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Assessment on Risk and Uncertainties Among Poultry Farmers in Corcuera, Romblon, Philippines

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ABSTRACT

Poultry farming is known widely all over the country, especially since it is considered a source of income for Filipino farmers. This study was a descriptive method to assess the practices of poultry farmers in eliminating risks. The socio-demographic profile of the respondents comprises 50% male and 50% female, with a total of one hundred respondents (100) age ranges from 51-60 years old, and 70% of them were married. Household size has 4-7 members, source of income of respondents was in the poultry industry; 95% of respondents have an average income of P5000-10000 monthly. 47% of the respondents are elementary level (84%), they engaged in farming for five years and above, and 83% of the respondents raised native chicken as their source of income. Most of the respondents agreed on the different risks in managing poultry this is the following; environmental risks, production risks, health risks, market risks, and financial risks. Determinants are; disease outbreaks, poultry facilities, veterinary care, supply of electricity and water, inadequate knowledge of poultry raising, and high feed prices. Most respondents stated that; management and strategic intervention will be applied in managing small-scale poultry. Such interventions stated are; promoting the quality of poultry products, maintaining poultry health and sanitation, having strong communication and coordination between all those involved in poultry veterinary service, having personal savings, investing in quality feeds, and biosecurity obtained.

HIGHLIGHTS

- Risk in management and determinants of small-scale poultry farmer.
- Farmers to be knowledgeable about risk and acquire risk management skills.
- Evaluate the best management practices to attain high productivity.

Keywords: Financial risk, intervention, poultry farmers, products, strategies

Keeping poultry contributes ample development to household food security, the economic contribution to the province, and the country in general. It helps diversify income and provides quality food, energy, fertilizer, and a renewable asset in over 80 percent of rural households. It also creates substantial income-generating activity for the poultry farmer from sales of birds and eggs as a valuable source of protein in the diet (Falculan, 2021). Notwithstanding its contribution to food security, poverty reduction, and growth of the economy, the industry experienced numerous constraints, including competition between food and feed, dependence on the importation of exotic breeds, drought, an outbreak of diseases, high cost of inputs, low-quality chicks, inadequate market, and the like (Adeyonu *et al*., 2021).

Food and Agricultural Organization (FAO), 2006, the poultry industry faces several issues, including rising feed and feed ingredient prices, avian influenza and other dangerous diseases, floods, subpar production, fluctuating output prices, the global financial crisis, insufficient

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credit, and low levels of production specialization. Due to their concern over bankruptcy, entrepreneurs are hesitant to launch. According to Adeyemo and Onikoyi (2012), the enterprise experienced numerous periods of price volatility, which led to a decline in the growth of the poultry industry as a result of farmers leaving the industry and consumers forced to pay steadily rising food prices (including those for chickens and eggs). Risk management is crucial because of the serious danger that risk and uncertainties pose, which includes significant financial loss, psychological upheaval, total business failure, etc.

Risk management is crucial because of the danger that risk and uncertainties pose, which includes significant financial loss, psychological upheaval, total business failure, etc. According to Legesse and Drake (2005), the risk is the effect of an unfavorable outcome that results from natural or human action. According to Kahan (2013), risks in livestock farming are commonly known into four categories: institutional (change in policy at the local, national, and international levels); financial risk (loan and its cost); and personal/human (accidents, illness, civil unrest, and death).

Production risks in livestock farming include drought, heavy rainfall, diseases, and pests. Marketing risks include supply/cost of inputs, demand for a product/price, and cost of production. The selection of a risk management approach continues to be heavily influenced by appropriate risk perception.

The rationale is that knowledge of the many current risk factors a farmer faces becomes the highlight in risk management. Farmers must become informed about risk and develop risk management skills to recognize issues and lessen their effects. Identification of farmers' risk perceptions is crucial to farm risk management. The farmer is a great respondent to understanding the nature, scope, and implications of the risks relevant to their agricultural operation. Farmers are also in charge of the duty of assessing the risk management techniques that are accessible. The farmer has to make the right choices to control the risks involved in the agricultural business.

MATERIALS AND METHODS

Description of the study area

The study used descriptive research to gather information about the risk management and determinants of farm outputs among small-scale poultry farmers in the Municipality of Corcuera, Romblon. As stated by Aquino (2003) seeks to describe a systematic situation or area of interest factually and accurately. It covers 100 respondents composed of small-scale poultry farmers and owners in the Municipality of Corcuera, Romblon.

Sampling procedure

Non-probability sampling methods were adapted to determine the number of respondents. Non-probability sampling is a method in which not all population members have an equal chance of participating in the study,

Data Collection

The survey questionnaire will be the instrument used in gathering the data needed.

Construction of the Questionnaire

The questionnaire used in this study is the product of reading. Instruments are organized and shown to the researchers' adviser, who went over each item. A modification might be established and ensure that each item would yield the information needed. The revisions will be made and incorporated, handed over to the adviser. After going through the questionnaire, the researchers were advised to prepare copies for validation.

Validation of the Questionnaire

Consultation was conducted by an adviser and experts in the field of agriculture were undertaken to ensure that no item was similar or duplicated. The instrument was verified by some thesis experts for comments, suggestions, and recommendations.

Administration of the Questionnaire

The instrument was handed to the respondent by the researcher. Retrieval of the questionnaire was conducted personally by the researcher. Scoring of response in the questionnaire was scored based on the Likert scale, with five as the highest score and one as the lowest score. An equivalent verbal interpretation has been conducted and analyzed.

STATISTICAL ANALYSIS

Quantitative data sets were analyzed using statistical analysis procedures of Statistical Package for Social Sciences (SPSS 2002).

RESULTS AND DISCUSSION

Respondents Socio-Demographic Profile

Age

Poultry farmer means the age of the farmers was about 51 years, which indicates that respondents were relatively in their middle age.

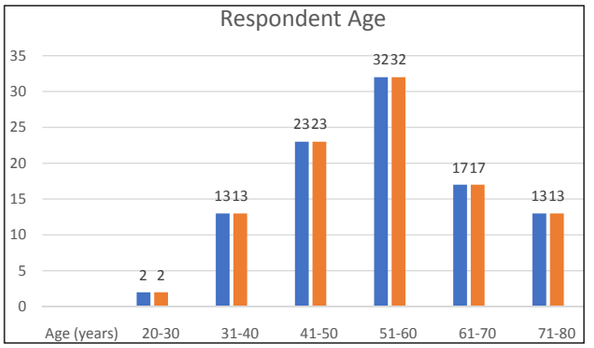

Fig. 1: Age-wise distribution of respondents

Respondent Sex

The respondents requested to indicate their sexes on the questionnaire. A result of both males and females (about 50%) signifies that poultry farmers were not gender sensitive this resulted in both sexes engaged in poultry farming.

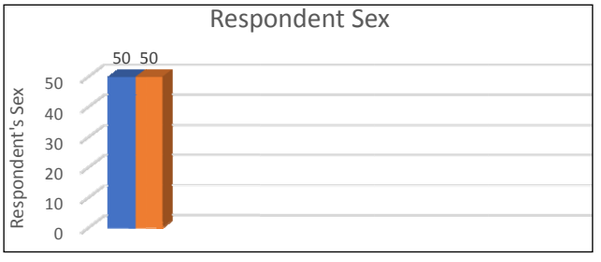

Fig. 2: Age-wise distribution of respondents

A contradictory statement by Reyes (2000), stated that married men/women experiencing some difficulties in their lives because of these difficulties tend to find some alternative to survive.

Level of Education

47 % respondents were elementary graduate on the level of education. Oladeji (2010) reported that maximum percentage of the poultry farmers (47%) had elementary school level education, followed by higher secondary level (28%).

Table 1: Educational Attainment of respondents

Educational Attainment	Freq	%
Elem Level	6	6
Elem Graduate	47	47
High School Level	15	15
High School Graduate	28	28
College Graduate	4	4
Total	**100**	**100**

Household Size

Majority (4-7 members) had the number on the family with fifty two percent (52%) which is considered as medium to large size family.

Table 2: Household size of the respondents

Household Size	Freq	%
4 - below	42	42
4-7	52	52
8-11	6	6
Total	**100**	**100**

Source of Income

Majority of poultry farmers source of income (76%) was poultry farming, this was followed with other source coming from agriculture production (24%). This only shows that majority of poultry farmers (776%) adopted poultry farming as primary occupation. The finding of Babu (2013), reported that native chicken farming was primary occupation.

Table 3: Source of income of poultry farmers

Source of Income	Freq	%
Poultry Farming	76	76
Others	24	24
Total	**100**	**100**

Monthly Income

Respondent's monthly income ranges from P5000-P10000 with a frequency of 95 and obtained a percentage of 95%. This indicate that most of the respondents have the monthly income of P5,000-P10,000 from poultry production.

Table 4: Monthly income of poultry farmers

Monthly Income	Freq	%
5000 – 10000	95	95
11000 – 15000	4	4
16000 – 20000	1	1
Total	**100**	**100**

Years of poultry farming

In terms of years of poultry farming, 5 years above got 84 which is the highest frequency with a percentage of 85% while 3-4 years got the lowest frequency of 2 and a percentage of 2. This means that most of the respondents were having their poultry farming for 5 years and above in the municipality.

Table 5: Farmers involvement in poultry raising

Years involved in raising	Freq	%
1 and below	5	5
1 To 2	9	9
3 To 4	2	2
5 and Above	84	84
Total	**100**	**100**

Risk determinants

Financial risks and loss of capital got a weighted of 3.98, inadequate management obtained a weighted mean of 3.91, and debt loans got a weighted mean of 3.89. This was supported by the study of Doward *et al.* (2007) that using debt to fund agribusiness investments, crop seasonality, and unlimited savings exposes a company or business to financial or liquidity risk. Movement in stock prices with a weighted mean of 3.74 to which the respondents agreed. High initial investment obtained the lowest weighted mean of 2.15, and the respondent responded neutrally. The overall average in the financial risks was 3.53 where, the respondents agreed. This implied that this risk should be acknowledged by the poultry owner or those planning to have this kind of business should consider their financial stability.

Table 6: Financial risk in poultry farming

1. Financial Risk	WM	DI
Loss of Capital	3.98	A
Inadequate Management	3.91	A
Movement in Stock Prices	3.74	A
High Initial Investment	2.15	N
Debt Loan	3.89	A
Mean	**3.53**	**A**

Risk in management of small-scale poultry in terms of environmental; climate change obtained the highest weighted mean of 3.98, noise got a weighted mean of 3.96, poor quality water with a weighted of 3.94, and use patterns and chemical pollution both obtained a weighted mean of 3.93 in which the respondents agreed. These environmental risks gathered total average weighted mean of 3.95. According to Akinbile *et al.* (2013) which identified vaccination failures and lack of water and feed as the top three climate-related risks facing poultry farmers. The study also shows a positive correlation between farmers' risk perceptions of climate change and the management strategies adopted.

Table 7: Poultry farming environmental risks

2. Environmental Risk	WM	DI
Poor Water Quality	3.94	A
Land Use Patterns	3.93	A
Noise	3.96	A
Chemical Pollution	3.93	A
Climate Change	3.98	A
Mean	**3.95**	**A**

Health risk management is considered as major factor in poultry industry. The respondents agreed on the following health risks like disease-causing microbes with a weighted of 3.97, lack of access to health care got 3.88 nutritional deficiencies and impacted crop 3.87, foodborne illness 3.85, and infectious diseases from the poultry obtained a weighted mean of 3.54. In terms of health risks, the total average weighted was 3.82 and the respondents agreed. This implied that this type of risk was encountered by the respondents and they were aware about the health of their poultry as well as its effects to the health of themselves and this was supported by the study of Attian (2005) described that consumer confidence, product quality and safety, product variety, disease outbreaks and relapses will continue to pose major challenges to the poultry immunity, health and production. Likewise, production risk is one also the risk management for small-scale poultry.

Table 8: Risks encountered by poultry farmers

3. Health Risk	**WM**	**DI**
Disease-Causing Microbes	3.97	A
Lack of Access to Health Care	3.88	A
Infectious Diseases from The Poultry	3.54	A
Foodborne Illness	3.85	A
Nutritional Deficiencies and Impacted Crop	3.87	A
Mean	**3.82**	**A**
4. Production Risk		
Outbreak of Disease	3.93	A
Poor Poultry Meat Quality	3.90	A
Drug and Vaccine Failure	3.85	A
Unpredictable Poultry Output	3.82	A
Heat Stress and Flooding	3.81	A
Mean	**3.86**	**A**
5. Market Risk		
Market Instability and Poor Sales	3.95	A
High Cost of Commercial Ration	3.88	A
High Fluctuations in Selling Prices	3.82	A
Non-Availability of Government Policies	3.59	A
High Diseases Incidences	3.41	A
Mean	**3.73**	**A**

Ways how to manage risks

Ways how the small-scale poultry farmers managed the risk when poultry diseases outbreak. As seen in the table, respondents strongly agreed in order to managed well the poultry must be clean and disinfected which obtained a weighted mean of 4.30. Respondents agreed on the others ways on how to managed the poultry such as; increased bird resistance through immunization procedures got a weighted mean of 4.15, providing a nutritious diet and plenty of water which got a weighted of 4.00, separating multiage of poultry birds, proper sanitation and isolation of sick poultry which both obtained a weighted mean of 3.99. Another procedure in identifying and treating sick poultry got a weighted mean of 3.98, vaccination with a weighted mean of 3.97, medication got 3.85. Adeyonu (2021) that farmers should employ disease prevention and financial management strategies to reduce the impact of various risks. Lastly, recalling chicken food item with the lowest weighted mean of 3.60 in which the respondents agreed. The overall weighted mean got 3.98 which means the respondents agreed on the ways on how the poultry will be manage when the risk strikes individual. This implied that the respondents were aware on how to cope up when a risk came up, they had their ways on how to manage it well. This was concluded by the study of Effiong *et al.* (2014) loosening pens and administering medicines and vaccines in a timely manner are key control strategies for poultry farmers, according to the report.

Table 9: Ways in managing risks

Items	**WM**	**DI**
1. Vaccination	3.97	A
2. Identifying and Treating Sick Poultry	3.98	A
3. Separating Multiage of Poultry Birds	3.99	A
4. Proper Sanitation	3.99	A
5. Medication	3.85	A
6. Isolation of Sick Poultry	3.99	A
7. Providing a Nutritious Diet and Plenty of Water	4.00	A
8. Poultry Must Be Clean and Disinfected	4.30	SA
9. Increased Bird Resistance Through Immunization procedures	4.15	A
10. Recalling Chicken Food Items	3.60	A
Mean	**3.98**	**A**

CONCLUSION AND RECOMMENDATION

Most respondents agreed on the different risk's management in the Municipality of Corcuera, Romblon,

such as environmental r, production, health, market, and financial risks. Some determinants were categorized as the outbreak of disease, poultry facilities, veterinary care, supply of electricity and water, inadequate knowledge of poultry husbandry, and high price of feed. Most of the respondents agreed that these interventions and strategies was done in managing the small-scale poultry properly in Corcuera, Romblon promote the quality of poultry products, maintaining poultry health and sanitation, having strong communication and coordination between all those involved in poultry.

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