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Training and Women Participation in Broiler Production in Plateau State.

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Abstract
This study was carried out to access the training need of women farmers that are into broiler production in Plateau State, Nigeria. One hundred and fifty women farmers that are involved in broiler production were through a multistage selection process, used in the study from the three senatorial zones of the state. A structured questionnaire was designed to elicit responses from them. The data obtained were analyzed using frequency, percentage, mean and regression analysis. The results shows that 48.7% of them are within the ages of 41-50 years, 66.0% are married with 61.3% having more than secondary level education. The result also shows that 63.3% have household size of 1-5 persons with an average flock size of about 220. Majority of them belong to cooperative groups with 66.7% of them not having participated in any broiler training. The result similarly shows that marital status and educational level positively and significantly ($p<0.01$) influence the participation in training, while age significantly and negatively influence participation in training. The major challenges identified by the respondents are poor access to financial support, pricing and market for mature broilers. Others are lack of training and exploitative tendencies of middle men. This study concludes that women broiler farmers in Plateau State, Nigeria are small scale farmers that are adequately educated with the relevant years of experience. It is recommended that regular trainings be organized for the farmers, provide access to financial support; which may encourage younger women to get involve in broiler production.

Keywords: Broilers, Women, Training, Constraints, Socio-economic

I. Introduction

The largest sector in Nigeria today still remains agriculture. From 2013 - 2019, the sector contributes an average of 24% to the nation's gross domestic product and employs more than 36% of the country's labour force with more than 80% as small holder farmers. Agriculture in Nigeria is divided into four subsectors- crop production (87.6%), livestock (8.1%), fishing (3.2%) and forestry (1.12%) [1,2]. The livestock subsector primarily involves raising of sheep, goat, cattle, pigs, fish and poultry as well as other farm animals to provide income, meat, organic manure, fuel, and draught power [3].

Poultry is the fast-growing subsector of the livestock industry. Poultry here refers to animals that are raised on the farm, have two wings and lay eggs [4]. They include turkey, duck, geese, pheasant, quail, guinea fowl, pigeons, and chickens. Of them all, chickens are the most abundant and commonly raised poultry [5]. According to a recent report, Nigeria currently has the 2nd largest chicken population in Africa. This population is made up of about 180 million birds (30% Layers and 70% Broiler). The consumption per capita of eggs and meat in Nigeria is about 3.5kg and 2.5kg respectively, which is significantly lower than the world's averages 9.4kg and 15.2kg [6].

It is a painful reality, however, that women are limited in the opportunities available to them, especially in developing countries. These limitations include societal, family, religious and cultural restraints. As a result, their potentials are mostly untapped and misused [7]. Women's contributions have been undervalued and hence relegated even in areas where they form majority of productive force [8].

According to IMF, when women are empowered, poverty will significantly be reduced in Nigeria. Therefore, engaging them in poultry

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production is one of the many ways that Nigerian women can be empowered [9]. Empowerment here refers to a system by which individuals, societies, and institutions gain control over the obstacles that cause them the most distress [10]. Women's empowerment on the other hand is any form of increase in resources and skills that enables women to contribute, negotiate, influence, regulate, and the capacity to exercise control over their lives and to generate regular and independent sources of income [11].

Most previous studies have succeeded in reporting poultry production generally; identifying the roles played by different gender. Only few of these studies actually attempted an evaluation of the particular contributions of women to broiler production with particular interest in the effect of training and cooperative membership. This paper therefore seeks to evaluate the contributions of women farmers to broiler production in Plateau State. Particularly, the study seeks to describe the socio-economic characteristics of women broiler farmers in the study area, identify the place of training their involvement in training and membership of cooperative groups, factors influencing their participation and identified constraints they face in broiler farming in the study area.

II. Methodology

Study area

This study was carried out in the three senatorial zones of Plateau State. Plateau State was created in 1976 and is located between latitude 80°24'N and longitude 80°32' and 100°38' east with an area of 26,899 square kilometres. The state derived its name from mountainous area with captivating rock formations. The state is bordered by Bauchi State (to the north east), Kaduna State (to the north west), Nasarawa State (to the south west) and Taraba State (to the south east) The altitude ranges from around 1,200 meters (about 4000 feet) to a peak of 1,829 metres above sea level in the Shere Hills range near Jos. Though situated in the tropical zone, a higher altitude means that Plateau State has a near temperate climate 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. Years of tin mining have also left the area strewn with deep gorges and lakes [12]. The State has an estimated population of about three million people [13].

Shendam is a Local Government Area in Plateau State, Nigeria with Its headquarters in the town of Shendam located at 8°53′00″N 9°32′00″E. It has an area of 2,477 km² and a population of 208,017 as at the 2006 census [13]. Mangu is a Local Government Area in Plateau State, Nigeria with its headquarters in the town of Mangu at 9°31′00″N 9°06′00″E. It has an area of 1,653 km² and a population of 294,931 at the 2006 census [13]. Jos South is a Local Government Area in Plateau State, Nigeria. It houses the Governor's office in Rayfield and can thus be described as the de facto capital of plateau state. Its headquarters are in the town of Bukuru at 9°48′00″N 8°52′00″E. It has an area of 510 km² and a population of 306,716 at the 2006 census [12,13].

Sampling technique

A multi-stage sampling technique was adopted. The first stage involved the purposive selection of three local government areas from each of the senatorial zones of the state. The Local Government selected were Jos South (Northern Zone), Mangu (Central Zone) and Shendam (Southern Zone). The second stage involved the purposive selection of one district from each of the local government selected. The districts were the Local Government headquarters as they constitute areas with the highest number of poultry farmers. The third stage involved the random selection of pick-up points of day-old chicks. Broiler farmers usually congregate at these points to await the arrival of their chicks. The fourth stage was the random selection of willing farmers at the pick-up points. Due to the fact that majority of the farmers reside in the state capital, the number of farmers selected were thirty-three in Shendam, fifty in Mangu and sixty-seven in Jos South making a total of one hundred and fifty respondents. The survey was conducted between the months of August – October 2024. This period coincides with the time of high demand for broilers in preparation for Christmas festivities.

Data analysis

The Data collected were subjected to simple descriptive (means, percentages and frequency distribution) and inferential statistics (multiple regression) was used to test the hypothesis. It is hypothesized in this study that there is no relationship between training and socio-economic characteristics of the women in the study area.

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III. Results and discussion

Table 1: Socio-economic characteristics of Respondents

Variable	Frequency	Percentage	Mean
Age of respondents			
< 20 years	7	4.7	
21 - 30 years	21	14.0	
31 - 40 years	29	19.3	40.7
41 - 50 years	73	48.7	
> 51 years	20	13.3	
Marital status			
Single	4	2.7	
Married	99	66.0	
Divorce	25	16.7	
Widow	22	14.7	
Educational level			
Non formal	30	20.0	
Primary	28	18.7	
Secondary	56	37.3	
Tertiary	36	24.0	
Household size			
1 - 5	95	63.3	
6 - 10	33	22.0	
11 - 15	17	11.3	5.3
16 - 20	5	3.3	
Flock size			
< 100	102	68.0	
101 - 500	30	20.0	
501 - 1000	9	6.0	222
> 1001	9	6.0	
How long have you been involved in broiler farming?			
< 1 year	5	3.3	
2 - 5 years	35	23.3	
6 - 10 years	49	32.7	9.1
11 - 15 years	61	40.7	
Do you belong to women cooperative group?			
Yes	97	64.7	
No	53	35.3	
Have you participated in any broiler training?			
No	100	66.7	
Yes	50	33.3	
What do you do with your birds (value chain)?			
Sell Day old chicks	5	3.3	
Buy Day old chicks and raise to table size	104	69.4	
Buy day old chicks and brood and sell	29	19.3	
Buy brooded chicks and raise to table size	12	8.0	

The socio-economic characteristic of the respondents is presented in Table 1. It shows that majority (48.7%) is within the ages of 41 – 50 years and their average age is about 41 years. This suggests that most of them are active and able bodied to carry out the tedious activities in a broiler farm. Another take away from this result is that much younger women are not into broiler production. This could probably be due to the fact that broiler farming demands a lot of attention and work. [3] have obtained a similar result stating that this is a virile age for active participation in poultry operations. Also, previous scholars have reported an average age of 38 years amongst poultry farmers in

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Kaduna State [14] and 36 years in Delta State [15]. [16], however, reported a much higher age of 49 years for the farmers. This is because they are grandparent farmers whose business high level of experience.

The result obtained in this study in respect of age, however, does not agree with [17], who reported that most of the respondent in her study are young women. In addition, majority (66.0%) of the farmers are married while 14.7% and 16.7% of them are widows and divorced, respectively. This married status is similar to those reported by [10, 18]. The educational level of the respondents is mostly secondary (37.3%) followed by those with tertiary education (24.0%). This implies that most of them have a good level of education and enough for the management of a broiler enterprise. It has previously been reported that Some authors have reported that a substantial level literacy is needed for correct administration of drugs, feed, record keeping and creativity in managing a poultry business [18, 19, 20]

The household size of the respondents is majorly (63.3%) between 1 – 5. This implies that the family labour available for the work is less as more household size equals more hands on the farm. This result is similar to that reported by [3] and [21] that women poultry farmers have household size of six. Table 1 also show the flock sizes kept by the women farmers. It revealed that majority (91%) of the farmers have less than one thousand broilers. This implies that most of them are small scale farmers based on the classification of [22] who classified poultry farms as; small scale farm which contains less than 1000 birds. This result is similar to that reported by [17].

Furthermore, majority (96.7%) of the respondents have more than two years of farming experience and an average of 9 years. This implies that they have enough experience to successfully manage a broiler farm. This result agrees with [16] and [19] who reported that their respondents have about mean farming experience of 10 years. Again, majority (64.7%) of the women reported that the belong to a women cooperative group. This could probably due to the benefits they derive from loans they obtain from such groups. This is consistent with the suggestion by [17] that women 73% of women belong to cooperative group because of the credit and other services provided by the cooperative societies.

In the same vein, majority (69.4%) of the respondents opined that they buy day old chicks (DOCs) and raise them to table size before disposing of them, while only 3.3% of them are involved in the sale of DOCs only. Others i.e., 19.3% and 8.0% buy DOCs and brood and sell and buy brooded chicks and raise to table size, respectively.

Table 2: Influence of training on Socio-economic characteristics of Respondents

	B	Beta	t	sig
(Constant)	0.485		5.948	0.000**
Age of respondents	-0.250	-0.550	-5.936	0.000**
Marital status	0.257	0.419	4.445	0.000**
Educational level 0.218	0.487	4.405	0.000**	
Household size 0.116	0.203	1.808	0.073ns	
Flock size	0.052	0.094	0.894	0.373ns

R=0.913, R^2 =0.833, Adj R = 0.826, F= 118.919, **Significant at p<0.01, ns= not significant

The result of the multiple regression of influence of socio-economic characteristics on training is displayed in Table 2. It shows that R (multiple correlation coefficient) value is 0.913 which indicates a good level of prediction. the R^2 (coefficient of determination) value of 0.833 indicates that 83.3% of the dependent variable (participation in training) is explained by the selected independent variables (socio-economic characteristics). The F-value 118.919 was significant at 1% level of significance. Therefore, the result shows that participation of women in broiler production training is significantly predicted by age, marital status, and education (p<0.01), while household size and flock size are not significant (p<0.05). The implication of this result is that as married women with higher educational level increases are more disposed to participating in broiler training. On the other hand, however, the older the women, the less likely they attend broiler training. This result is consistent with [14] to the extent that education and marital status influence women participation in training, but differs in that age also encourages participation in training, which is different from what was obtained in this study.

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Table 3: Challenges Confronting Women broiler Farmers

Variable		SA	A	U	D	SD	Mean
Poor access to financial support	116	20 (77.3)	8 (13.3)	3 (5.3)	3 (2.0)	4.56 (2.0)	
Inadequate extension services		68 (45.3)	17 (11.3)	23 (15.3)	32 (21.3)	10 (6.7)	3.18
Lack of training on broiler farming	94	29 (62.7)	17 (19.3)	10 (11.3)	0 (6.7)	4.26 (0)	
Pests and diseases		39 (26.0)	44 (29.3)	21 (14.0)	37 (24.7)	9 (6.0)	2.89
Pricing of table size broilers		84 (56.0)	39 (26.0)	18 (12.0)	7 (4.7)	2 (1.3)	4.20
Quality of day-old chicks	42	33 (28.0)	30 (22.0)	30 (20.0)	15 (20.0)	2.88 (10.0)	
Ready market for table size broilers	81	38 (54.0)	26 (25.3)	4 (17.3)	1 (2.7)	4.23 (0.7)	
Exploitative tendencies of middlemen	100	39 (66.7)	9 (26.0)	1 (6.0)	1 (0.7)	4.55 (0.7)	
High cost of vet drugs and services	69	34 (46.0)	41 (22.7)	4 (27.3)	2 (2.7)	4.03 (1.3)	

SA =Strongly Agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly Disagree, Percentage in parentheses

Table 3 shows the constraints faced by the respondents in the study area. It reveals that majority of them strongly agree that poor access to financial support (77.3%), exploitative tendencies of middlemen (66.7%), lack of training on broiler farming (62.7%), pricing of table size broilers (56.0%) and ready market for table size broilers (54.0) are significant setbacks to broiler farming. The mean scores obtained for these variables indicate their level of importance. On the other hand, pests and diseases and quality of DOCs are not considered as challenges of high importance to the respondents. This could probably be due to the fact that most breeder farms do not down play the quality of the DOCs they release to the market as it may have negative effect on their remaining in business. [14] and [18] have reported that 71% and 73% of the respondents in their study opined that financial support is a challenge.

IV. Conclusion

Women broilers farmers in Plateau State, Nigeria are fairly educated and operating at small scale. They are mostly married, with moderate family sizes. Majority of them although within the working ages, are fairly advanced in age. Financial access, price and market and lack of training are challenges identified.

References

[1]. Oyaniran, T. (2020). Current State of Nigeria. Agriculture and Agribusiness Sector. Retrieved https://www.pwc.com/ng/en/assets/pdf/afcfta-agribusiness-current-state-nigeria-agriculture-sector.pdf

[2]. Mufutau, R.A., Fadipe, M.O., Shittu, S.K., Akerele E.O. and Oduwale, N.M. (2022). Assessment of Women Involvement in Artisanal Fishing in Ogun Waterside Local Government Area of Ogun State. *Ethiopian Journal of Environmental Studies & Management*, 15(4): 419 – 431, 2022. doi: https://ejesm.org/doi/v15i4.1

[3]. Mufutau, R. A., Ogungbayi, G. B., Osunmakinde, M. A., Ilori, A. R. and Olanloye, S. A. (2023). Assessment of Women's Involvement in Poultry Production in Ogun State. *Nigerian Agricultural Journal* 54(2):265-272

[4]. Kosshak, A. S. (2015). Estimation of Genetic Parameters of Growth Traits and Blood Constituents in Japanese Quail (*Coturnix Coturnix Japonica*). (Unpublished master's thesis). University of Agriculture, Makurdi, Benue State, Nigeria.

[5]. Okwuokenye, G. F., Onyemekihian, F. and Jov, E. (2023). Contribution of poultry farming to households' welfare: A case of enterprise diversification strategy by

livestock farmers in Abuja, Nigeria. Journal of Agriculture and Environment. 19(2): 1-11

[6]. Udoh, B. (2020). Nigeria – Sector: Agriculture-Poultry. Retrieved https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.agroberichtenbuitenland.nl/binaries/agroberichtenbuitenland/documenten/brieven/2020/10/20/kansenkaarten-nigeria-pluimvee/Kansenkaart%2BNigeria-Poultry.

[7]. Amena, S. N. (2020). Factors Influencing Women Participation in Homestead Poultry Rearing in Narayanganj District of Bangladesh. (Masters' thesis Sher-e-Bangla Agricultural University, Dhaka). Retrieved from http://archive.saulibrary.edu.bd:8080/xmlui/bitstream/handle/123456789/3765/Thesis-Amena%20%281%29.pdf?sequence=1&isAllowed=y

[8]. Badmus, A. I., Oyelere, G. O., Aremu, A. O., Orija, S. J. and Atigbi, T. O. (2015). Women Farmers' Contributions to Maize Production in Afijio Local Government of Oyo State. *International Journal of Applied Agricultural and Apicultural Research*, 11 (1&2): 77-85Plateau State (2021). At a glance. Retrieved from https://www.plateaustate.gov.ng/plateau/at-a-glance

[9]. Ahiwe, E. U., Okere, P. C., Egenuka, F. C., Obikaonu, H. O., Kadurumba, O. E., Ekeledo, P. O. and Okehie, U. N. (2015). Involvement of women in poultry production: a veritable way for poverty reduction in Nigeria. *Int'l Journal of Agric. and Rural Dev.*, 18(2):2195-2202.

[10]. Bidi, T. N., Matsika, A. and Mukorera, A. (2023). The Impact of Poultry Production on the Empowerment of Rural Women: Lessons from the Indigenous Poultry Value Chain Project. International Journal of Research and Innovation in Social Sciences 7(8):369 – 378

[11]. Mayoux, L. (2006). Women's Empowerment through Sustainable Microfinance: Rethinking 'Best Practice,'" Eldis Gender Guide, pp. 47–62,

[12]. Plateau State (2021). At a glance. Retrieved from https://www.plateaustate.gov.ng/plateau/at-a-glance

[13]. FGN (2009). Federal Republic of Nigeria Official Gazette, Retrieved from https://archive.gazettes.africa/archive/ng/2009/ng-government-gazette-dated-2009-02-02-no-2.pdf

[14]. Ahmad, A. N., Kaye, J., Gomos, D. N., Musa, I. H. and Abubakar, I. I. (2022). Analysis of Socio-Economic Factors Influencing Poultry Production in Toro Local Government Area of Bauchi State, Nigeria. Proceedings of 47th Annual Conference of Nigerian Society of Animal Production (Jos 2022) 947-951

[15]. Anthonia, A. I. (2015). Production Efficiency of Small-Scale Broiler Farmers in Delta State, Nigeria. (M.SC Dissertation) University of Nigeria, Nsukka.

[16]. Adeyonu, A., Okunola, A., Alao, M. E., Oyawoye, E. O and Okonkwo, C. E. (2021). An assessment of broiler value chain in Nigeria. *Open Agriculture* 6: 296–307

[17]. Ademilua, V. (2017). Influence of cooperative society Membership on women owned SMES in West Africa. *Global Scientific Journals* 5(12): 9-27

[18]. Garba, M., Simon, E., Bala, A. H. and Lalo, S. H. (2015). Challenges to Women Participation in Poultry Production in Jos North Local Government Area of Plateau State, Nigeria. *The International Journal of Science & Technoledge* 3(4): 207-212

[19]. Bamidele, O., Amole, T. A., Oyewale, O. A., Bamidele, O. O., Yakubu, A., Ogundu, U. E., Ajayi, F. O. and Hassan, W. A (2022). Antimicrobial Usage in Smallholder Poultry Production in Nigeria. *Veterinary Medicine International* 2:1-12

[20]. Gudeta A. (2023) Women Participation in Poultry Production. The Case of Ada'a, Lume and Akaki, East Shewa, Ethiopia, *European Journal of Agriculture and Forestry Research*, 11 (2), 40-46

[21]. Abushe, O. P., Ofuoku, A. U. and Agoda, S. (2023). Level of empowerment of women in rural areas in Delta State, Nigeria: Agriculture and related activities. *International Journal of Agricultural Technology*, 19(2):339-354.

[22]. Omotosho, O.A. and Ladele. A.A., (1986)., Management Problems in Large Scale Poultry Business in Nigeria. A paper presented at the 3rd National Conference of Farm Management Association of Nigeria. (FAMAN), pp. 221.