AGRICULTURAL AND BIOLOGICAL SCIENCES

ANALYSIS OF WOMEN PARTICIPATION IN LIVESTOCK PRODUCTION IN MANGU LOCAL GOVERNMENT AREA OF PLATEAU STATE, NIGERIA

[1]Onuk E.G; [2]Ohen, S.B. and [3]Shehu, N.D.
[1]Faculty of Agriculture, Department of Agricultural Economics and Extension, Nasarawa State University, Keffi, Nigeria
[2]Department of Agricultural Economics, University of Calabar, Nigeria
[3]College of Agriculture, Lafia, Nasarawa State, Nigeria

Corresponding Email: galadima1954@gmail.com

Manuscript received 25/08/2016 Accepted: 23/12/2016 Published: December, 2016

ABSTRACT
This study examined women participation in livestock Production in Mangu local government area of Plateau State, Nigeria. Simple random sampling was used to select 90 women livestock farmers. Descriptive statistics and Participation Index were used to analyze the data. The grand participation index (2.0) implies that women rarely participated in livestock production. Women always participated in the watering (2.97) feeding of animals (2.88) and cleaning of pen (2.72). Poultry, Swine and Goat were the major types of Livestock kept by Women. The result also revealed that there was positive and significant relationship between women involvement in livestock production and extension contact and age. Extension contact was significant ($p<0.01$) and positive which means that the more the women have access to extension contact the more tendency for them to participate in livestock production. The major constraints faced by women in livestock production were high cost of feed and medication, inadequate capital, pest and diseases. The study recommends that the women should be linked with micro finance banks so as to have access to capital which can be used to boost their level of participation in livestock production. Also various capacity building activities in-terms of training need of women in livestock production should be identified and periodically provided. Also subsidy should place on vaccine and drugs so as to reduce the high cost of medication this will encourage women participate in livestock production.

Keywords:*Analysis, Women, Participation, Livestock, Production*

INTRODUCTION

Livestock has remained a significant component of the agricultural economy of Nigeria which in addition to food production has provided incentives for economically sustainable agriculture. The privacy of agriculture in the Nigerian economy has never been in doubt as it employs 70% of the populace. The popular adage remains true **"that no nation that is rich in livestock is poor and no nation that is poor in livestock is rich"**. Ironically, Nigeria with 19 million cattle, 39.3 million sheep, 69.4 million pigs and 153 million poultry is indeed rich in livestock and expectedly a rich nation but unfortunately Nigeria has been poor and food insecure. The Global livestock sector has been undergoing what can be termed a revolution as a result of the demand for food of animal origin with attendant increases in livestock production, technological innovations and structural sectoral changes. It is generally believed that Nigeria's population is growing at a geometric proportion (1%), while food production is growing at arithmetic proportion (2.97%). The gap between supply and demand continues to widen (Adu, 2015).

In many African countries including Nigeria, rural women account for 60 percent of the agricultural labour force and up to 80 percent of total food production, including livestock production. Achieving profitability and efficiency is one of the major aims of livestock business in most rural and urban areas in Mangu Local Government Area. Livestock farming in the Local Government predominantly done in a semi-intensive management system and intensive in the rural areas mainly at subsistence level. Onwusiribe, *et al* (2016) reported that livestock serves as an asset as well as a source of income for many Nigerians, creating jobs, the source of food and meat to meet the protein requirements, provides animal manure for crop production and provides power and transport options.

Women generally contribute more labour inputs in areas of feeding, manage vulnerable animals (calves, small ruminant and sick, injured and pregnant animals) cleaning barns, dairy related activities, (milking, butter and cheese making) transportation of farm manure and sale of milk and its products than men and children. Men own most of the livestock species and put up for sale animals and meat (Yisehak, 2008).

Damisa *et al.* (2007) pointed out that various researches conducted on the contribution of women to agricultural development in the country suggest that women contribution to farm work is as high as between 60 and 90% of the total farm task performed. The contribution of the women ranges from such tasks as land clearing, land tilling, and planting, weeding, fertilizer/manure application to harvesting, food processing, threshing, winnowing, milling, transportation and marketing as well as the management of livestock. Sharon (2008) viewed that both women and men play critical roles in agriculture throughout the world, producing, processing and providingthe food we eat. Women make up half the rural population and they constitute more than half of the agricultural labor force. Rural women in particular are responsible for half of the world's food production and produce between 60 and 80 percent of the food in most developing countries. Yet, despite their contribution to global food security, women farmers are frequently underestimated and over looked in development strategies. Okwori Esther (2013), further reported that women contribute to agricultural output but unfortunately they hardly benefit from agricultural incentives and innovation because of economic suppression, social and traditional practices which undermine the constitutional provisions on the equality of men and women.Women constitute more or less half of any Country's population .In most countries however, women contribute much less than men towards the value of recorded production both quantitatively in labour force and participation and qualitatively in educational achievement and skilled manpower (Lawason,2008). She pointed out that, the underutilization of female in agriculture has obvious implication for economic welfare and growth. Several factors both economic and non-economic are responsible for this. Traditionally, women are regarded as home makers who oversee and coordinate the affairs and activities at home.

Women typically have complete responsibility for animals that are kept close to the homestead such as poultry, calves and other small livestock and for sick animals and they rarely have major holding and management responsibilities for large stock (IFAD, 1994). There is no doubt livestock production requires full participation of women, but this will nothappen until women are perceived as the subjects of development (Rahman, 2004).

The study was carried out to describe the socioeconomic characteristics of women livestock farmers, determine the level of women participation in livestock production and to identify the constraints faced in livestock production.

MATERIALS AND METHODS

The study was conducted in Mangu Local Government Area of Plateau State, Nigeria. The study area along withother four (4) LGAs constitute the Plateau Central Senatorial Zone, namely, Bokkos, Kanam, Kanke and Pankshin. It is located at 9°31′ 00″N 9°06′00″E and has a population of 294,931 people and a total area of 1,653km^2 (638 sq miles) (NPC, 2006). This placed it third in the lists of Plateau state LGAs by population size, coming after Jos North which is home to 420,300 people, and Jos South with 306, 716 people.Mangu

which lies about 77 km south of the state capital (Jos) is a semi-urban settlement with a huge farming population. It has nine (9) districts namely; Mangu, Panyam, Gindiri, Langai, Mangun, Kerang, Ampang, Kombum, and Pushit. The climate and soil conditions of the area are suitable for growing cereal crops such as maize, guinea corn, millet, wheat, acha, rice and tuber crops such as Irish Potatoes, yam, cassava, sweet potatoes, etc. The major languages spoken in the area include, Mwaghavul and Pyem (Plateau State Information and Communication Development Agency, PSICDA, 2015).The Local Government Area is located within the Northern Guinea Savannah and the climate is near temperate and could be compared to the weather found in Jos, Barakin Ladi, Bokkos and Pankshin with an average temperature of between 18 and 22 °C. Harmattan winds cause the coldest weather between December and February. The warmest temperatures usually occur in the dry season months of March and April. The mean annual rainfall varies from 131.75 cm (52 in) in the southern part to 146 cm (57 in) on the Plateau. The highest rainfall is recorded during the wet season months of July and August. (NPC, 2006)

The population for the study was all women Livestock farmers in Mangu Local Government Area. Data was collected with the aid of a structured questionnaire that was administered to the respondents. Double stage sampling technique was adopted. First stage was the random selection of one village from each of the nine administrative districts. Thus, nine (9) villages were selected for the study. The second stage involves purposive selection of 10 livestock farmers from each of the selected villages to give a total sample size of ninety (90).

Data was analysed using simple descriptive statistics such as frequency counts and percentages to achieveall the three objectives.Participation index was used to achieve objective 2.However, the index was constructed using a 3 point likert scale which was weighted in order of importance from; Never involved =1, rarely involve = 2, always involved =3.The respondents were asked to indicate their level of involvement in the activities of livestock production. The mean score for each of the activities was calculated and the grand mean score of the activities was divided by the number of activities to determine the level of women participation in livestock production in the study area.

RESULTS AND DISCUSSION

The socio – economic characteristics of the respondents are represented in Table 1.The result shows that majority (56.7%) of the respondents were within middle ages of 21 - 40 years. However, the proportion of the younger women involved in livestock production was relatively small (10%). This finding is similar to that of Bayola and Intong. (2006) who explained that though women loved animals, they totally disagreed with been used in raising livestock. The result also shows that majority (67.8%) of the women livestock farmers were married, 16.7% and 15.6% of the sample respondents were widowed and singles respectively. Also majority of the women representing 57.8% in livestock production associated themselves with one form of cooperative participation, this is contrary to the work of Ayoade *et al.* (2009) which reported that majority (71.1%) of the women livestock farmers did not associate themselves with any form of cooperative participation. The educational status of the women in livestock production shows that majority (94.5%) had formal education. This findings disagrees with the work of Aqeela *et al.* (2005) that two third of the one billion of illiterate person in the world are women and girls. The result of the analysis further shows that majority of the women in livestock production accounted for 63.3% had less than 5years of farming experience. This may possibly be due to their high level of educational attainment and so they possibly considered farming as less prestigious. The implication is that women in the study area are not too familiar with livestock production. The major motives for keeping livestock were essentially for commercial purpose and home consumption. However, 30% of the respondents indicated that they kept livestock for commercial purposes only.

Table 1: Socioeconomic factors affecting women participation in livestock Production (n=90)

Variables	Frequency	Percentage
Age		
1-20	9	10
21-40	51	56.7
41-60	30	33.3
Total	90	100
Marital status		
Married	14	15.6
Single	61	67.8
Widowed	15	16.7
Total	90	100
Cooperative Participation		
Yes	38	42
No	52	57.8
Total	90	100
Source of Capital		
Personal Savings	71	78.9
Friends and Relatives	11	12.2
Bank	5	5.6
Money Lenders	3	3.3
Total	90	100

Table 1: Socioeconomic factors affecting women participation in livestock Production (n=90) -continued

Variables	Frequency	Percentage
Years of Experience		
1-5	57	63.3
6-10	29	32.2
11-15	4	4.4
Total	90	100
Purpose of Animal		
Home Consumption	2	2.2
Commercial	27	30
Both	61	67.8
Total	90	100
Level of Education		
Primary	10	11.1
Secondary	27	30.8
Tertiary	48	53.3
Adult	5	5.5
Total	90	100

Source: Field Survey, 2013

Level of Women Participation in Livestock Production

The results from Table 2 expressed that cleaning of pen, (mean 2.72), watering (mean 2.96), feeding of animals (mean 2.87) and marketing are the livestock management practices that women always participated in. This finding agrees with that of Aqeela *et al*. (2008) that women participate in various activities of livestock management such as fodder cuttings, watering, feeding of animals, animal shade cleaning, milking and dung cake making.The result further indicated that women rarely participated in activities such as vaccination(mean 2.30) and records keeping (mean 2.04), castration (mean1.73), culling (mean 1.73) and diagnosing (mean 1.64) these findings agrees with that of Bayola and Intong (2006) and Ayoade (2009) that women are moderately involved in maintaining sanitation and in tethering animals inside shed at night. However, women in the study area never participated in activities such as branding (mean 1.27) and fencing (mean 1.40) .The grand mean for the participation index (mean= 2.0) indicated that women in the study area rarely participated in livestock production.

Table 2: Participation index result showing the level of women Participation in Livestock Production

Management Practices	Mean score
Feeding	2.88
Cleaning of Pen	2.72
Watering	2.97
Castration	1.73
Vaccination	2.30
Records Keeping	2.04
Marketing	2.51
Branding	1.27
Culling	1.73
Fencing	1.40
Diagnosing	1.64
Bringing sick animal to vet	1.64
Grand Mean	2.0

Source: Field Survey 2013

.Note: 1= never involved, 2 rarely involved, 3 = always involved

Factors influencing women participation in livestock production

The result in Table 3 revealed that there was positive and significant relationship between women involvement in livestock production and extension contact and age. Extension contact was significant ($p<0.01$) and positive which means that the more the women have access to extension contact the more tendency for them to participate in livestock production. This finding disagrees with that of Ayoade *et al* (2009) who explained that access to extension contact will not increase the participation of women in livestock production. Age is another factor influencing women Participation ($p<0.01$) that is the more the women advance in age the more they participation in livestock production. Years of experience and education were also significant although negative. Education was significant ($p<0.01$) and negative, this indicates that the more the women are educated the less participation in livestock production this might be as a result of educated women are more interested in white-collar jobs.

Table 3: Factors influencing women participation in livestock production

Constant	Regression coefficient	Standard error	T –value
Variables	2.251	0.404	5.572
Age X_1	0.10	1.828	1.572*
Years of experience X_2	-.063	0.30	1.828**
Education X_3	-.246	.132	-2.862*
Extension contact X_4	.150	.049	3.093***

R2 = 0.554. *** Significant 01%. ** Significant 05%. * Significant 010%

Source: Field Survey, 2013.

Constraints faced by women in Livestock production

The results in (Table 4) shows that the major constraints to women participation in livestock Production was high cost of feed (21.70%) which ranked first followed by inadequate capital (16.72%). Yisehak (2008) reported that women in agricultural sector are involved in home production activities which involve child care, food preparation and fetching of water and fuel for domestic purposes such as cooking, washing, etc. Pests and diseases (15.42%) and high cost of medication (15.24%) ranked 3rd, poor market situation (12.61%) and rustling and poaching (12.90%) ranked 4th.

Table 4: Constraint faced by women in Livestock production

Constraint	Frequency	Percentage
Inadequate extension staff	18	5.82
Pests and diseases	53	15.42
High cost of feeds	74	21.70
High cost of medication	52	15.24
Poor market situation	43	12.61
Thieves	44	12.90
Inadequate capital	57	16.72
Total	341*	99.9

Source: Field Survey, 2013

*Multiple responses.Hence the total frequency exceeded the sample size

CONCLUSION

The majority of the women rarely participated in Livestock production. The major factors affecting their participation were high cost of feeds, inadequate capital, pests and diseases and high cost of medication. Furthermore, factors that influence the women participation in livestock production in the study area include age, education and year of experience in livestock production. There is need to identify the training needs of women participation in livestock production. Women should be linked with micro finance banks in other to have access to capital which can be used to boost their level of participation. The men should be encouraged to assist their wives so that they could have ample time to participate in livestock production activities.

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