

POULTRY FARMERS PERCEPTION OF RISKS AND RISKS MANAGEMENT STRATEGIES IN OSUN STATE, NIGERIA.

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ABSTRACT

The study assessed the perception of poultry farmers regarding the severity of risks, as well as the effectiveness of risk management strategies. Primary data were collected with the aid of a structured questionnaire schedule using 140 respondents from four Local Government Area in Osun State. A five point Likert scale was used to analyse farmers risk perceptions, as well as their perception of risk management strategies. Survey result indicated that source of animals (M=1.76), incidence of pests and diseases (M=1.94), breakdown of equipment (M=2.07), heat stress (M=2.08), unavailability of feeds (M=2.16), uncertainty about future productivity (M=2.28) and erratic power supply (M=2.47) were amongst the risks sources perceived to be severe. Risk management strategies perceived by the farmers to be highly effective include timely administration of drugs (M=1.70), frequent pen cleaning (M=1.70), maintaining routine hygiene practices (M=1.72), reliable source of animals (M=1.77), proper water and feed management (M=1.80), use of disease resistant species (M=1.81), proper labour planning (M=1.88) and engagement of veterinary doctor (M=1.91). Poultry farmers in the study area have an ample perception of various sources of risk related to their business, as well as the strategies to employ in order to manage those risks. It is recommended that, when developing and enacting agricultural policies, considering these risks and risk management strategies emphasized by the farmers will be a huge step in the right direction.

Keywords: Risk perception, Risk management, Poultry Farmers, Osun State

INTRODUCTION

Poultry production is important to the biological needs, as well as the economic and social development of the people in any nation (Oladeebo and Ambe-Lamidi, 2007). Amongst the poorest quartile of the population in developing countries, poultry is a crucial means of livelihood which serve for augmenting household protein consumption and also as a major source of income, especially in times of financial distress (Roland-Hoslt *et al.*, 2007). Available estimate indicates that the poultry enterprise predominates the livestock sub-sector of Nigeria's

agricultural sector, accounting for over 50% of the total livestock population in 2010 (Nasiru *et al.*, 2012) and contributing an estimated 42% to total livestock output (Bukunmi & Yusuf, 2015). The National Bureau of Statistics (NBS, 2012) estimated the commercial poultry production in Nigeria to be worth about 800 million USD as at 2010.

In Nigeria, the poultry industry is an instrument of socio-economic change; via provision of improved income and better quality of life for the rural populace (Adeyonu *et al.*, 2021). As well, the poultry industry in Nigeria contributes substantially to food security and poverty alleviation by serving as a vital source of animal protein (Bamiro *et al.*, 2009; Nasiru *et al.*, 2012). Poultry products such as meat and egg hold enormous potential for bridging part of the nutritional gap in Nigeria (Yusuf *et al.*, 2016), especially, given the fact that animal-sourced foods can supply a range of micronutrients that are more difficult to obtain in sufficient quantities from plant-sourced foods alone (Dewey and Adu-Afarwuah, 2008). Moreover, due to the near total absence of religious or cultural taboos against the products, poultry meat and eggs are the most consumed animal proteins (Obike *et al.*, 2017). Predominantly, the types of poultry that are commonly reared in Nigeria are chickens, ducks, guinea fowls, turkeys and pigeons (Akinbile *et al.*, 2013), with most farmers operating on a relatively small scale (Adejoro, 2000).

Adepoju *et al.* (2013) posited that livestock is perceived as a very risky enterprise, which investors take a lot of caution in its integration and usually undertake a sensitivity analysis of the entire project feasibility before it is established. In poultry farming, this risk is due, in large part, to the complex and fragile nature of both the intermediate (day-old chicks) and end products (meat and eggs) of the poultry industry (Obike *et al.*, 2017). In Nigeria, as in most other climes, production activities of poultry farmers are characterized by high level of risks. The types of risk associated with livestock farming has been categorised into production, marketing, institutional, human and financial risk (Hardaker *et al.*, 2004; Kahan, 2013).

Risks, in its simplest sense, is the potential deviation of real outcome from expected outcome. In that regard, risk and economic activities are inseparable. Therefore, every business decision and entrepreneurial activity has an inherent degree of risk resulting from the fact that future states of the world and outcomes of decisions can only be predicted; these predictions may either come true or not. To that end, risks and uncertainty have overarching impact on the effectiveness of decision making, particularly as it relates to employment of input and generation of output (Agada *et al.*, 1997). Hence, given that there is usually a certain degree of uncertainty regarding the outcome of business activities and this uncertainty connotes risks to the profit of the firm, there arise a need for any enterprise to adequately manage its' risk exposure. As Salimonu and Falusi (2009) asserted, risk management is an integral aspect of any agribusiness.

According to Ahsan and Roth (2010), ever increasing attention is now accorded to risk perception and risk management strategies in the sphere of decision-making and policy-formulation framework; perhaps, because it has a bearing on the type of intervention measures to be considered. Risk perception refers to the decision-maker's conception of the likely influence of the source of risk on the business enterprise. Sjoberg (1998) enunciated that risk perception borders centrally on the thoughts, beliefs and constructs of human beings. It therefore encompasses the mental processing of risk information and coping mechanisms that people use in managing uncertain outcomes (Ahsan and Roth, 2010). As such, an individual's risk-taking behaviour, such as business decisions regarding project initiation and continuation, as well as investment activity is greatly influenced by risk perceptions (Keil *et al.* 2000; Hardaker *et al.*, 2004). Most often than not, individuals are prepared to invest more in those financial alternatives that they perceive as less risky.

Farmers' perception of risk and responses to these risks are important in understanding their risk behaviours or actions (Ahsan and Roth, 2010). Empirical evidence (Ullah *et al.* 2016; Adeyonu *et al.*, 2021) has shown that perception is an important factor influencing adaptation of effective risk management strategy. In the sense that, farmers' responses to risks are often in ways consistent with their awareness and perception of the various prevailing risk factors. Beal (1996) iterated that risk management strategies adopted by farmers, among other things, reflect their personal perceptions of risk. According to Krogmann *et al.* (2001), a profound understanding of farmers' risk perceptions and its subsequent influence on behaviour is integral to developing sustainable land and natural resource use and effective management policies and programs which are supported and implemented at local and regional levels.

Risk management involves the deployment of risk assessment techniques to make a deliberate choice among alternative strategies with the ultimate goal of reducing the debilitating consequences of risk (Salimonu and Falusi, 2009; Abotsi *et al.*, 2014). Kostov and Lingard (2003) described risk management as the economic response of human beings when confronted by uncertainties. Typically, the risk management process usually commence with an identification of the most pressing risk faced by farmers, which is followed by an understanding of the potential impacts and likelihood of desirable outcomes, and finally taking possible steps to ameliorate the impacts of risk factors in a bid to avert failure (Howell and Hazzard, 2012).

Considering that poultry farmers in Osun State are not insulated from the risk inherent in the poultry enterprise, it is not only important but also quintessential to understudy how poultry farmers perceive risks and risk management strategies. In that wise, this study explored the perception of poultry farmers regarding the severity of risks, as well as the effectiveness of risk management strategies. Specifically the study seeks to;

1. assess poultry farmers' perception of the severity of risks encountered in their enterprises.
2. examine the perception of poultry farmers regarding the effectiveness of risk management strategies.

RESEARCH METHODOLOGY

The study area

The study was conducted in Osun State, South-western part of Nigeria. With a land area of 8,882.55 square kilometres and a population of 3,423,535, Osun State is bordered to the west by Oyo state, to the east by Ondo and Ekiti State, to the north by Kwara State and to the south by Ogun State (Sanusi *et al.*, 2016). The annual temperature ranges from 21.1⁰C to 31.1⁰C, whilst annual rainfall varies from 1,100 millimetres in the southern part of the State to 800 millimetres in the northern part. Typically, the rainy season starts in late March and ends in October, whereas the dry season stretches from November to early March (Sanusi *et al.*, 2016).

The ecological features of Osun State provides suitable condition for the cultivation of various crops and cropping patterns. More so, agriculture is the main occupation of the inhabitants of the State. In the forest region with a much higher rainfall and relative humidity, tree crops such as cocoa, kola, citrus and oil palm are grown. Equally grown are arable crops such as maize, yam, rice, cassava, tomato and pepper. On the other hand, the derived savannah region has mainly arable crops with tree crops grown in patches

(Sanusi *et al.*, 2016). In addition, poultry, pigs, sheep and goats are the predominantly reared animals.

Sampling technique

To assess poultry farmers' perception of various sources of risks and risk management strategies a questionnaire was developed and used as an interview guide in a survey which was conducted between the period of February to June of 2019. A total of 140 poultry farmers (35 from each LGA) were purposively sampled in the survey. However, upon screening for completeness only 113 questionnaires were tenable for statistical analysis. Osun state was selected for this study because of the concentration of commercial poultry farms in the state (Baruwa and Adesuyi, 2018). More so, Osun State is amongst the main hub of poultry production in Nigeria (Salman *et al.*, 2013). However, due to time and resource constraint the study was limited to Ejjigbo, Ife, Illesha, and Iwo LGAs out of the 30 LGAs that comprise Osun State.

Analytical technique

In order to assess poultry farmers perception of the severity of risk encountered in their poultry enterprise, a five point Likert scale with perception indices from averages of coded responses comprising; 1= not severe, 2= slightly severe, 3= neutral, 4= moderately severe and 5= very severe was presented to the respondent to choose from, based on how significant they considered each source of risk in terms of its potential impact on the economic performance of their farm. A total of 30 sources of risk (Table 1) likely to be encountered in poultry farming were presented to the respondents. Risks that comprise the defining statements were obtained from empirical studies and triangulated before they were presented to the respondents. The risk were categorised into five subgroups; production, marketing, financial, human and institutional risk (Hardaker *et al.*, 2004; Kahan, 2013).

Similarly, to examine the perception of poultry farmers regarding the effectiveness of risk management strategies adopted on their farms, a five point Likert scale with perception indices from averages of coded responses comprising; not effective, slightly effective, neutral, moderately effective and highly effective was presented to the respondent to choose from based on the extent to which each defining statement captures their perception of the effectiveness of the risk management strategy. The risks management strategies that comprise the defining statements were obtained from empirical literatures and pre-tested before they were presented to the respondents to indicate their perception of the efficacy of each measure as a risk management strategy. A total of 24 risk management strategies relevant in poultry farming were presented to the respondents (Table 2).

Simple descriptive statistical methods (mean and standard deviation) were used to analyse the results. Thereafter, Kendall's coefficient of concordance (W) was used to test the degree of agreement in the perception of risks and risk management strategies amongst the respondents. The coefficient of concordance (W) has positive value ranging between zero (0) and one (1). It is one in the situation where the scores assigned by each poultry farmer are the same as those assigned by the other poultry farmers and zero when there is a maximum disagreement in the scoring of the risks perception defining statements or the scoring of the defining statements that underscore the risk management strategies.

RESULTS AND DISCUSSION

Poultry Farmers' Perception of the Severity of Risk

Table 1 shows that source of animals (M=1.76), incidence of pest and disease (M=1.94), breakdown of equipment (M=2.07), heat stress (M=2.08), unavailability of feeds (M=2.16), uncertainty about future productivity (M=2.28) and erratic power supply (M=2.47) were perceived by the respondents as important "production risks" in poultry farming in the study area. This corroborates the findings of Khan *et al.* (2011) who indicated that amongst the sources of risk perceived by a large proportion of non-insured dairy animal owners to be relevant include epidemic livestock diseases, crop yield variability and silent heat. In Ogun State, Nigeria, Adepoju *et al.* (2013) found outbreak of disease and loss of eggs to be one of the major risks confronting poultry farmers. By the same token, Salman *et al.*, (2013) found that natural risk sources perceived by poultry egg farmers in Ibadan, Nigeria included incidence of pests and diseases.

In a study of poultry farms risk management by insurance in Ghana, Adjei *et al.* (2016) also found disease outbreak to be one of the sources of risk shown to exert considerable influence on poultry production. Further, Akinbile *et al.* (2013) posited that the sustainability and performance of the poultry industry is highly compromised (reduced feed intake, reduced laying performance, reduced fertility level, decreased activity and increased mortality) as a result of extreme weather, amongst which are high temperatures and susceptibility to heat stress. By and large, quite a number of studies have shown that disease outbreak is the most pressing risk factor confronting livestock farmers (Obike *et al.*, 2017; Baruwa and Adesuyi, 2018; Kabira *et al.*, 2020; Adeyonu *et al.*, 2021).

Table 1 further reveals that, when considering market-related risks, variability in future cost of inputs (M=1.81), glut (M=2.33) and uncertainty about future output price (M=2.47) were the factors perceived as risky. The input mostly in reference is poultry feed.

Feed is a significant determinant of output in poultry production and it is usually the largest component of the variable cost of production, accounting for up to 70% of the variable cost (Afolayan and Afolayan, 2008). Adepoju *et al.* (2013) in a survey of the risk coping behaviour of small scale poultry farmers in Ogun State, Nigeria, revealed the major types of income risks faced by respondents to include high cost of inputs. In another survey, Salman *et al.* (2013) discovered that fluctuation of input price was among the economic risk sources confronting poultry egg farmers in Ibadan, Nigeria. Likewise, Adeyonu *et al.* (2021) in their analysis of risk perceptions and risk management strategies among poultry farmers in south-west Nigeria found that fluctuation of output prices was among the most worrisome risks faced by poultry farmers. Several studies, across disparate climates, have indicated that concern about the future price of products (input and output) is a key source of risk amongst livestock farmers (Adepoju *et al.*, 2013; Babalola, 2014; Obike *et al.*, 2017; Baruwa & Adesuyi, 2018).

As shown in Table 1, accessibility of credit (M=2.46) and uncertainty about future interest rate (M=2.47) were considered by the respondents as the key financial risk factors that exert influence on poultry production in the study area. This can be attributed to the near absence of any form of insurance and almost inexistent credit markets in Nigeria. More so, the issue of inadequate finance looms large as one of the key challenges bedevilling not just the poultry sub-sector, but the agricultural sector in Nigeria. According to Adeyonu *et al.* (2017) and Baruwa and Adesuyi (2018), the vast majority of poultry farmers in Nigeria lack access to credit. Several other empirical evidence indicated that interest rate and availability of credit were considered as the key financial risk factors by farmers (Ahsan and Roth, 2010; Khan *et al.*, 2011; Adepoju *et al.*, 2013; Salman *et al.*, 2013; Obike *et al.*, 2017).

Most often than not, formal lending agencies are very reluctant to dish out loans or credit facilities to farmers, due among other things to the high level of

risk inherent in agriculture-based enterprises, bad record keeping attitude of farmers and inability of farmers to furnish adequate collateral. Over the years, this has led to the marginalisation of small scale farmers, most often in favour of large scale enterprises, which are mostly outside the agricultural sector. In a sense, this has bred an atmosphere of "large scale monopoly capital." Mostly, in the quest for an alternative source of capital, small scale farmers, vulnerable as they are, usually end up in the hands of informal lenders, who usually charge an outrageous rate of interest, such that the farmers find themselves trapped in a debt web, grappling with the payment of loans or credit facilities obtained in good faith.

Table 1 further depicts that, contamination of feed/drinking water (M=1.99), contaminated litter (M=2.04), predator attack (M=2.24), cannibalism/feather pecking (M=2.26), theft/robbery (M=2.27), injury to employees/farm family (M=2.40), as well as inefficacy of drugs/vaccination failure (M=2.50) were the top-rated health/human risk sources by the farmers. In a study of the risk management strategies utilized by small scale poultry farmers in Oyo State, Nigeria, vaccination failure was also perceived by respondents as extremely risky (Akinbile *et al.*, 2013). Lateness in drug and vaccines administration was also identified as a social risk source in a study of the correlates of risk-aversion among poultry egg farmers in Ibadan, Nigeria (Salman *et al.*, 2013).

Ineffectiveness of government policy (M=1.92), inconsistency in government policy (M=2.01), and sporadic changes in regulations regarding poultry farming came across as severe sources of institutional risk in the study area. In another study, changing of regulations was among the two top-rated political and social risk sources for mussel farmers in Denmark (Ahsan and Roth, 2010). On the same note, in a study examining Finnish farmers' decision-making on adjustment into the European Union, Sonkilla (2002) found changes in agricultural policy to be the most important risk source for Finnish agro-farmers.

Table 1: Respondents Perception of the Severity of the Sources of Risk

Risk category	Mean	Standard Deviation
1. PRODUCTION RISK		
Source of animal	1.76	0.69
Uncertainty about future productivity	2.28	0.90
Breakdown of equipment	2.07	0.77
Unavailability of input	2.16	0.87
Erratic power supply	2.47	0.98
Flooding	2.95	1.20
Heat stress/poor ventilation	2.08	0.84
Incidence of pest and diseases	1.94	0.68
2. MARKET RISK		
Input cost variability	1.81	0.61
Glut	2.33	0.96
Output price variability	2.47	1.09
Demand uncertainty	2.61	1.06
Production cost	1.84	0.60
3. FINANCIAL RISK		
Future interest rate	2.47	1.08
Supply of credit	2.46	1.09
Sudden recall of loans	3.06	1.12
4. HUMAN/HEALTH RISK		
Contamination of feed/ drinking water	1.99	0.93
Contamination litter	2.04	0.94
Inefficacy of drugs/vaccination failure	2.50	1.16
Non availability of veterinary services	2.90	1.12
Theft/Robbery/Burglary	2.27	0.99
Incompetence of workers	2.61	1.19
Cannibalism/feather pecking	2.26	0.86
Predator attack	2.24	0.85
Illness/Death of farm operator	2.67	0.98
Unavailability of labour	2.80	1.25
Injury to employees/farm family	2.40	0.92
5. INSTITUTIONAL RISK		
Change in regulation	2.09	0.88
Inconsistent government policy	2.01	0.77
Ineffectiveness of government policy	1.92	0.83
Diagnostic statistics		
Kendall's W	14.4	
Chi-square	470.513	
Degree of Freedom	29	
Asymptotic sig.	0.000	

Source: Survey Data (2022). Note; (Mean Scores: 1 =Very Severe; 5 = Not Severe)

The diagnostic test in Table 1 shows that the test is statistically significant; as indicated by the asymptotic significance value of .000, as well as the X^2 value of 470.513. This result implies that, there is an agreement in the perception of the respondents regarding the severity of risks encountered in poultry farming. However, the Kendall's W value of 0.144 demonstrates that the agreement in the perception of the respondents is weak. Specifically, it implies that there is only 14.4% agreement in the perception of the respondents regarding the severity of the outlined risk

sources. A possible reason for the low Kendall's W value is the high degree of neutral responses across a considerable number of the defining statements.

Poultry Farmers' Perception of the Effectiveness of Risk Management Strategies

Table 2 shows that, timely administration of drugs (M=1.70), as well as frequent pen cleaning (M=1.70) were perceived as the most effective risk management strategies. Maintaining routine hygiene practices (M=1.72), reliable source of animals (M=1.77),

proper water and feed management (M=1.80), use of disease resistant species (M=1.81), proper labour planning (M=1.88), engagement of veterinary doctor (M=1.91) were also seen as important risk management strategies by poultry farmers in the study area. It can be observed that just about all the top-ranked risk management strategies have a bearing on prevention and control of disease. Perhaps, this is because disease outbreak is a daunting challenge in poultry production, which if not properly handled can lead to the elimination of the entire flock. Moreover, epidemic scenarios of disease outbreak can extend to within thousands of perimeter radius. Morbidity, which is mostly brought about by incidence of pests and diseases affects the productivity of the farmer and consequently leads to a decline in profit. In addition, disease outbreaks usually results in food scares that can significantly reduce the demand for livestock food products (Pritchett *et al.* 2005).

This study has a commonality of findings with a study of the risk management strategies utilized by small scale poultry farmers in Oyo State, Nigeria, wherein upgrading sanitary measures and increased water use efficiency were among the most employed management strategies by the respondents (Akinbile *et al.*, 2013). In a similar study, small scale poultry farmers indicated rearing of resistant breeds to be one of the most important risk management strategies (Adepoju *et al.*, 2013). Khan *et al.* (2011) reported that prevention of animal diseases, good production technology and strict hygienic rule were perceived to be relevant risk management strategies by non-insured dairy animal owners, whilst one of the most relevant risk management strategies for insured dairy animal owners was prevention (vaccination) of livestock diseases. In a study conducted by Salman *et al.*, (2013), timely feeding and vaccination emerged as the basic risk prevention strategies amongst poultry egg farmers in Ibadan, Nigeria. Furthermore, Adeyonu *et*

al. (2021) found that proper and timely medication/vaccination and biosecurity strategies were the most popular risk management strategies among poultry farmers in south-west Nigeria. Likewise, veterinary service was considered to be one of the major coping strategies by poultry farmers in Osun State, Nigeria (Baruwa and Adesuyi, 2018).

Table 2 further depicts that, production at the lowest possible cost (M=1.96), pre-purchase of input/(M=2.00), use of foot and wheel dips (M=2.05), spreading sales of poultry products (M=2.10), use of proper storage facilities (M=2.16), fencing of farm holding (M=2.17), alternative power supply (M= 2.27), off-farm employment (M=2.31) and loan finance (M=2.46) were also conceived as effective risk management strategies. The perception of the respondents regarding the efficacy of a number of these risks management strategies is in tandem with findings of various other studies (Babalola, 2014; Obike *et al.*, 2017; Baruwa and Adesuyi 2018; Adeyonu *et al.*, 2021).

The diagnostic test in Table 2 shows that the test is statistically significant; as indicated by the asymptotic significance value of .000, as well as the X^2 value of 691.201. This result implies that, there is an agreement in the perception of the respondents regarding the effectiveness of risks management strategies that can be employed to ameliorate the deleterious effects of the risk encountered in poultry farming. Nevertheless, the Kendall's W value of 0.266 shows that the agreement in the perception of the respondents is weak. Specifically, it implies that there is only 26.6% agreement in the perception of the respondents regarding the effectiveness of the outlined risk management strategies. Just as in the case of risks perception, a possible explanation for the low Kendall's W value is the high degree of neutral responses across a considerable number of the defining statements.

Table 2: Respondents Perception of the Effectiveness of Risk Management Strategies

Risk Management Strategy	Mean	Standard Deviation
Extension contact	2.68	1.14
Timely administration of drugs/vaccines	1.70	0.57
Frequent pen cleaning	1.70	0.62
Use of foot and wheel dips	2.05	0.71
Fencing/netting of property	2.17	0.81
Contractual agreement	2.81	0.91
Pre-purchase of inputs	2.00	0.51
Proper storage facilities	2.16	2.09
Participation in cooperatives	2.60	2.11
Proper water and feed management	1.80	0.65
Loan finance	2.46	1.04
Maintaining routine hygiene practices	1.72	0.55
Use of disease resistant species	1.81	0.54
Using alternative source of power	2.27	0.90

Reliable source of animals	1.77	0.62
Direct sales to consumers	2.55	0.91
Purchase of insurance cover	2.90	1.03
Proper labour planning	1.88	0.61
Engagement of veterinary doctor	1.91	0.58
Spreading sales of poultry products	2.10	0.61
Production at lowest possible cost	1.96	0.68
Leasing or renting machinery	3.04	0.93
Off-farm investment	2.31	0.89
Replacement of human labour with machinery	2.98	1.10
Diagnostic Statistics		
Kendall's W	26.6	
Chi-square	691.201	
Degree of Freedom	23	
Asymptotic sig.	0.000	

Source: Survey Data (2022).

Note; (Mean Scores: 1 =Very Effective; 5 = Not Effective)

CONCLUSION

The major finding of this study is that poultry farmers in the study area have an ample perception of various sources of risk related to their business, as well as appropriate perception of the strategies to employ in order to manage those risks. The risk perceived to be highly deleterious includes source of animals, incidence of pest and disease, breakdown of equipment, heat stress, unavailability of feeds, uncertainty about future productivity and erratic power supply. Further, variability in future cost of inputs, glut, uncertainty about future output price, accessibility of credit, and uncertainty about future interest rate were also considered important risk factors in poultry farming. Other risk factors perceived to be of consequence include contamination of feed/drinking water, contaminated litter, predator attack, cannibalism/feather pecking, theft/robbery, injury to employees/farm family, inefficacy of drugs/vaccination failure, ineffectiveness of government policy, inconsistency in government policy and sporadic changes in regulations regarding poultry farming.

Risks management strategies perceived to be effective in ameliorating the consequences of the perceived risk include timely administration of drugs, frequent pen cleaning, maintaining routine hygiene practices, reliable source of animals, proper water and feed management, use of disease resistant species, proper labour planning and engagement of veterinary doctor. Other risk management strategies perceived as effective by the farmers were production at the lowest possible cost, pre-purchase of input, use of foot and wheel dips, spreading sales of poultry products, use of proper storage facilities, fencing of farm holding, alternative power supply, off-farm employment and loan finance.

Therefore, when developing and enacting agricultural policies, especially for the long-term sustainability of the poultry sub-sector, considering these risks and risk

management strategies emphasized by the farmers will be a huge step in the right direction.

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