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ANALYSIS OF THE THREATS POSED BY RISKS IN POULTRY PRODUCTION AMONG FARMERS IN KADUNA METROPOLIS OF KADUNA STATE, NIGERIA.

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ABSTRACT

The study examined the threats posed by risks amongst poultry farmers in Kaduna Metropolis of Kaduna State, Nigeria. Specifically, the study identified the sources of risk that posed as a threats to poultry farmers in the study area. A multi-stage sampling procedure was used to select 130 farmers. Primary data were collected using structured questionnaire and analysed using descriptive statistics. The results showed that the average age was 45 and the average household size was 9. It was discovered that the 3 most important risks in poultry were disease out-break, rise in cost of inputs, and change in poultry output prices (eggs and meat). These were reported by 100%, 96.9% and 94.6% of the respondents respectively. It can be concluded that the 3 most important of risks in poultry were disease out-break, rise in cost of inputs, and change in poultry output prices (eggs and meat). Therefore, it was recommended that Poultry farmers in Northern Nigeria should be encouraged by Government and non-Government organizations to join cooperatives in order to have access to better health hygiene practices, veterinary services, extension services, and information that would help to further facilitate positive interactions especially on risk sharing. This would present a collective bargaining front, and serve as a conduct for transmitting government extension recommendations to the farmer.

Keywords: Analysis; Threats; Posed by Risks; Poultry Production; Kaduna Metropolis

INTRODUCTION

Livestock production constitutes an important component of the agricultural economy in developing countries and it is an instrument of socio-economic change, improve income and quality of life in Nigeria (Abioye, 2000). Poultry is the term used to describe domesticated birds reared by man for a useful purpose (meat, egg, income, manure and others). Nigerian livestock operations, estimated at 33.8 million heads of sheep and 175 million poultry birds (Bénard *et al*., 2010). Demand for livestock products, including poultry, is expanding in West Africa as a result of population growth and increased urbanization (Killebrew *et al.*, 2010). Poultry is far the largest livestock group, consisting mainly of chickens, ducks and turkey. Poultry is the most commonly kept livestock and over 70% of those keeping livestock are reported to be keeping chickens (Udoh and Etim, 2007). Poultry is raised for various reasons. Specifically, the roles of poultry in providing the much needed animal protein for the increasing population cannot be over emphasized (Udoh and Etim, 2009).

Agriculture, like many other investment activities, is exposed to a wide variety of risks and uncertainties ranging from input supply and prices, agricultural yield, post-harvest losses and product prices to the vagaries of nature such as inclement weather conditions, pests and diseases

(Nmadu and Peter, 2010; Aina and Omonona, 2012). Other natural hazards such as floods and fire outbreaks are equally important with regards to their impact on the success or failure of an agricultural enterprise. In order to boost agricultural production considerably, it is imperative to reduce the impact of these risks and uncertainties to the barest acceptable minimum (Aina and Omonona, 2012).

A large number of poultry farmers in Nigeria produce under conditions that are exposed to the vagaries of nature and limited infrastructure like storage facilities and power (Onuorah, 2008). Agricultural production is riskier than businesses in other sectors of economy (Hardaker *et al*., 2004). Riskiness of agriculture may be attributed to several factors that are beyond the control of producers. Many factors including vagaries of nature, diseases, insect infestations, general economic and market conditions contribute to the price, yield or net return variability of agricultural producers. The sources of risk in agriculture are numerous and diverse (Dupaigre *et al.,* 2006; World Bank, 2005).

The importance of the poultry industry in Nigeria has been demonstrated by the number of researches conducted. The risky nature of the enterprise was worsened by the outbreak of Highly Pathogenic Avian Influenza in 2006. Studies have evaluated behaviours or attitude to risk and responses of poultry farmers to risk and agricultural insurance (Ajemtomobi and Binuomole, 2006; Olubiyo *et al*., 2009; Ajieh, 2010).

The study analyses the threats posed by risks in poultry production (broilers and layers) among farmers in Kaduna Metropolis of Kaduna State, Nigeria. Specifically analyses the socio-economic characteristics of poultry farmers and the threats posed by risks among poultry farmers in Kaduna Metropolis of the State.

Table 1: Key Risks Faced by poultry Farmers in Southern and Northern part of Kaduna State.

RISK	EXAMPLES/ FACTORS	EFFECTS
Weather risks	Rainfall or temperature variability or extreme events	Lower yields, loss of productive assets or income
Biological risks	Pests, disease, contamination	Lower yields, loss of income
Price risks	Low prices, market supply and demand, volatility	Lower prices, loss of income
Labour and health risks	Illness, death, injury	Loss of productivity, loss of income, increased costs
Policy and political risks	Regulatory changes, political upheaval, disruption of markets, unrest	Changes in cost, taxes and market access

MATERIALS AND METHOD

The Study Area

Kaduna state lies in the north western part of the country's geopolitical zones. The state lies between latitudes 11°32 and 09°02 N and longitudes 08°50 and 06°15 E With a mean maximum temperature ranging from 27°C in the rainy season to 35°C in the dry season (FOS, 1996). Kaduna state shares boundaries with Katsina and Kano states to the north, Plateau State to the north east, Nassarawa and Abuja to the south, and Niger and Zamfara States to the west (KADP, 2012). The State occupies an area of approximately 48,473.2 square kilometres and has a projected population of 6.67 million based on annual population growth index of 3.2% (NPC, 2006). The projected population growth rate for 2014 at 3.2 growth rate is 8377520. The mean annual rainfall shows a marked decrease from South to North (1,524mm to 635) which favours crop and livestock production (Kaduna state government, 2012). Involvement in small, medium and large – scale livestock production such as rearing of chickens, ducks, goats, sheep and pigs as well as marketing of their products are predominant in the State.

Sampling Procedure

Purposive sampling was used to select two Local Governments Areas from the twenty three Local Government Areas in Kaduna State, based on the number of registered poultry farmers in the state. The LGAs selected were Kaduna South and Kaduna North Local Governments Areas. In the second stage, five and four districts each were purposively selected from the two LGAs (Kaduna South LGA and Kaduna North LGA) respectively based on the population of poultry producers in the respective villages. The nine districts purposively selected were: Ungwan Rimi, Ungwan Sarki, Kawo, and Ungwan Liman for Kaduna North LGA, while Television, Barnawa, Kakuri (Kurmin Gwari), Kurmin mashi and Tudun Wada for Kaduna South LGA respectively. These constitutes 40 percent of the total population of 327 registered poultry farmers in Kaduna Metropolis. The pre–study visit to the respective study areas informed the population of 327 registered producers of both broiler and layers out of which a sample size of 130 respondents (70 farmers, from Kaduna South and 60 farmers from Kaduna North) were randomly selected using a random number from poultry producers in the study area. The difference in sample size between the two LGAs was because of the unequal population of poultry producers in the two LGAs. These two Local Government Areas were selected because of their high level of involvement in poultry farming.

Methods of Data Collection

Data used were primary information on socio-economic characteristics of poultry farmers such as age, sex and household size and sources of risks which posed threats in poultry production obtained by use of a questionnaires instrument.

ANALYTICAL TECHNIQUES

Descriptive Statistics

Descriptive statistics namely; percentages, frequency distribution table were used to describe and analyze the threats posed by risks in poultry production among farmers in the study area.

RESULTS AND DISCUSSION

Socioeconomic Characteristics of Poultry farmers

The socio-economic characteristic of the sampled poultry farmers are presented in Table 2. The result indicated that more men were involved in poultry farming; the predominant age group of poultry farmers was 31-40 years. The average age of the respondents was found to be 45. This implies that the poultry farmers are within the active labour force and are expected to manage their farms effectively. This finding is similar to the findings of Adewumi, 2008. The study also showed that graduates of tertiary institutions were mostly involved in poultry farming, followed by farmers with secondary school educational level, which shows that there is high literacy level among the farmers in the study area. This could positively influence their participation in development programmes, awareness and adoption of innovations and risk management practices (Fawole and Fasina, 2005). Similar findings were reported by Mafimisebi *et al. (*2006) among livestock farmers in South-western Nigeria and by Adewumi, (2008) in his study economics of poultry production in Egba division of Ogun state.

Table 2. Socio-economic characteristics of respondents in the study area

Characteristics	Frequency	Percentage (%)
Gender		
Male	67	51.5 %
Female	63	48.5 %
Age		
21-30	3	2.4%
31-40	46	35.3%
41-50	47	36.2%
50 above	34	26.1%
Average	45	
Educational Level		
No formal Education	5	3.8%
Primary school Education	26	20%
Secondary school Education	29	22.32%
Tertiary Education	70	53.87%
Household Size		
1-6	42	32.3%
7-11	58	44.6%
12-16	19	14.6%
17-21	11	8.5%
Average	9	

Major risk sources to poultry farmers

The result of the crosstab analysis presented in Table 2, shows that sampled farmers (100%) identified poultry disease as the highest source of risks in the business. This is expected given the prevalence of widespread diseases (especially, e.g. Avain influenza, Gumboro) in poultry production. The problem of diseases due to weather condition was indicated by all 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. Endemic diseases such as New Castle and *Gumboro* are problems to poultry farmers, which however require reliable vaccines which are not often available also reported by (Lawal *et al.*, 2009). Rise in cost of input in the study area was indicated by 96.92% of the farmers and 35.58% of the poultry farmers indicated inadequate credit as risk source. Similarly, 100, 96, 94, 93, 86, 82 and 81% of the poultry farmers indicated that Disease outbreak, Rise in cost of inputs, Change in poultry output prices (eggs and meat), Theft and pilfering, snake attack, lack of awareness of medication and vaccination health programmes, rise in cost of exotic breed and lack of closer animal vaccination centers were also identified as the major risk sources to poultry farmers. This is agreement with the findings of Effiong *et al.* (2014) that the most severe risks in poultry production were changes in weather/climate, power failure, high mortality rate of birds, infestation of diseases and changes in input prices.

Table 2 Identified risks that posed threats to poultry production.

S/no	Risk to poultry production	Number of farmers	Percentage	Rank
1.	Disease outbreak	130	100	1
2.	Rise in cost of inputs	126	96.92	2
3.	Change in poultry output prices(eggs and meat)	123	94.62	3
4.	Theft and pilfering	122	93.84	4
5.	Snake attack	121	93.07	5
6.	Lack of awareness of medication and vaccination health programmes	112	86.15	6
7.	Rise in cost of exotic breed	107	82.3	7
8.	Lack of closer animal vaccination centers	105	80.76	8
9.	Low market demand	94	72.3	9
10.	Unfavourable weather	94	72.3	9
11.	Lack of electricity power supply	86	66.15	11
12.	Lack of storage facilities	77	59.23	12
13.	Stampede in poultry	77	59.23	12
14.	Low quality feeds	68	52.3	14
15.	Inadequate family labour	63	48.46	15
16.	Lack of stocks	55	41.94	16

17.	Lack of technical know-how of improved farming technologies	49	37.5	17
18.	Inadequate credit facilities	47	35.58	18
19.	Conflict within the community	50	34.46	19
20.	lack of information to upgrade meat and egg performance	32	24.61	20
21.	High interest rate	31	23.85	21
22.	Lack of brooding technical knowhow	29	22.31	22
23.	Ill health of the farmer	26	20	23

CONCLUSION AND RECOMMENDATIONS

It can be concluded that the 8 most important threats posed by risk in poultry production were Disease outbreak, Rise in cost of inputs, Change in poultry output prices (eggs and meat), Theft and pilfering, snake attack, lack of awareness of medication and vaccination health programmes, rise in cost of exotic breed and lack of closer animal vaccination centers. Therefore, it was recommended that Poultry farmers in Northern Nigeria should be encouraged by Government and non-Government organizations to join cooperatives in order to have access to better health hygiene practices, veterinary services, extension services, and information's that would help to further facilitate positive interactions especially on risk sharing. This would present a collective bargaining front, and serve as a conduct for transmitting government extension recommendations to the farmer. It is also recommended that poultry farmers should take these problems into consideration for a successful poultry business.

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