Risk Management Attitude and Practices of Backyard Poultry Farmers in Ifelodun Local Government Area of Kwara State, Nigeria

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Abstract
In spite of the seemingly impressive breakthrough of poultry industry in Nigeria, it is yet to witness a commensurate growth due to major problems such as risk and uncertainties. Risk management effort is important for sustainability of poultry farmers. Hence, this study was carried out to empirically investigate the risk management attitude and practices of backyard poultry farmers in Ifelodun Local Government Area of Kwara State, Nigeria. Purposive and random sampling techniques were used in selecting 125 respondents for the study. Primary data collected with the use of interview schedules and structured questionnaire were analyzed with both descriptive and inferential statistical tools. The result of the study revealed that majority of the backyard poultry keepers (60.7%) were females, young and active with mean age of 48.2 years. 80.3% were married, only 18.0% had no formal education. The mean household size was 10 persons per household; the mean years of poultry keeping experience was 16.7 years. Flock type kept was majorly local breeds (69.7%) with an average of 26 birds kept by the farmers. Death by road accidents was identified as the major risk to backyard poultry production. Furthermore, the result revealed that the farmers have positive attitude towards risk management strategies (CWMS=3.29) and diversification was the main risk management practice utilized by the farmers in the area (WMS=1.57). T-test analysis revealed that there was no significant gender difference in the attitude of the farmers towards risk management practices (p>0.05). The study concluded that the positive attitude demonstrated by the farmers towards risk management and practicing poultry with other livestock farming (diversification) are opportunities that could be explored to boost the poultry sector. It was recommended that Trainings and seminars should be organized for backyard poultry farmers on poultry business so as to scale up their production. Also, extension services should not be limited to commercial poultry farmers only but also the backyard poultry farmer.

1.0 Introduction

Poultry farming is making a significant contribution to improve the economy of rural and urban population. Poultry represents an important sector in animal production, with backyard flocks representing a huge majority, especially in the developing countries (Bamiro *et. al.,* 2009). In these countries, villagers raise poultry to meet household food demands and as additional sources of incomes (Oso, 2002 in Abimbola *et. al.,* 2014; Iheke *et. al.,* 2009).

Backyard 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 backyard poultry. Backyard poultry encompasses the wide variety of small-scale poultry production systems found in rural, urban and peri-urban areas of developing countries (Besbes, Thieme, Rota, Gue`ye, & Alders 2012). Smith, *et. al.,* (2012) described backyard chickens as chickens kept on residential property. Among the rural poor, poultry is a crucial means of livelihood which sometimes serves for augmenting households' protein consumption and sources of income in times of financial distress (Roland-Hoist *et. al.,* 2007; Iheke *et. al.,* 2010; Adepoju, *et. al.,* 2013).

Poultry production like other aspects of agriculture has risks associated with it. Risk in poultry business may be attributed to several factors that are beyond the control of the farmers. These risks could include vagaries of nature, diseases, insect infestations, theft, general economic, market conditions among others (Iheke, & Igbelina, 2016). A general lack of accurate information on the risks sources and mitigation strategies in the livestock sector, combined with insufficient veterinary and breeding services, non-existent or inadequate regulations concerning production, commerce and animal health control are also other important obstacles to the mitigation of risks in poultry production (Food and Agriculture Organization, 2008). Backyard poultry farmers are not exempted from the numerous challenges affecting the poultry industry.

For farmers practicing small scale poultry production such as backyard farming to be willing to scale up production, they must be sufficiently equipped with relevant information and mitigation strategies to combat these risks. It is against this background that this study was carried out to examine the risk management attitudes and practices of backyard poultry farmers in Ifelodun Local Government Area of Kwara State, Nigeria. The objectives of the study were to;

i. Determine the socio-economic characteristics of the backyard poultry farmers in the study area;
ii. assessed the major sources of risks experienced by the farmers;
iii. examined the farmers' attitude towards risk management strategies; and
iv. identified risk management practices utilized by the farmers in the study area.

The hypothesis formulated was whether there was a significant gender difference in attitudes of the farmers towards the risk management strategies.

2.0 Methodology

Descriptive survey research was used. The study was carried out in Ifelodun Local Government Area of Kwara State. Ifelodun is one of the sixteen local government area in Kwara State with its headquarters in Share. It has an area of 3,435km^2 and a population of 206,042 at the 2006 census (NPC, 2006). Essentially, the study area is located within the transition zone between the deciduous forest (rainforest) of the southwest and the savannah grasslands of the north (Jimoh & Ishola, 2009). The area is predominantly rural with agriculture as their major occupation and major crops grown in the area include maize, yam, cassava, cocoyam, kolanut and oil palm while major livestock raised include poultry, pigs, sheep and goats. Generally, the people are very hospitable, peace-loving, accommodating and famous for their high level of self-help development efforts (Ifelodun local government area Report, 2012). The popular local industries in the area include Gari processing industries and Shea butter processing industries.

Primary data used in this study were obtained from 125 backyard poultry farmers selected randomly. Three stage sampling technique was used to select the respondents. In the first stage, five (5) communities including; Amoyo, Idofian, Ganmo, Omupo and Jimba-oja were purposively selected from Ifelodun Local Government Area due to the presence of peri-urban lifestyle of the communities. In the second stage, twenty-five (25) households operating backyard poultry production were randomly selected in each of the communities making a total of one hundred and twenty-five households. Household members that are mostly concerned with the responsibility of the farm were chosen as the respondents. Only one hundred and twenty-two (122) of the retrieved questionnaires were useable for analysis.

Personal interview and structured questionnaire were used to elicit the required information for the study. The data collected were analyzed using both descriptive and inferential statistics. For instance, descriptive statistics such as charts, frequency and percentage were used for addressing the socioeconomic characteristics and major sources of risk experienced by the farmers. Attitudes towards risk management practices were analyzed with mean using 5-point Likert scale. This was structured into Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly Disagree (SD) with corresponding values of 5, 4, 3, 2 and 1 respectively. The criteria reference (cutoff) point was established as 3.00. Therefore, any attitudinal statement with mean value of 3.00 and above was regarded as Agreed, otherwise Disagreed. Risk management practices utilized by the backyard poultry farmers was assessed using 3-point likert type scale of often, rarely and never coding the values as 2,1 and 0 respectively with 1.00 as the cutoff point. T-test was used to analyse the formulated hypothesis at 0.05 level of significance.

3.0 Results and Discussion

Socioeconomic characteristics of the farmers

The distribution of the respondents based on their socioeconomic characteristics was presented in Table 1. The result revealed that more than half (60.7%) of the backyard poultry keepers were females with a mean age of 48.2 years and several of them falling within the age range of 41-50 years. The result shows that most of the farmers are still energetic and should be reasonably enterprising. As noted by Iheke (2010) and Iheke and Nwaru (2014), the risk bearing abilities and innovativeness of a farmer, his mental capacity to cope with the daily challenges and demands of farm production activities and his ability to do manual work decrease with advancing age. About 80.3% of the farmers were married. This means that majority of the farm households are stable and responsible. According to Nwaru (2004), this stability should create conducive environments for good citizenship training, development of personal integrity and entrepreneurship, which are very

important for efficient use of resources. The educational attainment of the farmers showed that most of them (82.0%) were literate having one form of education or the other, and hence should have technical knowledge of the enterprise for enhanced productivity and risk management. Education has been described as being pivotal to unlocking the entrepreneurial abilities of farmers and enhancing their ability to understand and evaluate new production techniques (Iheke, 2010; Nwaru *et. al.,* 2011). The average household size of the respondents was 10 persons. The larger the size of the family, the higher the subsistence consumption needs. Most of the farmers (35.2%) have experience of poultry keeping ranging between 11-20 years with an average of 15.7 years of experience. It is expected that with growing experience in farming, the farmer is able to better understand the production technology and all associated challenges thereby forming strategies to deal with such challenges intuitively. With regards to flock composition kept, few of the backyard poultry farmers (9.0%) in the study area kept exotic chicken, majority (69.7%) kept local chicken while other (21.3%) kept both types with an average flock size of 26 birds.

Table 1: Distribution of respondents according to their socioeconomic characteristics

Variables	Frequency (N=122)	Percentages (%)	Mean
Sex			
Male	48	39.3	
Female	74	60.7	
Age			
Less than 30	14	11.5	
31-40	21	17.2	
41-50	43	35.3	48.2 years
51-60	26	21.2	
61 and above	18	14.8	
Marital Status			
Single	21	17.2	
Married	98	80.3	
Divorced/Separated	01	0.9	
Widowed	02	1.6	
Educational attainment			
No formal education	22	18.0	
Adult education	08	6.6	
Primary School Education	71	58.2	
Secondary School education	18	14.8	
Tertiary	03	2.4	
Size of Household			
Less than 5	25	20.5	
6-10	64	52.5	10 persons
11-20	31	25.4	
20 and above	02	1.6	
Years of poultry keeping experience			
Less than 5	23	18.9	
6-10	30	24.6	15.7 years
11-20	43	35.2	
21 and above	26	21.3	
Flock Type			
Exotic Chicken	11	9.0	
Local Chicken	85	69.7	
Both	26	21.3	
Flock Size			
Less than 20	60	49.2	
21-40	31	25.4	26 birds
41-50	18	14.8	
51 and above	13	10.6	

Source: Field Survey, 2018

Major Risk Sources Experienced by the Backyard Poultry Farmers

Table 2 showed the farmers' responses on the major risk sources to poultry keeping. Most of the respondents (n=89.3%) identified death by road accident and theft/pilfering as the highest source of risks in backyard poultry production ventures. This was followed by pest and rodents' attacks (n=80.3%). This is probably so because most of the birds are left to scavenge for feed and are not properly housed. Death of birds/diseases outbreak ranked third (n=78.7%). This is expected given the prevalence of wide spread diseases (especially, New castle and Gumboro) in most parts of the country (Saidu, 2008). Improper housing ranked fouth (n=70.5%). Low market demands ranked fifth (n=59.0%). The problem of diseases due to weather condition was indicated by about half (54.1%) of the farmers. During the rainy season, most common problems experienced by farmers include chronic respiratory diseases and coccidiosis while too much heat during dry season also causes heat stress. Risk due to natural disaster (Flood, erosion) ranked seventh (n=51.6%). Natural risk associated with the poultry enterprise is spontaneous and can be highly devastating, so farmers are normally apprehensive of the risk of this nature. Conflict within the community and farmers' health risk due to exposure to the birds were ranked lowest (n=14.8%). Earlier reports in a similar study by Effiong *et. al.,* (2014) revealed that the most severe risk in the poultry production were changes in weather/climate, power failure, high mortality rate of birds, infestation of diseases and changes in input prices.

Table 2: Major sources of risks identified by farmers in the study area

SN	Risk Experienced	Frequency (n=122)	Percentages (%)	Rank
1.	Death of birds/Disease outbreak	96	78.7	3rd
2.	Improper housing facility	86	70.5	4th
3.	Low market demand	72	59.0	5th
4.	Theft and pilfering	109	89.3	1st
5.	Conflict within the community	18	14.8	9th
6.	Snake attack	34	27.9	8th
7.	Farmers health risk due to exposure to the birds	18	14.8	9th
8.	Road accident	109	89.3	1st
9.	Climate change (eg. Extreme cold and heat)	66	54.1	6th
10.	Natural disaster (eg. Flood, erosion)	63	51.6	7th
11.	Pests and rodents' attacks	98	80.3	2nd

Source: Field Survey, 2018

Multiple responses

Backyard Poultry Farmers' Attitude Towards Risk Management Strategies

Table 3 reported the responses of the respondents based on the backyard poultry farmers' attitude towards risk management strategies. It was revealed that the farmers favored statement on 'Proper record keeping is important in poultry farm management. This was shown by the calculated weighted mean score (WMS) of 3.92. Similarly, the farmers agreed that proper ventilation of housing is necessary (WMS=3.91), rodent and pest control is important (WMS=4.09), avoiding flock overcrowding is crucial (WMS=3.30), hand washing before/after handling birds is important (WMS=3.30), disinfecting poultry premises is important (WMS=3.49), and that regular quarantine/preventive medical treatment of birds is important in managing risk issues. However, they disagreed that attending extension workshops on poultry is important as a management strategy (WMS=2.71), and do not regard separation of birds by species and poultry birds' insurance as important management strategies. On the overall, it could be deduced that the farmers have positive attitude towards risk management strategies (CWMS=3.29). Howell and Hazzard (2012) maintained that decision for managing risk starts with identifying the most crucial risk faced by farmers, understanding the potential impacts and likelihood of desirable outcomes, identifying and taking possible steps to lessen the impacts to avert failure.

Table 3: Distribution of Backyard Poultry Farmers' Attitude Towards Risk Management Strategies in the study area

SN	Attitudinal Statement	SA	A	U	D	SD	Score	WMS	Decision
1.	Proper record keeping is important	45	52	5	10	10	478	3.92	A
2.	Proper ventilation of housing is needed	49	43	10	10	10	477	3.91	A
3.	Rodent and pest control is important	53	47	7	10	5	499	4.09	A
4.	Avoiding flock overcrowding is crucial	40	30	5	20	27	402	3.30	A

5.	Attending extension workshops on poultry is important	19	20	7	58	18	330	2.71	D
6.	Hand washing before/after handling birds is important	31	40	8	21	22	403	3.30	A
7.	Disinfecting poultry premises is important	28	50	11	20	13	426	3.49	A
8.	Separation of birds by species is important	14	19	9	38	42	291	2.39	D
9.	Poultry birds' insurance is important	18	23	6	30	45	305	2.50	D
10.	Regular quarantine/preventive medical treatment of birds is important	30	40	8	29	15	407	3.34	A
							Cumulated Weighted Mean Score (CWMS)	3.29	Positive

Source: Field Survey, 2018

Cutoff point=3.00

Risk Management Practices Utilized by the Farmers

In table 4, the respondents identified diversification (that is practicing poultry with other livestock farming) as the major risk management practice utilized (WMS=1.57). Suspension of production for a period was regarded as the second practice (WMS=1.49). Rodent and pest control was ranked third (WMS=1.35), reduction of flock size was fourth (WMS=1.34). Cleaning and disinfection of poultry premises was also used as a risk management strategy ranking fifth (WMS=1.24). Prayers/spiritual assistance ranked sixth (WMS=1.21) while construction of large and secured cages ranked seventh (WMS=1.04) and proper record keeping ranked eight (WMS=0.55). Additionally, expert consultation and insurance of flock and other assets were also utilized as risk management practices but they were ranked lowest (WMS=0.34 and WMS=0.06 respectively). Households respond to risk differently and this is dependent on the type and level of risks exposed to and the ability to cope with these risks. The behavioral response of farmers to risk could constitute a big threat to the rural economy and make rural households fall back or deeper into poverty as a consequence of the risk management decisions made.

Table 4: Responses based on risk management practices utilized by the backyard poultry farmers in the study area

SN	Risk management practices	Often	Rarely	Never	Score	WMS	Rank
1.	Diversification (practicing poultry with other livestock farming)	80	32	10	192	1.57	1st
2.	Proper record keeping	20	24	78	64	0.55	8th
3.	Clean/disinfection of poultry premises	51	49	22	151	1.24	5th
4.	Rodent and pest control	60	45	17	165	1.35	3rd
5.	Construction of large and secured cages	30	67	25	127	1.04	7th
6.	Reduction of flock size	61	41	20	163	1.34	4th
7.	Suspension of production for a period	82	20	20	184	1.49	2nd
8.	Insurance of flock and other assets	-	07	115	07	0.06	10th
9.	Prayers/spiritual assistance	56	36	30	148	1.21	6th
10.	Expert consultation	08	25	89	41	0.34	9th

Source: Field Survey, 2018

Cutoff point=1.00

Test of Hypothesis

The research hypothesis states that there is no significant gender difference in attitudes of the farmers towards poultry farming risk management strategies. An independent-samples t-test comparing the mean score of attitudes toward risk management and gender was calculated. No significant difference was found ($t(120) = .372$, $p > .05$). The mean of attitudes toward risk management by females ($m = 23.67$, $sd = 7.11$) was slightly higher than the mean for males ($m = 23.21$, $sd = 7.89$), as shown in table 5.

Table 5: Independent Samples t-Test for Attitudes toward risk management and Gender

	Gender			
	Female	Male	t	*df*
Attitudes towards risk	23.67 (7.11)	23.21 (7.89)	.372*	120

Note. * = p > .05. Standard Deviations appear in the parentheses below the means.

Conclusion and Recommendations

Risk is believed to play an important role in the investment decisions of individual or businesses. In order to protect agriculture-based livelihoods, food and nutrition security, it is essential to reduce underlying risks and strengthen the resilience of farmers. Based on the findings of the study it was concluded that farmers in the study area are young, educated and experienced with manageable flock size. They showed positive attitude towards risk management strategies which is good for the advancement of the poultry sector. It was recommended that Trainings and seminars should be organized for backyard poultry farmers on poultry business so as to scale up their production. Also, extension services should not be limited to commercial poultry farmers only but also the backyard poultry farmer.

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