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RESEARCH PAPERS

Gender Analysis of Practitioners of Broiler Production Management Practices in Delta State, Nigeria

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تحليل جنس العاملين في مجال ممارسات إدارة إنتاج دجاج التسمين في ولاية دلتا، نيجيريا

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Abstract. Despite women's substantial participation and productive inputs, their role in broiler production has often being underestimated or ignored by the society. This study was conducted to provide information on the gap that existed on the management technologies observed by the male and female disparity. This study examined gender analysis of broiler production management practices, profitability and constraints. A sample size of 104 respondents was used by the multistage sampling procedure. Data was analyzed using descriptive and inferential statistics. The major findings were, the mean age for the males and females were 45 years and 43 years with majority of the females acquiring higher education than the males. The stock size for the male and female practitioners was 185 birds and 327 birds with mean income of ₦122, 880.86 and ₦172, 221.72. There was insufficient access to extension services and credit by the practitioners. The predominant management practices adopted were vaccinated by male (93.2 %) and female (100.0%); feeding practices male (84.7%) and female (100.0%) whereas, biosecurity and waste recycle were least adopted. Respondents' best reasons for adopting of broiler management practices increased profits of male (96.6%) and female (95.6%). The male and female respondents realized a profit of ₦340, 154.24 and ₦433, 991.01 respectively. The most serious constraint experienced by both was price fluctuation (male = 86.4% and female =80.0%). The results showed relationship between the farming experience, extension access, insurance and bird age and adoption. We concluded that adopting the identified broiler management practices by the practitioners could improve production and income. This study revealed that females performed better than males in the adoption of broiler management technologies. The provision of credit, extension and insurance services and improvement in management practices can address the serious constraints faced by broiler production practitioners.

Keywords: Broiler practitioners, production, adoption, gender, management practices

الملخص: على الرغم من مشاركة المرأة الكبيرة ومدخلاتها الإنتاجية، فإن دورها في إنتاج دجاج التسمين غالبًا ما يتم التقليل من شأنه أو تجاهله من قبل المجتمع. أجريت هذه الدراسة لتوفير معلومات عن الفجوة الموجودة في تقنيات الإدارة والتي لوحظت من خلال التباين بين الذكور والإناث. في هذه الدراسة تم تحليل جنس العاملين في مجال ممارسات إدارة إنتاج دجاج التسمين وكذلك الربحية والقيود. تم استخدام حجم عينة من 104 مستجيبين من خلال إجراء أخذ العينات متعدد المراحل. تم تحليل البيانات باستخدام الإحصاء الوصفي والاستنتاجي. أشارت النتائج الرئيسية للدراسة أن متوسط العمر للذكور والإناث 45 سنة و43 سنة على التوالي مع حصول غالبية الإناث على تعليم أعلى من الذكور. كان حجم المخزون للممارسين من الذكور والإناث 185 طائرًا و327 طائرًا بمتوسط دخل ₦ 122 و880.86 و ₦ 172 و221.72 على التوالي. لم يكن هناك وصول كاف إلى خدمات الإرشاد والائتمان من قبل الممارسين. وجدت الدراسة أن الممارسات الإدارية السائدة المتبعة تحصين الذكور (93.2٪) والإناث (100.0٪)، أما بالنسبة لممارسات التغذية ذكور (84.7٪) وإناث (100.0٪) في حين أن الأمن الحيوي وإعادة تدوير النفايات كانت أقل الممارسات إتباعا. أشارت الدراسة الى أن من أفضل أسباب تبني ممارسات إدارة دجاج التسمين من قبل عينة الدراسة هو زيادة أرباح الذكور (96.6٪) والإناث (95.6٪). حيث حقق المشاركون في الدراسة من الذكور والإناث ربحًا بمقدار ₦ 340 و154.24 و ₦ 433 و 991.01 على التوالي. كان أخطر المعوقات التي واجهها العاملين هو تقلب الأسعار (الذكور = 86.4٪ والإناث = 80.0٪). أظهرت النتائج العلاقة بين تجربة تربية الدجاج والوصول الى الإرشاد والتأمين وعمر الطيور والتبني. خلصنا إلى أن تبني ممارسات إدارة دجاج التسمين المحددة من قبل الممارسين يمكن أن يحسن الإنتاج والدخل. أظهرت هذه الدراسة أن أداء الإناث كان أفضل من أداء الذكور في تبني تقنيات إدارة دجاج التسمين. يمكن أن يؤدي توفير خدمات الائتمان والإرشاد والتأمين وتحسين ممارسات الإدارة إلى معالجة القيود الخطيرة التي يواجهها ممارسو إنتاج الدجاج اللاحم.

الكلمات المفتاحية: ممارسي تربية الدواجن، الإنتاج، التبني، الجنس، ممارسات الإدارة

Introduction

Globally, it has been proven that the animal food source most especially the broiler chicken (*Gallus gallus domesticus*) which connotes birds grown for the goal of meat is very essential for normal mental and physical development of man (Beutler, 2007). Broiler chicken are very cost-effective and also widely accepted because of the nutritional and organoleptic properties, such as amino acids, fats and oil and vitamins (Ugwu, 1990). The broiler rearing provides a means through which transformation can be achieved in animal protein consumption which is seen in the expansion of smallholder broiler farmers in the country at large. The subsequent endorsement from institutions like World Health Organization (WHO) has set a tremendous pace in the development of poultry industry which is the forerunner of other agri-based industries.

In Nigeria, poverty has led to the dependence of over 70% of the rural population on poultry for their livelihoods and economic survival (United Nations, 2007),

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hence making the broiler enterprise a very good source of income for both male and female farmers because of the huge market share it has. Again, poultry plays a profound role as an instrument for curbing poverty, improving livelihoods and reducing unemployment in communities, societies and the country at large (Makenete et al., 2008). With the increasing number of males and females in the broiler production enterprise, the future prospects of expanding the production for more profit is very necessary. Gender is not just about women, it pertain to men and women. Gender denotes to social, political economic and cultural characteristics and chances that are related with being male and female (Ezedinma and Okechukwu, 2013).

In the broiler production process, the farmer is concerned with efficiency in the use of inputs to achieve either cost minimization, output maximization and profit maximization or a combination of the three objectives (Rubina and Haisnan, 2011). Over the past decades, an awareness on gender issues in the world's development and progress has increased (Rahman et al., 2007).

There has been an increasing recognition of women's contributions to agricultural production particularly broiler production today. Women are critical actors in the management of poultry resources and most farms activity in all parts of the world while men drift to the cities searching for paid employment. It was reported that 60-80% of agrarian activities which women engaged-in differ from one region to another for different farm-based activities (Egwuma et al., 2018).

The target of every entrepreneur is to attain the highest possible profit and the potential for profitability is hinged on the fact that Nigeria still imports poultry products such as frozen foods to make up for the short fall in demand (Gueye, 2002). It is evidently clear that with the right knowledge of investing in broiler production and the ability of the farmer to engage in proper management practices, there is room for an impressive yield in profits for the farmer.

Despite the profitability and worth of the poultry business, particularly the broiler chicken in the nation's economy, broiler farms still face challenges which are inimical to the development of the firm. This challenge is due to inefficient management conducted on the farms which has resulted to drastic loss of birds (high bird mortality), diseases and parasites, poor feeding and housing preparation and also marketing problems thereby reducing the level of protein consumption by the population, reduced sustainability and even the living standard amongst farmers and their households. Hence, management is important to sustain poultry production (Alabi and Aruna, 2006).

In Nigeria, among array of livestock farming engaged by women in most rural areas, broiler production stands prominent and has received government reassurances through innovation dissemination, source of inputs and technical assistance on broiler production provided by ADP extension arm of Ministry of Agriculture of diverse States of Nigeria (Nwaru et al., 2010).

There is therefore the need to streamline any existing disparity in relationship between men and women in their involvements in farm activities and decision making process on farms. Good management, such as proper housing preparation, routine health practices and growing the standard of cleanliness which involves biosecurity practices, medication and mitigation should be conceded to attain sustainable protein consumption, reduction in poverty and improvement in the standard of living of the producers (Rahman et al., 2007). Despite women's substantial participation and productive inputs, their role in livestock production has often being underestimated or, ignored by the society (IFAD, 2007). Most importantly the female gender constitutes the most user groups collecting the poultry produce, such as eggs and meat in order to tackle the subsistent needs of their families. Therefore, the practice of sustainable poultry management is not complete without their participation. However, government policies and management strategies have remained blind and have also ignored the intimate relationship between gender and poultry management, hence women continue to agonize and their drudgery increases (Gbigbi et al., 2010). Gbigbi (2017) investigated the factors affecting profit efficiency of broiler producers in Nigeria. A mean profit efficiency of 65% was recorded in the area of study. The factors which influenced the profit efficiency of broiler production were gender, age, experience and training while cooperative membership exerted a significant effect on their profit inefficiency level at 1%.

Ezeh et al. (2012) asserted that level of education is related to the efficient management of broiler farms, such as light enclosure, vaccination, medication and feeding can bring about significant improvement in productivity of broiler production. Ovharhe et al. (2020) positioned that most family members are involved as work force in backyard poultry farm business and that men, women and progenies play designated roles in the poultry investments. This contributes to food security and income generation. Having appraised the gaps in the poultry sector and agricultural business, it became pertinent to undertake a study on the examination of the gender analysis of practitioners of broiler production management practices in Delta State, Nigeria. This study focused on some relevant objectives, such as to: (i) describe the socio-economic features of male and female, (ii) identify the various broiler management practices, (iii) examine the factors influencing the men and women decision to adopt broiler management practices, (iv) determine the major constraints militating against broiler management practices, (v) identify the reasons for adopting the broiler management practices and, and (vi) determine the costs and returns of broiler production by gender. The research hypothesis: There

is no significant difference in adoption level of management practices between the male and female categories.

Materials and Methods

Many poultry farms involved in broiler production activities are located in clusters of communities in Okpe Local Government, Delta State. Based upon this, it became appropriate to choose it for the study. Delta State geographical coordinates are 5°26N, 5°57E and 5.433°N 5.9 50°E (NPC, 2006).

A multistage sampling procedure was utilized to draw respondents for the study. Firstly, purposive sampling of fifteen communities namely Ohore, Ometa, Orerokpe, Oku-uvo, Adeje, Okuokoko, Meredje, Evrieyen, Otemewo, Jeddo, Obokodo, Ughoton, Adagbarassa, Egborode and Oha. In the second stage the respondents were randomly and proportionally selected based on the size of farmers' involvement in each community. In all, a total of 104 broiler farmers were selected from a large population of 346 broiler farmers (Table 1).

Data collection

Primary data was used in the study. It was collected using well-structured questionnaire and interview schedule, which was administered to the broiler producers. The questionnaire collected information on these variables which included management, cost and returns of the broiler business, constraints and the socioeconomic characteristics of the farmers. Method of data analysis: Data for the study was analyzed with descriptive and inferential statistics. Objectives (i), (ii), (iii) and (v) was realized with descriptive statistics such as mean, frequency distribution and percentage with objective (iii) was achieved with multiple regression model, objective (vii) was achieved with the cost and returns analysis.

Model Specification

The implicit specification of the model was given as:

$Y = f(X_1, X_2, X_3 \text{ ----------} X_n)$.

The explicit form of the model was given as:

$$Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + e$$

where Y is percentage of the index of management practices, X_1 is age (years), X_2 is educational level (years), X_3 is family size, X_4 is labour (man-days), X_5 is experience (years), X6 is credit accessibility (dummy = 1 if yes, otherwise = 0), X_7 is extension services access (dummy = 1 if yes, otherwise = 0), X8 is insurance use (dummy = 1 if yes, otherwise = 0), X_{10} is stock size (number of birds), X_{11} is age of birds (weeks), X_{12} is mortality rate (%), Bo is intercept, B_1-B_{12} is coefficient of parameter estimates, and e is error term.

Results and Discussion

Results in Table 2 reveals that the predominant age for men was 25-37 years, while the women ranged from 38-49 years. They were followed by those between 38 and 49 years having 25.5% for male and the females 25-37 years respectively. The mean age of the males was 45 years and 43 years for women hence they are vibrant to engage in broiler management practices. Educational Attainment at tertiary level was 44.1% for male and 66.7% for female. This shows that the female attained more tertiary educational level than the male. There is needed for education to unlock the potential of farmers to make them risk averse and improves the adoptability of best practices (FAO, 2008).

Table 1. Result of random sampling of respondents

Community	Farmers' population	Respondents sampled (30%)
Ohore	19	6
Ometa	16	5
Oreokpe	44	13
Oku-uvo	22	7
Adeje	16	5
Okuokoko	25	8
Meredje	44	13
Evrieyen	9	3
Otomewo	19	6
Jeddo	25	8
Gbokodo	41	9
Ughoton	13	4
Adagbarassa	9	3
Eghorode	25	8
Oha	19	6
Total = 15	**346**	**104**

Table 2. Socioeconomic Attributes of Broiler Producers

Variable	Frequency (N =59)	Frequency(N=45)
Age (years)	**Male category**	**Female category**
25 – 37	21 (35.7)	13 (28.8)
38 – 49	15 (25.5)	21 (46.5)
50 – 57	13 (22.1)	8 (17.7)
58 – 67	10 (15.3	3 (6.6)
Mean	45 years	43 years
Educational Status		
No formal education	10 (16.9)	8 (17.8)
Primary education	8 (13.6)	1 (2.2)
Secondary education	15 (25.4)	6 (13.3)
Tertiary education	26 (44.1)	30 (66.7)
Marital status		
Married	45 (76.3)	34 (75.6)
Single	12 (20.3)	4 (8.9)
Divorced	0	3 (6.7)
Widowed	0	4 (8.9)
Widower	2(3.4)	0
Farming experience (years)		
1-9	42 (71.2)	44 (97.7)
10-17	10 (17)	1 (2.2)
18-30	7 (11.9)	0 (0)
Mean	3	7
Stock size		
15 – 60	15 (25.5)	3 (6.67)
70 – 125	11 (18.7)	2 (4.44)
130 – 300	11 (18.7)	3 (6.67)
330 – 650	12 (20.4)	34 (75.6)
700 – 2000	10 (17)	3 (6,67)
Mean	185 birds	327 birds
Income (₦)		
<50,000	6 (10.2)	2 (4.4)
50,000 – 99,999	18 (30.5)	6 (13.3)
100,000 – 199,999	30 (50.4)	21 (46.7)
200,000 – 299,999	5(8.5)	15 (33.3)
300,000 and above	0 (0)	1 (2.2)
Mean	122880.86	172221.72
Cooperative membership		
Yes	16 (27.1)	40 (88.9)
No	43 (72.9)	5 (11.1)
Extension activities		
Yes	12 (20.3)	16 (35.6)
No	47 (79.7)	33 (73.3)
Farm insurance practice		
Yes	2 (3.4)	3 (6.7)
No	57 (96.6)	43 (95.6)
Household size		
1-3	15 (25.4)	11 (24.4)
4-6	41 (69.5)	27 (60.3)
7-9	3 (5.1)	7 (15.6)
Mean	5	4
Credit access		
Yes	23(39.0)	7(15.6)
No	36(61.0)	38(84.4)

The result showed that 76.3% of male respondents were married while the single and widower accounted for 23.7%. For the female respondents, 75.6% and 8.9% accounted for those who were married and single. Only 15.6% of them were divorced and widowed. The high percentage of married respondents has implications for household size which in turn influences the broiler management practices. Ovharhe et al. (2020) opined that most backyard poultry farmers were married with small household size which was advantageous for cheap labour in small scale poultry farming. The result revealed that 71.2% of the male respondents had experience of 1-9 years followed by 17% who had between 10-17 years of experience and 11.9% had 18-30 years of experience. On the other hand, 97.7% of female respondents had 1-9 years of experience as against the male respondents and the least years of farming experience of respondents was 2.2% having 10-17 years of experience. The mean farming experience age of male and female respondents were three and seven years respectively. This suggests that female respondents had more farming experience because they engaged more of their time on poultry farming, which gave them more ability to combine resources in an optimal manner, given the available resources (Nhemachama and Hassan, 2007).

The finding in this study indicated that 25.5% of male respondents had stock size of 15-60 birds followed by 20.4% and 18.7% having 330-650 and 70-125 birds, similarly another 18.7% had 130-300 birds. Also 17% the least, had stock size between 700-2000 birds. While, the female respondents had (28.8%) stock size of 15-60 birds followed closely by 28.8% having 130-300 birds. About 26.6% of the female respondents had 70-125 birds. While only 6.7% had 700-2000 birds. The implication of this result is that the female respondents participated actively in carrying out these management practices which in turn increased their profit margin for expansion or increase in stock size.

The finding revealed that those who earned less than ₦50,000 were 4.4% for the female respondents while the male respondents were 10.2%. Those who earned ₦50,000 to ₦99,999 were 13.3% of the female respondents whereas the proportion of male respondents earning the same amount was 30.5%. However, those earning ₦100,000- ₦199,999 were having 46.7% for the female respondents and the male respondents was (50.4%) respectively. Moreover, those who earned ₦200,000 to ₦300,000 and above in the female respondents are 35.5% while the male respondents 8.5% in this category. The mean income of the female respondents was ₦172,221.72 and ₦ 122,880.86 for the male respondents. This was not surprising because the female stock more birds than male. Ovharhe and Gbigbi (2016) reported a similar average income level per annum of poultry producers in Fadama III project in Delta State of Nigeria. Respondents' male (55.9%) and female (88.9%) belong to cooperative societies in gender disaggregation. This is obvious since more female are seeking for investment capital from cooperative which is a cheaper source than formal banking bureaucracy. About 20.3 percent of male (20.3%) and 35.6% of female had contact to extension workers on monthly basis. Ovharhe et al. (2020) reported about the poor extension outreach in Delta State. Respondents' male (3.4%) and female (6.7%) belong to farm insurance bodies. This result corroborate Gbigbi and Ikechukwuka (2020) findings on accessibility to insurance in Nigeria. This is very poor. It calls for awareness creation in the broiler production business. The predominant household size range between 4-6 persons for both categories. This was followed by those who had between 1-3 family members. But still about 5.1% of the male respondents had household size of 7-9 persons as against 15.6% for the females. The average household size for both the males and females was 5 persons and 4 persons respectively. Moderate household size was reported in the region. The result showed that more males

Table 3. Management practices adopted by respondents

Adoptable Management Practices	Male		Female	
	n = 59	Responses (%)	n = 45	Responses (%)
Vaccination	55	93.2	45	100.0
Feeding practices	50	84.7	45	100.0
Record keeping	52	88.1	42	93.3
Disease management	48	81.4	41	91.1
Marketing system	48	81.4	37	82.2
Stocking density	36	61.0	28	62.2
Litter management	51	86.4	29	64.4
Housing management	42	71.2	29	64.4
Light management	36	61.0	23	51.1
Biosecurity	23	39.0*	17	37.8*
Waste recycle	25	42.4*	16	35.6*

*Source: Field survey data, 2019 *below average implies low adoption rate. Multiple responses*

Table 4. Reasons for Adoption of Management practices by Respondents

Reasons	Male		Female	
	n = 59	Responses (%)	n = 45	Responses (%)
Increase profits	57	96.6	43	95.6
Efficient financial management	49	83.1	41	91.1
Early recognition, prevention and treatment of disease.	46	78.0	40	88.9
Efficient diet of birds to increase production	47	79.7	39	86.7
Reduce cost of production	50	84.7	37	82.2
Efficient physical management	29	49.2	32	71.1
Reliability in price and quality of feed	27	45.8	29	66.7
Better organization of stocking	23	39.0*	22	48.9*

*Source: Field survey data, 2019. *below average implies low reason*

(39%) had access to credits than their female counterpart (15.6%). This is congruent with Gbigbi and Ikechukwuka (2020) that only a negligible people obtained credit. This could have negative implications on effective management of practices.

Management Practices Utilized by Respondents

Entries in Table 3 shows the different types of broiler management practices of respondents disaggregated by gender. The predominant management practices adopted amongst others were vaccination by male (93.2 %) and female (100.0%); feeding practices male (84.7%) and female (100.0%) respectively. The practice of biosecurity and waste recycle has not gained ground in the location of study for both the male and female broiler farmers. The results disclosed that the male folks adopted more of the broiler management technologies in some areas than their female counterparts and vice versa.

Reasons for Adopting of Broiler Management Practices

As disaggregated by gender, result in Table 4 shows that respondents' best reasons for adopting of broiler management practices were increase profits by 96.6% male

Table 5. Cost and Returns of Respondents

Items	Male (mean) ₦	Female (mean) ₦
Day old chicks	13587.97	21236.27
Feeds	146832.20	203993.22
Medication	11501.44	16387.71
Veterinary services	7250.59	8886.0169
Transportation	1367.80	1705.08
Labour	14161.02	15359.32
Water	957.63	786.44
Equipment	39209.32	60719.15
Bulbs	7853.39	12337.46
Electricity	1623.73	1133.90
Wheel barrow	933.90	1155.25
Stores	1033.90	907.62
Shovels	1890.68	3748.31
Hoes	928.81	1337.29
Cutlass	3040.68	4773.56
Total Cost	252173.05	354466.61
Number of birds sold	587994.92	782237.29
Poultry droppings sold	4349.32	6067.80
Total Revenue	592344.24	788305.10
Profit	340154.24	433991.01

Source: Field survey data, 2019.

Table 6. Constraints faced by the respondents (multiple responses)

Perceived Constraints	Male		Female	
	n = 59	Responses (%)	n = 45	Responses (%)
Price fluctuation	51	86.4	36	80.0
Financial difficulty	42	71.2	36	80.0
Problem of predators	46	78.0	35	77.8
Loss due viral disease	43	72.9	38	84.4
Problem of ectoparasites	39	66.1	36	80.0
Lack of facilities	39	66.1	29	64.4
Problem of spoilage	38	64.4	34	75.6
Lack of technique	34	57.6	29	64.4
Inadequate marketing facilities	25	42.4*	15	33.3*
Inadequate knowledge of vaccination	20	33.9*	19	42.2*
Malnutrition	28	47.5*	21	46.7*
Lack of veterinary services	23	39.0*	16	35.6*
High interest rate	28	47.5*	21	46.7*

*Source: Field survey data, 2019. *below average implies less serious constraints*

and 95.6% female. While the lowest reasons were better organization of stocking by 39% male and 48.9% female. This infers that poultry producers do not have issues with stock arrangements.

Cost and Returns Analysis

The result (Table 5) showed that the total revenues of the male and female respondents were ₦592, 344.24 and ₦788, 305.10 respectively and the total cost of production were ₦252, 173.05 for the male respondents and ₦354, 466.61 for the female respondents. However, the female and male respondents had profits of ₦340, 154.24 and. ₦433, 991.01 separately. The implication of this result indicates that the female earned more compared to their male counterparts in the study area. This findings is different from Gbigbi (2017) that male farmers income per annum were higher that female.in Nigeria.

Constraints Faced by Broiler Farmers

For the male and female gender, the most serious constraints experienced were the problem of price fluctuation (86.4% and 80.0%), financial difficulty (71.2% and 80.0%), predators attack (78.0% and 77.8%), losses due to viral diseases (72.9% and 84.4%), and lack of facilities (66.1% and 64.4%) respectively. The less serious constraints to both were malnutrition, inadequate knowledge of vaccination, lack of veterinary services, high interest rate and inadequate marketing facilities. Hence they could not affect the level of adoption of management practices by both categories of respondents.

Factors Influencing Adoption of Broiler Management Practices

The criteria for selecting the lead equation were number of significant variables, magnitude of R-square and

Table 7. Factors influencing adoption of Broiler Management Practices (Male)

Variables	Coef.	Std. Err.	T
Age	-0.037113	0.0231361	-1.60
Educational Qualification	0.0470147	0.0209786	2.24**
Stocksize	0.386497	0.0191869	2.01**
Farming Experience	0.0095106	0.0155625	0.61
House hold size	0.000897	0.024067	0.04
Labour used in Man-days	0.0082348	0.0226344	0.36
Mortality rate	-0.0146033	0.0166115	-0.88
Credit Access	-0.034495	0.0233975	-1.47
Extension Access	0.423123	0.0179987	2.35**
Farm insurance	0.0428668	0.0238195	1.80*
Bird Age	0.3734668	0.0188023	19.86**
_cons	0.0756044	0.1194828	0.63

*Source: Field survey data, 2019. **, * Significant at 5% and 10%*

Table 8. Factors influencing adoption of management practices (Female)

Variables	Coef.	Std. Err.	T
Age	-0.0741208	0.0397425	-1.87*
Educational Qualification	-0.217197	0.2377444	-0.91
Stocksize	0.0112116	0.076606	0.15
Farming Experience	0.5120179	0.1667688	3.07**
Household size	0.0045498	0.094551	0.05
Labour used in Man-days	0.0710373	0.0803996	0.88
Mortality rate	-0.0270327	0.0834433	-0.32
Credit Access	0.1717716	0.081196	2.12**
Extension Access	0.1919735	0.1753499	1.09
Farm insurance	0.2391126	0.0787231	3.04**
Bird Age	0.6228541	0.0963497	6.46**
_cons	0.671355	0.3935401	1.71

*Source: Field Survey data, 2019. **, * Significant at 5% and 10%*

a priori expectation. The exponential function was chosen as the lead equation for these criteria for the male respondents and double log function was chosen as the lead equation for the criteria of the female respondents and double log for both gender pooled regression (Table 7). The results presented for the male respondents includes education, stock size, extension access, insurance and age of birds were significant. Educational attainment was positive and significant at 5% probability level. This implies that increase in educational level can lead to a corresponding increase in the adoption of broiler management technologies. This means that farmers with higher educational attainment would prefer more adoption of management practices in order to enhance profit of the farm. And this is in accordance with the *a-priori* expectation. The coefficient of stock size was positive and significant. This means that a unit increase in stock size will leading to an increase in the adoption of broiler management practices. The coefficient of the access to extension services had a positive significant relationship with adoption of broiler management practices. This implies that a unit increase in access to extension services can lead to a unit increase in the adoption of broiler management practices. The coefficient of insurance was positive and significant. This suggest that a unit increase in insurance use can lead to a corresponding increase in the adoption of broiler management practices. The coefficient of the bird age was positive and statistically significant at 1% probability level. This means that increase in bird age will lead to a corresponding increase in the adoption of broiler management practices.

The coefficients for farming experience was significant at 5% level and positively affected the level of adoption of broiler management practices of female respondents. The positive coefficient of farming experience of the female respondents implies that any increase in farming experience will result in increased adoption of broiler management practices by the farmers respective-

Table 9. Factors influencing adoption of management practices (Female)

Variables	Coef.	Std. Err.	T
Age	-0.0143	0.0343	-0.42
Educational Qualification	-0.1179	0.1602	-0.74
Stock size	0.0354	0.0965	0.37
Farming Experience	0.2833	0.1045	2.71**
House hold size	0.0376	0.0719	0.52
Labour used in Man-days	-0.0686	0.0806	-0.85
Mortality rate	0.0319	0.0828	0.39
Credit Access	0.0840	0.0726	1.16
Extension Access	3.4949	0.1483	23.6***
Farm insurance	2.6341	0.0794	33.2***
Bird Age	0.9167	0.0842	10.88**
_cons	0.6143	0.2825	2.17

**, * Significant at 5% and 10%

ly. As stated by Bassey and Okon, (2008), experience has been found to enhance the use of improved practices. The coefficient of age was negative and significant as 10% probability level. This implies that increase in age of respondent will lead to a decrease in the adoption of broiler management practices. The coefficient of credit access was positively signed and significant at 5% level of probability. This depicts that farmers with more access to credit had increased probability of adoption of broiler management practices in the study area. The coefficient of insurance was positive and significant at 5% probability level. This suggest that increase in insurance use will lead to an increase in adoption of broiler management practices in the study area. The coefficient of bird age was positively significant at 1% probability level. This means increase in bird age will lead to the same increase in the adoption of broiler management practices by the female folks in the study area.

Factors Influencing Adoption of Broiler Management Practices (Pooled Result)

The pooled result for male and female respondents showed that only farming experience, extension access, insurance and bird age were significant in influencing adoption of broiler management practices. The coefficients for farming experience exerted a positively significant relationship in the level of adoption of the male and female respondents at 5% respectively. This implies that farming experience can result in increased adoption of broiler management practices. This finding support the findings of Gbigbi et al.(2010) respectively who stated that highly experienced farmers are known to have accumulated enough knowledge through several years of trial and error. The coefficient of access to extension services was positive and significant at 5% probability level. This implies that a unit increase in access to extension services can lead to corresponding increase in adoption of broiler management practices. The coefficient of insurance use was positive and significant at 5% probability level. This implies that a unit increase in insurance use will lead to a corresponding increase in the adoption of broiler management practices. The coefficient of bird age was positive and highly statistically significant at 1% probability level meaning that a unit increase in bird age will lead to the same increase in the adoption of broiler management practices.

Conclusion

Based on evidence from the study, it was concluded that the adoption of broiler management practices was carried out by female respondents than the male respondents in the areas of cooperative membership, access to fund and profit from business. Broiler farmers showed the best reasons for adoption of management practices and increased profitability by both male and female. On gender disaggregation, performances were closely high in the use of adoptable practices such as vaccination, feeding equipment, proper record keeping, stocking density, litter management, housing management and disease management. The least adopted were biosecurity and waste recycle which are yet to gain ground. One of the most serious constraints was financial difficulty. Besides, since identified constraints were manageable, with the adoption of improved broiler management practices, poultry farmers' living standard would be positively impacted in Delta State, Nigeria. Based on the finding of the study, the following recommendation were made: (i) Biosecurity measures should be taken in order to prevent the introduction and the spread of disease in a poultry flock. As this was seen to be least adopted amongst other management practices. (ii) Extension services should be made available in order to ensure continuous training on improved housing, feeding, predators and disease control. (iii) Government should ensure that farmers have adequate access to credit facilities and also insurance policies in order to expand their farm for profits.

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