

# An Assessment of Challenges Faced by Small Scale Poultry Farmers, Chicken Layers: (A Case Study of Luanshya District)

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## **ABSTRACT**

*The study assessed the challenges faced by Small Scale Farmers: Chicken layers case study of Luanshya District. In Zambia, chicken layers rearing was estimated at about 25.7 million and are kept by about 90% of the population in the rural areas in small flock of up to 30 birds mainly under free range system*

*The objectives of the study were: To establish the factors influencing layers chicken rearing, establish factors influencing the adoption of various chicken management technologies and innovations; determine the existing chicken production systems including distribution and flock size among farmers in determine factors influencing farmer's choice of chicken health management strategies (traditional and conventional) in Luanshya.*

*The research method which was used is descriptive research with a sample size of 30 respondents from a population of 150. The research used qualitative design approach. Qualitative data was collected by reviewing literature, asking questions and conducting consultations with some key informants.*

*Purposive sampling was used to select the respondents in the study. Data was collected using a questionnaire.*

*The study concluded that the challenges were technology 100%, management 83.3%, entrepreneurship 66.7%, leadership 83.3%,*

*marketing 73.3%, social factors 66.7%, family support 66.7%; environmental 66.7%, unemployment 83.3%, and resource availability 100%. The findings of the study revealed that the challenges faced by small scale farmers include climatic condition 3.3%, seasonal diseases 33.3%, temperature 10%, capital 6.8% and ventilation 3.3%.*

*It was recommended specialized poultry networks and training programs should be introduced in order to provide awareness to the famers about the various diseases, health conditions, strategies and techniques which are necessary to ensure the quality of poultry products and for the better health of the chicken layers; The poultry sectors in Zambia should be given due attention by the agricultural policy makers and scientists; The poultry farmers should change their attitudes and efforts in managing the quality of chicken layers and their farms; The government of the Republic of Zambia should invest or look for a donor to partner with Zambian businesses to take advantage of opportunities such as improving management skills, investing in upstream processing facilities, and scientific development of feed manufacturing technology.*

**Keywords:** Poultry Network; Training Program; Diseases, Awareness, Management

## 1) CHAPTER ONE

### **Introduction to the Study**

This study sought the challenges faced by Small Scale Farmers: Chicken layers case study of Luanshya District. The poultry industry in Zambia has grown and developed steadily over the recent years. Agriculture contributes about 22% of annual gross domestic product (GDP) in Zambia with poultry contributing 26% of the agricultural GDP (FAO, 2008). The study talked about chicken layers, the challenges faced in keeping layers, infects and benefits both at national level and examples will be given at world level.

The majority of the rural populations in the developing world keep a flock of poultry either in free range or confined system (FAO, 2009). Chicken layers rearing dominate most of the rural areas in the developing world with 80% and 20% of chickens in Zambia being of indigenous and exotic types respectively. Therefore, they form an important component of rural livelihoods. In Zambia, chicken layers rearing was estimated at about 25.7 million and are kept by about 90% of the population in the rural areas in small flock of up to 30 birds mainly under free range system (Kingori et al., 2010). Chicken are family owned and managed mostly by women and children (FAO, 2009). Their products are used for home consumption, as gifts, religious purposes or are sold to earn some income to buy basic household food items (FAO, 2009). With the rapidly growing human populations, demand for high quality food especially protein; improving income levels and standards of living have all created a high demand for chicken products.

A study done in Kenya by FAO, (2008) had recommended that public education and training on safe poultry production, good bio-security and management was critical for rural areas. Since chicken diseases are a constraint to production in

terms of cost and time, it is important to understand how farmers respond to these diseases. Smallholder chicken farmers under free range production system respond differently in times of disease occurrence; they may choose to; do nothing, use ethno veterinary medicine, use modern (conventional) medicine and/or human medicine (Mapiye and Sibanda, 2005).

Failure by farmers to respond to disease incidences was attributed to inadequate cash to purchase veterinary drugs and shortage of veterinary extension services, while traditional medicine is often used and preferred due to their low cost, ease of application and local availability. The type of medication used is important since conventional medicine have been tested and evaluated for efficacy and side effects while traditional medicines are centred on activating the body's own natural healing ability but have not been tested or evaluated (Mapiye and Sibanda, 2005). This threatens the quality of chicken layers, thus a health hazard. Poultry farming is defined as the process of raising domesticated birds such as chicken layers various species of birds, such as ducks turkeys, broilers, guinea fowl, and ostrich. Poultry farming can be in two forms, either keeps the poultry in a free range or in a confined area.

There are more chickens in the world than any other bird or domesticated fowl. Humans keep chickens primarily as a source of food (consuming both their meat and eggs) and, less commonly, as pets. Chickens are kept in household chicken poultry system where chickens share the same room under the same shelter. The place for incubation and brooding is clay pot with straw bedding for sitting of hen for incubation, this is because it is easy to construct or prepare clay pot from locally available material (mud). The major bedding materials used is straw and old clothes. The house hold store eggs in cold environment until utilization and/or sale even though the

temperature of the room is not exactly known and storing eggs in cold environment increase shelf life of the eggs.

Small scale poultry production is used by farmers in order to generate cash income and as a source of food for domestic consumption however, the production sector is constrained by disease, predators, poor housing, poor management, lack of feed, low market prices and lack of markets. Chicken layers are adapted to free range scavenging in the poultry house. This is mainly due to the poor management accorded to them. However, they are able to scavenge and harvest enough nutrients for growth, production and reproduction. Though their yield potential is relatively low, chicken contribute significantly to the national egg, meat production and to the welfare of the smallholder family. Drought as an intervening variable has an influence on numbers of poultry produced in that it affects feeds availability which in turn results in reduced production thereby influencing numbers of indigenous poultry produced. This is because most of the farmers keeps poultry in free range which means they fed for themselves Drought also affects water availability to the chicken layers Drought at the same time triggers incidences of build- up of parasites which has direct influence on quantity of poultry produced by the affected poultry.

According to Ngosa (2011) poultry has contributed to human health and wellbeing for millennia. For rural communities, poultry continue to be an integral part of farming systems and household economies. For cities and towns, where an increasing proportion of people now live, large- and small-scale commercial poultry industries play a critical role in providing safe, good-quality products for urban consumers. In many countries, commercial and household poultry are located within the same communities, and improvement programs designed to increase the capacity of

producers and introduce new technologies and practices can have widespread impact. According to the investor guide on poultry in Zambia pg. 4, it explains how egg production is increasing and by 2050 the egg market is estimated to rise by 5.9 million tons. The poultry Association Zambia (PAZ), according to its annual report in 2014, reveals that the poultry sector provides both direct and indirect employment to 80,000 people with 50,000 being in permanent jobs and 30,000 in seasonal jobs.

**Free Range Farming:** This poultry farming means providing freely roaming facilities to the poultry birds for a certain period of a day. Although they are kept inside the house at night to keep them free from predators and adverse weather. In free range farming method, the poultry birds generally roam freely throughout the whole day. Which means they spent half of their life outside the house? For free range poultry farming system select a suitable land which has the facilities of adequate drainage system, good ventilation, appropriate protection from prevailing winds, good protection from all types of predators and free from excessive cold, heat or dampness. Excessive cold, heat and damp are very harmful for poultry birds and reduce their productivity. This system also requires less feed than cage and barn systems. The poultry manure from free range farming used as fertilizer for crops directly. Although free range farming method is very suitable for poultry birds but it has some difficulties too. In this system the poultry birds can be victim of predators easily and may catch by various types of diseases.

**Organic Method:** This layer poultry rearing system is also one type of free-range farming system. But the main differences between the two systems are, in free range farming method a large numbers of poultry birds are raised together but in organic method a certain species of poultry bird are raised in small group with low stocking density. Organic

laying system has some restrictions in the routine use of synthetic yolk colourants, water, feed, medications, other feed additives and obviously a smaller group size with low stocking density. In organic laying system the producer should keep highest 1000 poultry birds per hectore and maximum 2000 birds in each house.

**Yarding Method:** This poultry farming method is such a method in which cows and chickens are raised together. The farmer makes a fence in his yard and keeps all the poultry birds and cattle there together. The birds and cattle have the freedom of movement inside the fence. It is a very popular system used by small farmer.

**Battery Cage Method:** This layer poultry rearing method is one of the very common methods used in many countries. In this system usually small sized metal cages are used. Every cage can accommodate about 3 to 8 hens. The walls of the cages are generally made of mesh or solid metal and the floor is made of sloped wire mesh which allows the faeces to drop down. When the hens lay eggs, then all the eggs gather in the egg collecting conveyor belt of the cage. In this system food is provided in front of the hens by a long-bisected metal or plastic pipe and water served to them by using overhead nipple systems. The cages are arranged in long rows in one above another system. There may have several floors in a single shade which can keep many even thousands of hens together. For reducing feather and vent pecking, the light intensity is generally kept lower than 10 lux.

## Statement of the Problem

Modern poultry production in Zambia is low due to production cost, disease, and poor management practices. The farmers do not benefit from the sector because of disease prevalence, feed shortage and poor management practices (Malkamu and Wube, 2013). However, there is lack of funds to sustain chicken layers by small

scale farmers which leads to not having enough space to keep huge number of chicken layers. Poultry feed being relatively high in price is of special concern to both poultry feed and egg marketers, including poultry products consumers.

Despite the growing demand, chicken face several challenges namely; 1) production related which include diseases, predators, theft, harsh environment, lack of and/or inadequate production skills, poor nutrition, high feed costs, flock sizes and marketing (Ochieng et al., 2013); 2) Adoption of various management interventions like feed supplementation, vaccination, brooding, housing and labour (Ochieng et al., 2013). For example, under free range production system, which is commonly practised in Zambia, chicken is rarely vaccinated or treated against diseases and parasites (FAO, 2009). Besides, different poultry species are kept together hence failure to take into consideration the bird specific nutrition requirement resulting in low production. Under free range system, chickens are left to scavenge and may be easily infected and also spread the disease to the rest of the flock (FAO, 2009); 3) Institutional support to farmers like limited access to: extension services, veterinary services, credit facilities, trainings, access to markets and market information and group memberships (Ochieng et al., 2013). (4) Low awareness levels among chicken farmers on common poultry diseases especially potential zoonotic diseases and more so the emerging diseases like Highly Pathogenic Avian Influenza (HPAI), (FAO, 2009).

## 1.2 Research Objectives

The objectives of the study are divided into two categories namely general and specific objectives.

### 1.3 General Research Objectives

The identify challenges and opportunities facing chicken Layer's production and management by small scale poultry farmers in Luanshya.

### 1.4 Research Questions

The key research questions were:

- i. What factors influence the adoption of various chicken layer management technologies and innovations in Luanshya?
- ii. What are the existing chicken production systems in terms of distribution and flock size in Luanshya?
- iii. What factors influencing layers chicken rearing in Luanshya.
- iv. What factors influence farmer's choice of health management strategies for chicken diseases?

## 1.5 Significance of the Study

This research is beneficial in the following three major ways: It is expected that its findings, is to shed light on challenges facing poultry farming chicken layers and propose innovative approaches to address these challenges, this sector can enhance and create employment opportunities and maximise opportunities for enhanced productivity and improved livelihoods. The study is a training process for the unlearned and learned, unemployed and employed empowering them as small-scale farmers to start their own businesses through acquiring C.D.F funds from the government.

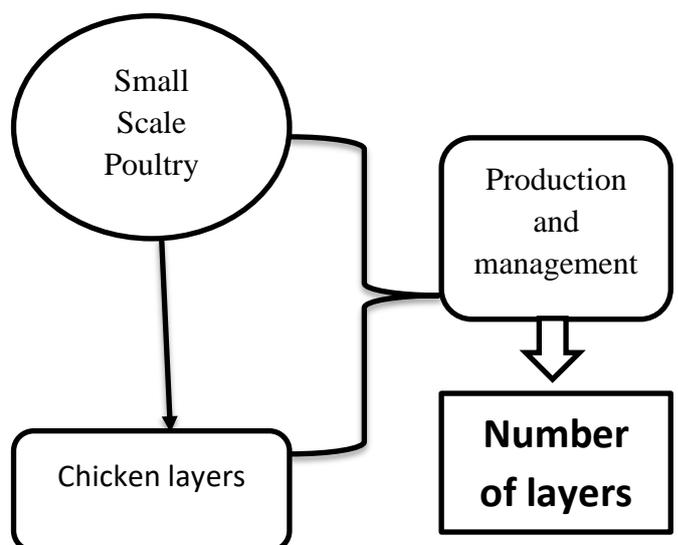
The study assessed the challenges and opportunities facing chicken layers production and management by small scale poultry farmers in Luanshya. However, there is lack of funds to sustain chicken layers by small scale farmers which leads to not having enough space to keep huge number of chicken layers. Poultry feed being relatively high in price is of special concern to both poultry feed and egg marketers, including poultry products consumers.

## 1.6 Conceptual Framework

This study assessed the challenges faced by Small Scale Farmers: Chicken layers case study of Luanshya District adopted the socio-technical systems theory, BCG strategy and Administrative theory.

Socio-technical systems (STS) theory provides a suitable foundation to help identify salient 'strategy variables' likely to impact performance.

Homburg et al., (2010) noted that people working together can influence the adoption of customer interface technology and this will subsequently impact how the firm can use available technology to provide customer solutions to problems. This will not only include technology in terms of personal selling but help the firm better understand the customer.



**Administrative theory** Administrative Theory for Henry Fayol (1949) is based on principles of management. Management is a set of activities such as planning, organizing, training, controlling and coordinating, directed at an organization's human financial, physical and material resources to achieve organizational goals (Fayol 1937, p. 99). Concepts in this theory were developed to increase management efficiency. It is important to note that management functions or roles can be carried out at various levels of the structure. Therefore, this theory is important as it would be beneficial to assess the challenges faced by Small Scale Farmers: Chicken layers case study of Luanshya District

## 2) CHAPTER THREE: RESEARCH METHODOLOGY

### 3.0 Overview

This chapter covers the research design, method and tools and techniques which were used in collecting and analysis of the data used in this study. The purpose of methodology in a research is its ability to act as an engine in the whole process of data collection, analysis, presentation, and interpretation of the findings.

### 3.1 Research design

A research design is a plan and structure of investigation so conceived as to obtain answers to research questions (Goodson, 1988). Neuman (1977) indicates that a research design is a plan or pattern for data collection and interpretation. The research design is composed of blue print for correction, measurement and analysis of data (Coodican, 1994). It assists the scientist the scientist in allocating of his limited resources causing crucial choices (Mulusa, 1990).

The research type which was used is descriptive research. Burns and Bush (2010) states descriptive research is a set of methods and procedures that describe variables. This entails that descriptive research describes the state of affairs as they exist. Descriptive research attempts to describe systematically a situation, problem, phenomenon, service or programme, or provides information about, say, to assess the challenges faced by Small Scale Farmers: Chicken layers case study of Luanshya District. The research used qualitative design approach. Qualitative data was collected by reviewing literature, asking questions and conducting consultations with some key informants.

### 3.2 Target population

According to Orodho (2004), target population is a large population from which a sample population is selected. The target population was 150 small scale

farmers doing chicken layering in Luanshya District.

### 3.3 Sample size and sampling procedure

$$N = \frac{Z^2 \times PQ}{D^2}$$

- Z = 90% Confidence Interval (0.9)
- P = Estimate of population with characteristics of interest: Assume 90% complication of any type and magnitude.
- Q = 1 – P
- D = Specific Margin of Error (5%)

At 90% power, Alpha 5%

*Source: Orodho (2004)*

$$N = \frac{Z^2 \times PQ}{D^2}$$

$$N = \frac{0.9^2 \times 0.9(1-0.9)}{0.05^2}$$

$$N = \frac{0.81 \times 0.09}{0.0025}$$

$$N = 29.16$$

$$N = 30 \text{ Respondents}$$

#### 3.3.1 Sample Size

The study sample size comprised of thirty (30) respondents from Luanshya district in the target population above. Below is the formula that was used to come up with the sample size

#### 3.3.2 Sampling procedure

In order to come up with the 30 respondents the researcher picked every 5<sup>th</sup> respondent from the target population.

#### 3.4.1 Data collection instruments

The other mostly used data collection tool in this study was a questionnaire. Questionnaires are widely used in surveys with descriptive or exploratory purposes. They can also be used in studies in experimental research and related research strategies.

Flick (2002) states that questionnaires are valuable method of collecting a wide range of information from a large number of individuals after referred to as respondents. Good questionnaire construction is critical to the success of a survey. Whittington and Evans (2005) states that a questionnaire is a series of questions asked to respondents to obtain variable information about a given topic. It consists of a number of questions on a paper that respondents read and answer. Hines (2000) contends that questionnaires are frequently used in social research such as this one. Questionnaires are easier and relatively cheaper to administer. This is essentially the reason why this tool is common and widely used in most of the studies including this particular survey.

Primary data was collected from respondents through the 30 questionnaires which were distributed. Secondary data was

### 3.4.2 Data collection instruments

collected from books and reports in relation to research objectives.

### 3.5 Data analysis

Babbie (2004) defines data analysis “as three linked sub-processes: data reduction, data display and conclusion drawing verification”. In business, research the study often demands the analysis of the relationship between two variables. For this study, data collected was analyzed using both tables and figures. The Statistical Package of Social Sciences (SPSS) will be used to analyze the data of the study. The data was summarized by way of frequency tables.

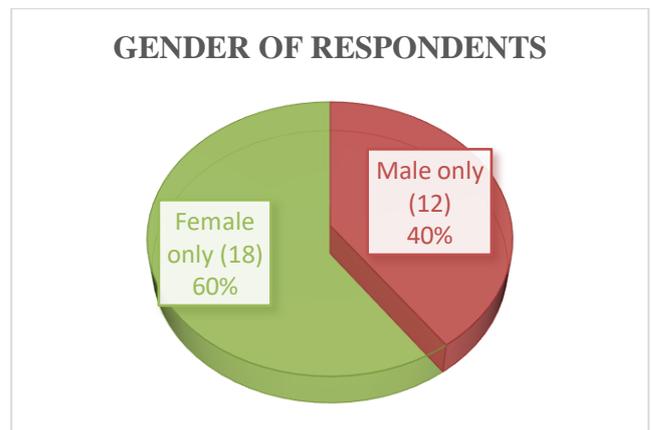
### 3.6 Ethical Consideration

The researcher ensured that those contacted gave consent. The purpose of the research was explained to the participants before they gave consent and that it is for academic purpose. It was made clear that the information obtained was confidential.

## 3) CHAPTER FOUR RESEARCH RESULTS AND FINDINGS

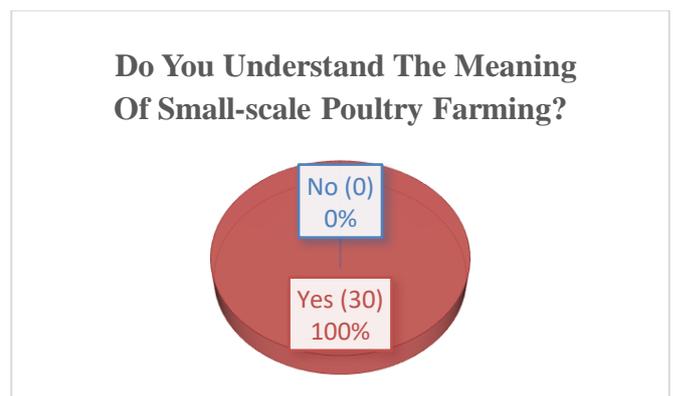
### 4.0 Overview

This section contains the data collected. The data has been analyzed in form of tables and description where tables cannot apply for easy interpretation and analysis and a short explanation follow for each table. The findings in this chapter are in line with the objectives of this research. The data has also been analyzed based on the responses from the 30 questionnaires distributed.



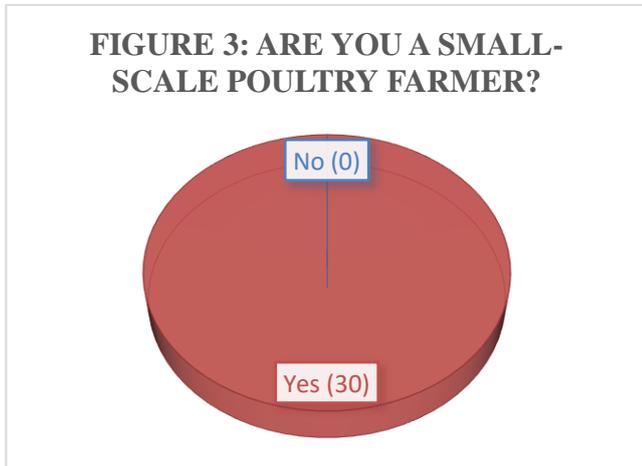
Source: Field Survey 2019

Figure 1 illustrates that out of the total of 30 respondent small scale poultry farmers, 40% were male (men only) and 60% were female (women only ). This shows that more women are in the poultry farming business than men. This also possibly shows that there are more men in formal employment as compared to women.



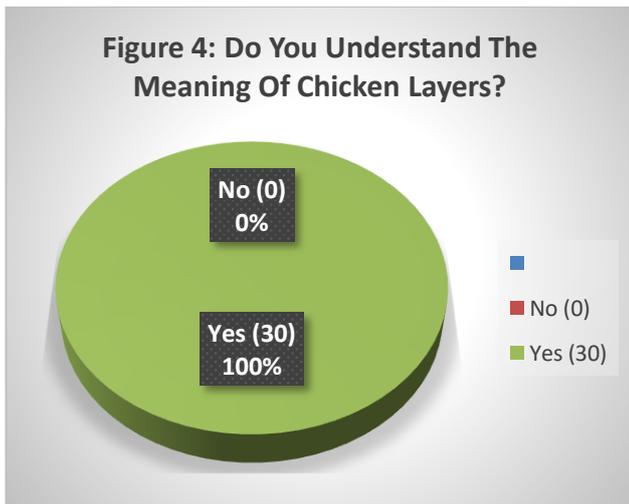
Source: Field Survey 2019

Figure 2 showed that all the respondents understood the meaning of small-scale poultry farming



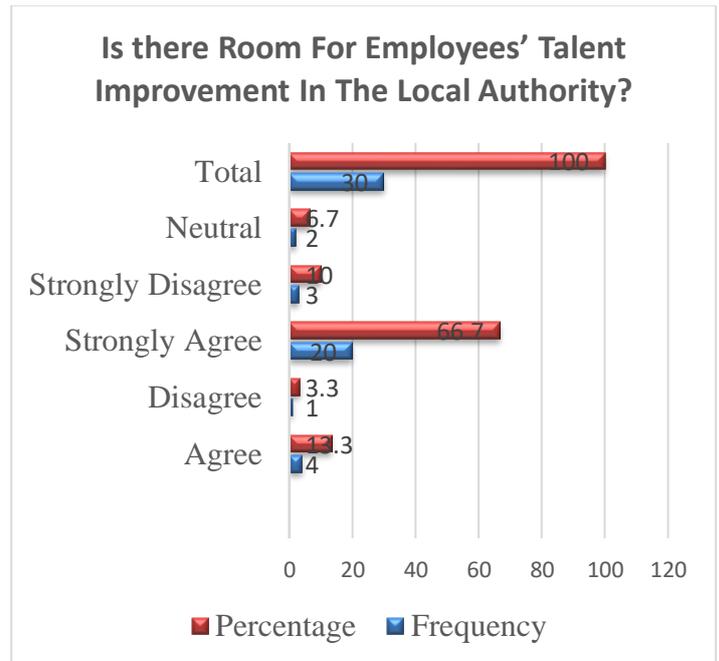
Source: Field Survey 2019

Figure 3 showed that all the respondent who were approached and talked to were small scale farmers



Source: Field Survey 2019

Figure 4 The table above showed that all the small-scale farmers understood the meaning layers



Source: Field Survey 2019

Figure 5 showed that the small scale approached admitted the factors influencing chicken layers according to the percentages given in the table.

**Table 6: Factors influencing chicken rearing in Luanshya**

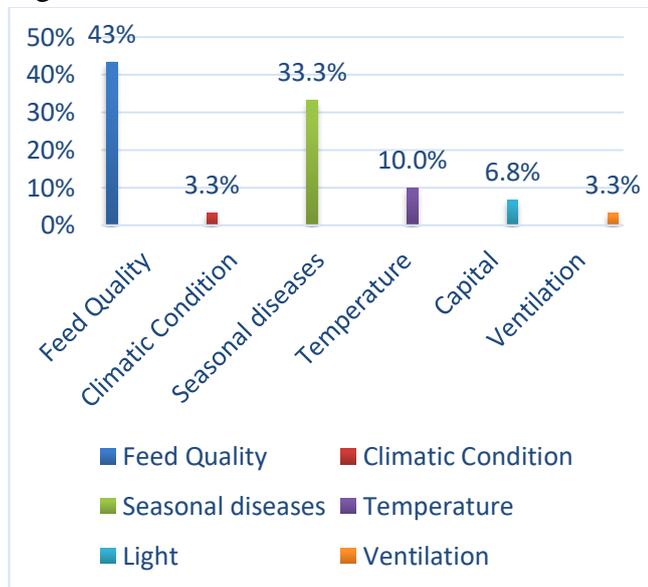
Factors	Frequency	Percentage
Skill factors		
Technological	30.0	100.0
Skill Management	25.0	83.3
Skill Entrepreneurial	20.0	66.7
Skill Leadership	25.0	83.3
Skill marketing	22.0	73.3
Social factors	20.0	66.7
Family support	20.0	66.7
Environmental factors	20.0	66.7
Unemployment	25.0	83.3
Resource availability	30.0	100.0

Source: Field Survey 2019

Table 6 shows factors that chicken layers rearing in Luanshya technology 100%, Skills learners develop as a result of the use of the computer and

technologies. Learn more in: Learning Management Technology and Pre service Teachers management 83.3%, can be defined ascertain attributes or abilities that an executive should possess in order to fulfill specific tasks in an organization. entrepreneurship 66.7%, the capacity and willingness to develop, organise and manage a business venture along with its own risks in order to make a profit, leadership 83.3%, marketing 73.3%, social factors 66.7%, family support 66.7%, environmental 66.7%, unemployment 83.3%, and resource availability 100%.

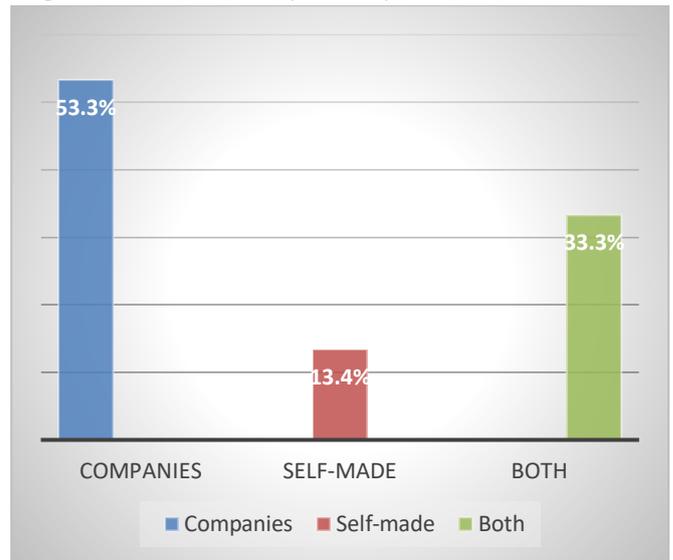
Figure 7



Source: Field Survey 2019

According to figure 7, 43% of the respondents strongly agreed indicating feed quality as a factor influencing the adoption of various chicken management technologies and innovations in Luanshya, climatic condition 3.3%, seasonal diseases 33.3%, temperature 10%, capital 6.8% and ventilation 3.3%.

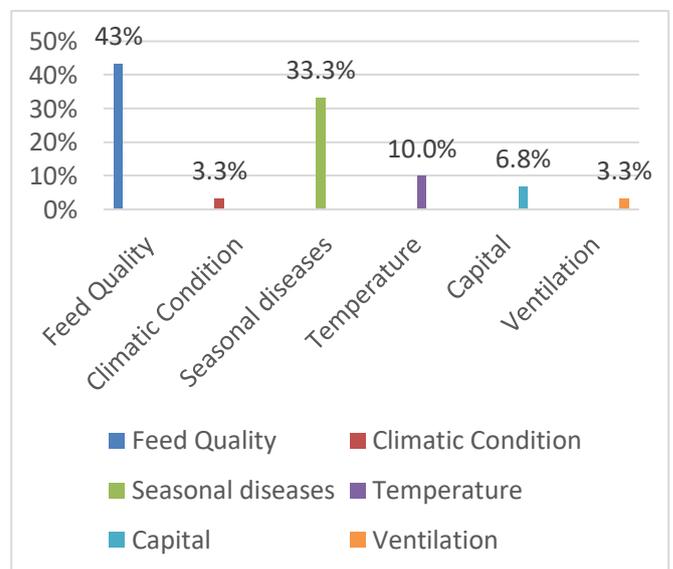
Figure 8: Where do you buy chicken feeds?



Source: Field Survey 2019

Figure 8 showed that 53.3% of small-scale farmers buy feed from companies, 33.3% of small-scale farmers make and buy their own feeds, and a few percentages of 13.4% make their own. Meaning most of the scale farmers depended on companies that sold feed, if there was a shortage the layers will be affected. As there is need to teach small scales farmers to be self-reliance by making their own feed

Figure 9 Feed quality as a factor on Chicken Health



Source: Field Survey 2019

According to figure 9, 4.3% of the respondents strongly agreed indicating feed quality as a factor influencing farmer's choice of chicken health management strategies (traditional and conventional) in Luanshya, climatic condition 3.3%, seasonal diseases 33.3%, temperature 10%, light 6.8% and ventilation 3.3%.

## **4) CHAPTER FIVE: DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS**

### **5.0 Overview**

This chapter gives discussions of the findings and an overview of the study on its findings on assessing the challenges faced by small scale poultry farmers: chicken layers case study of Luanshya district. The chapter further gives recommendations on the objectives for the study.

### **5.1 Discussions**

**Specific Objective 1:** To establish the factors influencing layers chicken rearing in Luanshya.

According to the findings 13.3% agreed indicating there are factors influencing chicken layers rearing in Luanshya while 3.3% disagree, 66.7% strongly agree, 10.0% strongly disagree while 6.7% were neutral. The fact that the majority of respondents, a total of 66.7% strongly agree that there are factors influencing chicken layers rearing in Luanshya. The 66.7% of the respondents revealed the following factors: technology 100%, management 83.3%, entrepreneurship 66.7%, leadership 83.3%, marketing 73.3%, social factors 66.7%, family support 66.7%; environmental 66.7%, unemployment 83.3%, and resource availability 100%. In the early 1990s, the FAO Animal Production and Health Division reviewed the achievements made in the control of poultry diseases, particularly of Newcastle disease.

There is high demand for meat from indigenous chicken breeds, due to their suitability to local taste preferences and cooking methods (Aini, 1990, Choprakarn and Wongpichet, 2008, Kitalyi, 1998, Umayya Suganthi, 2014). The persistence of SSP production systems in regions where large-scale commercially-produced poultry products are available is an example of food sovereignty, where communities have chosen a sustainable production system that produces healthy, culturally appropriate food.

Apart from high demand due to health issues, people now eat more of white meat as compared to red meat. A high rate of unemployment in Luanshya as really influenced this type business as most of the big industries are not in operational and due to this people have resorted to chicken layers rearing which helps in poverty alleviations at least selling of eggs is on a daily basis and people who are in this business have something to put on the table for their family and survive.

It's an addition source of income for both people who are out of employment are still in employment as the economy is becoming expensive. Chicken layers has become a business opportunity especially for the unemployed, most people are venturing into this business. The comparisons were carried in different towns in Zambia and according to the information collected the respondents had similar reasons, as these reasons can also be taken at a global perspective, and the factors influencing chicken rearing of layers is the same.

The assessment noted the progress that had been made in Southeast Asia with initiatives spearheaded by the Australian Centre for International Agricultural Research through the promotion of an oral vaccine based on a naturally attenuated Newcastle disease strain with the characteristics of heat resistance and an ability to spread horizontally within a flock. The Organization has supported various improvement

programmes ranging from the introduction of productive exotic breeds under intensive management systems to improved backyard production, vaccine production and disease control.

**Specific Objective 2:** To establish factors influencing the adoption of various chicken management technologies and innovations in Luanshya.

The findings of the study revealed that the 4.3% of the respondents strongly agreed indicating feed quality as a factor influencing the adoption of various chicken management technologies and innovations in Luanshya, climatic condition 3.3%, seasonal diseases 33.3%, temperature 10%, capital 6.8% and ventilation 3.3%. According to the study conducted by Neila (2010) on technology and poultry welfare, public concern regarding the conditions in which chicken layers are maintained has led to the need for developing methods to verify minimum chicken layer welfare standards. As defined by the World Organization for Chicken Health, "Chicken layer is in a good state of welfare if it is healthy, comfortable; well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear and distress". However, to prove and verify chicken layer welfare requirements in practice are not simple. In poultry production a large number of factors, such as stocking density, environmental deterioration, unsuitable social environments, thermal stress, or difficulties in accessing essential resources can be major sources of stress that can lead to welfare deterioration and reduced performance. Technology innovation this for example Golden lay and Mrs Chambaka of Kasama for her its only one person who handles chickens to avoid transferring of diseases and since it's on a small scale, but for Golden lay they have put automated machines that collects eggs and no one is allowed to enter the chicken runs.

**Specific Objective 3:** To determine the existing chicken production systems including distribution and flock size among farmers in Luanshya.

The level of satisfaction of the existing chicken production systems including distribution and flock size among farmers in Luanshya were very poor 26.7%, poor 36.7%, average 30% and good 6.7%. 63.4% (very poor 26.7% and poor 36.7%) of the respondents agreed that there were not satisfied with the existing chicken production systems including distribution and flock size among farmers in Luanshya. However, the extent to determine the existing chicken production systems including distribution and flock size among farmers in Luanshya could not be ascertained from the study. The size and productivity of the village flock ultimately depend on the human population and its household waste and crop residues, and on the availability of other scavenge feed resources. There is a clear relationship between egg production and nutrient intake. This is demonstrated in Zimbabwe, where fewer eggs are laid in the rainy season from August to September, but when snails are available in January and February, production increases (Horst, 2009).

**Specific Objective 4:** To determine factors influencing farmer's choice of chicken health management strategies (traditional and conventional) in Luanshya.

With regard to the factors influencing farmer's choice of chicken health management strategies (traditional and conventional) in Luanshya, 4.3% of the respondents strongly agreed indicating feed quality as a factor influencing farmer's choice of chicken health management strategies (traditional and conventional) in Luanshya, climatic condition 3.3%, seasonal diseases 33.3%, temperature 10%, light 6.8% and ventilation 3.3%. This shows that such were also challenges faced by small scale poultry farmers in Luanshya. According to Nduthu

(2013) in Kenya chicken layers rearing is one of the key intervention areas for increased chicken layers productivity. Chickens are negatively affected by poor genetic makeup of chicken layers being kept by the small-scale farmers. This has resulted in chickens with slow growth rates, low mature sizes, low fertility and low production. The average poultry yield is estimated at 1- 1.5kgs. To increase the overall productivity, this parameter needs to be improved through breeding using superior genetics.

Golden layer is a biggest poultry farm in Luanshya, after a verbal interview with Mrs. Phiri who is an employ stated some of the health management Golden Layer has adopted, when it comes to handling of the birds, birds are exposed to a lot of diseases such as new castle which is a dangerous disease for chickens. No employ is allowed to enter the chicken runs without taking a bath, egg collection is not done manually but it's automated, women who have their monthly periods are not allowed to come in contact with the chickens as they may transfer some diseases to the chickens.

Golden Layer produces its own feed for proper proportional nutrients that are required by the chickens.

## 5.2 Conclusion

This study assessed the challenges faced by small scale farmers: chicken layers case study of Luanshya district. The study has revealed that the challenges faced by small scale poultry farmers are unemployment mostly Luanshya is a mining town which most of the population depended on and due to the closure of the mines, retrenchments as resulted in many people left out of employment and rearing of chicken layers has become a source of income to both the employed and unemployed. Due to the economy situation at least it's helping in putting food on the table for the family as eggs can be sold every day. Marketing can be a challenge

especially with Chinese who sale at lower prices, but networking is helping as people in this type of business have grouped themselves on WhatsApp to help sell the eggs and widen the market for poultry business. Organising short courses on the poultry business so that people are acquainted with knowledge such leadership and technology is being introduced.

Some of the challenges can also be explained through figures such as technology 100%, management 83.3%, entrepreneurship 66.7%, leadership 83.3%, marketing 73.3%, social factors 66.7%, family support 66.7%; environmental 66.7%, unemployment 83.3%, and resource availability 100%.

The findings of the study revealed that the challenges faced by small scale farmers include climatic condition 3.3%, seasonal diseases 33.3%, temperature 10%, capital 6.8% and ventilation 3.3%.

## 5.3 Recommendations

The following measures are strongly recommended based on the objectives of the study.

- i) Specialized poultry networks and training programs should be introduced in order to provide awareness to the famers about the various diseases, health conditions, strategies and techniques which are necessary to ensure the quality of poultry products and for the better health of the chicken layers.
- ii) The poultry sectors in Zambia should be given due attention by the agricultural policy makers and scientists.
- iii) The poultry farmers should change their attitudes and efforts in managing the quality of chicken layers and their farms.

- iv) The government of the Republic of Zambia should invest or look for a donor to partner with Zambian businesses to take advantage of opportunities such as improving management skills, investing in upstream processing facilities, and scientific development of feed manufacturing technology.
- v) Networking was also a very important tool for small scale farmers to connect

themselves for business strategies and market their poultry products.

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