

**SOCIO-ECONOMIC FACTORS AFFECTING ACCESS AND UTILIZATION OF VETERINARY SERVICES BY SMALL RUMINANT PRODUCERS IN IZZI LOCAL GOVERNMENT AREA OF EBONYI STATE, NIGERIA**

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**ABSTRACT**

A study was carried out to evaluate the socio-economic factors affecting access and utilization of veterinary services by small ruminant (sheep and goat) producers in Izzi Local Government area of Ebonyi State, Nigeria. This was done by selecting 60 small ruminant farmers through multistage sampling technique. Both descriptive statistics (mean, frequency and percentage) and inferential statistics (regression analysis) were employed to analyse the specific objectives of the study which included among others, to determine the effects of socio-economic characteristics of farmers on their level of access to veterinary services in the study area. Result obtained showed that 58% of the respondents were males while 42% were females. The highest proportion of them (35%) attained secondary education though 82% of them had one level of educational attainment or another ranging from primary to secondary education. Furthermore, 42% of the farmers had an average annual income of ₦81,000 – ₦90,000 only. The regression analysis showed that annual income, farm size, educational status and household size had positive coefficients showing that these factors affected farmers' level of access to veterinary services in the study area positively. On the other hand the coefficient of age was negatively signed showing inverse relationship between this variable and the dependent variable. On the whole 82% of the variation in the level of access to veterinary services was explained by the combined influence of the factors included in the model. Also, the F-ratio (54.42) was highly significant at 1% level showing that the overall regression was a good fit. Based on the results obtained, it was recommended among others, that policies for enhancing the level of access of small ruminant farmers to veterinary services in the study area should take into consideration measures to further enhance their annual income, farm size and educational statuses.

**KEYWORDS:** Socio-economic factors, Access, Utilization, Veterinary service, Izzi LGA, Ebonyi State

**INTRODUCTION**

Small ruminants (sheep and goat) production has been one of the major alternative sources of income and protein supply for rural households especially in developing countries. Okoli (2006) observed that over 80% of rural families keep animals primarily as a source of investment, manure and meat at home and for festivals. These animals are mainly in the group of livestock commonly classified as small ruminants consisting of two major animals namely; sheep and goat. In most rural communities they are reared under the free range system where they are allowed to browse around the neighbourhood and sometimes tethered to feed near the homestead.

The importance of small ruminants in the tropics is well recognized as they are reared mainly for four (4) functions namely, meat, milk, skin and wool in their order of importance (Williamson and Payne, 1978). Small ruminants are widely distributed and are of great importance as a major source of livelihood for the small farmer and the landless in rural communities in tropical Africa (Otchere, 1986). According to FAO (2002) tropical Africa has about one sixth and one third of the world flock of sheep and goats respectively. Nevertheless, the production of these very important sources of food and livelihood cannot be done at desired level of productivity except certain constraining factors, major of which is threats posed by diseases, are eliminated or reduced to the barest minimum.

In Nigeria, the Federal Livestock Department (FLD) estimates on animal disease status in the country revealed a very high incidence of infectious diseases among Nigeria herds (Okoli 2006). Indeed the treats posed by diseases have continued to be a discouraging factor in the animal production sector. IFAD (1999) noted that

animal health control services remain an important input support function for any livestock farmer, as high mortality occasioned by diseases, are major constraints in livestock production in the developing world. According to Okoli (2006) animal diseases also constitute threats to public health because of reservoirs of zoonoses among domestic animals which can be transmitted to their handlers, consumers and people coming in close contact with such animals.

Generally, the health security of the animals and the consumers is quite necessary; hence the need to ensure sound veterinary services. These veterinary services fall into four (4) main categories namely, clinical services; preventive services; provision of drugs, vaccines and other products and human health protection. However, the economic and institutional framework of livestock industry is often quiet in several aspects in some developed and developing countries. Also, improvement in the health status of livestock populations were being made until 25-30 years ago, often on the basis of internationally funded and coordinated area-wide disease eradication programmes in developing countries. But the situation has stagnated in developing countries especially in the sub-Saharan Africa (FAO, 2001; 2006).

There is no doubt that a well-planned efficient animal health service is a pre-requisite for increasing small ruminant productivity not just in tropical Africa but in the world. Though veterinary agents exist in Nigeria, the impacts of their activities seem to be rarely felt especially in the rural areas. The foregoing scenario may not be far from what the existing situation could be in Izzi Local Government Area (LGA) of Ebonyi state. Therefore, there was the need for a research to be conducted to empirically ascertain the current position of veterinary services among the small ruminant producers in the study area in particular and Ebonyi State in general.

In order to focus the research properly, there was need to seek answers to some pertinent research questions namely; what are the socio-economic characteristics of small ruminant producers in study area? What are the sources of veterinary services available in the Area? What is the level of awareness of small ruminant producer on needs for veterinary services? And, what are the socio-economic determinants of level of access of small ruminant producers to veterinary services in the area?

These foregoing research questions were posed to help realize the overall objective of the study, which is to evaluate the socio-economic factors affecting access and utilization of veterinary services by small ruminant producers in Izzi LGA of Ebonyi State.

## METHODOLOGY

### The Study Area

The research was carried out in Izzi LGA which is located in the northern part of Ebonyi State. The area shares boundaries with Benue state in the North, Abakaliki LGA in the south, Yala LGA of Cross-River state in the East and in the West. Izzi Local Government Area lies on the Cross River plain between Ebonyi and Enyim Rivers which are tributaries of the Cross River.

Izzi local government is made up eight (8) autonomous communities namely: Igbeagu, Agbaja, Ndieze, Ndiezechi, Ezzinyimagu, Mgbalukwu, Ndiebo Ezzainyiagu and Ndiechi Ezzinyimagu communities. The headquarters is at Iboko while the population is about 234,072 persons made up of 110,072 males and 124,000 females (NPC, 2006).

The climate of the area is characterized by high temperature which is typified by the dry and rainy seasons. The vegetation of the area is mainly of the derived savannah type. Owing to this vegetation type, the major agricultural activities in the area include rearing of animals such as sheep, goats and cattle as well as growing of crops such as rice, yam, cassava, pepper, maize and some permanent crops. Fishing is also an alternative source of household income due to the availability of rivers.

### Sampling Techniques

Multi stage sampling technique was adopted to select a total of 60 small ruminant (sheep and goat) producers in the study area. The first stage involved the random sampling of (5) five communities out of the eight (8) communities in area. Then two (2) villages were randomly selected from each of the four (5) communities making a total of ten (10) villages. Finally six (6) small ruminant producers were randomly selected from each of the selected villages to give the 60 respondents who supplied data for this study. The sampling frame was based on the Ebonyi State Agricultural Development Programme (EBADEP) contact farmers list.

Data were collected from mainly the primary source with the use of questionnaire, augmented with interview schedule for the illiterate respondents. However, it was also necessary to hold personal interviews with some staff of the State Veterinary Service in Abakaliki to further give the researcher some relevant insight into the subject matter.

#### Analytical Techniques

Data collected in the study were analyzed using both descriptive statistics (mean, percentage and frequency) as well as the econometric tool of regression analysis. The multiple regression model used was specified as follows:

$$LA = f(AG, AI, FS, ES, HS)$$

$$LA = \beta_0 + \beta_1 AG + \beta_2 AI + \beta_3 FS + \beta_4 ES + \beta_5 HS + et$$

Where;

LA = Level of Access to Veterinary Services.

AG = Age (years)

AI = Annual Income (₦)

FS = Farm Size (Number of Animals Kept)

ES = Educational Status (No of Years Spent in Formal Education)

HS = Household Size (Number of Persons Feeding from the Same Pot on Regular Basis)

The ordinary least squares (OLS) method of regression analysis was applied to estimate the coefficients of the independent variables, while making the associated relevant assumptions.

## RESULTS AND DISCUSSION

### Socio-economic and Personal Characteristics of Small Ruminant Producers

Farmers' socio-economic and personal attributes have been severally identified by authors as being instrumental to their access and utilization of various technologies (Aslan, *et al* 2007; Hassan, *et al* 2008). The socio-economic and personal attributes of the small ruminant farmers in the study area were assessed. This was done to generate basic information as a prelude to a more comprehensive overview of the situation of farmers *vis-à-vis* veterinary services in the study area. The result of this analysis is presented on Table 1.

The distribution of the farmers according to sex showed that 58% of them were males while 42% were females. It is obvious from the result that more men kept small ruminants in the area than women. A greater proportion of the farmers fell within the age range of 20 to 50 years represented by 96.7% aggregate showing that small ruminant production in the area was mainly done by persons who are still within the active work force of the population. This could be attributed to the fact that the tending of these animals under the free range system requires considerable attention which the older folk may not be able to provide. Furthermore, result showed that more than half of the respondents (55%) were married while the greater cumulative proportion of them (81.7%) had one form of formal education or the other leaving on 18.3% as illiterate. Education has been identified as a factor that has a positive influence on the ability of farmers to access and use technologies for enhancing productivity. Innovation adoption is faster and more frequent among farmers with a higher level of education (Huylbroeck *et al.*, 1996). About 42% of the farmers fell within the age range of ₦80,000 to ₦90,000 while only 10% of them had their annual income above ₦90,000. This implies that the farmers were still living below the poverty line of less than \$1 per day since the farmers annual income also translates to the household annual income. According to Ahuja, *et al* (2003) livestock is an important source of supplementing income for over 70 million rural households. However, the income level of the farmers can have an overriding influence on their abilities to access veterinary services since they involve some costs.

### Farmers Awareness and Sources of Veterinary Services

Awareness of the need for veterinary services no doubt is a step towards its access and utilization. The more the farmers are aware, the greater the possibility of utilizing the available veterinary services as well as seeking for the attention of the veterinary officers for the health care of their livestock. In the study area, it was observed that a greater number of the small ruminant farmers (53%) were not aware of the either the need for veterinary services or the source of obtaining such services. This also led to the low level of observed patronage and utilization of veterinary services in the study area.

On the sources of veterinary services available in the study area, 25% of the respondents identified private veterinary service providers as their major source of veterinary service while as much as 33% of them identified fellow livestock producers as their major source of veterinary service. Also 20% and 13% of the small ruminant

producers said they sourced their veterinary services from the local government and state veterinary services respectively (Table 2). FAO (1997) noted that successful delivery of veterinary services largely needs the involvement of major stake holders as an essential component. Accordingly, five essential components have evolved in many countries and these include, livestock producers and their organizations; a national public veterinary service; a private veterinary sector; a statutory regulatory body and; a veterinary professional association.

Table 1: Frequency Distribution of the Respondents According to Personal and Socio- economic Characteristics.

Variable	Frequency	Percentage
<b>Sex</b>		
Male	35	58.30
Female	25	41.70
Total	60	100
<b>Age</b>		
20-30	32	53.30
31-40	20	33.40
41-50	6	10.00
Above 50	2	3.30
Total	60	100
<b>Marital Status</b>		
Single	24	40.00
Married	33	55.00
Divorced	1	1.70
Widowed	2	3.30
Total	60	100
<b>Educational Status</b>		
No formal Education	11	18.30
SSCE	21	35.00
T.T.C	7	11.70
NCE	14	23.30
HND	5	8.30
First Degree	2	3.30
Total	60	100
<b>Household Size</b>		
Less than 5	8	13.30
6-10	12	2.00
11-15	25	14.70
16-20	10	16.70
Above 20	5	8.30
Total	60	100
<b>Annual Income</b>		
Less than 50,000	7	11.70
50,000-60,000	4	6.70
61,000-70,000	8	13.30
71,000-80,000	10	16.70
81,000-90,000	25	41.70
91,000-100,000	6	10.00
Total	60	100

Source: Field Survey Data, 2008

Table 2: Distribution of respondents according to their sources of veterinary services received.

Sources	Frequency	Percentage
Private veterinary Services providers	15	25.00
Communities	5	8.33
Local government Area	12	20.00
State Veterinary Service	8	13.33
Personal Medication	20	33.34
Total	60	100

Source: Field Survey Data, 2008

#### Effect of Socio Economic Characteristics of Farmers on Level of Access to Veterinary Services

Regression analysis was carried out to determine the effects of socio-economic characteristics of farmers on their level of access to veterinary services. Result obtained showed that annual income (AI), farm size (FS), educational status (ES), and house hold size (HS) all had positive coefficients. These were 0.0053, 0.046, 0.009 and 0.021 for AI, FS, ES and HS respectively. This shows that the level of access to veterinary services has direct relationship with these variables. The signs of the coefficients were in line with the *a priori* expectations Udoh, *et al.*, (2008) identified farmers' income level, farm size and education level as some of the factors affecting their level of access and utilization of production technologies. The practical implication of this is that any increase in these variables will lead to some increase in the farmers' levels of access to veterinary services. On the other hand, age ( $x_1$ ) had a negative co-efficient implying that there is inverse relationship between this variable and level of access to veterinary services.

Furthermore, annual income tested highly significant at 1% level while farm size and age tested significant at 5% and 10% levels respectively. On the other hand, educational status and household size were not significant. The statistical insignificance of the coefficient of level of education was rather a deviation from the *a priori* expectation. This is because education has been cited as a major variable influencing the level of adoption of production technologies such as veterinary services (Huylenbroeck *et al.*, 1996). In addition, the adjusted  $R^2$  was 0.819 indicating that about 82% of the variation in level of access to veterinary services was explained by the influence of the independent variables included in the regression model. Also the F-ratio was 54.416 which tested highly significant at 1%, which implies that the overall regression was a good fit.

The final regression equation is as presented hereunder.

$$Y = -0.552 - 0.032AG + 0.0053AI + 0.046FS + 0.009ES + 0.021HS$$

$$(0.774) (0.017)*** (0.000)* (0.020)** (0.018) (0.023)$$

Adjusted  $R^2 = 0.82$   
F - ratio = 54.42

Standard error of estimate = 0.48

Note: Figures in bracket are standard errors of estimates

\*, \*\*, \*\*\* = significant at 1%, 5% and 10% levels respectively.

#### CONCLUSION AND RECOMMENDATION

The provision of efficient veterinary service is no doubt, a prelude to the much desired sufficiency in protein supply among the people. This is because the treat posed by diseases and pest to the production of animals such as sheep and goat can only be effectively managed by a well coordinated and result-oriented veterinary service accessible to all farmers at all times. However, efforts at providing such efficient veterinary service in a rural community like Izzi LGA of Ebonyi State, Nigeria can only be meaningful if it is based on empirical evidence from research output such as this one. It is evident from this research that the level of access and utilization of modern veterinary services among these rural people is still below expectations. Also evident from the work is the fact that socio-economic characteristics of the farmers constitute important variables in determining the farmers' level of access to veterinary services in the study area. Therefore, it is recommended that efforts at providing effective veterinary service in the area should be coupled with the efforts to enhance the farmers' socio-economic statuses such as income level, education level and farm size. Also more awareness should be created on the existence of modern veterinary services and the need for their utilization among the small ruminant producers in the study area.

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