High transportation cost	60	90.9	2nd
Insecurity	55	91.7	3rd
Inadequate capital	50	75.8	4th
Excessive tax/charges	50	75.8	4th

*Multiple responses taken

ASN 53rd Annual Conference Proceedings (Sub-Theme: Agricultural Socio-Economics and Extension)

Review Evaluation of analysis of Risk Attitudes and Management strategies of Poultry Farmers in Kogi State, Nigeria

O. F. Suberu, C. O. Adebayo, U. S. Mohammed
Department of Agricultural Economics and Farm Management, Federal University of Technology, Minna, Niger State, Nigeria
E-mail:onimisi4best@gmail.com, Phone number: +2347060733411

Abstract
Poultry is a collective term for all Avian species, nutritionally and economically useful to man, the avian species classified under poultry include domestic fowl, turkey, duck, guinea fowl, goose and pigeon. Agricultural production decisions are generally made under the environment of risks and uncertainties asyield, product prices, input prices and quantities are usually not known with certainty when investment decisionsare being made.This review aimed at evaluationof analysis of risk attitudes and management strategies of poultry farmers in kogi state, Nigeria. The review revealsthat the 3 mostimportant risks in poultry farming were disease out-break, rise in cost of inputs, andchange in poultry output prices.The review also revealed that majority(70.1%) of the farmers were risk averse, while 23% are risk takers and6.9% were riskneutral. This implies that the poultry farmers have a risk-averse behaviour.It was observed that the level of adoption of risk management strategy was low.

Introduction
Poultry is a collective term for all Avian species, nutritionally and economically useful to man (Sternišaet *al.*, 2018). The most important poultry species remains the domestic fowl, commonly called chickens, not only

because of universal availability, but also because it provides important highly relished human foods. The other domestic *avian* species classified under poultry include turkey, duck, guinea fowl, goose and pigeon. Poultry production in Nigeria has been a very lucrative venture and an important aspect of farming (Albert, 2015). Its industry is one of the most important sub-sectors in Nigeria as its annual commercial output value is about ₦170 billion naira and also estimated to be above 151 million birds which comparatively makes Nigeria to bewell developed in poultry industry among West African nations (Adegboyega and Taiwo, 2010: Ojedapo, 2013). Ayinde***et al.***(2008) stated that agricultural production decisions are generally made under the environment of risks and uncertainties asyield, product prices, input prices and quantities are usually not known with certainty when investment decisionsare being made. Many of the factors that affect the decision cannot be predicted with complete accuracy.

Risk is an inherent feature of modern poultry production. The poultry production decisionenvironment is characterized by risk and the absence of perfect and complete information. The poultry industry inNigeria has suffered a great deal of losses which affects poultry farmers as well as consumers (Ogoke, 2009). Itshould be emphasized that many poultry farmers in Nigeria are less equipped to mitigate risks associated withproduction, consumption, income, assets and their health. This could lead to eventual collapse of poultry industryif intensive and collaborative efforts are not made by government and stakeholders to salvage the situation(Abimbola ***et al.***, 2014). In particular, the failure to rise up to this challenge to saving the industry could lead to aserious reduction in poultry production and protein intake of people. This results into malnutrition and ill health,lower productivity and output (Bamiro***et al.***, 2009).

The major risks faceby poultry farmer

A lot has been written of risks that could threaten farmers. Risk in farming is certainly not only something of modern times. Farmers always have faced quite significant risks in their daily operations.

In a study on risk and risk management of Dutch livestock farmers (Meuwissen*et al.*, 2001), it was found that meat price, epidemic diseases and milk price were the most important perceived risks and the most relevant risk management strategies were to produce at the lowest possible cost and buy business and personal insurance (in this order). The study also pointed out that although price risks were perceived as a major source of risk, risk management strategies to deal with price risks, such as price contracts, futures and options market, were not perceived as important

The research conducted by (Iheke*et al.*, 2009). on risk management in poultry production showed that the major risks encountered by the poultry farmers were production risk (92.5%), financial risk (90.0%), price/marketing risk (66.3%) and casualty risk (61.3%). It is noted that increased price volatility, with sharp swings in product and input prices. also noted that markets have been affected by macro-economic disturbances, disease outbreaks and adverse weather events such as floods and droughts. The latter may become more frequent through climate change. With agricultural policies that are more decoupled from production and prices, farmers are now more exposed to market forces than in the past.

Findings fromTimoty (2015) on analysis of risks and mitigating strategies among poultry farmer shows that poultry disease has the highest sourceof risks in the business due to widespread diseases (especially, e.gAvain influenza, Gumboro) in poultry production, in Nigeria 2006, the outbreak of Avian influenza killed 258,676 (99.30%) of poultry chickens and problem of diseases due to weather condition was indicated by all thefarmers. During the rainy season, most common problems experienced by farmersinclude Chronic Respiratory diseases and *Coccidiosis*while too much heat during dryseason also causes heat stress. Endemic diseases such as New Castle and *Gumboro*areproblems to poultry farmers, which however require reliable vaccines which are notoften available also reported that 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.

Research by the Deutsche Bank (2010), who asked farmers about the risks they face, also showed that price/market and production risks where the ones respondents cited the most. Other risks identified in this research where: regulatory risks, technological risks, financial risks and human resources risks. Regulatory risks refer to changes in agricultural policies as introduced by the government or the European Union. Changes in policies could for instance cause decreasing amount of income support or new obligations concerning animal welfare or reducing environmental impact. Technological risks are associated with the adaption of new technologies in the branch and the problems this could cause. Financial risks are the uncertainty regarding the financing structure of the business. Risks can be for instance increasing interest rates and decreasing availability of credit. Human resource risks concern the wellness and availability farm personnel (Deutsche Bank, 2010).

Meuwissen, *et al.,* (2001) asked 612 Dutch livestock farmers to identify the risks they face. The risks farmers mentioned here are more specific than the general risk terms (price, production, regulatory, technological, financial, human resource) identified by the authors above. In total 22 sources of risks were cited by the respondents. Some of the most mentioned where: low meat/milk/egg prices, epidemic animal diseases, death of farm operator, low technical results on the farm, health situation family, environmental policy, disability farm operator, family relations, animal welfare policy, consumer preferences, value of production rights, elimination government support and changes in interest rates. Most of these risks can be identified as a risk belonging to one of the six categories mentioned by the Deutsche Bank.

The risk attitudes of the poultry farmers

Timoty (2015) shows therewere varying degrees of risk attitude. The result of thedistribution of respondents by risk aversion class is presented. The result shows adistribution of risk attitude categories highly kewed towards the risk averters. About30.22% of the respondents were risk preference, while majority 64.40%of the farmersshowed high risk aversion attitude, the risk aversion centered around K = 0.4and fewrespondents with 5.38%, showed risk neutral.This implies that majority of the poultry farmers in the study area are risk averse,having an inclination to adopt risk mitigating measures in their poultry production.

Kwesi *et al.,* (2012) investigated the attitude towards risk using Equally Likely Certainty Equivalent with a Purely Hypothetical prospect (ELCE-PH) and analyzing copping strategies used by food crop farmers in Ghana. The study found out that 67.5% of the food crop farmers were risk averse while 22.5% and 10% represented risk neutral and risk takers/loving respectively. The study further revealed that income and household size positively related with risk averse attitude whereas access to micro credit, levels of education and age inversely related with risk aversion. The most dominant coping strategies among the food crop farmers were enterprise diversification, geographical diversification and labour supply for non-farm wage to manage risk of loss in yield. Risk aversion among poultry egg producers in south western Nigeria, using a safety-first behavior model, was examined by Ajetumobi and Binuomote (2006). The results showed that 69 % of the poultry farmers had a medium level of aversion to risk, while about 7 % had high level of risk aversion. The risk premiums were low, encouraging the use of the feeds under safety-first behavior. The regression result revealed that family size of the farmers, capacity of deep litter, cost of veterinary services, cost of construction of deep litter and cost of land were significant in explaining the risk bearing capacity of the poultry farmers.

According to Olarinde*et al.* (2007), who studied attitudes towards risk among maize farmers in the dry savannah zone of Nigeria. The researchers applied econometric analysis to quantitatively determine the individual risk attitudes of the sampled maize farmers. The extent of the risk attitudes were then made the basis for categorizing the farmers into three groups of low, intermediate and high risk averse maize farmers. This categorization formed a necessary condition for improving the typology of the farmers, which was hypothesized to be influenced by socio-economic, demographic and other extrinsic "risk factor". The typology was essentially made possible by discriminate analyses, which re-categorized the farmers into their appropriate risk groups. The findings revealed that about 8%, 42% and 50% of the farmers were low, intermediately and highly averse to maize risk, respectively. About 72% of the hypothesized variables were found to be responsible for the risk aversion among the sampled farmers.

Risk management strategies adopted by poultry farmers

The distribution of respondents according to management of risk and uncertainty was shown by Ihekee*t al.*, 2009 In ascertaining the management strategies adopted by poultry farmers in the study area, 5.0 likert rating scale on the different strategies with reference bench mark mean of 3.0 was employed. The result revealed a grand mean score of 2.8 indicating a general low adoption of risks and uncertainty management strategies. The result revealed that enterprise diversification (=3.3) was widely adopted. This implies that the farmers tend not to rely solely on poultry production, they still engage on other enterprise to make for lost in risk and uncertainty situations. Marketing strategies (=3.9) was also adopted by poultry farmers in the study area. Farmers tend to increase their price and/or adjust their marketing strategies during risk situations. Production strategies (=4.1) was also widely adopted by the poultry farmers in the study area. This suggests that farmers tend to accommodate risks during production. Some farmers tend to produce more to accommodate or make up for losses as a result of risk and uncertainty situations. However, production strategies appeared to be widely used among poultry farmers because the majority of risk and uncertainty situations occur at the production stage.

The constraints associated with poultry egg production in the study area are presented as the findings in the study revealed that limited money is the major constraint the farmer faced, while other constraints faced by the poultry egg producers are pests and diseases, high mortality rate, heat, and marketing problems. The problems faced by the farmers are ranked in ascending order from 1 to 5. This were in agreement with Tijjani*et al*, (2012). Le and Cheong (2009) measured risk levels and efficacy of risk management strategies in Vietnamese catfish farming. Farmers' perceptions of risk and risk management were analyzed using descriptive statistics. The results revealed that the most important sources of risk were price variability, cost of operating inputs, high fish death rates owing to diseases and low quality of fingerlings. The most important risk management strategies that the farmers perceived were farm management, disease prevention, and selecting good quality inputs (water source, feed and fingerlings). Application of price risk reduction strategies were not perceived as relevant strategies to the farmers.

Conclusion

The analysis of risk attitudes and management strategies of poultry farmers in kogi state,with optionalresponses under poultry risk were either averse to such risks or preferred them.Also, there is need to motivate farmers so that they can adopt modern technologies and innovation of management strategies in order to minimize loss.

References

Abimbola, O, Adepoju, A. T., Omowunmi, O. &Oyekale, A. S. (2014). Risk coping behavior of small scale poultry farmers in Ogun State, Nigeria. *Asian Journal of Animal and Veterinary Advance, 8: 786-795.*

Adegboyega, E. & Taiwo, E. (2010). Pricing and operation Efficiencies in the livestock Feed Market in Ondo State, Nigeria. *Revista De economia E Agronegocio, 8(2);279-301. Retrieved from http:// purl.umn.edu/95076,*

Ajetomobi, J.O&.Binuomote, S.O (2006). Risk Aversion Among Poultry Egg Producers in South West Nigeria. *International Journal of Poultry Science* 5(60):562-565.

Albert, H. (2015). Poultry Farming Guide. *Retrieved on 29th January 2015 from* http://greenfarmproduct.com/poultry

Ayinde, O. A., Omotesho, A. O. &Adewumi, M. O. (2008). Risk attitudes and management strategies of small-scale crop producers in Kwara State, Nigeria: a ranking approach. *African Journal of Business Management,* 2(12): 217-221.

Bamiro, O.M., Momoh, S. & Philip, D. A. O. 2009. Vertical integration and profitability in poultry industry in Ogun and Oyo State, Nigeria. *Journal. Human Ecol.,* 27: 149-154.

Iheke, O. R, Mejeha, R. O. &Nwagbara, C. (2009). Economic efficiency of brood-and-sell and brood-to-finish broiler poultry enterprises in Abia State, Nigeria: A Comparative Analysis. *International Journal of Agriculture, Food and Ecosystem Research,* 2 (1):312-322

Kwesi, N.D.S and H. de-Graft Acquah (2012). Attitudes toward risk and coping responses: The case of foodcrop farmers at Agona Duakwa in Agona East District of Ghana; *International Journal of Agriculture and Forestry* 2(2): 29-37

Le, T. C. & Cheong, F. (2009). Measuring Risk Levels and Efficacy of Risk Management Strategies in Vietnamese Catfish Farming. *World Academic of Science, Engineering and Technology. Vol.57, 249-260.*

Meuwissen, M. P. M., Huirne, R. B. M. & Hardaker, J. B. (2001). Risk and risk management: an empirical analysis of Dutch livestock farmers. *Livestock Production Science,*(69):43-53.

Ogoke, C. M. (2009). Agricultural Insurance in present and future Agricultural Development in Niger State, Nigeria. Agriculture Systems in Africa, 5 (2): 45 – 50.

Ojedapo, L. O. (2013). Evaluation of body weight and other linear parameters of Marshall broiler for repeatability estimates. *International Journal of Applied Agriculture and Apiculture Research, 9*(1-2), 175-181.

Olarinde, L.O., Manyong, V.M. &Okoruwa, V.O. (2007). Analyzing optimum and alternative farm plans forrisk averse grain crop farmers in Kaduna State, Northern, Nigeria. *World Journal of Agricultural Sciences* 4(1): 28-35.

Sterniša, M., SmoleMožina, S., Levstek, S., Kukec, A., Raspor, P., &Jevšnik, M. (2018). Food safety knowledge, self-reported practices and attitude of poultry meat handling among Slovenian consumers. *British Food Journal. 56 (1) 219-221.*

Timothy, A. J. (2015). Analysis of Risk and Mitigating Strategies Amongst Poultry Farmers in Kaduna Metropolis.An Unpublished M.sc Thesis, Department of Agricultural Economics and Rural Sociology, Ahmadu Bello University Zaria. Kaduna State Pp 42-60.

ASN 53rd Annual Conference Proceedings (Sub-Theme: Agricultural Socio-Economics and Extension)

Review on Effectiveness of the Alternative Dispute Resolution strategies in Improving Farmers-Pastoralists relationship in North Central, Nigeria

M. I. Omaku[1], I. S.Umar[2], R. S. Olaleye[2], J. H.Tsado[2] and J.J. Pelemo[2]

[1]Department of Agricultural Education, College of Education Akwanga, Nassarawa State
[2]Department of Agricultural Extension and Rural Development, Federal University of Technology, Minna
E-mail: omakuisa@gmail.com

Abstract

The effectiveness of alternative dispute resolution strategies in curbing farmers-pastoralists conflict has not been fully utilized due to the fact that out of 800 disputes reported in Nasarawa State between 2014 and 2016, 80 disputes were resolved using mediation and negotiation. This was owing to the fact that alternative dispute strategies cannot stand alone without strategies such as intervention by traditional leaders, payment of compensation to victims, court verdicts, dialogue between parties involved, intervention of Miyetti Allah cattle breeders association, local community crop farmers/herders intervention and establishment of grazing routes, educating farmers and herders by person or bodies responsible for conflict resolution. The major causes of conflict between farmers and pastoralists were contamination of the stream is regarded as a source conflict. inadequate productive land for food and cash crops, greener pastures for animal grazing, decline in water availability. It is recommended that cattle grazing areas should be provided for pastoralists to reduce their contact with farmers, it is also advisable for farmers to desist from farming on cattle routes in order to limit