

**AN ANALYSIS OF THE DEMAND FOR QUAILS IN ZAMBIA'S LUSAKA
DISTRICT**

**A Research Report presented to the Department of Agricultural Economics and Extension
of the University of Zambia.**

BY

THOMAS MOONGA

**In Partial Fulfillment of the Requirements for the Degree of Bachelor of Agricultural
Sciences**

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ACKNOWLEDGEMENTS

I would like to thank the following people who were very instrumental during the planning and implementation of this study. To begin with, I wish to acknowledge the tireless effort that was made by my supervisor, Mrs. M. Ngcobo. She always had time for me and gave meaningful guidance and timely suggestions.

I would also be failing in my duties if i did not mention the immeasurable and immense support of the following organizations; Shoprite, SPAR and Merylin Supermarkets and Poultry Association of Zambia for enabling me to have access to the data used in this study.

Further I should also thank other members of the School of Agriculture Sciences and particularly, the Department of Agricultural Economics at the University of Zambia (UNZA), for their contribution to my professional advancement.

I am indebted to my parents who never spared the rod when I was a kid. They have made me who I am today. They kept encouraging me that there is light at the end of the tunnel when things were so hard and seemed unachievable.

Lastly, how excellent is your name in all the earth who ascends your glory above the heavens, I will praise your holy name forever and ever more.

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LIST OF ABBREVIATIONS

COMESA	Common Market for East and Southern Africa
CSO	Central Statistics Office
FAO	Food and Agriculture Organisation
OLS	Ordinary Least Squares
PAZ	Poultry Association of Zambia
SADC	Southern Africa Development Community
SPSS	Statistical Package for Social Sciences
VIF	Variance Inflation Factor

ABSTRACT

An Analysis of the Demand for Quails in Zambia's Lusaka District

Thomas Moonga
University of Zambia, 2012

Supervisor:
Mrs. M. Ngcobo

This study aimed to explore the level of consumption and analyze the factors responsible for the demand of Quail meat in Lusaka district. The demand for quails in Lusaka was investigated through interviews with 93 selected quail consumers by using structured questionnaires. The respondent households consisted of 1 – 11 members (mean value = 4.68), with an average monthly income of K3.71 million per household. The consumption of quails varied by number of users and quantity consumed. On an average, a household consumed 2.79 kg of quail meat per month.

The results of the analysis showed that low demand for quails is caused by the prices that are relatively high and the general lack of information about quails and their benefits. The econometrically estimated demand function suggests that the household income, household size, perception on price, and household food expense per month positively affects the demand for quail while medium and high density have a negative effect and all these effects are statistically significant at 5% level of significance. The effects of education level, price of quails, price of substitutes and taste did not turn out to be statistically significant. The demand was found to be price, income and cross price inelastic. This suggests that increase in own - Price, household income and price of substitutes cause less-than-proportionate increase in demand.

In view of the findings, an improvement in the sensitization of people about quails is recommended. This could be achieved through advertising and promotion. Advertising and promotions will increase the market share and would be effective in recruiting more people as quail consumers. Secondly, relevant authorities should put in place policies that would raise people's buying power such as reducing income taxes, raising the minimum wage, and also raising wages and salaries. This in turn would stimulate people to demand more quails. Finally, it is also recommended that the study be replicated in other parts of Lusaka and other provinces of Zambia so that results can be generalized.

CHAPTER ONE

INTRODUCTION

1.1 Background

Quail belong, along with chickens, pheasants and partridges to the Family *Phasianioidea* of Order *Galliformes* of the Class Aves of the Animal Kingdom. Species or subspecies of the genus *Coturnix* are native to all continents except the Americas. One of them, *Coturnix coturnix* or common quail called *Icipingila* in one of the local languages (Bemba), are migratory birds of Asia, Africa and Europe. Several interbreeding subspecies are recognized, the more important being the European quail, *Coturnix coturnix*, and the Asiatic or Japanese quail, *Coturnix japonica*. One subspecies that commonly migrates between Europe and Asia was eventually domesticated in China. These birds were raised as pets and singing birds. The domesticated *Coturnix* were brought at about eleventh century to Japan from China (Howes, 1964).

The first written records of domesticated quail in Japan date from the twelfth century. These birds were initially developed for singing. It is claimed that a Japanese Emperor obtained relief from tuberculosis after eating quail meat, and this led to selection of domestic quail for meat and egg production in Japan in the latter part of the nineteenth century (Howes, 1964). By 1910, the Japanese quail in Japan were widely cultured for their meat and eggs. Between 1910 and 1941, the population of Japanese quail increased rapidly in Japan especially in the Tokyo, Mishima, Nagoya, Gifu and Toyohashi areas. This period also represented a time of imperial expansion in Japanese history and domesticated Japanese quail were established in Korea, China, Taiwan and Hong Kong, and later on spread to Southeast Asia.

The domesticated subspecies, *Coturnix japonica*, is called Japanese quail but is also known by other names: Common quail, Eastern quail, Asiatic quail, Stubble quail, Pharaoh's quail, Red-throat quail, Japanese gray quail, Japanese migratory quail, King quail, and Japanese King quail. The correct popular nomenclature for *Coturnix japonica* should be Japanese quail or *Coturnix*, but not *Coturnix* quail since in Latin "*Coturnix*" may be translated as quail.

In Zambia, the poultry industry was initially viewed to include only chickens, ducks, geese, pigeons, guinea fowls, rabbits and turkeys (CSO, 2000). But of late, households and many small, medium and large poultry firms have also included quails to their lists of poultry products on offer. One of the main reasons is the need for diversified sources of protein in the many diets of people and also quail rearing is one of the most promising livelihoods as the demand for cheap eggs and meat is high, with less compromise to health benefits. Quail eggs and meat are also good sources of animal protein. Several firms such as quail world including individuals have engaged in the supply of quails to a few restaurants, hotels and supermarkets like Spar, Merylin, and Shoprite. Quail meat can be served barbecued, fried, or in the other ways that chicken is also cooked while quail eggs can be sold fresh, boiled, salted, pickled.

1.2 Problem Statement

The population of Zambia has been growing by 2.8% (Bureau of African Affairs, 2011), leading to the increase in the demand for various food stuffs, meat products inclusive. This follows that production of food stuff including other new discoveries of foods should rise to cope with the current and anticipated rise in the demand. Because of this, in recent years, poultry in Zambia has experienced a boost in terms of an increase in the number of products to offer on the market. According to the times of Zambia newspaper dated “8th August, 2011”, Zambia’s poultry is expected to grow by 25% this year, said the Poultry Association of Zambia (PAZ) at the 85th Agricultural and Commercial Show. This growth includes increased production in already existing poultry products and also in the inclusion of new lines of products to poultry such as quails.

Following the need for diversified sources of protein in the many diets of people and that quail rearing is one of the most promising livelihoods as the demand for cheap eggs and meat is high, with less compromise to health benefits, many firms and individuals have ventured into quail rearing. However, despite the increase in the number of firms and individuals dealing in quails, current growth in demand in Zambia lags far behind that which is demanded in other countries in the sub region (i.e. low demand), for example, Spar supermarket at arcades shopping mall sells on average a quantity of $6 \times 550\text{g}$ per day with Shoprite selling an average of $9 \times 550\text{g}$ per day.

This makes an average total of 180 packets and 270 packets sold per month respectively and this quantity is however, far below what the suppliers wish to supply. Further, according to C. Nkonde in his study, 'Determinants of Market Participation and Animal Health Management of Smallholder Livestock Producers in Zambia (*Consumption Patterns*)' reviewed that consumption of livestock products in Zambia has remained relatively low compared to other countries in Sub-Saharan Africa. For instance, milk consumption between the Common Market for East and Southern Africa/Southern Africa Development Community (COMESA/SADC) countries indicates that Zambia has the lowest per capita consumption of milk estimated at 17 litres per capita consumption of other livestock products is similarly low including poultry products. Despite this low demand, there has been if at all any, very little empirical or formal study done to determine why? And further measure how own price, prices of close substitutes, preferences and taste, and social – Demographic characteristics and other factors affect demand for quails (Demand analysis in Zambia). Most studies conducted focused on production/supply of quails. The purpose of this study is therefore to determine how the above factors affect demand for quails in order to answer the question why demand is low yet supply for quails has been overwhelming as measured by the rate of stock turnover relative to what suppliers are willing to supply per month. And also provide the information missing in the industry.

1.3 Objectives

1.3.1 General Objective

- To determine and analyze factors influencing the demand for quails.

1.3.2 Specific Objectives

- To identify the Socio-Demographic Characteristics of the quail consumers and establish how they influence demand.
- To determine the effect of own price on elasticity of demand for quails
- To determine the cross price elasticity of demand for quails and that of close substitutes like chicken, turkey and guinea fowl.
- To determine impact of preferences and taste on demand for quails.

1.4 Hypothesis

- The Socio-Demographic Characteristics of the quail consumers have an influence on demand for quails.
- Own price (quail price) has an effect on demand for quails.
- Preferences and taste have an impact on demand for quails.
- Prices of substitutes have an effect on demand for quails.

1.5 Rationale

This study is of great importance as it will mitigate this knowledge gap and thus provide insight on the factors affecting the demand for quails. The empirical study is vital to find out factors that can explain consumers buying behavior and further, this information can be a sound base on which producers can develop better marketing strategies that would enhance consumption.

Results of this study will provide therefore, a better understanding of the quail market in Zambia with respect to demand. Hence the purpose of this paper is to analyze the factors that affect quail demand and to what extent they do so.

1.6 Organization of the Report

This report opens with chapter one which highlights the background information about the subject. It covers the problem statement, objectives, scope of study, and rationale of the study. Chapter two focuses on literature review in which the meaning of demand, factors affecting demand for quails. Chapter three looks at the methodology that was used for the study. It encompasses the research design, description of the data collection procedure, sampling design and data analysis. Chapter four highlights the findings and interpretation of the findings of the study, while chapter five looks at conclusion and recommendations based on the findings of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews relevant literature on definitions and the scope of the study, the various findings of previous studies regarding demand for quails and other food products.

2.2 Definition and the Scope of the Study

Demand can be defined as the quantities of a product that purchasers are willing and able to buy at various prices per period of time, all other things being equal.

Elements of the Law of Demand as Melvin and Boyes note the law of demand is defined as:

- The quantity of a **well-defined** good or service that.
- People are **willing and able** to buy.
- During a **particular period of time**.
- Decreases/increases as the price of that good or service rises/falls
- All other factors **remain constant**. (Melvin and Boyes, 2010)
- Demand is a **relationship between two variables, price and quantity demanded**, with all other factors that could affect demand being held constant.

The above key elements of the law of demand according Melvin and Boyes are explained as indicated below:

Well defined: The key phrase in the first element is “well defined”. The purpose of the phrase is to ensure that we are examining the relationship between price and quantity demanded for the same good. If we are interested in demand for a particular good there is no reason to compare the relationship between the price of the good and the change in quantity demanded of a different

goods. Goods are well defined if they share the same characteristics, brand, model, age, quality and performance to name a few.

Willing and able: To participate in the market, a consumer must not only be willing to buy a good, he/she must be able to buy as well. For example, John may want to buy a Cadillac CTS, (Goodwin, 2009).

Particular time period: Demand measures the rate at which goods are being purchased during a specified period of time. For example to say that four thousand units are sold at a price of 65,000 does not tell us the level of demand unless we specify the time period per day per week per month.

Nature of the relationship: This portion of the definition establishes that the price and quantity demanded have a negative or inverse relationship along the demand curve, (Goodwin, 2009).

Held constant: There are innumerable factors other than price that can affect the level of demand. Some of the more important are income, price of related goods, number of buyers, expectations and tastes and preferences. To focus on the cause and effect relationship between the good's own price and the quantity of the good demanded all these other factors must be held constant. To hold a variable constant means to freeze its value and not allow it to change, (Goodwin, 2009).

2.3 Factors Affecting Demand

Innumerable factors and circumstances could affect a buyer's willingness or ability to buy a good. Some of the more common factors are:

Good's own Price: The basic demand relationship is between potential prices of a good and the quantities that would be purchased at those prices, (O'Sullivan, 2005). Generally the relationship is negative meaning that an increase in price will induce a decrease in the quantity demanded. This negative relationship is embodied in the downward slope of the consumer demand curve.

The assumption of a negative relationship is reasonable and intuitive. If the price of a new novel is high, a person might decide to borrow the book from the public library rather than buy it, (Goodwin, 2009). Or if the price of a new piece of equipment is high a firm may decide to repair existing equipment rather than replacing it.

Price of Related Goods: The principal related is that goods are complements and substitutes. A complement is a good that is used with the primary good, (David C, 2008). Examples include hotdogs and mustard, beer and pretzels, automobiles and gasoline. (Perfect complements behave as a single good.) If the price of the complement goes up the quantity demanded of the other good goes down, (David C, 2008). Mathematically, the variable representing the price of the complementary good would have a negative coefficient in the demand function. For example, $Q_d = a - P - P_g$ where Q is the quantity of automobiles demanded, P is the price of automobiles and P_g is the price of gasoline. The other main category of related goods is substitutes. Substitutes are goods that can be used in place of the primary good. The mathematical relationship between the price of the substitute and the demand for the good in question is positive. If the price of the substitute good goes down, the demand for the good in question goes down, (David C, 2008).

Personal Disposable Income: In most cases, the more disposable income (income after tax and receipt of benefits) you have the more likely you buy, (Goodwin, 2009).

Tastes or Preferences: The greater the desire to own a good, the more likely you are to buy the good, (O'Sullivan, 2005). There is a basic distinction between desire and demand. Desire is a measure of the willingness to buy a good based on its intrinsic qualities. Demand is the willingness and ability to put one's desires into effect. It is assumed that tastes and preferences are relatively constant.

Consumer Expectations about Future Prices and Income: If a consumer believes that the price of the good will be higher in the future he is more likely to purchase the good now. If the consumer expects that her income will be higher in the future the consumer may buy the good now. In other words positive expectations about future income may encourage present consumption.

2.4 Studies on the Demand for Food and other Agricultural Products

According to the Food and Agricultural Organisation to the Issues in the global tobacco economy: Produced by: Economic and Social Development Department (FAO), This review covered a wide range of issues related to tobacco in nine subject areas: demand, supply, and trade of tobacco leaves, demand for cigarettes, cigarette advertising, cigarette taxes, social costs of smoking, economic significance of tobacco industry, and farm issues associated with tobacco control. A large number of studies have been conducted to estimate demand for cigarettes in many countries. The estimated price elasticities of demand for cigarettes from these studies vary. But most of the estimates tend to be less than one, i.e., the demand for cigarettes is price-inelastic. A meta-analysis of the determinants of cigarette consumption, which analysed results from 48 studies, yielded a weighted mean price elasticity of demand for cigarettes of -0.4 (Andrews and Franke, 1991). The short-term price elasticity recommended by an expert panel for policy analysis is -0.4 (National Cancer Institute, 1993). The long-term elasticity is about 1.5 times the short-term price elasticity. Youth and the poor tend to be more responsive to changes in cigarette prices. Income, in general, is positively related to demand for cigarettes. The estimated income elasticity is 0.36, but decreases with time. Restrictions on smoking in public places and private work sites have significantly reduced demand for cigarettes.

Studies on demand for cigarettes have applied different economic models to two different types of data, aggregated and individual level. Analysing each of two data-types has some advantages and disadvantages. The aggregate data are either time-series data or pooled cross-sectional and time-series data. High correlation among many of the key independent variables and prices can be a problem with time-series data. Consequently, estimates of the impact which prices and other factors have on demand can be sensitive to the inclusion and exclusion of the other variables. The problem with using the pooled data is the measurement of cigarette consumption. Using these data, smoking is normally measured by annual state-level tax-paid cigarette sales. Both cross-border shopping between the neighbour states and the long-distance smuggling from low-tax to high-tax states can occur due to differences in taxes on cigarettes. Failure to account for this will produce upward-biased estimates of the impact of price on cigarette demand. Finally, with aggregate data the demand and supply of cigarettes need to be modeled simultaneously

since cigarette price, sale and consumption are simultaneously determined. In contrast, the use of individual-level data can ease some of the problems associated with aggregate data such as simultaneous biases resulting from the price and consumption, and multicollinearity between cigarette prices and other factors affecting the demand. In addition, using individual-level data can allow researchers to study the price responsiveness of different sub-population groups such as those based on income, education, and age. The problem with individual-level data is the accuracy with which consumption of cigarettes is measured. Self-reported consumption is typically under reported.

The use of a rational addiction model for modeling the demand for cigarettes has been controversial. Critics of the model argue that nobody would sit down at an initial period, survey future income, production technology, investment/addictive function, and consumption preference for a lifetime, maximize the discounted value of his expected utility and decide to become an alcoholic. Empirical work for testing the rational addictive behaviours has also yielded mixed results. In spite of the large number of studies on demand for cigarettes, only a few studies have been conducted for developing countries, despite the increasing cigarette consumption.

Tey *et al* (2008) analyzed the demand for vegetables in Malaysia and found out that market information is important in facilitating marketing system from production to the downstream. The purpose of this study was to estimate the Malaysian consumers' demand for vegetables. By using Household Expenditure Survey 2004/05 data, demands for 6 vegetables were analyzed via a multi-stage budgeting system. The estimated demand elasticities showed that the demands for all vegetables increase when per capita income rises. Most of the vegetables were found to respond substantially to changes in their own prices and in the directions as expected with estimated negative own-price elasticities, which is more than unity (except podded vegetable).

Khanum *et al*, (2004) in their study, Estimation of demand for processed fruit and vegetable products in hayatabad, peshawar aimed at exploring the level of consumption and analyzing the factors responsible for demand for processed fruit and vegetable products in Peshawar during the year 2005. The respondent households consisted of 5 – 6 members (mean value = 5.51), with an

average monthly income of Rs.34428 through 2 earners per household. Jam, jelly, juices of mango, orange, apple and pickles were in general use; however, the consumption of these products varied by number of users and quantity consumed. On an average, a household consumed 10.98 kg of jam and 3.22 kg of jelly per year. The econometrically estimated demand function for jam suggests that the price of Jam inversely affects and income of household directly affects the demand for jam, and these effects are statistically significant at 10 and 1% levels of significance, respectively. The effects of the presence of children, adults and aged people in households and size of plot of residential house do not turn out to be statistically significant. The values of own-price and income elasticity of jam, respectively, estimate at -0.46 and 0.64 , indicating that demand for Jam is price and income inelastic. The consumption of mango, orange and apple juices, respectively, estimate at 22.43, 16.05 and 18.30 litres per household per year. The demand for all three juices is price-elastic, but income-inelastic. The average consumption of pickles estimates at 1.33 Kgs. per household per year. The demand for pickles also appears to be price-elastic but income inelastic. Results suggest that increase in income causes less-than-proportionate increase in demand, but increase in price brings more-than-proportionate decrease in quantity demanded. It is inferred that the demand for almost all processed fruit and vegetables products is income inelastic in spite of the fact that the respondent households relate to relatively high-income group (average monthly income: Rs.34428 per household; Rs.17128 per earner). In addition, with the exception of jam, the demand of all other products (juices of mango, orange & apple and pickles) is price-elastic. The results thus suggest that increase in income causes less-than-proportionate increase in demand, but increase in price brings more-than proportionate decrease in quantity demanded.

Based on the findings of the study and conclusions drawn, the following recommendations are in Order.

1. The results of this study are limited to a small area restricted to Hayatabad locality of Peshawar city. The research needs to be replicated in other parts of Peshawar as well as other cities of the province of North West Frontier so that results can be generalized. The replication of study is therefore recommended.

2. New studies should also explore two additional aspects of the consumption of processed fruit and vegetable products, namely:
 - whether it is financial stress or other factors, which have limited consumption to a few products;
 - Whether wealthy consumers consume more commodities and have higher level of consumption.
3. The results of the present study have serious implications for producers of such products, that is, they should not raise prices of their products; otherwise their sale would decrease. It is recommended that such producers try to reduce their cost of production.

According to Chewe Nkonde (2008) in his study: Determinants of market participation and animal health management of smallholder livestock producers in Zambia (Consumption Patterns) reviewed that Consumption of livestock products in Zambia has remained relatively low compared to other countries in sub-Saharan Africa. For instance, milk consumption between the Common Market for East and Southern Africa/Southern Africa Development Community (COMESA/SADC) countries indicates that Zambia has the lowest per capita consumption of milk estimated at 17 litres. Per capita consumption of other livestock products is similarly low. However, with recent improvements in the Zambian economy coupled with increased population densities in urban areas, there has been an indication that the trends in consumption of products of animal origin will be on the upswing.

Susan L. Pollack (2005), in her study consumer demand for fruit and vegetables: the U.S. example, found out that the U.S. demand for fruits and vegetables has been influenced by income growth, and other supply-side and demand-driven factors. Not only has the domestic supply benefited from advances in production technology, but also from access to a wider range of sources around the world. Consumers can expect a wider array of produce on the grocery store shelves and lower to stable prices for traditionally consumed commodities as shipping and handling techniques improve, reducing loss. The continued research findings about the health benefits of fruit and vegetables have kept produce consumption in the limelight, encouraging

more consumption. The aging of the affluent baby boomers, with their desire to maintain health, has also resulted in higher consumption of fruit and vegetables. As incomes continue to grow in developing countries, demand for fruit and vegetables are expected to increase. With increased globalization and the associated changes in lifestyles, demand for produce in developing countries will likely be shaped by the same factors that have affected U.S. demand for these products. As in the United States, availability, affordability, convenience, and health concerns will probably influence future consumption of fruit and vegetables across the world.

2.5 Conceptual framework

2.5.1 Economic Models and data used for Estimating Demand for Various Commodities

Studies on demand for various commodities have applied several types of economic models to different types of data with various estimation techniques. In general, the conventional demand model and the additive demand model are the most popularly used. These models have been applied to two types of data: aggregate level data including time-series data for a single geographical unit and pooled cross-sectional time-series data, and individual level of survey data. In detail, the models are specified as follows;

Conventional Demand Models; normally specify the demand equation in a such way that the quantity of a commodity demanded is a function of own price, income, control policies and a variety of socioeconomic and demographic factors (Sung *et al.*, 1994; Hu *et al.*, 1994, 1995; Barnett *et al.*, 1995; Tremblay and Tremblay, 1995; Yurekli and Zhang, 2000).

The demand equation is therefore specified as follows:

$$Q_d = f(X_1, X_2, X_3, X_4, e)$$

Where:

Q_d = Quantity demanded

X_1 = Demographic characteristics

X_2 = Own price.

X_3 = Prices of substitutes

X_4 = preference and taste

e = Disturbance term

Addictive Model. There are several versions of the addictive model that have been used for studying the demand for commodity goods: the imperfectly rational addiction model, myopic addiction model and rational addiction model (Chaloupka and Warner, 1999). The imperfectly rational addictive model assumes that consumers have stable but inconsistent short-run and long-run preferences. An individual chooses a future consumption path that maximizes current utility, but later in life changes this plan (Schelling, 1978).

Becker and Murphy (1988) and Becker *et al.* (1991) developed several hypotheses from the basic rational addiction model. First, the quantities of the addictive good consumed in different time periods are complementary. As a result, current consumption of an addictive good is inversely related to not only the current prices of the good, but also to the all past and future prices. Consequently, the long-term effect of a permanent change in prices will exceed the short-term effect. Moreover, the ratio of the long-term to short-term price effect increases as the degree of addiction rises. In addition, the model predicts that the impact of an anticipated price change will be greater than that of a comparable un-anticipated price change, while a permanent price change will have a larger impact on demand than a temporary price change. Finally, price responsiveness varies with time preference: addicts with higher discount rates will be more responsive to changes in money prices than those with lower discount rates.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

This chapter outlines the methods and procedures used to achieve the stated goals. It gives information on the area of study, research design, sampling procedure, data collection and data analysis tools that were used in the study.

3.2 Study Area

The study was undertaken in Lusaka district and specifically, Consumers were sourced from shopping centers these included Shoprite, Spar, Merylin and Embassy supermarkets. The selected locations are urban areas and are centres of consumers.

3.3 Research Design

The research design that was used is a case study under non experimental research design. A non experimental research design was selected because quails consumers in the target areas were not divided into groups based on their similarities i.e. control and target groups but rather were considered as being part of one group. A case study was used so as to have a deeper understanding and knowledge of the factors affecting demand for quails. Besides, resources were inadequate to be able to carry out the study in all the districts.

3.4 Study Population and Sampling Procedure

A sample of 93 respondents was respondents were purposively sampled from the supermarkets in the four areas of study. Random sampling was done using export registers and in instances where export registers were missing, respondents were purposively sampled. A quail consumer farm was used as a sampling unit.

3.5 Data Sources and Collection Techniques

In this study, both primary and secondary data were collected. Primary data was collected from Quail consumers using structured questionnaires. This technique was selected because of the researcher's desire for quantitative data, which were analyzed statistically using computers. Secondary data was collected from various organizations (e.g. Spar, Shoprite, CSO), the internet and relevant publications.

3.6 Data Analysis

The field data was analyzed in SPSS to produce descriptive statistics and the output was organized using Excel and the multiple regression model was run using STATA. The data was tested using the Breusch-Pagan Godfrey test for potential heteroskedasticity which may be present across households due to the use of cross sectional data. Heteroskedasticity was significant at 5% level. This was corrected for by making the standard errors robust. Multicollinearity was found to be low among all variables and the mean VIF value was 1.42, which was not much of concern as it was within reasonable range.

In analysing factors that affect demand for quails, the conventional demand model was used which was specified as follows:

$$Q_d = f(X_1, X_2, X_3, X_4, \epsilon_i)$$

Where:

Q_d = Quantity of quail meat demanded

X_1 = Demographic characteristics

X_2 = Price of quails.

X_3 = Prices of substitutes such as chicken, turkey, guinea fowl etc.

X_4 = preference and taste

ϵ_i = Disturbance term

The regression model was specified as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon_i$$

β_0 is the constant and β_1 to β_4 are the coefficients of the respective variables.

3.7 Limitations of the Study

In this research, a sample size of 145 quail consumers was supposed to be sampled. Covering all sampled consumers was not possible because of the resources that were limited. Secondly, the gathering of information from some consumers was difficult using structured questionnaires because some respondents were very reluctant to give all details.

CHAPTER FOUR

METHODOLOGY

4.1 Introduction

This chapter presents and discusses the study findings. It begins with a presentation and discussion of the demographic characteristics. The aspects influencing consumers demand for quails such as price of quails, taste and preferences, prices of substitute poultry products and also demographic characteristics are then presented. Finally the chapter is concluded by discussion of the OLS regression estimates.

4.2 Demographic Characteristics

4.2.1 Distribution of Consumers by Age

The majority of the respondents i.e. quail consumers (45.2%) had ages between 21 and 30 years. About 39.8% constituted those that were between 31 and 40 years while 14 % were between 41 and 50 years. Lastly, 1.1% constituted those that were between 51 and 60 (**Table 1**).

Table 1: Distribution of Consumers by Age

Age Group (years)	Number	Percent
21-30	42	45.2
31-40	37	39.8
41-50	13	14.0
51-60	1	1.1
Total	93	100.0

4.2.2 Distribution of Consumers by Sex

Table 2 below indicates that out of the interviewed sample of 93 respondents, 64.5 % were females and 35.5% were males.

Table 2: Distribution of Consumers by Sex

Sex	Number	Percent
Male	33	35.5
Female	60	64.5
Total	93	100.0

4.2.3 Distribution of Consumers by Education Levels

In terms of education, 5.4% of the consumers had reached formal school up to secondary level, 1.1% up to primary, 92.5% up to tertiary level and 1.1% never went for formal education (**Table 3**).

Table 3: Distribution of Consumers by Education Levels

Education	Number	Percent
Primary	1	1.1
Secondary	5	5.4
Tertiary	86	92.5
None	1	1.1
Total	93	100.0

4.2.4 Distribution of Consumers by Occupation

Table 4 below shows that the majority of the respondents (63.4%) are in formal employment, and about 22.6% of the respondents fall in the category of others (such as house wives, students etc), with only 14% being self employed.

Table 4: Distribution of Consumers by Occupation

Education	Number	Percent
Self employed	13	14.0
Formal employment	59	63.4
Others (such as house wife, student,)	21	22.6
Total	93	100.0

4.2.5 Distribution of Consumers by Food Expense/Month (million ZMK)

Table 5 shows that of the total respondents, the majority (66.7%) spend on food per month between K1,000,000 and K2,000,000, and about 23.7% of the respondents fall in the category of those that spend less than K1,000,000 per month, with only 9.7% spending above K2,000,000.

Table 5: Distribution of Consumers by Food Expense/Month (million ZMK)

Food Expenditure Levels	Number	Percent
< 1000000	22	23.7
1000000-2000000	62	66.7
> 2000000	9	9.7
Total	93	100.0

4.2.6 Distribution of Consumers by Residential Area

Table 6 shows that the majority of the respondents (67.7%) live in medium density areas such as Kabwata, and about 25.8% of the respondents live in low density areas such as in Farms, Kabulonga, and Barclays etc with only 6.5% living in high density areas such as Kalingalinga.

Table 6: Distribution of Consumers by Residential Area

Residential Area	Number	Percent
High density e.g. Kalingalinga	6	6.5
Medium density e.g. Kabwata	63	67.7
Low density e.g. Kabulonga	24	25.8
Total	93	100.0

4.2.7 Distribution of Consumers by Monthly Income

There was a difference with respect to monthly income among respondents, with the majority (32.3%) of respondents earning between K5, 000,000 to K7, 000,000. This is slightly above 30.1% of those that earn between K3, 000,000 and K5,000,000. 18.3% earn between K7,000,000 and K9,000,000 with 14% earning between K 1,000,000 and K 3,000,000. Only 5.4% of the respondents earn above K 9,000,000 and earn less than K1,000,000 (Table 7).

Table 7: Distribution of Consumers by Monthly Income

Income Levels (ZMK)	Number	Percent
1,000,000 < 3,000,000	13	14.0
3,000,000 < 5,000,000	28	30.1
5,000,000 < 7,000,000	30	32.3
7,000,000 < 9,000,000	17	18.3
> 9,000,000	5	5.4
Total	93	100.0

4.2.8 Characteristics of Respondent's Household

It was found that almost all respondents are married with children. Their households consisted on average of 4.6 persons and almost all eat at home every day. Of these, 0.15 persons are adults above 60 years of age and 3.29 are adults (aged over 10 years and less than 60 years) and 1.24 persons are below 10 years of age (Table 8).

Table 8 Characteristics of Respondent' Household

Characteristic	Mean $\pm$ Std.Dev	Range
Number of persons living permanently together	4.68 $\pm$ 1.901	1 – 11
Number of persons enjoying meal at home	4.63 $\pm$ 1.887	1 – 11
Number of adult persons above 60 years	0.15 $\pm$ 0.389	0 – 2
Number of young persons below 10 years	1.24 $\pm$ 1.004	0 – 3

4.2.9 Assets owned by the Respondent's Households

Almost all respondent households have one or more equipment required for day-to-day activities. On average, the ownership of refrigerator, stove and telephone/mobile phones is the highest while ownership of insurance and motorbike is the lowest. Nowadays most people in urban areas have easy access to mobile phones for various purposes (Table 9).

Table 9 Assets owned by the Respondent's Households

Equipment Owned	Mean $\pm$ Std.Dev	Percent owning
Refrigerator	1.00 $\pm$ 0.000	100
Stove	1.00 $\pm$ 0.000	100
Television	1.02 $\pm$ 0.146	97.8
Telephone incl. Mobiles	1.00 $\pm$ 0.000	100
Computer	1.12 $\pm$ 0.325	88.2
Motorbike	1.91 $\pm$ 0.282	8.6
Motor vehicle	1.31 $\pm$ 0.466	68.8
Insurance	1.65 $\pm$ 0.481	35.5

4.3 Consumer's Perception

Of the respondents interviewed in this research, 69.9% had responded that demand for Quails is low and 24.7% had no idea of the demand with 5.4% that perceived it to be high. Most of the respondents that thought demand for quails is low gave reasons presented in table 10 below.

Table 10: Consumers Knowledge and Perception of the Demand for Quails

Perceptions	Number	Percent
High	5	5.4
Low	65	69.9
No idea	23	24.7
Total	93	100.0

4.3.1 Reasons for the Low Demand

It was further discovered that respondents had varying reasons for the low demand of Quails. However, only 66 of the total (93) respondents gave reasons and of this number of respondents,

31.8% thought the high price is the cause while 68.2% thought people did not know about Quails (Table 11).

Table 11: Reasons for the Low Demand

Reasons	Number	Percent
high price	21	31.8
They are not known	45	68.2
Total	66	100

4.4 Multiple Regression Analysis

The multiple regression analysis was done for a total of 93 observations from the sample survey using SPSS. The overall model was highly significant at 0.05 as shown by the p-value of 0.000. The model's goodness of fit was found to be 0.498 meaning that about 50% of variations in the dependent variable are explained by the independent variables. The estimates of the regression analysis are presented in Table 12 below.

Table 12: Parameter Estimates of the OLS Regression (Dependent Variable: Quantity of Quail Meat Purchased per Month)

Variables	Coefficients	Robust Standard Error.	P-value	ey/ex (Elasticities)
Intercept	2.1893030	1.008348	0.033	
Education	-0.0954120	.2116234	0.653	-0.100395
Household size	0.1540787	.0854819	0.075	0.258332
Medium density	-0.8818684	.3440339	0.032	-0.214136
High density	-0.9884732	.3843622	0.012	-0.022859
Food expense/month (million ZMK)	0.7353776	.3523647	0.040	0.490346
Income/month (million ZMK)	0.0850526	.1878962	0.652	0.113097
Price for Quails per 550grams in ZMK	-0.1443092	.1439762	0.319	-0.091775
Perception of Quail price Vs Price of substitutes (DI)	0.7384042	.3376224	0.032	-0.207761
Quail price and purchase other poultry substitutes	0.0995658	.0583105	0.092	0.061401
Taste of Quail meat (db)	-0.2523689	.3422233	0.463	-0.071008

Note: significance level= 5%

Table 8 above presents the analysis of variance and parameter estimates of the OLS regression model. From the results, it can be said that quantity of quail meat purchased per month is strongly dependent on household income per month, high density residential area, low density residential area, perception of low quail price relative to substitutes, household food expense per month and household size. These are statistically significant at 95% confidence level. However, the quantity of quail meat purchased per month is not statistically dependent on level of education, price of quail meat per 550grammes, price of substitutes and taste of quail meat at 95% confidence level.

The estimated coefficient of income per month is positive, implying that quails are “normal” goods and that increasing income would have a positive effect on demand for quails. The coefficient of 0.0850526 imply that when household income increases by K1,000,000, then quantity of quail meat that will be purchased by the household per month will increase by 0.0850526Kgs. This is highly expected because, as the income of households rises, quantity of quails that will be demanded rises and this results usually from increased buying power of the households.

The coefficient -0.988473 of residential area indicates that a household located in a high density area will purchase 0.988472kgs less of quail meat than the one in a low density area. One reason is that household income had a high significance and also despite the VIF being generally low, there is some multicollinearity observed between income and residential area. This implied therefore that households in high density areas have lower incomes than those in low density areas.

Similarly, the negative sign on the variable – medium density means that a household located in a high density area will purchase -0.881868kgs less of quail meat than the one in a low density area. The same reason of multicollinerity between household income and residential area holds here also.

The way people perceive the price of quail meat relative to the price of other substitutes such as chicken, turkey, and guinea fowl also has a negative relationship to the quantity of quails purchased and it is statistically significant. Those that perceive the price of quail meat to be low (i.e. acceptable and reasonable relative to other poultry substitutes) demanded 0.7384042kgs more of quail meat than those that perceive the quail price as unacceptable and unreasonable.

The coefficient of food expense per month indicates that as the household increases expenses on food by K1,000,000, quantity demanded for quail meat increases by 0.085053kgs. This is true because as the income can have a high correlation with the food expense variable, creating multicollinearity. That is, as an individual’s income level increases, then the expenditure on food is more likely to increase as well.

Inspite of its weak significance, the positive sign of the coefficient of Household size indicates that increasing the Household size by one person will result in a 0.154079kgs increase in the quantity of quail meat demanded. This is true because increase in the household size would imply too many mouths to feed. This is in line with Salathe (1979: 1041-42) who showed that household consumption declined with reduction in the number of persons per dwelling unit.

4.5 Estimation of Elasticity of Demand

The demand functions estimated for quails provide slope coefficients, which can be used for estimation of elasticities of demand, using the following formula.

$$\text{Elasticity} = \text{Slope } (\bar{P}/\bar{D}) = (dD/dP) (\bar{P}/\bar{D}) \quad (11)$$

Where $\bar{D}$ and $\bar{P}$, respectively, are mean values of quantity of quail meat demanded and the price of quail meat and slope ($= dD/dP$) is the coefficient attached with the explanatory variable (own price) included in the above reported demand function.

Using elasticity formula, the own-price and income elasticities are estimated and provided in table 8 above. The values of own-price, income elasticity and cross price elasticity of quails, respectively, estimate at -0.091775, 0.113097 and 0.061401 and are less than 1; the demand for quails is therefore price, income and cross price inelastic. Results suggest that increase in own-price, household income and price of substitutes cause less-than-proportionate increase in demand.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the conclusion and recommendations of the study based on the findings and interpretations of the study.

5.2 Conclusions

Among the variables that were studied, only six were found to be significant (i.e. household income, high density, medium density, perception of price, food expense and household size). Household income had a very strong significance and household size had the least.

In this case therefore, as incomes continue to grow in Zambia, demand for quails is expected to increase. Further, households in low density areas will demand more quails than those in medium density areas with that of households in the high density areas being the lowest. An increase in the monthly food expense and household size also leads to increased demand.

Despite the above significant variables, it is inferred that the demand for quails is income inelastic in spite of the fact that the respondent households relate to relatively high-income group (average monthly income: K.3.71 million per household). In addition, demand for quails is also price and cross price inelastic. The results thus suggest that increase in income causes less-than-proportionate increase in demand and increase in own price also brings less-than proportionate decrease in quantity demanded. This is also true for cross price elasticity which suggests that increase in price substitutes will result in a less than proportionate increase in the demand for quails.

5.3 Recommendations

Based on the findings of the study and conclusions drawn, the following recommendations are in order.

It was observed that demand for quails is low because most households did not know about them. Table 11 shows that out of all the 66 respondents who were asked about their knowledge of the product, over 68% of them expressed ignorance about it. It is further noted that quails, as a product, are still not mature on the market relative to other poultry products, there is therefore need to increase sensitization of people about quails. This could be achieved through advertising and promotion. Advertising and promotions will increase the market share and would be effective in recruiting more people as quail consumers.

Household income being the most significant factor that influences demand for quails and the discovery that quails are a “normal good,” there is need for relevant authorities to put in place policies that would raise people’s buying power such as reducing income taxes, raising the minimum wage, and also raising wages and salaries. This in turn would stimulate people to demand more quails.

The results of this study are limited to a small area restricted to the central locality of Lusaka city. The research needs to be replicated in other parts of Lusaka as well as other provinces of Zambia so that results can be generalized. The replication of study is therefore recommended.

REFERENCES

- Andrews R.L, & Franke G.R. (1991). The Determinants of Cigarette Consumption. **Journal of Public Policy and Marketing** 10(1):81-100.k.
- Barnett P.G, Keeler E. & Hu T.W. (1995). Oligopoly Structure and the Incidence of Cigarette Excise Taxes. **Journal of Public Economics** 57(3):457-470.
- Becker G.S, Grossman, M. & Murphy, K.M. (1991). **Rational Addiction and the Effect of price on consumption**. American Economic Review 81:237-241.
- Becker G.S, & Murphy, K.M. (1998). A theory of rational addiction. **Journal of Political Economy** 96(4):675-700.
- Chaloupka F.J, and Warner K.E. (1998). **The economics of smoking**. In A. Culyer, & J.Newhouse, eds. The Handbook of Health Economics, 2000.
- Chewe .N. (2008), **Determinants of Market Participation and Animal Aealth Management of Smallholder Livestock Producers in Zambia**, Purdue University, West Lafayette, Indiana.
- Colander D.C. (2008). **Microeconomics**, 7th ed. p. 84. McGraw-Hill.
- Goodwin N. A, & Weissko P.F. (2009). **Microeconomics in Context**, 2nd ed. p. 87-90.
- National Cancer Institute. (1993). **The Impact of Cigarette Excise Taxes on Smoking Among Children and Adults**. Summary Report of a National Cancer Institute Expert Panel. Bethesda, MD, National Cancer Institute, 1993.
- Hu T.W, Bai J, Keeler T.E, Barnett P.G, & Sung H.Y. (1994). The Impact of California Proposition 99, a major anti-cigarette law, on cigarette consumption. **Journal of Public Health Policy** 15(1):26-36.
- O'Sullivan A. Steven M.S. (2003). **Economics: Principles in Action**. Upper Saddle River, New Jersey 07458: Pearson Prentice Hall. pp. 79. ISBN 0-13-063085-3.
- Salathe L.E. (1979). "The Effects of Changes in Population Characteristics on U.S. Consumption of Selected Foods." **American J ournal of Agricultural Economics**: 1036-1045.
- Schelling T.C. (1978). **Egonomics, or the art of self-management**. American Economic Review 68:290-294.

- Shazia K, Anwar F. C, Dilawar K. and Bushra K. (2007). **Estimation of Demand for Processed Fruit and Vegetable Products in Hayatabad**, Sarhad J. Agric. Vol. 23, No. 4, Peshawar, Department of Agricultural Economics, NWFP Agricultural University, Peshawar – Pakistan.
- Tey Y.S, Shamsudin M.N, Mohamed Z, Abdullah A.M, and Radam A. (2007). **A Complete Demand System of Food in Malaysia**, in the proceedings of the USM-UPM-PETA Conference: Agriculture as a Business, Penang, Malaysia.
- Tey Y.S, Shamsudin M.N, Mohamed Z, Abdullah A.M, and Radam A. (2008). *Analysis of demand for vegetable in Malaysia*. Unpublished.
- Times of Zambia newspaper**, “8th August, 2011” Zambia’s poultry to grow by 25% this year.
- Tremblay C.H, & Tremblay V.J. (1995). **The impact of cigarette advertising on consumer surplus, profit, and social welfare**. Contemporary Economic Policy 13(1):113-124.
- Shim K.F. (2005). **The Nutrition and Management of Japanese (Coturnix) Quail in the Tropics**.
- Sung H.Y, Hu T.W, & Keeler T.E. (1994). **Cigarette taxation and demand: An empirical analysis/model**. Contemporary Economic Policy 12(3):91-100.
- Yurekli A.A, & Zhang P. (2000). **The impact of clean indoor-air laws and cigarette smuggling on demand for cigarettes: An empirical model**. Health Economics 9(2):159-170.

APPENDICIES

APPENDIX I: QUESTIONNAIRE

Questionnaire serial number:

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Analysis of the Demand for Quails – Case study of Lusaka District Survey Instrument

This questionnaire is for academic purpose only. Be assured that all the information you provide will be treated as confidential as possible. Please feel free to answer all the questions honestly. Your cooperation will be highly appreciated.

Instructions: please tick and write the answers in the spaces provided.

QUAIL DEMAND SURVEY

official use only

1. Do you consume Quail meat?

Yes (continue) ()

No (stop interviewing) ()

--

A.GENERAL INFORMATION

2. Number of respondent:

--

3. Age:

--

4. Sex: Male ()
Female ()

--

5. What is the highest level of education attained by the respondent?

a) Primary ()

b) Secondary ()

c) Tertiary ()

d) Non of the above ()

--

6. What is the marital status of the respondent?

a) Single ()

b) Married ()

c) Divorced ()

d) Separated ()

e) Widowed ()

--

7. What is the occupation of respondent?

a) Self employed ()

b) Formal employment ()

c) Others (specify)

--

B. HOUSEHOLD CHARACTERISTICS

8. What is your relationship with the household head of this family?

- a) I am the Household head (HH) ()
- b) HH spouse ()
- c) HH child ()
- d) HH parents or parents in law ()
- e) HH relative (uncle, nephew, cousin...) ()
- f) HH members without kinship ()

9. What is the total number of people living permanently in the household?

|_|_|_|heads

10. How many persons enjoy meals at home together? |_|_|_|heads

11. Of all people living in your household how many are above 60 years of age?

|_|_|_|heads

12. Of all people living in your household how many are below 10 years of age?

|_|_|_|heads

C. SOCIAL AND ECONOMIC BACKGROUND

13. Where is your residential area?

- a) High density e.g. Kalingalinga ()
- b) Medium density e.g. Kabwata ()
- c) Low density e.g. Kabulonga ()

14. Expense on food, how much do you spend for food per month in your family?

/_____/ ZMK/month)

15. Information on your assets of the family.

Do you have? Numbers

	YES	NO	QTY
Refrigerator	()	()	()
Stove	()	()	()
Television	()	()	()
Telephone	()	()	()
Computer	()	()	()
Motorbike	()	()	()
Motor vehicle	()	()	()
Formal health insurance,	()	()	()

16. How much is your monthly household's income?

Income range (ZMK/1 month/1 household)

- (a) < 1, 000,000 ()
- (b) 1, 000,000 - < 3, 000,000 ()
- (c) 3, 000,000 - < 5, 000,000 ()
- (d) 5, 000,000 - < 7, 000,000 ()
- (e) 7, 000,000 - < 9, 000,000 ()

D. PRICE AND QUANTITY DEMANDED

17. What is the price for quails? ZMK _____ /kg

18. Is the price of quails reasonable and acceptable regarding to your income?

- a) Yes ()
- b) No ()
- c) Other (specify) _____

19. How much of quail meat do you buy per week? _____ kgs

20. Is the price of quails reasonable and acceptable regarding to its substitutes

(i.e. other poultry products)?

- a) Yes ()
- b) No ()
- c) Other (specify) _____

21. How stable the price of Quails is in this year?

- a) Very stable ()
- b) Rather stable ()
- c) Not stable ()
- d) Very unstable ()

22. When the price of quails increases, which kind of poultry substitutes do you buy?

- a) Chicken ()
- b) Turkey ()
- c) Guinea fowl ()
- d) Rabbit ()
- e) Other (specify) _____

E. CUSTOMERS' TASTE AND SATISFACTION

23. Have you recently purchased Quail meat?

- a) Yes ()
- b) No ()

24. If no, why not?

.....

25. What do you think the taste of Quails compared to other poultry Products is:

- a) Better ()
- b) Worse ()
- c) The same ()
- d) No idea ()

26. If worse or better, why?

.....

F. RESPONDENT'S IDEAS ABOUT DEMAND FOR QUAILS

27. What do you think about the demand for Quails?

- a) High ()
- b) Low ()
- c) No idea ()

28. If low, why?

.....

29. What do you think can be done to help improve demand for Quails?

.....

--- Thank you very much for your time today!!! --