



## ASSESSMENT OF LIVESTOCK FARMERS' UTILIZATION OF VETERINARY SERVICES IN OSUN STATE, NIGERIA

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### ABSTRACT

The study was carried out to assess livestock farmers' utilization of veterinary services in Osun State, Nigeria. A multi-stage sampling procedure was used in selecting 90 respondents from the study area. Data were collected through the administration of questionnaire and analyzed using frequency counts, percentages and inferential statistics (correlation analysis). The results of the analysis shows that the majority (76.7%) of the respondents were male with a mean age of 47 years. The study also reveals that majority (87.8%) of the respondents had formal education with a mean farming experience of 9 years. The result shows that the level of utilization of veterinary services among respondents was relatively high, with a grand mean of 3.28 in the study area, this might be due to the high level of educational attainment. The correlation analysis of the socio-economic characteristics of the respondents towards the utilization of veterinary services was significant (at  $P < 0.05$ ) with Sex ( $P = 0.000$ ), Educational Attainment ( $P = 0.000$ ), Religion ( $P = 0.044$ ), Years of Farming Experience ( $P = 0.000$ ), Monthly Income ( $P = 0.000$ ), Farm Size ( $P = 0.001$ ). Constraints to utilization of veterinary services identified in this study includes high cost of hiring veterinary services ( $\bar{x} = 1.87$ ) ranked 1<sup>st</sup>, Use of fake injection and drugs ( $\bar{x} = 1.66$ ) ranked 2<sup>nd</sup>, Inadequate funds to acquire vaccines or drugs ( $\bar{x} = 1.61$ ) ranked 3<sup>rd</sup>, Scarcity of adequate drugs and vaccines ( $\bar{x} = 1.53$ ) ranked 4<sup>th</sup>. The study concluded that level of utilization of veterinary services in the study area is relatively high and is influenced by the sex, educational attainment, years of experience, income and farm size of the respondents'. The study recommended that the government set up more veterinary hospitals and clinics in different parts of the state to make veterinary services accessible and affordable by livestock farmers. Veterinary service providers and agencies should recruit qualified and certified veterinarians to meet up with the increasing number of farmers considering livestock keeping as a business.

**Keywords:** Farmers, Livestock, Services, Utilization, Veterinary and Services.

### INTRODUCTION

Livestock production is a source of employment and livelihood to many people in Nigeria as a whole. A large percentage of the people especially in the rural areas, satisfy their subsistence needs through livestock production which involves the rearing and marketing of livestock such as cattle, sheep, goats, pigs, and poultry which is very common in most households in Nigeria (Salau, 2019). However, livestock diseases remain a veritable threat to the animal production industry in Nigeria. Poor livestock health remains one of the main constraints to sustainable livestock development in many developing countries. Veterinary medicine's primary roots are in agriculture, public health and comparative biology. It is aimed at raising livestock productivity to enhance food security, improve human health by preventing zoonotic diseases, improving human well-being and animal welfare. Veterinary services are animal health services provided by professionals geared towards providing livestock farmers with animals' health and disease control, product and market development and animal production and preservation. The increase in productivity of livestock sector can be facilitated by availability and high quality of veterinary services. Veterinary services can be classified as curative services, preventive services, production of pharmaceuticals, human health protection, and advisory and extension services (Adesiji, 2018). The provision of veterinary services is a key component to the success of livestock production and also considered as a vehicle for reducing poverty among the small scale rural livestock farmers. Inputs such as feed, water, proper housing, good management practices



and record keeping are essential for profitable livestock production but without proper animal health practices there will be reduced efficiency and optimal profits. The role of the Veterinarian is to advise the livestock farmer on proper herd health management practices such as proper de-worming, vaccination, nutrition, environmental sanitation, disease prevention and control and treatment of animal illnesses (Achoja, 2020).

Livestock diseases remain a veritable threat to the animal production industry. Animal products are constantly under threat by diseases that affect livestock and hence reduce productivity. Endemic animal diseases such as *Helminthosis*, *Contagious Bovine Pleuropneumonia (CBPP)*, *brucellosis*, *mastitis*, *peste des petits ruminants (PPR)*, and many others have devastating impacts upon the animal industry leading to losses in hundreds of millions of Naira every year in developing economies like Nigeria (Bamaiyi, 2012 and Bhat *et al.* 2012). For instance, the poultry industry is even more devastated by viral infections such as Newcastle disease and *Infectious bursal disease (Gumboru)* in spite of several attempts at vaccinations. Some of the reasons for these may be vaccine failure and the involvement of quacks in fighting these endemic animal diseases in the country. In order to reverse this negative trend of heavy losses in the livestock industry efficient access and utilization of veterinary services by livestock farmers especially in the rural areas is sacrosanct (Olugasa *et al.*, 2013).

Veterinary services are considered as a vehicle for reducing poverty among the small scale rural livestock farmers. This is due to the fact that for livestock owners to prosper there is a need to control economically disruptive and development-inhibiting livestock diseases. These livestock plagues if not prevented could lead to periodic depopulation of herds and flocks as well as causing human diseases. Efficient veterinary services will also help in the control and prevention of *zoonotic diseases* (Diseases that are transferred from animals to humans). Animal-transmitted diseases such as *rabies*, *anthrax*, *tuberculosis*, *hydatid disease*, *brucellosis*, *salmonellosis* and many others affect both livestock farmers and consumers of livestock products (Bamaiyi, 2013). Veterinary science is, therefore, pivotal for the control of many zoonotic diseases. It is observed that most animal production activities in Nigeria are located in rural and remote areas which are inaccessible to proper veterinary services and many that are accessible find the high cost of veterinary services prohibitive. Hence the farmers 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. Fabusoro (2017) opined that in terms of control of livestock diseases, livestock farmers in Nigeria hardly take up veterinary treatment of the affected animal(s), especially the small ruminant farmers, as they consider the veterinary treatment too expensive to bear. Hence, the success of livestock industry is highly dependent on an effective veterinary service in terms of availability and quality (Achoja, 2020). Despite the growing importance of veterinary extension service as a tool for sustainable livestock production for family and national food security. Many rural farmers seem to have poor access to the available services. It is based on this backdrop that the study will look into the following research questions. The main objective of this study is to examine the livestock farmers' utilization of veterinary services in Osun State, Nigeria.

Specifically, this study intended to:

- i. ascertain the personal characteristics of the respondents in the study areas;
- ii. determine the level of utilization of veterinary services among respondents in the study area;
- iii. determine the perception of livestock farmers towards the utilization of veterinary services in the study area; and
- iv. identify the problems encountered by livestock farmers in the study area.

## **METHODOLOGY**

### **The Study Area**

This study was carried out in Osun State. Osun state is located in South-west geo-political zone of the country. The State was created 27<sup>th</sup> August 1991 from the Oyo State. Its geographical coordinates are approximately Latitude: 7.0° - 8.0° N; Longitude: 4.0° - 5.5° E. Osun State covers an area of approximately 9,251 square kilometers. Osun State experiences a tropical rainforest climate,



characterized by Rainy Season (March to October) and Dry Season (November to February) with temperature range that is generally between 22°C to 34°C. The state has thirty local government areas, and the major towns in the state included; Ilesha, Ile-Ife, Osogbo, Ede, Iwo, and among others. Osun state is bounded in the East by Ondo and Ekiti States, in North by Kwara States. Osun State share boundary with Oyo States in the West. Agriculture constituted the major occupation of the people of the state and they produced both cash and food crops. As of the 2006 census, Osun State had a population of about 3.42 million people (National Population Commission, 2006).

### **Sampling Technique and Sample Size**

Multi-stage sampling technique was used to select three senatorial districts in Osun State, which are (Osun Central, Osun East and Osun West Senatorial District). One (1) local government area was selected from each of the three senatorial districts. The selected local governments included; Ilesha West Local Government Area, Ife Central Local Government Area and Ede North Local Government Area. From each of the selected local government Area, Thirty (30) livestock farmers were randomly sampled from the list of livestock farmers in the selected local government areas to make a total of ninety (90) respondents for the study.

#### **Data Collection**

A structured questionnaire was used to gather information from the respondents.

#### **Methods of Data Analysis**

Descriptive Statistics (Frequency count and percentages) was used to analyze the socio-economic variables while logistic regression analysis was used to analyze the factors influencing the utilization of the veterinary services by the respondents in the study. i.e.

$$\text{Log } Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3$$

Where:

- Log Y = Log of the likelihood of utilizing veterinary services
- $a$  = Intercept (constant)
- $b_1, b_2, b_3$  = Coefficients showing the effect of each independent variable
- $X_1$  = Perception of veterinary services
- $X_2$  = Access to veterinary services
- $X_3$  = Cost of veterinary services

The perception of livestock marketers towards the utilization of veterinary services was measured by a 5 point Likert scale or Strong agreed (5), Agreed (4), Undecided (3), Disagreed (2), and Strongly disagreed (1). Level of utilization of veterinary services by the respondents was measured using a 4 point rating scale: Highly Utilized (4), Moderately Utilized (3), Fairly Utilized (2) and Not Utilized (1).

## **RESULTS AND DISCUSSION**

### **Socio-Economic Characteristics**

The results in Table 1 revealed that majority (76.7%) of the respondents were male while 23.3% were female. This implies that both male and female were involved in farming but it was dominated by male respondents and participation in farming is more preferred by male counterparts. Male dominance may not be unconnected to the tedious nature of the business which can mostly be met by the males. Table 1 shows that 32.2% of the respondents were less than 40 years of age while 32.2%, 28.9% and 6.7% of the respondents were between 51-60, 41 – 50 and 61 and above years of age, respectively with a mean age of 47 years. This implies that the respondents were young and in their active years and expected to be agile to undertake rigorous activities such as farming.

The results further revealed that 55.6% of the respondents practiced Christianity, 24.4% of the respondents were Muslims, while 20.0% of the respondents practiced traditional religion. This infers that, majority of the respondents were Christians. The study reveals that 11.1% of the respondents were single, 63.3% of the respondents were married, 13.3% of the respondents were divorced, while 12.2% of the respondents were widowed. It is believed that they engage in the



business to meet up with the economic reality of their families. This finding is in line with the report of Odebode and Arimi (2011) who acknowledged the dominance of married people in the business

Household is an importance variable in agriculture production. The result revealed that the mean household size of respondents was 3. This implies that the respondents in the study area have low household size. This implies that household size plays a significance role in the supply of farm labour in the study area. Regarding the educational attainment of respondents, the result reveals that 12.2% of the respondents had no formal education, 6.7% of the respondents had adult education, 21.1% of the respondents had primary education, 53.3% of the respondents had secondary education, while 6.7% of the respondents had tertiary education. This infers that majority of the respondents were literates and so can easily know how to source and use techniques and other relevant information with only little assistance.

The years of farming experience as presented in the table shows a mean farming experience of 9 years. This implies that majority of the respondents in the study area had been engaged in farming for a long period of time enough to enable them know the intricacies and have good knowledge of livestock farming activities such knowledge could help enhance their farm income and know what to do per time

The results from the Table revealed that 32.2% of the respondents earned between ₦26,000 - ₦50,000 as monthly income, 54.4% of the respondents earned between ₦51,000 - ₦100,000 as monthly income, while 13.4% of the respondents earned above ₦101,000 as monthly income. The mean monthly income of the respondents was ₦154,666. This implies that majority of the respondents in the study area earned above the minimum wage. The result of the farm size revealed an average farm size of the respondents was 3hectares. The reason for the desire to acquire large hectares of land was the abundance practice of shifting cultivation as land management technique for improving soil fertility which will in turn increase output and revenue.



**Table 1: Socio-Economic Characteristics of the Respondents (n= 90)**

Variables	Frequency	Percentage	Mean
<b>Gender</b>			
Male	69	76.7	
Female	21	23.3	
<b>Age (years)</b>			
Less than 40	29	32.2	<b>47.11</b>
41 – 50	26	28.9	
51 – 60	29	32.2	
61 & above	6	6.7	
<b>Religion</b>			
Christianity	50	55.6	
Islam	22	24.4	
Traditional	18	20.0	
<b>Marital status</b>			
Single	10	11.1	
Married	57	63.3	
Divorced	12	13.3	
Widowed	11	12.2	
<b>Household size</b>			
0-2	57	63.3	<b>3.04</b>
4-6	31	34.4	
7above	2	2.2	
<b>Years of Farming Experience</b>			
1 – 5 years	39	43.3	<b>9.02</b>
6 – 10 years	28	31.1	
11 - 15 years	17	18.9	
16 and above	6	6.7	
<b>Educational Attainment</b>			
No Formal Education	11	12.2	
Adult Education	6	6.7	
Primary Education	19	21.1	
Secondary Education	48	53.3	
Tertiary Education	6	6.7	
<b>Monthly Income</b>			
Less than ₦25,000	0	0	<b>154,666</b>
₦26,000 - ₦50,000	29	32.2	
₦51,000 - ₦100,000	49	54.4	
Above ₦101,000	12	13.4	
<b>Farm Size (years)</b>			
Less than 1 hectare	0	0	<b>3.21</b>
1 – 3 hectares	75	83.3	
4 – 5 hectares	9	10.0	
Above 5 hectares	11	12.3	

**Source:** Field Survey, 2024

### **Level of Utilization of Veterinary Services among Respondents in the Study Area**

Table 2 revealed Respondents' level of utilization of veterinary services. The study revealed respondents' level of utilization of veterinary services as confirmed by the grand mean of ( $\bar{x} = 3.28$ ). The mean scores on the table showed that the respondents highly utilized the following veterinary services as highlighted; Weighing of animals before buying ( $\bar{x} = 3.59$ ); Vaccination ( $\bar{x} = 3.77$ ); Treatment of sick animals( $\bar{x} = 3.60$ ); and Sanitary/Fumigation practices( $\bar{x} = 3.51$ ). however, as shown in the mean scores recorded, the respondents moderately utilized the following veterinary services as highlighted; Cleaning of cages and bathing animal ( $\bar{x} = 3.24$ ), Sterilizing equipment and cleaning tables and rooms ( $\bar{x} = 3.26$ ), Restoring animals during examination ( $\bar{x} = 2.96$ ),





Administering medication as prescribed ( $\bar{x} = 2.98$ ), Castration ( $\bar{x} = 2.52$ ), and Routine de-worming of animals ( $\bar{x} = 3.40$ ).

**Table 2:** Distribution of Respondents by Level of Utilization of Veterinary Services in the Study Area

Items	Highly Utilized	Moderately Utilized	Fairly Utilized	Not Utilized	Mean	Remarks
Vaccination	69(76.7)	21(23.3)	0(0)	0(0)	3.77	Highly Utilized
Treatment of sick animals	63(70.0)	18(20.0)	9(10.0)	0(0)	3.60	Highly Utilized
Weighing of animals before buying	65(72.2)	19(21.1)	0(0)	6(6.7)	3.59	Highly Utilized
Sanitary/Fumigation practices	58(64.5)	23(25.6)	0(0)	9(10.0)	3.51	Highly Utilized
Routine de-worming of animals	48(53.3)	36(40.0)	0(0)	6(6.7)	3.40	Moderately Utilized
Sterilizing equipment and cleaning tables and rooms	42(46.7)	29(32.2)	19(21.1)	0(0)	3.26	Moderately Utilized
Cleaning of cages and bathing animal	34(37.8)	50(55.6)	0(0)	6(6.7)	3.24	Moderately Utilized
Administering medication as prescribed	31(34.4)	32(35.6)	21(23.3)	6(6.7)	2.98	Moderately Utilized
Restoring animals during examination	29(32.2)	28(31.1)	33(36.7)	0(0)	2.96	Moderately Utilized
Castration	33(36.7)	38(42.2)	0(0)	19(21.1)	2.52	Moderately Utilized

Source: Field Survey, 2024 HU=Highly Utilized, MU=Moderately Utilized, FU=Fairly Utilized, NU = Not Utilized, (%) M= mean, < Grand Mean = 3.28  
 Key for Decision = HU = 3.5-4.4; MU= 2.5-3.4; FU = 1.6-2.4; NU= <1.5

### Perception of Livestock Farmers towards Utilization of Veterinary Services in the Study Area

Table 3 revealed the perception of livestock farmers towards the utilization of veterinary services in the study area. The study revealed the perception of livestock farmers towards the utilization of veterinary services as confirmed by the grand mean of ( $\bar{x} = 3.28$ ). The mean scores on the table showed that the respondents had significant perception towards the utilization of veterinary services for the highlighted areas. Veterinary services is not a waste of time ( $\bar{x} = 4.36$ ), Government policies does not favour the engagement of veterinary services ( $\bar{x} = 4.09$ ), I have decided to take the job of a Veterinary doctor myself ( $\bar{x} = 3.50$ ), Involvement of veterinary services has raised the cost of production ( $\bar{x} = 3.33$ ), Involvement of veterinary services necessary and desirable in any livestock business ( $\bar{x} = 3.94$ ), Engaging in veterinary services has curbed the widespread of disease on the farm ( $\bar{x} = 3.79$ ), Veterinary services has lowered the profit ( $\bar{x} = 3.02$ ), Involvement of veterinary services has helped in improving the welfare of livestock population ( $\bar{x} = 3.94$ ), Since I have engaged veterinary services, I have no regret ( $\bar{x} = 4.12$ ), however, as shown in the mean scores recorded, the respondents did not have significant perception towards the utilization of veterinary services on the following: Livestock farming does not need veterinary services ( $\bar{x} = 2.18$ ), Veterinary services is very expensive to access ( $\bar{x} = 2.31$ ), Veterinary services is not needed at all ( $\bar{x} = 2.13$ ), Veterinary services don't address the need of farmers ( $\bar{x} = 2.45$ ), The cost of hiring a veterinary services is too high ( $\bar{x} = 2.42$ ) all these statements have not significantly influences farmers' perception towards the utilization of veterinary services in the study area.



**Table 3:** Distribution of Respondents by their Perception towards Utilization of Veterinary Services in the Study Area

Items	SA	A	U	D	SD	Mean	Decision
Since I have engaged veterinary services, I have no regret.	41(45.6)	37(41.1)	0(0)	6(6.7)	6(6.7)	4.12	Agree
Government policies does not favour the engagement of veterinary services	29(32.2)	40(44.4)	21(23.3)	0(0)	0(0)	4.09	Agree
Involvement of veterinary services necessary and desirable in any livestock business	33(36.7)	35(38.9)	6(6.7)	16(17.8)	0(0)	3.94	Agree
Involvement of veterinary services has helped in improving the welfare of livestock population	32(35.6)	32(35.6)	15(16.7)	11(12.2)	0(0)	3.94	Agree
Veterinary services is not a waste of time	54(60.0)	10(11.1)	9(10.0)	0(0)	17(18.9)	3.93	Agree
Engaging in veterinary services has curbed the widespread of disease on the farm	30(33.3)	31(34.4)	9(10.0)	20(22.2)	0(0)	3.79	Agree
I have decided to take the job of a Veterinary doctor myself.	15(16.7)	53(58.9)	0(0)	6(6.7)	16(17.8)	3.50	Agree
Involvement of veterinary services has raised the cost of production	31(34.4)	20(22.2)	0(0)	26(28.9)	13(14.4)	3.33	Agree
Veterinary services has lowered the profit	0(0)	38(42.2)	16(17.8)	36(40.0)	0(0)	3.02	Agree
Veterinary services don't address the need of farmers	6(6.7)	10(11.1)	17(18.9)	24(26.7)	33(36.7)	2.45	Disagree
The cost of hiring a veterinary services is too high	16(17.8)	0(0)	9(10.0)	46(51.1)	19(21.1)	2.42	Disagree
Veterinary services is very expensive to access	9(10.0)	6(6.7)	6(6.7)	52(57.8)	17(18.9)	2.31	Disagree
Livestock farming does not need veterinary services	21(23.3)	11(12.2)	0(0)	0(0)	58(64.4)	2.18	Disagree
Veterinary services is not needed at all	0(0)	10(11.1)	21(23.3)	30(33.3)	29(32.2)	2.13	Disagree

**Source:** Field Survey, 2024 SA=Strongly Agree, A=Agree, U=Undecided, SD = Strongly Disagree,

D= Disagree, (%); M= mean, < Grand Mean = 3.47

Rating scale= SA= 5.00-4.00, A = 3.99-3.00, U = 2.99-2.00

D = 1.99-1.00, SD= 0.99-0.00

### Determinants of Veterinary Services Utilization by Respondents in the Study Area

Result of Regression Analysis showing between socio-economic characteristics of respondents and the level utilization of veterinary services by respondents in the study area at ( $P < 0.05$ ) level of significance. The result revealed that Sex ( $P < 0.001$ ), Educational Attainment ( $P < 0.001$ , Religion ( $P < 0.05$ ), Years of Farming Experience ( $P < 0.001$ ), Monthly Income ( $P < 0.001$ ) and Farm Size ( $P < 0.01$ ) had significant relationship with the level utilization of veterinary services by respondents in the study area. However, Age (0.916), Marital Status (0.257), Household Size (0.263) had no significant relationship with the level utilization of veterinary services by respondents in the study area.



**Table 4:** Determinants of Veterinary Services Utilization by Respondents in the Study Area

Variables	B	Standard error	$\beta$	T-value	Sig.	D
Age	-0.001	0.005	-0.007	-0.105	0.916	NS
Sex	-0.960	0.093	-0.507	-10.282**	0.000	S
Marital Status	-0.062	0.054	-0.105	-1.142	0.257	NS
Educational Attainment	-0.532	0.071	-0.736	-7.507**	0.000	S
Religion	-0.096	0.047	-0.095	-2.048**	0.044	S
Household Size	-0.058	0.051	-0.049	-1.127	0.263	NS
Years of Farming Experience	-0.115	0.019	-0.680	-5.975**	0.000	S
Monthly Income	0.661	0.000	0.401	5.276**	0.000	S
Farm Size	-0.152	0.045	-0.320	-3.367**	0.001	S

**Source:** Author's Computation, 2024

$P \leq 0.05$  Significant

### Problems Encountered by Livestock Farmers in the Study Area

Table 5 revealed the problems encountered by livestock farmers in the study area. The result revealed that the rate at which problems were encountered by livestock farmers when utilizing veterinary services with the following mean; High cost of hiring veterinary services ( $\bar{x} = 1.87$ ) ranked 1<sup>st</sup>, Use of fake injection and drugs ( $\bar{x} = 1.66$ ) ranked 2<sup>nd</sup>, Inadequate funds to acquire vaccines or drugs ( $\bar{x} = 1.61$ ) ranked 3<sup>rd</sup>, Scarcity of adequate drugs and vaccines ( $\bar{x} = 1.53$ ) ranked 4<sup>th</sup>, Distance to veterinary clinic/shops ( $\bar{x} = 1.47$ ) ranked 5<sup>th</sup>, Lack of adequate awareness of veterinary service ( $\bar{x} = 1.32$ ) ranked 6<sup>th</sup>, Increasing demand in the midst of scarcity ( $\bar{x} = 1.22$ ) ranked 7<sup>th</sup>, while Widespread of fake doctors ( $\bar{x} = 1.21$ ) ranked 8<sup>th</sup>. The implication of this is that there are some basic problems that needs to be addressed in the study area.

**Table 4:** Distribution of Respondents based on Problems Encountered in the Study Area

Items	Mean	Rank
High cost of hiring veterinary services	1.87	1 <sup>st</sup>
Use of fake injection and drugs	1.66	2 <sup>nd</sup>
Inadequate funds to acquire vaccines or drugs	1.61	3 <sup>rd</sup>
Scarcity of adequate drugs and vaccines	1.53	4 <sup>th</sup>
Distance to veterinary clinic/shops	1.47	5 <sup>th</sup>
Lack of adequate awareness of veterinary service	1.32	6 <sup>th</sup>
Increasing demand in the midst of scarcity	1.22	7 <sup>th</sup>
Widespread of fake doctors	1.21	8 <sup>th</sup>

**Source:** Field survey, 2024

Grand Mean = 1.48

### CONCLUSION AND RECOMMENDATIONS

The study concluded that the respondents moderately utilized veterinary services in the study area, and it utilization is influenced by the sex, educational attainment, years of experience, income and farm size of the respondents. However, the effective utilization of such veterinary services was hampered by certain constraints such as high cost of veterinary services, lack of/inadequate funds to acquire vaccines or drugs and distance to veterinary clinic/shops. Based on the findings of the study, the study recommends that government should set up more veterinary hospital and clinics in different parts of the state to make veterinary service accessible and affordable by livestock farmers. Also, government should subsidize veterinary drugs and services for small scale livestock farmers to ensure their effective utilization. The study further suggests that Veterinary service providers and agencies should recruit qualified and certified veterinarians to meet up with the increasing number of people considering livestock keeping a business.





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