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Involvement of Women in Livestock Production: A Means of Reducing Hunger and Malnutrition in Ikwuano Local Government Area of Abia State, Nigeria

[1]J.C. Olojede and [2]M.E. Njoku
[1]Department of Agricultural Extension and Rural Sociology,
[2]Department of Agribusiness and Financial Management,
Michael Okpara University of Agriculture Umudike, Umuahia, Abia State, Nigeria

Abstract: This study examined the source, type and socio-economic factors that influenced the number of some major livestock types kept by women farmer. Data were collected using a set of structured questionnaires administered on 120 women livestock farmers randomly selected from 12 villages in the study area. Descriptive and inferential statistics such as means, frequencies and percentages were used for the analysis. The ordinary square multiple regression analysis was also used to achieve the objectives addressing socio-economic factors affecting the number of livestock kept by the women farmers. Results show that the commonest source of acquiring livestock by these women farmers was through the purchase from the market (45%) while chicken (71.2%)' goats (16.2%) and sheep (6.9%) were mainly kept for personal income, consumption, pet, manure generation social status and blood/bone meal production purposes. Income and education were found to be positively related and a significant determinant of major livestock kept and the pooled total number of animals. Marital status was significant for goat enterprise, while occupation and age were found to be significant for sheep but age was negatively related.

Key words: Women, livestock, farmers, reduction, hunger, malnutrition

INTRODUCTION

Hunger and malnutrition are major problems in the world today, especially in the third world countries. About 30% of the world's population suffers from some forms of hunger or malnutrition. These have profound negative effects on people's lives, as chronic hunger increases susceptibility to diseases (Uwaegbute and Oke, 2004). To improve people's quality of life, a set target by Woilet World Food Summit in 1996 was made to half the number of the undernourished people by 2015. This target is only achievable, if the focus on agriculture is sharply improved while major food producers are highly encouraged. Furthermore, increased livestock production could be used to bridge the supply of hunger and malnutrition demand protein gap. Literature indicates that, women play critical roles in the reduction through their involvement in agricultural activities which include livestock and crop production (Adebuoye, 1991; CTA, 1993). The livestock industry seems to be second to crop in terms of it's contribution to the agricultural sector. Some of the contributions include, supply of raw materials, energy source, high quality protein and soil fertility enrichment (Shaib, 1996).

Animal proteins are much desired products in the world, both for their nutritive value and taste. The problem of protein shortage has therefore resulted in adverse economic effects manifested in reduced human productivity, infant mortality, pronounced malnutrition and wastage diseases, such as maramus among others, which are so common throughout the developing countries (Ojewola, 1992). A serious shortage of animal protein has been evident in the health of the people in many regions, especially, in Nigeria. A wide gap has been reported where; an average Nigerian consumes only about 7 g of animal protein daily, as against the minimum requirement of 28g/caput/day which represent a gross shortfall of 75% (Ibe, 1999). This fact could be attributed to lack of potential for livestock growth which has been choked up by unavailability of labour in this sector.

In order to reduce this bottleneck, women's participation becomes crucial. It has been documented in many parts of Africa and other developing countries, the significant role women play in raising livestock. Although, the range of their production action vary among the ethnic groups. This is rooted in their socio-cultural norms and religious beliefs. In almost all African countries South of the Sahara, Asia and Altiphano in America, poultry,

Corresponding Author: J.C. Olojede, Department of Agricultural Extension and Rural Sociology,
Michael Okpara University of Agriculture Umudike, Umuahia, Abia State, Nigeria

pig, goat and sheep farming are mainly in the hands of the women (Ritcher, 1997). This, they do for a number of reasons depending on the situation. In Southeastern Nigeria, especially in Aboh Mbaise areas of Imo State, women are reputed for taking care of small animals such as chickens, pigs, sheep and goats (Imo, 1997). Though there is a dearth of information on the degree of women participation in livestock production. This is because many research works on livestock production as well as other developmental projects have not been gender sensitive inspite of the significant roles women play in this direction.

In order to meet up with the FAO recommendation of 56g/caput/day animal protein for adult human being, the local production development of livestock industry becomes inevitable with active involvement of women. Thus, this study was designed based on the following specific objectives:

- Determine the sources, types and numbers of livestock kept by women in the study area.
- Examine the reasons and uses to which livestock/products are put.
- Identify the socioeconomic variables that influence the number of each of the major livestock types kept by women.
- Make recommendation for improving livestock keeping by women so as to enhance the reduction of hunger and malnutrition in the study area.

MATERIALS AND METHODS

The study was conducted in Ikwuano L.G.A. of Abia State Nigeria. Ikwuano L.G.A. was carved out of the former Ikwuano/Umuahia L.G.A. following the creation of Abia State. Ikwuano covers an estimated land area of about 310 km and had four autonomous communities namely Ariam, Ibere, Oboro and Oloko with 57 villages. Random sampling technique was used to select (3) villages out of every autonomous community making a total of 12 villages. Ten livestock farmers were randomly chosen from each of the chosen villages giving a sample size of 120. The selected farmers were personally interviewed with a set of structured questionnaire.

The data collected included the socio-economic characteristics of respondents such as source of livestock, types, number kept, income realized and problems militating against women livestock producers in Ikwuano L.G.A. Data were analysed using descriptive statistics such as frequency distribution and percentages. The Ordinary Least Squares (OLS) multiple regression analysis was carried out to achieve the second objective

RESULTS AND DISCUSSION

Socio economic profile of women livestock farmers

Source, types and number of livestock kept by women livestock farmers: The source, types and number of livestock kept by women livestock farmers according to resources available to them in Ikwuano L.G.A. are shown in Table 1.

Table 1 Showed that the commonest source of acquiring livestock for keeping by women in this L.G.A. was through purchase from the market (45%). However, gift and caretaking were also common occurrence as obtained in other parts of the world especially in Northern Senegal, where exchange of livestock help them in maintaining their social relationships (Ritcher, 1997).

In terms of types and numbers of livestock kept, chicken (71.2%); goats (16.9%) and sheep (6.9%) were commonly kept. Very few animals were forbidden by customs to be reared or eaten by women except for sentimental reasons. Such animals include pigs and ducks, for their dirty habits; cows (cattle) are forbidden by some customs while guinea pig and rabbit are yet to be made popular.

Reasons and uses to which livestock/products are put: Presented in Table 2 are the reason and uses to which livestock/product are put by the women livestock farmers in Ikwuano L.G.A in Abia State.

Table 1: Distribution of Women livestock producers according to source, types and number kept

Source	Frequency	(%)
Market	54	45
Gift	20	167
Care taking	35	30
Market/Gift/Caretaking	10	8.3
Livestock type	Number Kept	%
Cows	3	0.2
Goats	262	169
Sheep	108	6.9
Rabbits	5	0.3
Pigs	18	1.2
Guinea pig	7	0.5
Chicken	1105	712
Ducks	44	2.8

Source: Field Survey 2006

Table 2: Reasons and uses for keeping livestock/ products by women livestock farmers in Ikwuano L.G.A.

Reason/Use	Frequency	(%)
Increase personal Income	46	38.3
Family consumption	26	21.7
Hobby/Pet	15	12.5
Manure generation	15	12.5
Blood/Bone meal	5	4.2
Social status	13	10.8
Total	120	100

Source: Field Survey 2006

Table 3: Determinant of number of goats kept

Goat	Linear	Exponential	Double log	Semi-log
Constant	0.52	1.363**	-3.244	-21.121
	-0.155	-2.518	(-1.622)	(-1.610)
Total amount (x_1)	6.669E-05***	1.142E-05***	.526***	2.620***
	-5.017	-5.556	(5.998)	-4.798
Age (x_2)	5.36E-02	5.62E-03	(5.302e-02)	0.444
	-0.774	-0.524	(.126)	-0.158
Education (x_3)	-6.29E-02	-1.41E-02	-.213	-1.124
	(-.670)	(-.989)	(-1.143)	(-.923)
HHS (x_4)	0.17	-4.047E-03	.106	1.311
	-0.808	(-.125)	(.712)	-1.341
MS (x_5)	-2.000*	-.468**	-.578***	-3.049**
	(-1.697)	(-.2.354)	(-.2.875)	(-2.405)
OCC (x_6)	2.492***	0.192	.171	2.358***
	-3.089	-1.408	(1.186)	-2.701
R^2	0.428	0.443	.516	0.456
Adj.R^2	0.375	0.38	.449	0.394
f-ratio	7.991***	7.016***	7.650***	7.390***

*** = Sign at the 1% level; Values in parenthesis are + - values

Table 4: Determination of number of sheep kept

Sheep	Linear	Exponential	Double log	Semi-log
Constant	4.333	4.333	-5.810**	-9.773
	-1.21	-1.21	(-2.425)	(-.836)
Total amount	4.905E-05***	4.905E-05***	0.998***	2.889***
	-3.467	-3.467	-7.986	(5.935)
Age	-.130*	-.130*	-.815*	-4.404*
	(-1.756)	(-1.756)	-1.836	(-1.756)
Education	-1.77E-01	-1.77E-01	1.91E-01	-1.887*
	(-1.172)	(-1.172)	(-.888)	(-1.738)
HHS	0.281	2.81E-01	6.91E-02	1.914**
	-1.252	-1.252	-0.435	(2.196)
MS	1.733	1.733	0.243	1.043
	-1.379	-1.379	-0.638	(.923)
OCC	0.968	0.968	6.47E-02	1.111
	-1.125	-1.125	-0.414	(1.427)
R^2	0.284	0.284	796	.521
Adj.R^2	0.217	0.217	0.743	.466
f-ratio	4.234***	10.606***	14.974***	9.593***

*** = Sign at the 1% level; Values in parenthesis are + - values

Livestock production has a lot of benefits and purpose to different sets of women farmers as could be seen in Table 2 From the table the major purpose of embarking on livestock production by the women in this area was to increase their personal income: other reasons such as family consumption are indicated on the table. This implies that women livestock keeping activities are motivated mainly by their intension to improve the economic status of their household and in doing this, the bridge the protein gap in the households.

Socio-economic factors influencing the number and of total major livestocktypes kept by women livestock farmers: To achieve the third objective, the number of major animal types kept by women farmers (namely, goats, sheep, chicken and total of these) were regressed against the women socio-economic characteristics using the Ordinary Least Square (OLS) multiple regression techniques. For this analysis, each livestock type was fitted to the regression analysis using four functional forms namely, the Linear, Exponential, Semi log and Double Log functional forms. The equations that gave the best fit were used in discussion. These were derived using economic and econometric criteria of the value of the coefficient of determination (R^2), the number and signs of variables significant as well as the value and significance of the F-statistics.

Results are shown in Table 3, 4 and 5.

For the number of goats kept by women livestock farmers, the semi-log functional form gave the best fit. Three variables namely, total income (x_1), marital status (x_5) and occupation (x_6) were found to be significant determinants of the number of goats kept by the women livestock farmers in the study area.

Total Income (x_1) was found to be positively related to the number of goats kept, indicating that the higher the income of respondents, the higher the number of goats kept (raised) by women livestock farmers. Marital status was found to be positively related to the number of goats kept indicating that married women kept more goats than

Table 5: Determinant of number chicken kept

Chicken	Linear	Exponential	Doublelog	Semi-log
Constant	4.885	2.024***	-5.064*	-141.504
	(-0.320)	-3.113	(-1.831)	(-1.445)
Total amount	-7.031***	1.776E-05**	.718**	16.976***
	(-1.1626)	-7.448	-6.07	-4.165
Age	9.19E-02	-9.33E-04	9.37E-02	-2.021
	-0.292	(-0.071)	-0.163	(-0.096)
Education	9.87E-02	-1.77E-03	7.34E-02	0.848
	-0.231	(-0.071)	-0.295	-0.093
HHS	-0.818	-3.18E-02	-0.345*	-5.909
	-0.855	(-0.838)	(-1.773)	(-0.810)
MS	-1.559	7.32E-02	0.301	-0.223
	(-0.291)	-0.307	-1.082	(-0.024)
OCC	-5.193	-0.236	-0.304	-16.33
	-1.415	(-1.563)	(-1.665)	(-0.024)
R^2	0.698	0.518	0.476	0.282
Adj.R^2	0.667	0.466	0.406	0.201
f-ratio	24.381***	10.022***	6.808***	3.474***

***= Signatthe1%level; Valuesinparenthesisare+-values

single ladies. This finding conform to a prior expectation. Women farmers were also found to be more involved in keeping goats than women in other professions.

For the sheep enterprise, considering the economic statistical and econometric criteria, the semi-log functional form gave the best fit. 52% of changes in the number of sheep kept by these women arise from changes in the variables listed. Income, age, education and household size were found to be the significant determinants of number of sheep kept by the women. Income was positively related to the number of sheep kept, indicating that number kept increases as income increases. Age showed a negative relationship, indicating that older women keep less number. This may be accepted as correct since younger women are more disposed to be able to meet up with the responsibility of taking care of the sheep.

Education had a negative effect on the number of sheep kept. Although, this is not expected but it could be because many educated people tend to shy away from farming activities, since farming may not be their main source of livelihood.

Household size was positive indicating that the higher the household size, the more the number of sheep kept. This may be explained by the fact that some household members assist in taking care of the sheep, since the enterprise is used in catering for the needs of the household. The R^2 was .521 indicating that about 52% of variation in income is brought about by variation in the explanatory variables.

For the chicken enterprise, using all the relevant criteria, the double log functional form gave the best fit. Two variables were found to be significant determinants of number of birds kept. These included income and household size. Income would result in higher numbers kept and vice versa. Household size was negatively related indicating that higher household size would lead to less numbers of birds kept. This indicates that larger households require higher cost of living and so resources which ordinarily would have gone to increase the scale of production may be channeled to the upkeep of the household.

The total number of animals kept was regressed against the economic variables. Using the same criteria as done above, the exponential function was found to give the best fit. Total income and education were found to be the significant variables explaining variation in the number of animals kept by female farmers. Income showed a positive relationship, indicating that higher incomes would result in higher number of animals kept. Education showed a negative relationship indicating that educated women were not getting involved in the keeping of these animals.

Policy implications: Income was found to be significant for all the different animal enterprises and even for all combined. This implies that policies that would enhance the income of women farmers would definitely advance the course of livestock keeping by women in the study area.

Marital status was significant for goat keeping. This implies that single ladies should be encouraged to keep livestock as this would help them enhance their economic status and contribute to the alleviation of poverty and malnutrition both in the future and the area of study.

Age was found to be significant and negatively related for the sheep enterprise. This implies that younger women are more involved in sheep keeping. Older women should, therefore, be encouraged to get more involved in the rearing of sheep and in the entirety of livestock production.

Education was significant for the sheep enterprise and the overall livestock enterprise. This implies that

education should not be relegated in matters and policies concerning livestock. Educated women should be encouraged to get involved as this would boost the effort of the less educated ones. They should help in inculcating better keeping practices so as to facilitate the activities of the less educated women for the overall development of the livestock industry in the study area.

Occupation was found to be significant for sheep enterprise. Women other than livestock farmers should also be encouraged to get involved in livestock keeping. This will help them complement their income from other sources and enhance the alleviation of poverty and malnutrition in the households.

CONCLUSION

The study has shown that women livestock farmers do keep livestocks for reasons ranging from economics and nutritional values to keeping of livestock as pets and hobbies. The scale of operation of the women livestock farmers was seen to be low as indicated by the number of livestock kept. Some variables are prominent among which, income has been identified as significant determinant of the number of livestock kept. Various measures have been recommended for the alleviation of poverty and malnutrition problems in the study area in particular and the enhancement of the livestock sub-sector in general.

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