant relationship existed between adoption of animal health innovations and livestock farmers' contact with veterinary extension agents. This study found out that livestock farmers that were more frequently and more regularly contacted by veterinary extension agents had higher rate of adoption of animal health innovations.
- 2) With regards to the second hypothesis (H_{02}), no significant relationship existed between frequency of visits to livestock farmers and the various constraints faced by veterinary extension agents. The constraints listed by the agents are: lack of means of transport, high cost of vaccines, drugs and other animal health care inputs; lack of the required materials and incentives

for the agents, and inadequacy of the equipments and facilities required for effective job performance. But the respondents of this study, who were mostly small scale livestock farmers, held strongly to the view that the agents concentrated more on vaccination of animals, supply of animal health care inputs, and animal and meat inspection which endeared them more to large scale livestock farms and commercial projects. In practical terms, one can safely deduce that the view expressed by the farmers rather than the constraints listed by the agents must have limited frequency of contacts with small scale farmers by the agents.

- 3) Results of the third set of hypotheses ($H_{0_{3a}}$, $H_{0_{3b}}$, $H_{0_{3c}}$ and $H_{0_{3d}}$) show that significant relationships existed between veterinary agents' contacts with livestock farmers and services provided to such farmers in terms of: vaccination of animals, supply of animal health care inputs, and animals and meat inspection. In practical terms, this study revealed that veterinary agents made contacts with livestock farmers, most of the times, for purpose of vaccinating animals, supplying animal health care inputs, and for meat inspection. On the other hand, the result of the hypothesis on education and technology dissemination services ($H_{0_{3d}}$) shows that no significant relationship existed between veterinary agents' contacts with livestock farmers and provision of educational and technology dissemination services to such farmers (see Table 3). In practical terms, it means that veterinary agents made less contacts with livestock farmers for this purpose and that most of the contacts were made for the three other purposes mentioned earlier. This constitutes a great omission because 60.0 per cent of the respondents (livestock farmers) identified inadequate information and lack of training and educational programmes as a major constraint to adoption of animal health innovations.

Veterinary agents might have found it convenient or they might have been misoriented to believe that the major assignments for them as Animal Health Extension Officers are to vaccinate animals, supply vaccines, drugs and other inputs; and to inspect meat and other animal products meant for human consumption. By this, they might have been misled into neglecting some very cardinal dimensions of extension i.e. the educational and communication dimensions. These dimensions ensure steady access by farmers to useful and useable innovations, and ensure understanding and capability to use such innovations to improve on their levels of productivity.

In summary, the results of the tests of the third set of hypotheses ($H_{0_{3a}}$, $H_{0_{3b}}$, $H_{0_{3c}}$ and $H_{0_{3d}}$) have thus revealed that the operational modes through which veterinary extension agents most frequently linked up with livestock farmers in Ogun State of Nigeria are: (i) vaccination of animals, (ii) supply of vaccines, drugs and other animals health care inputs; and (iii) meat inspection. A fourth mode, i.e. provision of educational and technology dissemination services, was either neglected or not adequately focused on. This is most likely to have been the problem responsible for the continuing low rate of animal productivity despite the efforts claimed by the State veterinary extension service.

CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

The veterinary extension personnel in Ogun State of Nigeria, though few in number in relation to the population to the population of livestock farmers, had adequate professional training and experience with which they should be expected to perform their duties effectively. However, their operational modes were mainly through vaccination of animals supply of vaccines, drugs and other animal health care inputs; and through animals and meat inspection. There was total or near total neglect of educational and technology dissemination

services capable of bringing about higher rates of adoption of animal production and animal health innovations. Had such services been properly focused upon, they could have influenced livestock productivity to be increasing at the level of small to medium scale farmers who form the bulk of livestock producers in the State as well as in Nigeria.

The implication of this study is that the Veterinary Division of Ogun State Ministry of Agriculture and Natural Resources, and other similar agencies responsible for veterinary extension service all over Nigeria should pay adequate attention to and place appropriate emphasis on the provision of educational and technology delivery services to their livestock farmers. This will enhance the level of animal productivity at the farmers level which will aggregate to increased national productivity.

There is therefore the need to embark on a deliberately planned programme aimed at re-orientating veterinary extension agents to focus adequately on all relevant aspects of extension service. Such programme should include a series of activities aimed at developing the agents' competences in training and communication skills as well as in the preparation, selection and use of training aids. There is also the need for regular monitoring of the activities of the veterinary extension agents to ensure their prompt and appropriate attention to the needs of all categories of livestock farmers. Conscious efforts should also be made to increase the ratio of veterinary agents to livestock owners to ensure adequate and timely contacts between agents and livestock farmers.

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Table 1: Distribution of Farmers According to Frequency of Contact with Extension Agents

Frequency of Contact	Frequency	Percentage
Daily	04	3.30
Weekly	06	5.00
Fortnightly	19	15.83
Monthly	19	15.83
Quarterly	0	0
When Necessary	33	27.50
Never	39	32.50
Total	120	100.0

Table 2: Constraints to Adoption of Animal Health Innovations by Farmers

Constraints	Frequency	Percentage
Lack of credit facilities	97	80.83
High costs of drugs and vaccines	89	74.16
Inadequate information and lack of training and educational programmes on animal health innovations	72	60.00
Inability to acquire standard equipment and facilities which could promote good health of animals	63	52.50

Table 3: Summary of Results of the Tests of Hypotheses

Hypothesis	Characteristics	df	X ² cal	X ² tab	Remarks at 0.05 level of significance
H ₀ ₁	Adoption of innovations in relation to contact with veterinary agents	06	49.33	18.57	S
H ₀ ₂	Frequency of contact with livestock farmers in relation to the various constraints faced by veterinary agents	12	10.83	29.30	NS
H ₀ ₃	Agents' contacts with livestock farmers in relation to the extent to which services were provided in terms of:				
	(a) vaccination of animals;	06	24.25	12.59	S
	(b) supply of vaccines, drugs and other inputs;	06	77.18	12.59	S
	(c) animal and meat inspection; and	06	25.62	12.59	S
	(d) educational and technology dissemination services	06	11.43	12.59	NS

Note: X²cal = Calculated values of chi-square

X²tab = Table values of chi-square

df = Degree of freedom

S = Significant i.e. X²cal > X²tab

NS = Not Significant i.e. X²cal < X²tab