

Determinants of school-aged children's participation in family poultry production in Ilorin metropolis of Kwara state, Nigeria

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Abstract: In spite of the seemingly impressive contribution of family poultry production to improvement in livelihood, its potential to harness skills of children and mainstream them into agriculture is yet to receive robust attention. Hence, this study was carried out to empirically investigate the determinants of school-aged children's participation in family poultry production. Two-stage sampling technique was used in selecting 120 respondents for the study. Primary data collected with the use of structured questionnaire were analyzed using descriptive and inferential statistical tools. The result of the study revealed that majority of the respondents (53.3%) were females, with mean age of 14.2 years and about 50.8% of the respondents hailed from polygamous family with an average family size of 9 persons. Most (56.7%) of the households rear local chickens with an average size of 18 birds. Furthermore, ushering of birds to pen and cleaning of poultry premises were the major activities the children participated in with participation index (P.I) of 1.27 and 1.24 respectively. Furthermore, cleaning of poultry premises was the major activity the children participated in with a participation index (P.I) of 1.24. School workload/assignment (WMS=1.16) was the major barrier perceived as constraining children in poultry activities. Multiple regression analysis revealed that there was significant relationship between selected socioeconomic characteristics and extent of children participation in family poultry activities ($p < 0.05$). It was concluded that the level of children participation in family poultry activities is low. Deliberate roles' assignment to children and integration into decision making activities was recommended.

Keywords: Family Poultry, Participation, School-aged Children

INTRODUCTION

Humans have been raising poultry for thousands of years. Poultry are domesticated avian species that are raised for eggs, meat, and feathers. The term poultry includes chickens, turkeys, guinea fowls, ducks, geese, and other species often considered game such as quails, pigeons, and pheasants (Food and Agriculture Organization, FAO, 2014). Poultry represents an important sector in animal production, with family poultry flocks representing a huge majority, especially in the developing countries (Bamiro *et al.*, 2009).

Family poultry production is not new to agricultural system in Nigeria. Most people living in developing countries keep small flocks of scavenging poultry generally known as village, rural or family poultry. Family poultry encompasses the wide variety of small-scale poultry production systems found in rural, urban and peri-urban areas of developing countries. This serves as financial and food security safety net for them (Iheke *et al.*, 2009; Olabanji & Olabanji, 2020). Daily consumption of eggs by young children has been shown to improve linear growth (Iannotti *et al.*, 2017), and poultry ownership has been found to be positively associated with poultry meat consumption (Azzari *et al.*, 2015) and nutrition outcomes in children (Headey & Hirvonen, 2016).

The term 'family poultry' was adopted to encompass a spectrum of small-scale production systems, referring to poultry-keeping practiced by individual families as a means of providing food

security, income and gainful employment (Besbes *et al.*, 2012). Family poultry farming are widely distributed across resource-poor households of Africa (Gueye, 2003), with each member of the households having various roles in the production system. Generally, there is a growing recognition of the contribution of men and women to agricultural production today. But little is documented about children participation in production, despite the fact that the outcome of the production (good or bad) also affects them.

Over the years there has been growing acceptance that children and young people should be more involved in decision making affecting their lives (Padilla & Rivera-Holguin, 2015). The benefits of this include strengthening their personal and social development (Checkoway, 2011). Mainstreaming children into agricultural venture requires attracting them into agricultural activities at young age. Grooming them in agriculture is setting them up for self-reliance as knowledge gained during this period could be taken into the future when deciding career prospects. Since poultry production is a common agricultural activity in most households in Nigeria, this study is concerned with assessing school-aged children's participation in family poultry production in Ilorin metropolis of Kwara State, Nigeria. The study examined the socioeconomic characteristics of the respondents, determine the level of children's participation in family poultry management and identify the major barrier to children's participation in family poultry production. The hypothesis

formulated was to know whether a significant relationship exists between the respondents' socioeconomic characteristics and extent of participation in family poultry production.

METHODOLOGY

Descriptive survey research was used. The study was carried out in Ilorin metropolis of Kwara State. The people of Ilorin are both Yoruba and Fulani origin. Ilorin metropolis encompasses three of the sixteen local government areas in Kwara state (that is, Ilorin East, Ilorin South, and Ilorin West). The capital city of Ilorin is situated 306km inland from the coastal city of Lagos and 500km from the Federal Capital, Abuja. Ilorin South has its headquarters at Fufu; Ilorin East at Okeoyi; and Ilorin West. It has an area of 3,435km² and a population of 206,042 at the 2006 census (NPC, 2006). Majority of the people in the area are artisans, civil servants and subsistence farmers. The area is predominantly peri urban. Agriculture is mainly a secondary occupation for most of the citizens of this area. The culture of the people is heterogenous, however, there is commonality of shared norms which ensures social order and harmony. Ilorin Metropolis has 75 public senior secondary schools; 25 of these schools are in Ilorin South Local Government Area (LGA), 23 are in Ilorin West LGA, while 27 public secondary schools are in Ilorin East LGA (Ministry of Education and Human Capital Development (MOEHCD), Ilorin, 2014).

Primary data used in this study were obtained from 120 junior secondary school students in JSS three selected randomly. Two stage sampling technique was used to select the respondents. In the first stage, proportionate sample to size method was used in selecting ten percent of the secondary schools in each of the three local government areas in Ilorin metropolis (that is 3 from Ilorin south, 2 from Ilorin east and 3 from Ilorin west). The selected schools were G.S.S, Ilorin, G.D.S.S, Kulende, Ilorin, G.D.S.S, Tanke, Ilorin, St. Anthony's Secondary School, Ilorin, Ilorin Grammar School, G.D.S.S, Alore, Ilorin, G.D.S.S Odokun, Ilorin, and G.D.S.S, Adeta, Ilorin. In the second stage, fifteen (15) junior secondary three (JS3) students were randomly selected in each school making a total of one hundred and twenty respondents. Students from households that raise, and rear chickens were considered for the study.

Structured questionnaire was used to elicit the required information for the study. The data collected were analyzed using both descriptive and inferential statistics. The descriptive statistics such as charts, frequency and percentage were used for addressing the socioeconomic characteristics. Extent of participation in family poultry farming was analyzed with mean using 3-point Likert scale.

This was structured into regularly (R), occasionally (O), and never at all (N) with corresponding values of 2, 1 and 0 respectively. Participation indices = Regularly x 2 + Occasionally x 1 + Never at all x 0, divided by total number of respondents. The criteria reference (cutoff) point was established as 1.00. Constraints to children's participation was assessed using 3-point likert type scale of severe, mild and not a constraint coded 2, 1 and 0 respectively with 1.00 as the cutoff point. Ordinary least Square was used to analyze the formulated hypothesis at 0.05 level of significance. The model was specified as

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

$$\text{Implicitly, } Y = f(X_1, X_2, X_3, X_4, X_5) + U \dots\dots\dots(1)$$

- Where,
- Y= Participation Index (in numbers)
- X₁ = sex of respondents (1 for male and 0 otherwise)
- X₂ = Age of respondents (in years)
- X₃ = Family type (Dummy)
- X₄ = Family size (in numbers)
- X₅ = Poultry Management system practices (Dummy)
- U= Error term

RESULT AND DISCUSSION
Socioeconomic characteristics

Table 1 revealed that a notable proportion of the respondents were females (53.3%) while the males were 46.6%. This implies that female education is getting attention and there is improvement in girl child education. The mean age of the respondents was 14.2 years, indicating that they are adolescents with sufficient maturity to assist parents in doing house chores and take part in household activities. About half of the respondents (50.8%) hailed from polygamous family with an average family size of 9 persons. Ownership of the poultry birds (chickens) was credited to their mothers (56.7%). Findings confirmed that women owned most chicken flocks, as posited by Mtileni et. al., (2009) and Tadelle et. al. (2003) who reported that women owned and manage birds and controlled the cash generated from the sales. Intensive system was the major management system practiced by the families with a reasonable proportion of them (56.7%) rearing local chickens with an average size of 18 adult birds. Gueye (2003) mentioned that households throughout the developing world keep family poultry in numbers which range from single birds to flocks of 100, with a typical range of 5-15 adult birds. This number varies according to household size, wealth status, and time of year. (FAO, 2014). Local chickens were kept mainly for family needs, including selling to buy children school requirements and for home consumption. Family poultry production in Africa generally survives by

scavenging (Dwinger et. al., 2003). With respect to the various management duties in chicken production, poultry labor distribution among children on gender basis revealed that more boys (45.0%) were involved in the family poultry activities. This finding coincides with the findings of another study done in Tanzania and Zimbabwe

by Kujana (2012) and Muchadeyi *et al.*, (2004), that showed boys had more participation in keeping chicken than girls. In those studies, boys were mentioned to carry out almost all the activities including making chicken shelters while girls participated more in cleaning and feeding activities.

Table 1: Distribution of the respondents based on their socioeconomic characteristics

Variables	Frequency (N=120)	Percentages (%)	Mean
Sex of the respondent			
Male	56	46.6	
Female	64	53.3	
Age of the respondents			
10-15	74	61.7	14.2 years
15-20	46	38.3	
20-25	-	-	
Family type			
Joint (Polygamy)	61	50.8	
Nuclear (Monogamy)	59	49.2	
Family Size			
Less than 5	19	15.8	9 persons
6-10	74	61.7	
11-15	17	14.2	
16 and above	10	8.3	
Ownership of chickens in Household			
Mothers	68	56.7	
Fathers	44	36.7	
Children	08	6.6	
Poultry management system			
Intensive	63	52.5	
Semi-intensive	26	21.7	
Extensive	31	25.8	
Flock type			
Local	68	56.7	
Exotic	27	22.5	
Both	25	20.8	
Flock size (Adult Birds)			
Less than 20	54	45.0	18 birds
21-40	38	31.7	
41-50	13	10.8	
51 and above	15	12.5	
Poultry labor distribution among children			
Boys	54	45.0	
Girls	51	42.5	
None	15	12.5	

Source: Field Survey, 2019

Extent of children's participation in various family poultry activities

On the basis of participation in family poultry activities, table 2 shows that the children had no participation in all the poultry decision aspects including the decision on the number of flock to keep ($\pi=0.25$), system of rearing ($\pi=0.00$), procurement of birds ($\pi=0.03$), procurement of feeds ($\pi=0.18$), marketing of products ($\pi=0.29$), and keeping of earnings ($\pi=0.03$). Regarding the management aspects, the children took part in cleaning of poultry premises ($\pi=1.24$), provision

of water for the birds ($\pi=1.12$), search for stray birds ($\pi=1.08$), and ushering of birds to pen ($\pi=1.27$). However, they had moderate participation in preparing the chicken shelter ($\pi=0.79$), and culling of sick/dead birds ($\pi=0.65$). The children had no participation in vaccination of birds ($\pi=0.14$), selling of poultry (hen, cock) ($\pi=0.45$), and record keeping ($\pi=0.14$). The more active participation of boys as compared to girls, is different when compared to the adults, where you find that women are more actively involved with poultry management and caring as compared to

men (Okitoi *et al.*, 2007). This implies that one should not underestimate the value of educating girls just because they are less active in poultry

management in their young age, equipping them is a way of knowledge dissemination to the society and preparation for future skilled women.

Table 2: distribution of the respondents based on the extent of children’s participation in FPA

SN	Poultry Activities	Extent of participation			Participation Indices	Decision
		Regularly	Occasionally	Not at all		
A Decision making aspects						
1.	Number of birds raised	05	20	95	0.25	NP
2.	System of rearing	00	00	120	0.00	NP
3.	Procurement of birds	00	04	116	0.03	NP
4.	Procurement of feeds	05	11	104	0.18	NP
5.	Marketing of products	10	15	95	0.29	NP
6.	Keeping of earnings	00	03	117	0.03	NP
B Management Aspects						
7.	Making chicken shelter	25	45	50	0.79	MP
8.	Cleaning of poultry premises	50	49	21	1.24	P
9.	Provision of water for the birds	47	40	33	1.12	P
10.	Vaccination of birds	03	11	106	0.14	NP
11.	Selling of poultry (hen, cock)	15	24	81	0.45	NP
12.	Search for stray birds	42	46	32	1.08	P
13.	Ushering of birds to pen	59	34	27	1.27	P
14.	Culling of sick birds	17	44	59	0.65	MP
15.	Record keeping	05	07	108	0.14	NP

Source: Field Survey, 2019

Cutoff point=1; NP=No Participation; MP=Moderate Participation; P=Participated

Major barriers to children participation in family poultry production

The students were required to mention major barriers to their involvement in poultry management activities. As shown in table 3, the respondents indicated school workload/assignment with weighted mean score of 1.16 as the major barrier constraining their participation in family poultry activities. Poor management skill/technical

know-how was ranked second (WMS=1.02). Demanding nature of other domestic chores ranked third (WMS=0.94). Energy demand of poultry activities ranked fourth (WMS=0.92). While inadequacy of time (WMS=0.79), Lack of encouragement from parents (WMS=0.79), fear of infectious disease (WMS=0.58), and gender discrimination (0.16) ranked lowest as 5th, 6th and 7th respectively.

Table 3: Distribution of respondents based on perceived barriers to family poultry production

SN	Barriers	Severe	Mild	Not a constraint	Score	WMS	Rank
1.	Inadequacy of time	30	35	55	95	0.79	5
2.	Poor management skill/technical know-how	40	42	38	122	1.02	2
3.	Fear of infectious disease	22	26	72	70	0.58	6
4.	Energy demand of poultry activities	35	40	45	110	0.92	4
5.	Demanding nature of other domestic chores	36	41	40	113	0.94	3
6.	School workload/assignment	49	41	30	139	1.16	1
7.	Lack of encouragement from parents	30	35	55	95	0.79	5
8.	Gender discrimination	21	24	75	66	0.16	7

Source: Field Survey, 2019

Cutoff point=1.

Test of hypothesis

Table 4 shows there is a significant relationship between selected socioeconomic characteristics of the respondents and their level of participation in family poultry (F = 6.457, R Square = 0.799 P < 0.05). In the light of this, the null hypothesis was rejected. The coefficient of determination (R²=0.799) indicated that the socioeconomic characteristics (sex, age, family type, family size, poultry management system) are

accountable for every 79.9% changes in level of participation. In order to test the variability in the multiple regression model F test was used to check whether all the independent variables have regression coefficients equal with zero, or in other words if the explained variance is not due to a chance. This was observed in the F test statistic which indicated the value of calculated F as 6.457 for the variance generated by the regression. The variables that have significant relationship with the

level of participation of the children in the study area are sex, age and type of poultry management practice. These were significant at $p < 0.05$. Implying that male children due to their tendency of being fearless at handling animals are more

involved in poultry production. Also, the older the children become the more their participation. In addition, the simpler the type of poultry management system practiced the easier it becomes for the children to get involved.

Table 4. Multiple Regression Results of the relationship between participation and socioeconomic characteristics of the respondents

Participation		Unstandardized Coefficients		Standardised Coefficients	t-value	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.953	0.366		2.605	0.010
	Sex	0.123	0.074	0.117	1.653	0.039
	Age	-1.435	0.342	0.287	1.887	0.000
	Family type	0.195	0.084	0.159	2.326	0.231
	Family Size	0.109	0.090	0.080	1.201	0.061
	Poultry management system	0.139	0.084	0.102	1.648	0.035

b. $R = 0.894$ $R^2 = 0.799$ $F = 6.457$

Source: Computed from Field Data, (2019)

CONCLUSION AND RECOMMENDATIONS

The role and importance of small-scale poultry farming is receiving greater attention in recent years, with growing recognition of their potential contribution to livelihoods and food security in developing countries. Children participation in poultry activities is a way of grooming them for future self-reliance. The study concluded that the status of children participation in family poultry production is low. It is therefore recommended that more roles should be assigned to children in the management activities of the poultry, and they should be carried along in decision making activities.

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