

**FACTORS AFFECTING THE PROFITABILITY OF BROILER CHICKEN
PRODUCTION AMONG SMALL SCALE FARMERS IN LUSAKA**

**A Research Report Submitted to the Department of Agricultural Economics and Extension
Studies at the University of Zambia**

BY

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List of Acronyms

- CSO** Central Statistical Office
- FCR** Feed Conversion Ratio
- GDP** Gross Domestic Product
- IAPRI** Indaba for Agricultural Policy Research Institute
- MAL** Ministry of Agriculture and Livestock

ABSTRACT

Factors affecting the Profitability of Broiler Production among Small-scale Farmers in Lusaka, Zambia

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Dr. G Tembo

Poultry industry is proving to be a very important sector in Zambia and most developing countries, the broiler sector particularly. The broiler industry has grown significantly over the past years as the market became liberalized. This study focused on identifying those factors that can affect profitability of broiler production amongst small holder farmers, this represented the general objective. More specifically, the study sort to identify the effects of various factors such as household size and level of management had on the profits. This was achieved by carrying out a gross margin analysis, a proxy for profitability, and then regressing the gross margin on various variables in the multivariate model. This study used mainly primary data which was collected from registered poultry producers through a well structured questionnaire in Lusaka area from the Poultry Association of Zambia. The data collected was then analyzed in STATA 11 where both gross margin and the regression were computed.

Factors found to be significant in explaining variations in profits are; cost of production, mortality, farm gate price, market outlets, volume of sales and household size. The farm gate price, volume of sales and household size were found to influence the variation positively where as cost of production and mortality negatively influenced profitability as expected. It is therefore prudent for government to invest in extension services designed to teach and encourage farmers to invest in broiler production as it is a very profitable venture with gross margin being averagely positive for most farmers in Lusaka.

CHAPTER 1

INTRODUCTION

1.1 Background

Livestock rearing is an important subsidiary occupation that supplements the income of smallholder farm families and rural households in most developing countries. Broiler production particularly in Zambia is a very important source of meat proteins, vitamins, amino acids and other nutrients. Broiler chickens are also a cheap source of the aforementioned compared to beef and pork as it supplies over 60% of the country's meat requirement leaving the 40% to be shared amongst other sources i.e. pork, beef, and other imported and local meats PAZ (2012). In addition to this, broiler enterprise can be a very good source of income for small scale farmers because of the huge market share it has of 60%. Broiler production can be very important in curbing poverty, improving livelihoods and reducing unemployment and thus improving the living standards of the farmers involved generally. In the 2007/ 2008 agricultural season, 66.6 % of the small scale farmers throughout the country raised chickens CSO (2008) signaling the importance of broiler production as a viable enterprise for income generation. The trend is visible in urban setups where chickens are kept under the back yard method this can be attributed to the lax government regulation on poultry sector compared to other livestock like goats and pigs that have tight government restrictions hence make it a challenge to trade in them. Small scale farmers further prefer to trade in broilers because there are fewer religious and social taboos associated with chickens B T Anang (2011).

The broiler sector in Zambia has been growing significantly with consumption demand standing at 28 million in 2011 up from 13 million in 2000 Nicholas Sitco et al (2011). This increase has resulted in many people venturing into poultry broiler production as well as an increase in the number of auxiliary industries such as feed manufacturers, hatcheries and transporters. Currently the country has 8 hatcheries supporting the poultry industry and 11 established millers, it is important to note that 80% of the feed marketed are poultry feeds further signaling the importance of broiler production as a source of income for most small scale farmers. The Poultry Association of Zambia has defined the small scale farmers of broiler chickens according to the

holding capacity of those involved. Small scale is those having a capacity of up to 10,000 birds further classification is in appendix.

1.2 Problem Statement

Broiler production is at most an important source of income for over 988,658 small scale farmers in the country which helps them to supplement their income. A poultry enterprise is expected to be a very profitable venture this is evidenced from the fact that broiler rearing requires relatively less investment in relation to other livestock like cattle and pigs that require a huge initial investment outlay B T Anang (2011). Broiler production has an added advantage because of its short production cycle of six weeks compared to other livestock. We thus expect broiler production to be very profitable.

A study compared the profitability of broilers and layers to help farmers and new market entrants make informed investment decisions as opposed to mere enthusiastic decisions (B.T Anang, 2011) whereas another study by R. Bano et al (2011) in a study on profitability index and capital turnover in broiler production, indicated that the major constraint in broiler production was the high cost of production, both studies concentrated on a few established farms that had high bird population and significantly ignored exogenous factors that can affect the profitability such factors as level of management, marketing methods, marketing challenges and bird mortality.

However, insufficient data on various factors such as the aforementioned exogenous variables, pricing mechanisms and labor costs make it difficult for most scale farmers to identify exactly what factors will affect their returns. This study will take a unique approach in that we will analyze the broiler production among small scale farmers. We will explore those factors that can affect profitability starting from the inception of production up to dispatch at the market therefore encompassing both the socio-economic and institutional factors. In Zambia, we are deprived of knowledge and especially insight on the constraints that can and will reduce profits for small scale farmers. This study will thus add to the knowledge base that has been recorded on

broiler production and help farmers and policy makers make informed decisions when it comes to broiler production among small scale farmers in Zambia.

1.3 Objectives

General Objective

To identify the factors that negatively affects the profitability of broiler chicken production among small scale farmers.

Specific Objectives

1. To determine the effect of socio-economic factors on the profitability of broiler production among small scale farmers.
2. To determine the effect of transportation costs on profits if the chickens are sold away from the homestead (production site).
3. To determine the impact of institutional factors on the productivity of broiler chickens among small scale farmers.
4. To determine the effect of management level on profitability.

1.4 Rationale

A profitability study is important because profits are the major incentives that attract people to venture in a particular line of business. Identifying the factors that can affect profits will thus enable farmers make calculated moves in establishing their broiler enterprises as opposed to enthusiastic decisions which can lead to a drastic fall in profits. The identified factors can also act as pointers for policy makers as they structure regulations concerning the poultry industry especially the broiler industry.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In every business, profits are the major incentives that attract people to start a particular line of business. Profits will define the decision making process of business owners and hence determine the level of investment needed to get the targeted profits. Numerous methods of profitability studies have been developed with the most common being gross margin analysis of farm enterprises. This particular method involves calculating the gross revenue then subtracting the variable costs incurred on the enterprise being considered. The gross margin analysis ignores fixed costs in the estimation because of the problem of assigning some costs to particular enterprises i.e. some assets are used across all farm enterprises Ronald D. Kay (unknown).

This section will summarize some studies that have been conducted on profitability of broiler and highlight salient aspects that have been overlooked by these research works. The first part analyses studies on poultry profitability were as the second part looks at other works as well as a general overview of the poultry industry in Zambia.

2.2 Profitability

According to the Collins English dictionary, profits are defined as the “the excess of revenues over outlays and expenses in a business enterprise over a given period of time, usually a production cycle”. For example Rubina Bano et al (2011) noted that broiler production is profitable with the major cost being the feed component. They further concluded that the fixed costs only accounted for about 7% of total cost hence showing that gross margin was a significant measure of profitability. However, this study ignored other factors that would potentially vary the profitability of the farmer, such exogenous factors as the household size, the marketing challenges faced, level of management and the age of the business (enterprise) owner. Another study conducted by B Indarsih and W Suryatman (2012) observed that most independent farmers (those not involved in contracts) were generally profitable despite them having a huge price and market risk. Their major problem however was the cost of production inputs such as feed and veterinary medicines. A similar study by R Bandara (2006) in a

quantitative analysis of factors affecting profitability of small scale poultry producers looked at factors such as price of feed, cost of veterinary medicine and services, feed conversion ratio (FCR), and cost of labor.

All these studies ignored the effect of socio-economic factors such as the gender of the owner of the enterprise, the level of education, the household size involved in poultry production and the age of the head which is directly linked to the level of experience. All these factors can affect the profitability of the enterprise if considered, for example we expect older producers to make more profits than the less experienced because of the integration and bond the older producers have developed with their clients' overtime.

Further, these studies only considered factors that explained variations in gross margin, and hence profits, internally. For instance we know that an increase in the price of inputs will definitely reduce profits and that an increase in poultry meat or live birds will increase profits. Similarly a reduction in inputs can also increase prices although this is rare because prices are sticky downwards Ahujah (2007). This study considers all factors both exogenous and endogenous which gives a clear overview of the causes of the variations in profits.

2.3 Poultry Industry overview

The poultry sector in Zambia is the largest contributor to livestock GDP contributing about 42% PAZ (2011) which is thus an important industry which needs to be harnessed and developed to international standards. Despite the fact that most layers and broilers are on commercial farms, the number of households that rely on poultry as their main source of income is significantly high amongst the small scale producers IAPRI (2011). This is the reason we have seen increased traders of both eggs and broilers on our local markets that produce their flock under the backyard system.

Commercial farmers are usually integrated in Zambia as they produce for ready markets which are usually mega supermarkets like Shoprite, Spar and Pick n Pay under contracts. Commercial farmers go further in production as they process the birds by slaughtering them then packing

them as assorted chickens as per requirement by the supermarkets. The same scenario applies for layers; the eggs are cleaned and packed in branded trays then distributed to the supermarkets.

2.4 Conceptual Framework

Poultry production especially, broiler production, is a very attractive livestock industry for anyone to venture into more importantly because of its relatively low initial investment cost and shorter production cycle of 6 weeks (B.T Anang, 2007). However, despite its attractiveness few farmers monitor certain variables that reduce on the gross margin. Reduced profits are most likely caused by constraints that are times notable but difficult to quantify.

The key variables to note in this study are *Gross Margin* which is simply excess income above variable costs against the broiler enterprise and the dependent variables; *Gender, Age, Level of education, household size, farm gate price, marketing challenges, level of management, production costs, market outlets* and *labor costs* which will be used to explain the variation in gross margin. It is important to postulate what is expected to occur during the interaction of these variables as noted by Miles (1994) that researchers ought to have an idea of the possible outcomes of the interaction of key variables despite the outcomes not being accurate. Low levels of experience on broiler enterprise is most likely to reduce returns in that it would be difficult for one with little experience on broiler production to identify major factors that can be controlled to improve profitability. We expect the type of market outlets used by farmers to be important in explaining variations in gross margin because different outlets fetch different prices. For example, open markets like Soweto will fetch a much lower price than the homestead price because of the immense competition at the open market where they are too many producers selling chickens. However, these are good for farmers interested in economies of scale.

Profits will arise when certain forces in the market result in changes in demand and supply such that there is a price increase for the produce with no change in cost of inputs or when changes are such that prices of inputs significantly go down. These changes can come about due to natural forces, change in consumer tastes and preferences, change in prices of substitutes or change in government policies.

CHAPTER 3

METHODS AND PROCEDURES

3.1 Introduction

This section of the report highlights the methods used as well as the procedures employed. This report utilized mainly primary data captured from respondents in Lusaka province. The areas visited included; chelstone, makeni, Luşaka west and Kaunda square. The report further elaborates on gross margin and the multi regression model employed.

3.2 Method

The study area was confined to Lusaka province, the capital city. Lusaka is home to most poultry farmers and thus boasts of good available data on broiler production which recorded 292, 692 representing 19.8% broiler production as at 31st December 2012 (Anonymous, 2012). The province was selected because of resource limitations to extensively carry out the research but, compared to other towns Lusaka has a considerably high poultry consumption rate because of its diverse culture. This enables us to predict the high consumption rate.

The sample was determined from those households which have been identified by PAZ and CSO as having involvement in broiler production in Lusaka district and thus using this as the sampling frame to generate the sample from the sampling estimator. The sampling estimator used was;

$$\text{Necessary sample size} = \frac{(z\text{-score})^2 * \text{standard deviation} (1 - \text{standard deviation})}{(\text{Margin of error})^2}$$

At 90% confidence level, 0.5 standard deviation and margin of error (confidence interval of +/- 10%) the necessary sample size is 70 (Scott Smith, 2013).

The data collected and used was both primary and secondary data. The primary data was collected through a well structured questionnaire which was administered to the target small scale farmers who were sampled purposively. The target characteristics gathered from

respondents were age, gender, formal education and experience of raising birds as well as institutional factors that we postulated would affect the profitability of poultry rearing. Secondary data was collected from the national poultry association, ministry of agriculture and livestock and from other sources that have comprehensively studied the Zambian broiler industry especially among small scale farmers

3.3 Empirical Framework

After completion of the data collection, the data was coded and analyzed with the aid of STATA 11. The total variable cost and total revenue functions were used to derive the gross margin which was regressed on the multi-regression model. Here, the gross margin is used because of the complexity involved in calculating fixed costs which are at times used across enterprises hence can give false results on profit estimates.

$$GM = TR - TVC$$

Where; *GM* is the gross margin

TR is the total revenue

TVC is the total variable cost

The multi regression model will be as follows;

$$Y_i = b_1 + b_2X_{2i} + b_3X_{3i} + b_4X_{4i} + \dots + b_kX_{ki} + U_i$$

Where; y_i is the dependent variable (the Gross Margin)

b_1 is the parameter.

X is the variable to be measured.

U is the disturbance term.

The multi regression model is chosen specifically because it allows for the explanation of variation in our dependent variable (Y Gross Margin) by the independent variables (Xs). This is very important in this study because certain aspects cannot explain the variation in why directly.

For examples exogenous factors such as marketing challenges, management influence (mortality), marketing outlets employed and poultry capacity. This study postulated that profitability can be influenced by the above factors in addition to those endogenous factors that explain variations directly for example; farm gate price, cost of production and transportation costs.

CHAPTER 4

RESULTS AND INTERPRETATION

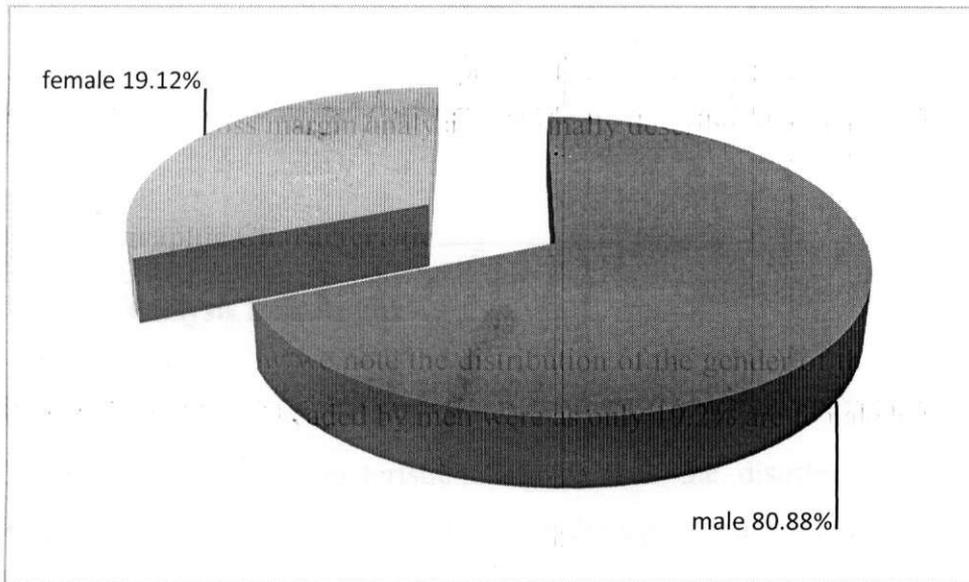
4.1 Introduction

This section starts with the description of the demographic characteristics then interprets the findings of the gross margin analysis and finally describes the regression analysis findings.

4.2 Demographic Characteristics

From the figure below we note the distribution of the gender of the household head. About 80% of the households are headed by men were as only 19.2% are female headed households.

Figure 1 Distribution of household head by gender

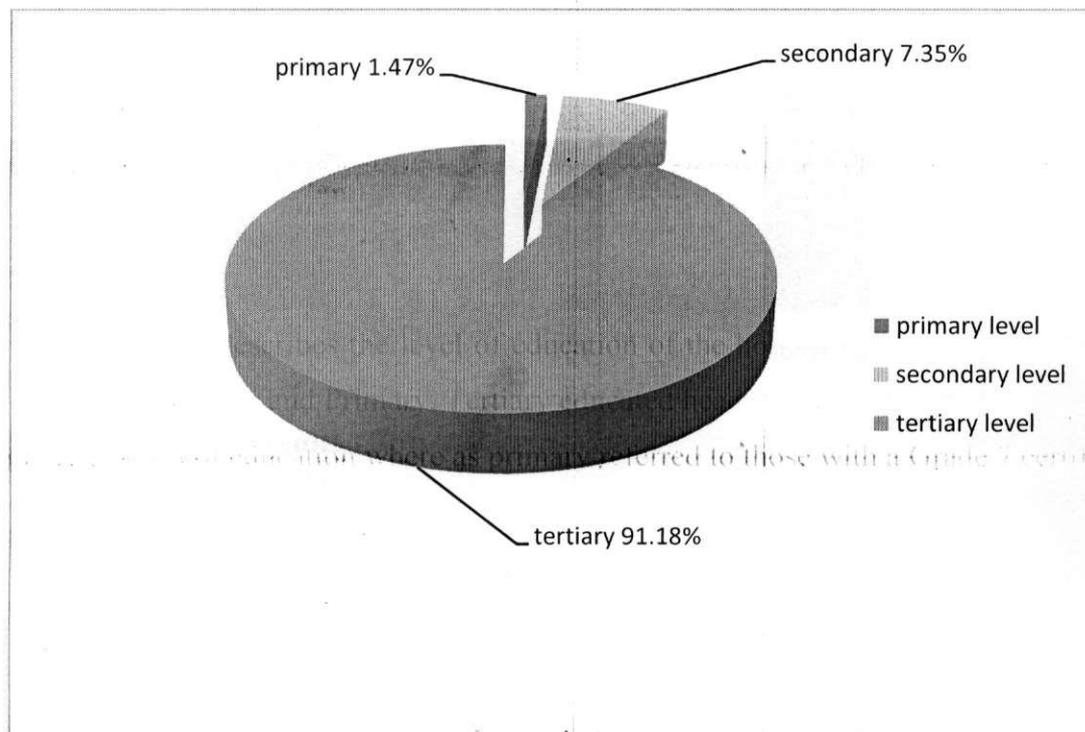


Source: Analysis Results 2013

Despite many households being headed by males, the majority of the women in the household contributed immensely to the broiler enterprise. The women were mostly responsible for marketing, dressing and raring, the men were in charge of transport logistics and also buying chicks from hatcheries.

The next figure describes the level of education of the household head which was divided into; Tertiary, Secondary and Primary. Tertiary educated heads were considered as those who had post grade 12 level of education where as primary referred to those with a Grade 7 certificate.

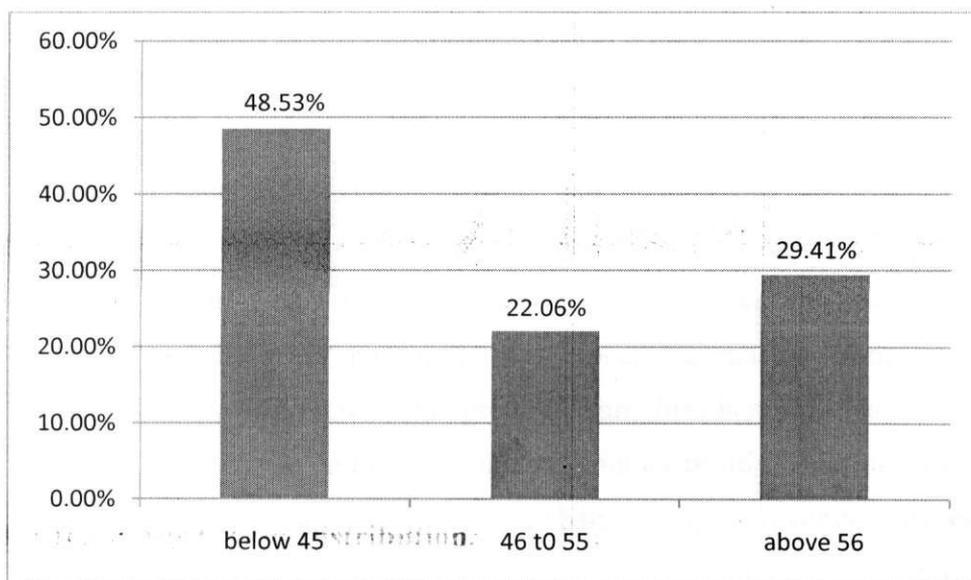
Figure 2: Household Level of Education



Source: Analysis Results 2013

Another important characteristic observed was the distribution of the age groups of the producers. The distribution was divided in three groups as outlined in the figure below. The most active age group were those aged below 45 years followed by those lying between 46 years to 55 years then the last group was those above 56 years came last. The distribution is displayed in the figure on the next page.

Figure 3: Age Group Distribution.



Source: Analysis Results 2013

4.3 Gross Margin Analysis

Of the 70 households observed, the mean was found to be K4, 935.794 implying that broiler production is relatively profitable. However, negative gross margin was reported which also happened to be the min at -K10, 750 where as the maximum recorded was K26, 183. The summary is as outlined in the table below.

Table 1 Gross Margin Analysis

Variable	Observation	Mean	Std. Dev	Minimum	Maximum
Gross Margin	70	4, 935.794	5,319.107	-10, 750	26, 183

Source: Analysis Results 2013

4.4 Regression Analysis

The model was found to be significant at 5%, this means the model explained the variation in gross margin satisfactorily. The significant variables were; cost of production, sales in last batch, mortality, household size, farm gate price and marketing outlets all at 95% confidence.

The farm gate price was found to be significant at 95% confidence, the relationship was positive as it increased the gross margin. This is expected because according to the literature reviewed increases in price will increase the gross margin, this phenomena is explained in the gross margin equation and is thus an endogenous factor. Another positive relationship was the sale of the batch (chicken raised), the larger the size of the batch the more revenue is expected and hence increase in gross margin. The size of the household also had a positive relationship with gross margin. Households that had more members than the other households would increase gross margin. This is true since larger households will contribute labor at no cost therefore reducing the cost of labor and thus increase the gross margin.

Other factors also were significant but gave a negative relationship to gross margin. Among such factors were cost of production, mortality and the marketing outlet. Cost of production will reduce on the gross margin as expected because it is actually subtracted from the total revenue, however, this factor explains the variation as an endogenous factor. Mortality also reduced the gross margin as the relationship was negative, high bird mortality reduced the batch size and hence grossly affected the sales revenue. Marketing outlet employed by farmers also depicted the level of prices received for the produce. For instance those that sold their produce at the open market received lower prices compared to those that sold at their homestead (production site).

Table 2: Regression output of significant variables

Gross Margin	Coefficients	Standard Error	T	p> t 	95% conf. Interval	
Cost of Production	-0.9858515	0.0350485	-28.13	0.000	-1.06	-0.9145
Sales last batch	25.4412	0.771544	32.97	0.000	23.87	-20.8507
Mortality	-24.56333	1.824799	-13.46	0.000	-28.28	-20.85
Household size	248.1821	105.5437	2.35	0.025	33.45	462.91
Marketing Outlets	-3.1579	1.1352	-2.78	0.009	-5.47	-0.85
Farm gate price	371.1616	39.9729	9.29	0.000	289.84	452.49

Table 3 Regression output of insignificant variables

Gross Margin	Coefficient	Standard Error	T	p> t 	95% conf. Interval
Poultry capacity	0.0500029	0.3623621	0.14	0.891	-0.68 0.79
Main production problem	81.55057	109.8079	0.74	0.463	-141.86 304.95
Unmarried	261.053	409.2941	0.64	0.528	-571.66 1093.77
Homestead	11.80403	20.29695	0.58	0.565	-29.49 53.10
Labor Structure	175.348	293.8737	0.60	0.555	-422.54 773.24
Cons	-10594.69	1834.753	-5.77	0.000	-14327.52 -6861.86

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section concludes the research by answering the objectives set out in the beginning, conclusion is thus based on the research findings. Recommendations drawn will be based on the conclusion as well as the findings.

5.2 Conclusion

Broiler production was postulated to be a very profitable enterprise based on the literature reviewed as well as the conceptual framework. Based on the gross margin we noted that the average gross margin was positive at about K5000 with a maximum close to K26, 000. Broiler production amongst small scale farmers in Lusaka is thus a profitable venture. Gross margin is used in this model as an indicator for the measure profitability.

In this study, gross margin was used as an indicator for profitability and the factors that influenced profitability positively were; sales in last batch, household size, and farm gate price. Those that influence profitability negatively are bird mortality and the marketing outlet. Based on the findings of this research gross margin is influenced both by the positive and negative factors as aforementioned.

5.3 Recommendations

From the results obtained, we see that broiler production is a very profitable venture for farmers. Apart from that, it is an affordable source of proteins, amino acids and other nutrients as established in the review of literature. It would be prudent to encourage more farmers to produce broilers as it can be a good source of income and hence improve the living standards through improved nutrition.

As observed that the factors affecting the profitability negatively (decrease gross margin) being market outlets and the bird mortality. It would be important for government to invest more in extension services so as to improve on management capability as uncontrolled mortality can greatly affect the profit levels of farmers. Existing markets must also be modernized to international standards so that their proper flow of information from the farmers to the consumers so that competitive prices are established as opposed to the distortions that are existing currently were the same produce fetches different prices.

In light of the above recommendations it would be important also to extend this line of research to also explore the value addition that can be achieved through further processing of the birds. For example what incremental profits can be realized if producers further processed their broiler chickens and also the demand that is prevailing for finished broiler products?

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APPENDICES

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Number:

THE UNIVERSITY OF ZAMBIA
THE SCHOOL OF AGRICULTURAL SCIENCES
THE DEPARTMENT OF AGRICULTURAL ECONOMICS

YOU HAVE BEEN RANDOMLY SELECTED TO PARTICIPATE IN THIS SURVEY, PLEASE BE ASSURED THAT THE DATA PROVIDED WILL BE USED FOR ACADEMIC PURPOSES ONLY. THIS STUDY IS CONCERNED ON DETERMINING THE FACTORS THAT AFFECT THE PROFITABILITY OF BROILER PRODUCTION IN LUSAKA DISTRICT. THANK YOU FOR YOUR ASSISTANCE

Section 1

2. Farm identification

1.1 District Name: _____

1.2 Constituency Name: _____

1.3 Ward Name: _____

1.4 Name of farm/household: _____

1.5 Name of farm owner: _____

1.6 Sex of farm owner: male= [] female= []

1.7 Is owner main respondent: No= [] yes= []

1.8 If No, what is the name of main respondent: _____

1.9 The relationship of the main respondent to head (owner), "codes are in demographics" []

1.10 Date of Enumeration: [] / [] / []

SECTION 2: SOCIO ECONOMIC FACTORS.

2: Demographics.

Data collected for all household members who eat from the same pot.

2.1: I now will ask you to give me the composition of your household starting with the head and finishing with the youngest.

<i>Can you please give me the names of the individuals who are members of this household</i>		What is.....'s sex? 1=male 2=female	When was.....born?		Marital status "ask only if born before 1997" 1=single/unmarried 2=monogamously married 3=polygamously married 4=divorced 5=widowed	What is the highest level of education attained? (see code below)	What is the relationship of.....to the head? (see code below)	Does Provide labor to the poultry section on this household? 1=yes 2=No
Member code	Member name		Month Code below	Year				
MID		DM01	DM02	DM03	DM04	DM05	DM06	DM07
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Month born codes DM02		Level of education attained DM05	Relationship to head DM06
1=January	7=July	0=none	1=head
2=February	8=August	1=primary	7=nephew/niece
3=March	9=September	2=secondary	2=spouse
4=April	10=October	3=tertiary	8=son/daughter in-law
5=May	11=November	(diploma,degree,masters,phD)	3=own child
6=June	12=December	4=other....(specify)	9=grandchild
			4=stepchild
			10=other (specify)
			5=parent
			6=brother/sister

SECTION 3: BASIC INFORMATION AND PRODUCT FLOW

1: how many broiler did you raise in the last batch

_____]

2: what is the maximum number of broiler chickens your poultry house can accommodate

_____]

3: I will now ask you about your most frequent market outlets.

What is your most frequent market outlet? Codes 1=middlemen 2=market 3=collections 4=homestead 5=other.....(specify)	If answer to BIP01 is 1, then how much do you sale per bird if not, skip to BIP03.	If answer to BIP01 is 2, how much do you sale per bird if not, skip to BIP04	If answer to BIP01 is 3, how much do you sale per bird, if not skip to BIP05	If answer to BIP01 is 4,how much do you sale per bird, if not skip to BIP06	If answer to BIP01 is 5, kindly specify the mode of transaction and its value.
BIP01	BIP02	BIP03	BIP04	BIP05	BIP06

3.4: how much money do you spend in total in production of the broiler chickens [_____]

1= less than K2, 000 per 100 broiler birds

2= between K2, 001 and k3, 000 per 100 birds

3= greater than k3, 001 per 100 broiler birds

3.5: how many broiler chickens did you sale last in your last batch [_____]

3.6: what is the average mortality of your flock, [_____]

SECTION 5: LABOUR FACTORS

5.1: I now would like to find out from you the labor structure of your broiler enterprise.

“Ask only if labor is hired i.e.do not include member of the family”

5.2: have you engaged any one to work on your broiler enterprise [], if no skip 5.3 , 1=yes 2=No

5.3: I will now ask you the following questions in relation to your employees

List MID's and names of all members who have contributed to the rearing of broiler chickens		Did.....been trained in rearing broilers 1=yes 2=no	If yes, who provided the training? 1=NGO 2=Government Extension workers 3=Other (specify)	Does.....Have access to market information? 1=Yes 2=No	Which is the main source of information for marketing purposes? 1=Radio 2=TV 3=Newspaper 4=middlemen 5=other (specify)	What is the payment rate of.....?	Units 1=per hour 2=salary 3=per chicken
MI D	NAM E	L01	L02	L03	L04	L05	L06
1							
2							
3							
4							
5							
6							
7							
8							
9							
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22							

SECTION 6: Value factors and marketing challenges

I will now ask you about your marketing challenges in relation to your production.

Challenge	Do you hire for..... 1=yes 2=No	How much does it cost you to hire for		How do you rank this challenge..... 1=very important 2=somewhat important 3=small issue
		Cost k/unit	Unit "see codes"	
	VFM01	VFM02	VFM03	VFM04
Marketing "call boys"				
Transportation				
Market Taxes				
Dressing				
Other(specify)				

Unit codes VFM03
1=person
2=chicken 3=trip

does this household face any marketing problems

1=yes 2=No, go to 6.4

if yes, what is the main marketing problem

1= too low prices

2= markets not stable

3= delayed payments

4=other, specify.....

does this household face any production problems

1=yes 2=No, go to sec. 7

if yes, what is the main production problem that you face

1=inadequate labor 2=breed problems 3=diseases 4=high feed prices 5=others

SECTION 7: General information on business development and credit acquisition

	Has any member of this household received professional advice on..... 1=yes 2=No, go to next item	In which year did you first receive help/information on.....	Where was this help/information sourced from.....	How did you receive this information?	Has this information you received been used for the intended purpose? 1=yes 2=No
Name	GI01	GI02	GI03	GI04	GI05
Broiler enterprise development					
Market discovery					
Market information "prices"					
Loans					
Forward contracting					
Other					

CODES GI03

- 1=fellow farmers
- 2=farmer organizations
- 3=poultry association
- 5=government department
- 6=others

CODES GI04

- 1=informal conversation
- 2=radio program
- 3=pamphlet/newspaper
- 4=workshop
- 5=field day
- 6=other, specify