AN ASSESSMENT OF FARMERS' INVOLVEMENT IN BACKYARD LIVESTOCK PRODUCTION AMONG RURAL HOUSEHOLDS IN KWARA STATE. NIGERIA

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ABSTRACT

This study analyzed farmers' level of involvement in backyard livestock production. Multistage random sampling technique was used to select 160 respondents on whom a structured questionnaire was administered. Data was analyzed using descriptive and inferential statistical tools. The mean age of the respondents was 43 years with an average monthly income of N24, 708 derived from backyard livestock production. Chickens, goats and Turkey were common livestock reared among the respondents with a percentage of 96.3%, 79.4% and 47.5% respectively. The respondents were more involved in routine activities such as feeding of livestock (Mean=3.05), Sanitation (Mean=2.72) and vaccination (Mean=2.49). The major constraints to backyard livestock production were Poor pricing, theft and lack of adequate finance. The study concluded that the level of involvement of farmers' in the study area in backyard livestock production was low and was influenced by the farmers' household size, years of experience and monthly income . It was recommended that extension agents should encourage the farmers to venture more into other livestock which can be useful in mixed farming.

Key words: Backyard, Livestock, Production, Involvement, Rural-Household

INTRODUCTION

Backyard livestock production is an ancient practice of rearing domesticated animals using backyard facilities in a residential area to ensure that the immediate needs of the rural household members are guaranteed. According to Gueye (2003) almost every village household keeps livestock at an average of 5 to 20 livestock to enhance sustainability and improve their standard of living. Large proportion of rural households in developing countries keep livestock, as part of the farming operations and these animals contributes to the meeting of household consumption needs, social needs and ceremonies and income (Akhilu, Almekinders, Udo & Venderzipp 2007). The livestock sector makes meaningful contribution to food security and poverty reduction. It is estimated that about 70 percent of the world's 1.4 billion extreme poor depends in one way or the other on livestock production (Food and Agricultural Organisation 2009).

Livestock production forms a major capital reserve of the rural households by increasing food provision and consumption, income generation and quick cash when emergencies and external shocks occur, and also have a cultural and spiritual value (International Fund for Agricultural Development 2015). Livestock production serve as living bank for many farmers and have a critical role in the agricultural intensification process through provision of draught power and manure for fertilizer and fuel. Official statistics often underestimate the overall contribution of livestock and especially their multipurpose contributions to food and agricultural production in developing countries (FAO 2005). Livestock production among rural farm families reduce risk through diversification of production and income sources and there is therefore a much greater ability to deal

with seasonal crop failures and other natural calamities. Livestock, particularly sheep, are efficient in controlling weeds and thus help to increase crop production (Moyo and Swanepoel, 2010).

Rural households with different levels of income have incentives to keep livestock because of the wide spectrum of benefits these provide, such as cash income, food, manure, draft power and hauling services, savings and insurance, and social status and social capital (Bebe et al., 2003;; Upton, 2004). Livestock production is also used in traditional rituals, ceremonies and festivities and is given as a gift in worships (for example installation of ancestral spirits, ritual slaughter, and bride wealth) (Moyo and Swanepoel 2010).
However, it should be noted that the success of every livestock production can be determined by the adequate and efficient feed and management given to such livestock. Most farmers in rural area rarely have time for their livestock, leaves them to scavenge for foods themselves. So backyard livestock production is a supplementary enterprise, which does not compete with other activities for scarce resources and therefore involves very few costs. Livestock feed mainly by scavenging, with very little supplementary grain fed and are rarely housed. However, provides a low cost supplement to family nutrition and the incomes (Upton 2004). Considering the enormous significant of backyard livestock production to rural households there is need to access the effectiveness of this practice. The study therefore assessed farmers' engagement in backyard livestock production. The specific objectives are to: describe the socio-economic characteristics of the respondent; examine the types of livestock reared by the respondent; examine the level of Involvement in Backyard livestock production in the study area; identify reasons for involving in backyard livestock production and to assess the constraints militating against backyard livestock production.

HO 1**:** There is no significant relationship between the socio-economic characteristics and level of backyard livestock production.

MATERIALS AND METHODS

Kwara state, with its state capital in Ilorin is one of the six states in the North central zone of Nigeria (LGAs). It is situated between 8° and 10° North latitude and 3° and 6° east longitude. The state has 16 Local Government Areas and covers an area of 74,256sq km. The state has an estimated figure of 203,833 farm families' majority of which live in the rural areas (Nigerian Population Commission, 2006). The Annual pattern across the state extends between the month of April and October with minimum (1000-1,500mm) with peak rains in May to June and September to October. The major crops cultivated in the state includes Yam, cassava, rice, millet, groundnut, maize. Sorghum, okra, cowpea, sweet potatoes, some leafy vegetables and livestock reared includes poultry, goats, sheep and cattle.

The population of the study comprises of all farmers in Asa Local Government Area (LGA) of Kwara state. Multistage sampling techniques were used to select respondent for this study. The first stage is the purposive selection of Asa LGA because the area is predominantly known for farming activities. The second stage was randomly selection of 5% of the total number of towns and villages in Asa LGA (i.e Asa LGA has 139 towns and villages) therefore total number of towns and villages selected was 7 for the purpose of this study.

In the third stage from the number of registered farmers by extension agents in the local government, 5% of the farmers were purposively selected. (Total number of registered farmers in Asa LGA is 32,100 as at 2012 according to KWADP) giving a total of 160 respondents.

Data were collected through the use of a questionnaire. The questionnaire has six (5) sections A to E, section 'A' dealt with the socio economic characteristics of the farmers section B identified the types of livestock reared by the respondents section C assessed the level of involvement of the respondents on livestock production Section D analyzed the constrains of backyard livestock production and Section E examined the perceived benefits of backyard livestock production. The independent variable were the socio-economic characteristics of the respondents, the types of livestock the respondents reared and the constraints faced by the respondents in practicing backyard livestock. The dependents variable for the study was the level of involvement of backyard livestock farming. This was measured with the use of a 4- point Likert scale.

A list of routine management activities were drawn and respondents were asked to indicate the extent to which they practice those activities. The scale was graduated as Very often (4), Often (3) Rarely (2) and Not at all (1). Weighted mean score was used to derive the mean, any variable below the mean score was regarded as low involvement while variables above the mean score was regarded as high involvement, Pearson's Product Moment Correlation was used to test the relationship between the respondents' socio-economic characteristics and the level of involvement on backyard livestock production.

The formula can be written as ;

$$r = \frac{\Sigma X\ Y - (\Sigma X)\left(\frac{\Sigma y}{N}\right)}{\sqrt{\left(\sum X^2 - \frac{(\Sigma X)^2}{N}\right) - \left(\sum Y^2 - \frac{(\Sigma Y)^2}{N}\right)}}$$

Where: X = Independent variables
X^2 = Square of score on independent variables
Y = Dependent variable
Y^2 = Square of score independent variables
XY = Product of X & Y
$\sum$ = summation of sores
N = Total number of raw sores
$\sqrt{}$ = Square root

RESULTS AND DISCUSSION

Table 1 showed that the mean age of the respondents was 43 years. This implies that those involved in backyard livestock production are still in their economic and active age and also fit for the challenges of the practise. Males (76.7%) were more involved in backyard livestock farming than females (23.3%) in the study area.72.5% are married with a mean household size of six (6).

Table 1: Distribution of the respondents by their socio-economic characteristics. (n=160)

Variable	Frequency	Percentage (%)	Mean score
Age			**43**
≤ 30	24	15.0	
31-50	65	40.6	
Above 50	71	44.3	
Sex			
Male	117	73.1	
Female	43	26.9	
Marital status			
Single	36	22.5	
Married	124	77.5	
Years of Schooling			
0 years	39	24.3	
1-6 Years	60	37.5	**8.3**
7-12years	28	17.5	
>12 years	33	20.6	
Household size (Person)			
≤ 5	80	50.0	
6-10	64	40.0	**6.0**
Above 11	16	10.0	
Livestock Backyard Farming Experience			
≤ 10 years	71	44.4	**13.5**
11-20 years	39	24.3	
Above 20 years	50	31.3	
Monthly Income			**N24,708**
≤ 19,000 naira	40	25.0	
20,000-50,000 naira	71	44.4	
Above N50,000	49	30.6	
Total	160	100	

Source: Author's Field Survey 2017

The mean years of schooling was 8.3 years which shows a low level of literacy among the respondents which implies that the farmers are likely to have so much difficulty in understanding and adopting modern agricultural technologies and innovation. Years of backyard livestock farming experience was 13.5 years which in an indication that the respondent have vast knowledge of the practice. Also the mean monthly income derived from backyard livestock farming was found to be N24, 700 which is used to support their other source of income.

Type of livestock they produce

Table 2 shows that the most common livestock kept by backyard livestock producers is chicken with 96.3% involved in it, goat keeping is next with 79.4% respondents , followed by turkey with 47.5% .31.8% reared pig, 23.8% keep sheep, cattle keeping has 17.5% respondents while rabbits has 12.5 respondents who reared it.

Table 2: Distribution of the respondents by the type of livestock they produce

Types of livestock	Frequency	Percentage
Sheep	38	23.8
Chicken	154	96.3
Rabbit	13	8.1
Pigs	51	31.8
Turkey	76	47.5
Goats	127	79.4
Cattle	28	17.5

Source: Field Survey 2017
***Multiple responses**

This results implies that the respondent are involved in keeping various types of livestock their backyards. This findings collaborates with the reports of Adesiji et al. (2017) that chicken production is highly fragmented in Nigeria with most birds raised in backyard facilities with less than 1,000 birds.

Involvement in Routine Management of Back-yard Livestock Production

Table 3: Distribution of the Respondents According to involvement in Routine Management of Back-yard Livestock Production

Management Activities	Very Often	Often	Rarely	Not at all	Mean	Ranking
Feeding of livestock	49(28.1)	91(43.8)	17(20.0)	3(0.6)	3.05	1st
Provision of clean water for livestock	16(10.0)	52(32.5)	41(25.6)	51(31.8)	2.89	3rd
Vaccination	31(19.4)	47(29.4)	23(14.4)	59(36.9)	2.44	5th
De-worming of animals	5(3.1)	17(10.6)	95(59.4)	43(26.8)	1.99	8th
Quarantine	36(22.5)	58(36.3)	29(18.1)	37(23.1)	2.65	4th
Housing	23(14.3)	19(11.9)	58 (36.3)	60 (37.5)	2.01	7th
Sanitation	45(28.1)	55(34.4)	38(23.4)	22(13.8)	2.92	2nd
Dehorning and , Castration	3(1.9)	19(11.9)	7(4.4)	131(81.9)	1.81	10th

Administration of drugs	8(5.0)	31(19.4)	62(38.8)	59(36.9)	2.20	6th
Taking the animals for Grazing occasionally	0(0)	15(9.4)	19 (11.9)	126 (78.8)	1.90	9th

Percentages are in parenthesis ***Source: Field Survey 2017***

Table 3 revealed that the level of involvements in management practices such as adequate feeding of livestock, sanitation, provision of clean water and quarantine were most practiced among backyard livestock producers while the respondents involvement in housing, deworming, grazing, dehorning and castration were low with a mean sore of 2.01, 1.99,1.90 and 1.81 respectively. This results implies that most respondents are involve in few of the practices that can help the hygiene of the livestock, most of the livestock are left without housing and allowed to wander about the compound without given much attention, appropriate treatment are not also given to the livestock when sick. This is consistent with the report of Olafadehan et al. (2010) which state that availability of feed is the most important factor in livestock production. Without optimum feeding, the animals do not produce up to their production potentials and are venerable to various diseases. .

Perceived reasons for involving in backyard livestock production

Table 4 above indicated reasons why respondents were involve in backyard livestock. The most common reason is that backyard livestock production is a source of income (MS=4.40) probably because of majority are low income earner and are agrarian. Followed by consumption (MS= 4.22. Next reason is that it serves as source of food products (MS= 3.88) which include many food item that comes from an animal source such as meat, milk, egg, cheese and yoghurt. Other reasons are efficiency in poverty reduction (3.81), for pleasure (3.81) for manure for planting (3.77), Reduction of input cost of production for farming. (3.48).

Another reason for keeping backyard livestock production are: for social and cultural reason (MS= 3.31).Socio-cultural functions (MS=3.31). Used for grazing (3.30) is fairly one of the reason by the respondents in the study area which could be due to the fact that most respondent practice extensive management. Source of non-food product such as wool, hides etc. (3.13) is the least reason in the study area.

Distribution of respondents according to reason for keeping of livestock is presented in Table 4 below.

Table 4: Distribution of the respondents by their reason for keeping of livestock

Reasons	**SA**	**A**	**U**	**D**	**SD**	**Mean score**	**Rank**
Source of income	79 (49.3)	52(32.5)	17(10.6)	12(7.5)	0(0)	4.40	**1st**
For consumption	69 (43.1)	61(38.1)	16(10.0)	14(8.8)	0(0)	4.22	**2nd**

Production of manure	49 (30.6)	47(29.4)	25(15.6)	26(16.3)	13(8.1)	3.77	**5th**
Serves as source of food products	35 (21.8)	56(35.0)	49(30.6)	20(12.5)	0(0)	3.88	**3rd**
Used for grazing	26(16.5)	48(30.0)	32(20.0)	29(18.1)	25(15.6)	3.30	**8th**
Social and cultural reasons	22(13.8)	39(24.3)	46(28.8)	20(12.5)	33(20.6)	3.31	**7th**
Source of non-food product	23(14.3)	29(18.1)	43(26.9)	31(19.3)	34(21.3)	3.13	**9th**
Efficiency in poverty reduction	51(31.9)	59(36.9)	18(11.3)	20(12.5)	12(7.5)	3.81	**4th**
Reduction of input cost of production for farming	20 (12.5)	49(30.6)	24(15.0)	33(20.6)	34(21.3)	3.48	**6th**
For pleasure	60(37.5)	45(28.1)	22(13.8)	23(14.4)	10(6.3)	3.81	**4th**

Percentages are in parenthesis ***Source: Field Survey 2017***

Constraints in backyard livestock production

It was revealed that poor pricing (3.22) was a severe constraint in backyard livestock production, this was followed by theft of livestock (3.08), next is lack of capital (3.04) other constraints indicated by the respondents are lack of access to extension services (3.02), disease occurrence (2.96) expensive drugs (2.69) and social and cultural barriers (2.59).

Table 5: Distribution of the respondents by the constraints affecting backyard livestock production

Constraint	Very Serious	Serious	Mildly	Not serious	Mean score	Rank
Expensive drugs and vaccine	32(20.0)	45(28.1)	47(29.3)	36(22.5)	2.69	**6th**
Expensive high feed	10(6.3)	3(1.8)	49(30.6)	98(61.2)	2.52	**8th**
Theft of livestock	68(42.5)	44(27.5)	37(23.1)	11(6.9)	3.08	**2nd**
Disease occurrence	46(28.8)	58(36.3)	31(19.4)	25(15.6)	2.96	**5th**
Poor Pricing	65(40.6)	59(36.9)	30(18.8)	6(3.7)	3.22	**1st**
Lack of capital	59(36.8)	65(40.6)	28(17.5)	8(5.0)	3.04	**3rd**
Social and cultural barriers	20(12.5)	28(17.5)	54(33.8)	58(36.3)	2.59	**7th**
Lack of access to extension service	57(35.6)	54(33.8)	29(18.1)	20(12.5)	3.02	**4th**
Inadequate access to clean water	14(8.8)	68(42.5)	48(30.0)	38(23.8)	2.423	**9th**

Source: Field Survey 2017 ***Percentages are in parenthesis***

However the least identified constraint were excessive high feed and inadequate access to clean water with a mean score of 2.52 and 2.43 respectively.

Test of Hypothesis

Socio-economics characteristics of respondents and backyard livestock production

Table 6: Socio-economics characteristics of respondents and backyard livestock production

Variable	r - value	p- value	Remark
Age	0.611	0.542	Not Significant
Education	-0.035	0.972	Not Significant
Household Size	-3.239	0.002	Significant
Years of Backyard livestock Experience	-3.507	0.001	Significant
Monthly Income	0.380	0.004	Significant

N=160, P<0.05 Source: Field survey, 2017

Results presented in Table 6 shows that household size (r=3.239, p= 0.002), years of farming experience (r=3.507, p= 0.001) and monthly income (r=3.380 p= 0.004), were significantly related to the level of involvement in backyard livestock production. This implies that the larger the household size the more the farmers are involved in backyard livestock production which may be due to the fact that there will be more helping hands to take care of the livestock. Also, years of livestock backyard farming experience was significantly related to backyard livestock production, this could be that farmers who have vast knowledge of this practice should know the how, why, and when to be involved in livestock production. Monthly income also influences backyard livestock production. The positive coefficient implies that the level of involvement in backyard livestock production increases with monthly income realized from the sales of the livestock.

CONCLUSION AND RECOMMENDATIONS

The study concluded that the level of involvement of farmers' in the study area in backyard livestock production is low and was influenced by the farmers' household size, years of experience and monthly income. It is therefore recommended that extension agents should encourage the farmers to venture more into other livestock production which can be useful in mixed farming and also credit facilities at minimum interest rate should be made available and accessible to farmers by the government and financial institution to enlarge the production of livestock using backyard facilities.

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