Socio-economic analysis of broiler production in Akure City

By

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SOCIO-ECONOMIC ANALYSIS OF BROILER PRODUCTION IN AKURE CITY

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ABSTRACT

This study seeks to examine the socio-economic analysis of broiler production in the study area. The following objectives been outlined: to analyse the cost of producing a broiler chicken to table size; to assess the implication of cost of production on the retail price of broiler chicken.

Findings indicated that various factors are responsible for the problems encountered on course of broiler production. Respondents are selected owner farmers and the questionnaires were personally administered by the research student, with on the spot visits and interviews.

It is recommended that broiler be produced at a cheaper price so that more of the commodity will be consumed, paving way for increased output of the farmers. The government as well as private organisations could help in this regard.
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DEDICATION

This project work is dedicated to God who saw me through it all. Indeed, the voice of courage spoke and sheer will to succeed prevailed! It has been God.
ACKNOWLEDGEMENT

The successful completion of this work is because of the various useful contributions made by some individuals at different times. To all these people I am indebted and pray that God reward them more than they have done to assist me. They include:

My project supervisor A.I. Ogunyinka, for his suggestions, patience and tolerance exhibited at all times.

My friend Taiwo Olusoga, who chose to remain with me during the dark days. I am most grateful.

Chief L.A. Omorogie, who proved to be a father of all times – good and bad.

My parents, Chief and Mrs Alo-Aladelusi, who financed my education and particularly my junior brother Olufisayo who never stopped encouraging me. All other members of Alo and Omorogie families who did their best to encourage me. Notable amongst them are Engrs. Ife Adejuywon and Ayo Omorogie, Mr and Mrs Owolabi, Olubunmi Alo, Mr and Mrs Odetokun, Mrs Olubanke Akomolafe, Mr Oluseyi Makinde, Fola Odetokun and Adenike Omodara who gave me the contacts I needed physically and spiritually. Funmi who ran all the errands for me, as well as the H.O.D. Mr T. Bifarin and other lecturers and non-academic staffs of the department.

May God bless you all.

September 2000

ALO O.A.
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The poultry industry can be divided into five main units, which are:

(i) Egg production: This involves the use of good layers hens for the purpose of table egg production. The eggs are sold off to the public, while the spent layers, which are no longer layers, are culled off the farm.

(ii) Broiler production: This involves the keeping of chickens for meat breed for the purpose of getting good quality meat product usually sold live or processed at one to twelve weeks of age.

(iii) Chicks production: This is predominately the rearing of chicks and is normally called breeders and the setting up of the eggs in a incubator to hatch. This is the most profitable, but technologically demanding of the different units in poultry production.

(iv) Feed production: This involves the production of different types of livestock feed, ranging from poultry feed to pig and fish feed stock.
CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

Poultry production occupies a pride of place among the livestock enterprises due to its rapid monetary turnover (Laseinde, 1994). This singular reason, among others has made the enterprise attractive and popular among small, medium, as well as large scale livestock farmers.

Poultry industry is one of the most important in agriculture. The birds mature at different stages of growth and can be sold off at a profit at any of these stages.

The poultry industry can be divided into five main units, which are:

(i) Egg production: - This involves the use of good layers birds for the purpose of table egg production. The eggs are sold off fresh to the public, while the spent layers, which are no longer laying well, are culled off the farm.

(ii) Broiler production: - This involves the keeping of chicken of heavy meat breeds for the purpose of getting good quality meat products usually sold live or processed at ten to twelve weeks of age.

(iii) Chicks production: - This is predominantly the rearing of cocks and Hen normally called breeders and the setting up of the eggs in an incubation to hatch. This is the most profitable, but technologically demanding of the different units in poultry production.

(iv) Feed production: - This involves the production of different types of livestock feed, ranging from poultry feed to pig and fish feed stocks.
This is an important industry, especially where there are abundant raw feed materials to be processed.

(v) **Poultry equipment manufacturing** - This can be described as the engineering or technological aspect or division of the entire poultry industry. It is a large, but sophisticated unit, which is not presently well developed in Nigeria.

The term, POULTRY, is used to describe all birds bred for their economic values. However, the domestic fowl (*Gallus domesticus*) is of interest to the livestock farmer. According to Okon (1973) poultry is the name given to the species of birds, which are of economic value to man and consequently are maintained and managed by him. The most important of such birds are the domestic fowls, turkeys, geese and guinea fowls. Recently, there has been an important addition of the largest land bird called Ostrich, largely kept by few farmers in certain countries, especially in the Northern Nigeria, where the peacock is also kept as decorative or game bird, for its sheer beauty.

The science of poultry production generally involves the production, maintenance poultry disease control and farm management, poultry equipment manufacturing and automation. New entry into the science of poultry production is the biogas industry, where cooking gas is produced from the excreta of the poultry birds because of the richness in ammonia. Manuring of farmland by poultry waste is also common.

### 1.2 THE ECONOMIC BENEFITS OF POULTRY PRODUCTION

Chicken meat and eggs are the most important products obtained from the poultry industry. Nutritionists have highlighted the nutritional importance of meat and egg as it contains protein, vitamin and other minerals in varying proportion. Protein malnutrition has been recognised as an important health
hazard in Nigeria today. This is so, because deficiency of protein causes such serious health problems like kwashiorkor, reducing working efficiency, productivity and overall economic progress (Idachaba and Olayide, 1995).

Employment is generated in the poultry equipment-manufacturing sector, where cages, feeders, building and steel, as well as wood selling and steel fabrication jobs are provided by the poultry industry. Industrial raw materials such as manure, feathers, sewage, biogas et-cetera are made available by the poultry industry.

1.3 THE BROILER CHICKEN AND MEAT

The term “broiler” is derived from the English word ‘broil’ which according to the Oxford Advanced learner’s dictionary means to cook by direct contact with fire or water. To the average caterer or housewife however, it means to boil slightly to tender. Broiler meat produced from broiler chicken therefore is expected to be tender and easy to cook.

On close observation, a matured live broiler chicken has a heavy built, suggesting a meaty, fatty and bony body make up. The feather is however very light, compared with that of cockerels (Plates 1&2). The carcass quality is excellent, having a meat: bone ratio of 10:1 at the age of 10 weeks.

It takes a maximum of 12 weeks to rear a broiler chicken from day old chick to table size, although it has been proved under research rearing condition that it is possible to reach table size at 8 weeks from day old chick.

The broiler chicken commonly found in Nigeria is white feathered, although brown-feathered broiler is sparsely available. The meat colour is white, with both male and female sexes producing good quality carcass, although the male tend to grow faster slightly than the female and maintain a larger body frame. The broiler chicken needs to be handled tenderly, as they
are not as hardy as the cockerels or layers. They however have similar physiological and biological make up as the other birds.

Broiler chicken meat is eaten all over the world as table meat. The meat is processed as either frozen chicken or killed live. In Akure city it is normally bought and killed live, eviscerated and broiled (cooked) before eaten. The market potential of frozen broiler chicken meat in Akure city compared with live broiler chicken is still largely a matter to be debated or confirmed, but it may be growing daily because of the increasing population of the city dwellers.

1.4 PROBLEM STATEMENT

Over the years, there has been a continuous increase in the prices of poultry products. This can be linked with the high cost of production in the industry. Generally production cost will encompass the cost of stocking, feeding, housing, labour, processing and marketing of the broiler chicken.

L. O. Yakubu (1995) emphasised that the traditional system of farming still predominates our society. Nigeria's population is growing at a high rate. According to the 1991 Population Census, Nigeria's population is put at 88.5 million, with a growth rate of 30% and a total fertility rate of 5.75% as opposed to the 1963 census figure of 55 million. In other words, within a period of 30 years, Nigeria's population increased by approximately 30 million.

The mainstay of the Akure city and environs economy being agriculture, with crop production, timber felling and saw milling as well as cocoa, palm oil product processing and trading being dominant over livestock production. Few small and emerging medium scale poultry farmers are however
practising, employing few workers on their farms. The average stock number of the poultry farmer in Akure city being less than 1,000 birds.

Chicken is very common, and generally, the demand for poultry products is lower than that for beef and fish agreeing with the food consumption report written by (lkpi, 1982). Raw materials required for the poultry industry are however available in the market and the surrounding towns and villages. For example, rice bran is available in Iju, about fifteen kilometres from Akure City. Other raw materials and incentives available are wood, maize, soybeans, water and relatively cheap labour, good road network and sustainable weather condition favourable for poultry production. The questions that therefore come into one’s minds are: What is the cost implication involved in broiler production in Akure city and what influence does it have on the retail price? What is the current trend in the broiler market, particularly the price consumers are willing to pay per kilogram of the broiler chicken, as well as their consumption pattern at different periods in the year and the effect the cost of production will have on all these?

1.5 OBJECTIVES

The specific objectives of this study are:

(i) To analyse the cost of producing a broiler chicken from the day-old to table size in the study area.

(ii) To assess the implication of the cost of production of the broiler chicken on its retail price and consumption pattern.

(iii) To identify the socio-economic factors affecting the broiler production sub-unit of the poultry industry.
(iv) To make recommendations based on the findings of the study.
(v) To draw reasonable conclusions on the viability of broiler production in the study area.

1.6 SIGNIFICANCE OF THE STUDY

The information contained in this study will serve as a useful guide to poultry farmers, policy makers and as basis on which broiler production programme can be built in Akure city. Besides, good quality, balanced food is a primary indicator of quality of human welfare and development.

The broiler chicken meat is available within a short period and are known to be highly nutritious and could therefore be exploited as an important means of increasing the nutritional standard of the people as well as creating new investment, market and employment.

1.7 LIMITATION OF THE STUDY

The limitation of this study lies in the unstable prices of agricultural commodities and socio-economic atmosphere in the country. This causes fluctuation of prices and inflation, which renders price determination and control measures useless.

The consumer attitude to a particular food item that has substitutes; such as broiler chicken meat is very unstable. The result of this is that although consumers are interested in buying broiler meat, their purchasing power ultimately dictates their taste, making it difficult to determine consumption pattern over a long period of time.
Evidently, every household during Christmas and New year source money for poultry products of which broiler meat is evidently dominant, this is not so for most part of the year, hence the limitations to the study.

To an economist, cost is referred to as the price to be paid for a thing or the general level of prices (Advanced Leicester's dictionary). There are actually two different types of costs. These are fixed cost and variable costs. Fixed costs are costs that do not change as output changes, while variable costs are costs directly related to production input. That is, the level of output and the level of activity connected with the production function (development and marketing). On the long run, however, no cost is fixed, as all costs tend to become variable only as a result of inflation or government policy changes.

Ralph (1987) described variable cost as those cost that is, costs that vary directly on production such as cost of purchase of labor, cost of feed, disinfectant, drugs, heating (fuel), electricity water, prenatal and wage of processor and marketing costs, as well as financial charges involved in working capital such as inflation or change in value of money over a period of time.

Total cost is described by the most widely used in microeconomics, which are not immediately proportional to production, but develop in stages. Examples are amortization or replacement of long-term assets, overhaul or repair costs, replacing equipment and construction cost, management and machinery costs. For a small poultry farm, these distinctions are often arbitrary or less artificial. However, variable costs respond to expenses, which cannot be deferred as opposed fixed costs (which is some extent may be in the depreciation) or on-
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 CONCEPT OF COST

To an average economist, cost is referred to as the price to be paid for a thing or the general level of prices (Advanced Learners' dictionary). There are mainly two different types of cost. These are fixed cost and variable cost. Fixed costs are costs that do not change as output changes, while variable costs are costs directly related to production output. That is, the level of output and is directly connected with the production function (Snodgrass and Wallace, 1980). On the long run, however, no cost is fixed, as all costs tend to become variable if only as a result of inflation or government policy changes.

Ralph (1987) described variable cost as direct cost; that is, costs that bear directly on production such as cost of purchase of birds, cost of feeds, disinfectant, drugs, heating (fuel), electricity, water, personnel or wage bill, processing and marketing costs, as well as financial changes attributed to working capital such as inflation or change in value of money over a period of time.

Fixed cost is described by the same author as those costs, which are not immediately proportional to production, but develop as steps. Examples are amortization or replacement of long-term loans, upkeep or repair cost, rent, equipment and construction cost, management and sundry costs. For a small poultry farm, these distinctions may seem more or less artificial. However, variable costs respond to expenses, which cannot be deferred as opposed to fixed costs (which to some extent may be the distinction) is one
which poultry farmers are aware of and can be deferred, without necessarily affecting the production. Other costs, which are important in production, are:

(i) **Total cost**, which is the sum total of variable and fixed cost.
   \[ TC = VC + FC. \]

(ii) **Marginal cost** – which is the additional cost necessary to produce one more unit of output.

(iii) **Total fixed cost** – which is the simple sum of depreciation, taxes, maintenance, repairs interest, insurance and unpaid family labour.

Generally, to make proper analysis of the cost of production under any of the poultry management system, the economy of the location of the farm as well as the capacity of the poultry farm is important.

### 2.2 THE THEORY OF DEMAND

Consumption pattern and demand are often misplaced, whereas they are synonymous. The pattern of food consumption is referred to as the demand for food. (Berkeley and Ray, 1987).

The quantity of food consumed is necessarily the same as the quantity demanded or supplied, although, they may be.

Berkeley and Ray (1987) stated the demand relationship with supply thus: The quantity demanded of any commodity refers to the amount buyer are willing to take from the market at given prices over a period a specific period and the quantity supplied referred to the amount suppliers are willing to supply to the market at given prices over a specific period of time.
Hanson (1986) also added that effective demand is used to distinguish demand from need. In essence, a broiler chicken buyer may buy and keep in September to avoid December rush although he is not in need (or willing to consume the broiler meat) at that particular time. The demand for any commodity will diminish if the price is high; lower prices encourage higher sales generally.

In the submission of Philip (1970), he stated that a meat economy is based on an affluent society, an overabundant supply of grain, a well-developed, sophisticated agriculture and strong purchasing power.

He stated also that broiler production is one of the most efficient enterprises in the poultry industry and agriculture generally. This is due to the fast growth rate of the birds and the possibility of selling the broiler chicken raised at various times during the production period. The broiler chicken being sold as

(i) Broiler day old chick.
(ii) Broiler started chicks at 4 weeks
(iii) Broiler growers at 6 – 8 weeks
(iv) Broiler finisher at 8 – 12 weeks.

Feed conversion of plant protein to meat in Broiler is intermediate in the range of 22% along with that of laying hen. Alfalfa and Soyabean meal are the leading plant protein producers. At best, only a fourth of the proteins in the edible part of the plants are returned as meat.
2.3 POULTRY BREED AND ORIGIN

Different breeds of the domestic fowls are available. Examples are:

(1) AMERICAN BREEDS: - American breeds have certain common characteristics such as yellow skin, absence of feathers on the shanks, red ear lobes and they lay brown-shelled eggs. Typical examples are:
   
   (a) Plymouth Rocks (Oldest American breed)
   (b) Rhode Island Red (Dual purpose bird)
   (c) New Hampshire (Developed from Rhode Island Red)

(2) ENGLISH BREEDS: - This includes:

   (a) Orpington (Characterised by low square body)
   (b) Sussex (which has long rectangular body and light, speckled varieties)
   (c) Cornish (which has yellow skin and pea comb)

(3) ASIATIC BREED: - The general characteristics of this class include red earlobes. Yellow skin, feathered shank and loose plumage. Examples are

   (a) Brahma – which originates from the Brahma putra district, of India. They are characterised by circular body shape and pea comb.
   (b) Langshan – Originate from china and introduced to England and then America. They are characterised by circular body, high tool carriage and single comb.

(4) MEDITERRANEAN BREEDS: - They have main distinguishing characteristics of having white earlobes and white shelled eggs, as well as early maturity. Examples are:

   (a) White leghorns – Originate from Italy.
   (b) Minorca – Originate from Minorca Island.
(5) **THE TROPICAL BREEDS:** These have the characteristic feathers on the legs and irregular plumage and leg colours. However, a number of hybrids exist which has been developed overtime by local poultry breeders. Examples are Harco, B390 and the B300 (Okon, 1983).

The Broiler chicken meat breeds have evolved majorly from the exotic breeds. The name given to the Broiler breeds depends on the breeders. Common names such as Harco, Cobb and Anak are however common

### 2.4 TYPES OF BROILER MANAGEMENT SYSTEM

The organisation of the broiler production enterprise depends on the purpose for which it is intended, as well as available capital. Broilers are generally kept on the deep litter system, which consists of apartments with a layer of litter on the floor. This is regarded as semi-intensive method.

Broiler can also be reared on raised cage, spacious enough to allow free movement of the bird for normal exercise and feeding allowance of 60cm sq per two-broiler chicken is considered adequate. Free range or open range system in which the broilers are kept in open land can also be used, where birds find sufficient food such as vegetables, seeds, worms and insects, but food compounded as supplements should also be served for proper growth.
2.5 THE BROILER FEED AND NUTUTIONAL REQUIREMENTS

Domestic fowls (Gallus domestica) are non-ruminants having digestive system consisting of alimentary canal, having oesophagus, crop, gizzard et-cetera (Okon, 1987). Their simple digestive system allows them to take in grains and digest quickly to convert to meat and egg products.

According to Tewe and Egbonike (1997), poultry birds need to be fed on a balanced ration. A balanced ration being defined as a feed containing all the nutrient requirements of the bird in sufficient proportions (Okon, 1973).

The feeds must contain adequate and balanced amounts of the various classes of food, namely carbohydrates, protein, fats, mineral salts, vitamins and water. These are obtainable from the different feed ingredients available in the local markets in different raw forms.

Poultry feeds constitutes more than 90% of all commercial rations produced by feed millers in Nigeria (Tewe, 1997).
The source of food and classes are shown in the table below:

<table>
<thead>
<tr>
<th>SOURCES</th>
<th>FOOD CLASSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Maize, Guinea Corn, Rice,</td>
<td>Carbohydrates</td>
</tr>
<tr>
<td>Wheat, Oats, Barley, Cassava</td>
<td></td>
</tr>
<tr>
<td>(B) Groundnut cake, Sunflower cake</td>
<td>Protein</td>
</tr>
<tr>
<td>Soyabean meal, Fishmeal, Blood meal</td>
<td></td>
</tr>
<tr>
<td>Meat Scraps (Alfalfa)</td>
<td></td>
</tr>
<tr>
<td>(C) Common salt, Bone meal, limestone,</td>
<td>Mineral salts</td>
</tr>
<tr>
<td>Oyster shell, Dicalcium phosphate</td>
<td></td>
</tr>
<tr>
<td>(D) Cotton seed oil, Palm oil, corn oil,</td>
<td>Fat</td>
</tr>
<tr>
<td>Groundnut oil, Sunflower oil, Fish oil</td>
<td></td>
</tr>
<tr>
<td>(Cod liver oil)</td>
<td></td>
</tr>
<tr>
<td>(E) Green grass Alfalfa, yeast Liver meal,</td>
<td>Vitamins</td>
</tr>
<tr>
<td>Fish oil (cod-liver oil)</td>
<td></td>
</tr>
</tbody>
</table>

Poultry feed constitute about seventy percent of the cost of production in the poultry industry (Anthony, 1987). The different food classes have different cost, protein being the most expensive among them all.

Poultry feed, just like the breed and housing are made in different forms, depending on the purpose for which it is meant.

The broiler feed particularly is of these main types, which can be served as either mash or pellet forms, depending on the broiler type.
<table>
<thead>
<tr>
<th>FEED</th>
<th>FORM</th>
<th>BROILER TYPE</th>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BROILER STARTER</td>
<td>MASH</td>
<td>0-4 WKS</td>
<td>FAST GROWTH AND DEVELOPMENT</td>
</tr>
<tr>
<td>BROILER FINISHER</td>
<td>MASH/PELLETS</td>
<td>5-12 WKS OLD BROILER</td>
<td>HEAVY FLESH AND FAT BUILD UP</td>
</tr>
<tr>
<td>GROWERS</td>
<td>MASH/PELLETS</td>
<td>GROWN BROILER OR BREEDERS</td>
<td>SLOW, STEADY, LOW FAT GROWTH, GENERAL BODY MAINTENANCE</td>
</tr>
<tr>
<td>LAYERS</td>
<td>MASH/PELLETS</td>
<td>BREEDERS' LAYERS</td>
<td>GOOD EGG LAYING</td>
</tr>
</tbody>
</table>

Olayemi and Roberts (1979) suggested that a fair knowledge of poultry nutrition would promote the efficiency of management and productivity on farm.

Ralph (1987) observed that feed could be bought at a factory or commercial feed mill or prepared on farm. In the study area, it is noted that almost half of the farmers compound their own feed on the farm. Some using the conventional feed mills with motorised mixer, while others only mix grinded feed ingredients on the floor (this is usually referred to as floor mixing).
2.6 ECONOMIC CONCEPT OF PRODUCTION GAIN AND CONSUMPTION

Appleby (1981) suggested that before production commences, forecasting and planning are needed and various factors of production such as land, labour, availability of raw material etc. must be put in place.

Olayanju and Roberts (1979) broke down extensively the various factors of production in the Broiler farm.

These are stock, feed ingredients, labour, housing, processing equipments, market. These various factors are obtainable at a cost prevailing in the market. For instance, Ralph (1987) observed that in African Countries, wages are low and that wage bill generally accounts for about 1% of the cost price. Various other economic tools in analysing gain or profit were stated by Ralph (1987) as follows.

Receipts – This refers to the money realised from sales.

Gross margin – This refers to the difference between monies from sales and the main variable cost i.e. (purchase of birds, cost of feed and cost of treatment).

This represents the most useful economic indicator to draw the farmer’s attention to the problems of his farm and offer solution to them, this is because Gross Profit Margin is the money or income the farmer can distribute as the wishes.

In other words, this covers remuneration for his work and of family labour, improvement (if there is) and /or its enlargement, which could lead to economy of scale.
Net profit – This is the difference between income from sales and total of fixed and variable costs.

All the above definitions and terms may not mean much however to a peasant farmer who needs only the gross profit margin the more. Whereas, staffing costs are in large scale farms, investment are made with very extensive credit, gross profit margins is of little importance. (Ralph, 1987).

Individual income with the food consumption trend was compared by Barker (1981). He found that a low income earner cannot afford his desired level of food income, food consumption becomes an important factor in the individual’s budget and any increase in income will not lead to an increase in the quality of food to be purchased rather the extra expenditure will be expressed on better quality food.

According to Him, however prices are used to boost sales and there is a variation to which consumption responds to changes in prices between commodities which are measured by price elasticity of demand i.e percentage change in demand for commodity as a result of a given small percentage change in the price of the same commodity.

In other words, for one percent change in price of a good, if the quantity demanded changes by more than one percent, demand for the good is said to be elastic (or lightly responsive to changes in price). If the quantity demanded changes by less than one percent, demand is said to be inelastic.

He explained further the relationship between the price elasticity of demand for a product and the total revenue to be derived from production. With elastic demand, as output increases, so does total revenue, and with inelastic demand, as output is increased, total revenue decreased.
The implication of this is that producers falling in inelastic demand for their product have little meantime to increase their output. Presence of substitutes he said determines the nature of the price elasticity of demand, the better the substitute, the greater the elasticity of demand.

It should be noted that for food as a commodity, demand is relatively inelastic, because there is no acceptable substitute apart from synthetic products to a certain extent. Tense competition existing makes the demand to be elastic. Moreover, time is also important factor, allowing substitute to be derived and improved.

Seasonal activities such as Christmas, New Year etcetera. He held the same view with other authors on income elasticity of demand. For most goods, income elasticity of demand is positive with an increase in income leading to an increase in quantity demanded. Logically, income elasticity of demand for food will decline as incomes increases. This is because as income increase a greater portion of disposable income will be spent (not on food) but on luxuries such as recreation, convenience and leisure goods.
CHAPTER THREE

3.1 METHODOLOGY

Primary data only will be collected for this study. This was obtained from the field survey among selected poultry farmers and meat consumers randomly in the study area.

Structured questionnaires shall be used to draw information from respondents together with the use of interviews and on the spot visits to farms. The information collected from the respondents shall be non-demographic information.

The respondents in this case shall be the poultry farmers or owners of the farm. The non-demographic information to be collected shall include the number of stock on the farm, production cost, number of birds sold, problems encountered on course of broiler production et-cetera.

3.2 DESCRIPTION OF MEDIUM AND SMALL SCALE POULTRY FARM

For the purpose of this study, a large-scale farm is a farm having more than five thousand birds in stock at any point of the year. Medium scale farm is a farm having less than five thousand birds and at least one thousand birds at any period of the year. Small-scale poultry farm is classified as one having less than five hundred birds and not more than one thousand at any period of the year.
3.3 SAMPLING PROCEDURE

In selecting the respondents for the primary data collection, Akure city shall be divided into four zones viz.: F.U.T.A./Ondo road, Ijapo/Ado garage, Oballe/Alagbaka, Ayedun/Shagari village, using cluster sampling. Twenty farmers are selected randomly from these four units using simple randomised techniques. A total of twenty farmers who are owners of their farms were interviewed.

3.4 DATA ANALYSIS

Twenty-two questionnaires were taken personally to selected poultry farmers representing about eighty percent of the registered poultry farmers in Akure zone. According to the Poultry Association of Nigeria, Ondo State branch, the number of poultry farmers registered in the Akure South Local Government Area is forty-five. Only twenty out of these farms are located within the study area.

Twenty out of the twenty-two questionnaires drawn were answered and returned, checked for reliability and analysed. The descriptive characteristics such as frequency, mean, mode and percentages were used for data analysis.
CHAPTER FOUR

4.0 DISCUSSION OF FINDINGS

This section of the study represents the analysis, description and interpretation of data on the objectives: analysis of the cost of producing a broiler chicken from day old chick to table size bird; assess the implication of the retail price of broiler chicken on the demand, identify the socio-economic factors affecting the broiler production sub-unit of the poultry in the study area.

4.1 CAPACITY OF THE POULTRY FARM OF THE RESPONDENTS

Poultry farmers response to the above shows that three categories of poultry farm exists in the study area: large, medium and small-scale farms. The average number of birds available on their farms is as shown on the table below.

**TABLE 4.0 AVERAGE CAPACITY OF POULTRY FARM**

<table>
<thead>
<tr>
<th>Description of farm</th>
<th>Stock min/max</th>
<th>Average no of birds in stock presently</th>
<th>Average no of broiler stocked/annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large scale</td>
<td>5000</td>
<td>7500</td>
<td>1500</td>
</tr>
<tr>
<td>Medium scale</td>
<td>1000-5000</td>
<td>2500</td>
<td>500</td>
</tr>
<tr>
<td>Small scale</td>
<td>1000-500</td>
<td>500</td>
<td>150</td>
</tr>
</tbody>
</table>

Source: Field survey, August, 2000
TABLE 4.1 DESCRIPTION OF POULTRY FARMERS

<table>
<thead>
<tr>
<th>Description of farm</th>
<th>Freq. (f)</th>
<th>Cum. Freq. (CF)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large scale</td>
<td>4</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Medium scale</td>
<td>6</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Small scale</td>
<td>10</td>
<td>20</td>
<td>50</td>
</tr>
</tbody>
</table>

The analysis above revealed that only four out of the 20 poultry farmers sampled are large scale farmers, six are medium scale farmers, while ten are small scale farmers respectively.

TABLE 4.2 NO OF BIRDS PRESENTLY ON THE FARM

<table>
<thead>
<tr>
<th>Description of the farm</th>
<th>Total no of stock / annum</th>
<th>Average no of broiler stocked / annum</th>
<th>% of broiler in relation to other birds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large scale</td>
<td>7500</td>
<td>1500</td>
<td>20.0</td>
</tr>
<tr>
<td>Medium scale</td>
<td>2500</td>
<td>500</td>
<td>20.0</td>
</tr>
<tr>
<td>Small scale</td>
<td>350</td>
<td>150</td>
<td>42.9</td>
</tr>
</tbody>
</table>

The table above on close observation shows that the large and medium scale farmers stock about twenty percent of broilers compared with about forty three percent stocked by the small-scale farmers. This is because large and small-scale farmers generally prefer to raise layers instead of broiler chicken. The typical small scale or homestead poultry farmer however prefers to rear birds
that he can slaughter at will, this therefore accounts for the affinity for the broiler chicken.

**TABLE 4.3 AGE AND MARKET PRICE OF BROILERS**

<table>
<thead>
<tr>
<th>AGE</th>
<th>COST (N)</th>
<th>AVERAGE COST (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day Old Chicks</td>
<td>65.00-85.00</td>
<td>75.00</td>
</tr>
<tr>
<td>4 wks Old Broiler</td>
<td>220.00-260.00</td>
<td>240.00</td>
</tr>
<tr>
<td>12 wks Old Broiler</td>
<td>500.00-800.00</td>
<td>650.00</td>
</tr>
</tbody>
</table>

The table above shows that day old chicks cost least to purchase followed by 4wks old broiler and the table sized birds.

**TABLE 4.4 AVERAGE COST EXPENDED ON BROILER BEFORE SELLING AND PRICE PER TABLE SIZED BROILER SOLD**

<table>
<thead>
<tr>
<th>DESCRIPTION OF FARM</th>
<th>AVERAGE COST OF PRODUCTION (N)</th>
<th>AVERAGE SELLING PRICE (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large scale</td>
<td>285.00</td>
<td>450.00</td>
</tr>
<tr>
<td>Medium scale</td>
<td>325.00</td>
<td>475.00</td>
</tr>
<tr>
<td>Small scale</td>
<td>410.00</td>
<td>525.00</td>
</tr>
</tbody>
</table>

From the table above, large scale farmers produce at a lower cost. This is not unconnected with the fact that they enjoy economy of scale over the other two groups.
TABLE 4.5 AVERAGE NO OF BIRDS SOLD AND NO REMAINING UNSOLD

<table>
<thead>
<tr>
<th>DESCRIPTION OF FARM</th>
<th>NO SOLD</th>
<th>NO UNSOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>LARGE SCALE</td>
<td>ALL</td>
<td>—</td>
</tr>
<tr>
<td>MEDIUM SCALE</td>
<td>470-498</td>
<td>20-25</td>
</tr>
<tr>
<td>SMALL SCALE</td>
<td>130-140</td>
<td>15-22</td>
</tr>
</tbody>
</table>

The figures obtained above further showed that most small-scale poultry producers are not really motivated by the profit to be made. Compared to the number of the stock held, the number left unsold is very high.

4.2 SEASONAL INFLUENCE ON DEMAND AND PRICE

TABLE 4.6 AVERAGE NO OF BROILER STOCKED QUARTERLY BY L/S, M/S, AND S/S FARMERS

<table>
<thead>
<tr>
<th>QUARTER</th>
<th>LARGE SCALE</th>
<th>MEDIUM SCALE</th>
<th>SMALL SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-MAR</td>
<td>500</td>
<td>150</td>
<td>80</td>
</tr>
<tr>
<td>APR- JUN</td>
<td>—</td>
<td>—</td>
<td>60</td>
</tr>
<tr>
<td>JUL- SEP</td>
<td>—</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>OCT- DEC</td>
<td>1500</td>
<td>600</td>
<td>160</td>
</tr>
</tbody>
</table>

All the respondents agreed that there is the influence of season on the price of broiler chicken and meat generally. The farmers too respond to this by stocking
more of the broilers towards the end of the year so as to meet the demand, make more sales and profit during the Yuletide period.

**FACTORS AFFECTING THE BROILER PRODUCTION INDUSTRY**

Various factors affects the broiler production in the study area according to the submissions made by the respondents

**TABLE 4.7 HIGHLIGHT OF THE VARIOUS FACTORS GIVEN BY RESPONDENTS**

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>FREQUENCY (f)</th>
<th>CUM. FREQ. (cf)</th>
<th>% (f/\Sigma f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEED</td>
<td>8</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>FARM LABOUR</td>
<td>1</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>HOUSING</td>
<td>1</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>FUND</td>
<td>6</td>
<td>16</td>
<td>30</td>
</tr>
<tr>
<td>DISEASES</td>
<td>3</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>OTHERS</td>
<td>1</td>
<td>20</td>
<td>5</td>
</tr>
</tbody>
</table>

Majority of the respondents stated that lack of fund is the main obstacle to broiler production on their farm, while feed is the next problem seeming to stand against broiler production. Diseases, housing, farm labour and others such as lack of healthy and cheap day old chicks, pilfering, lack of commitment by the workers are the other problems identified by the respondents. While not all are faced primarily with financial problems, all will like to expand their farm in future, given the right incentives.
TABLE OF GROSS MARGINAL ANALYSIS

<table>
<thead>
<tr>
<th>Type of farm</th>
<th>Average quantity sold</th>
<th>Price per Broiler sold</th>
<th>Average total revenue</th>
<th>Ave. cost of prod. Per Bx chicken</th>
<th>Ave. total cost of prod. of Bx stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>LARGE SCALE</td>
<td>1500</td>
<td>450</td>
<td>675000</td>
<td>285</td>
<td>427500</td>
</tr>
<tr>
<td>MEDIUM SCALE</td>
<td>500</td>
<td>475</td>
<td>237500</td>
<td>325</td>
<td>162500</td>
</tr>
<tr>
<td>SMALL SCALE</td>
<td>150</td>
<td>525</td>
<td>78750</td>
<td>410</td>
<td>61500</td>
</tr>
</tbody>
</table>

GROSS MARGIN = TOTAL REVENUE - TOTAL COST

TOTAL REVENUE (TR) = QUANTITY SOLD * PRICE PER BROILER

TOTAL COST = TOTAL VARIABLE & FIXED COST

For large scale farmers, GROSS MARGIN = 675000-427500 = 247500

For small scale farmers, GROSS MARGIN = 234500-162500 = 72000

For small scale farmers, GROSS MARGIN = 78750-61500 = 17250.

The Gross margin of large scale farmers is expected to be higher than that of the medium and small scale farmers because they have higher stock number (table 4.0) and also have more fund to stock pile feed ingredients such that the cost of feeding is reduced, unlike the medium and small scale farmers who buy ready made feed at exorbitant prices.
5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

Broiler, no doubt is one of the most important food item in the poultry industry. Various findings in this study revealed that farmers want to produce more of these food item and of course can meet up with the demand of the local market if encouraged by the government through subsidy, improved extension services, storage facilities e.t.c.

Afolabi (1994), highlighted that in spite of the various government’s effort to boost agriculture not much has been achieved. He enumerated different government programmes such as the Operation Feed the Nation (OFN) in 1976, the Green Revolution Programme and others which was embarked upon by the numerous governments that has come into existent in Nigeria.

Afolabi(1994), in the same vein opined that the non-achievement of the objective or lack of continuity was due to the fact that, they were not usually monitored or supervised. He posited that most of the projects were even theoretical than practical in execution, with the resources meant for the purpose of agricultural development being diverted in most cases.

5.1 CONCLUSION

Broiler chickens are known for their fleshy carcass generally referred to as having a high carcass quality. It is an excellent source of high quality protein, vitamins, minerals and energy. Among the bi-products of broiler production are high quality manure, feather, offal and fats.
All these have various uses as novelties, home consumption, medical and pharmaceutical uses. Broilers can be processed into various food items such as chicken pie, roasted chicken e.t.c.

There are two principal breeds of broiler in the Nigerian market; these are COBB and ANAK breeds. Broiler production in Akure and the whole of Nigeria generally is characterised by seasonal variation in the stocking and marketing of the food item. Apart from the privately owned farms, there are government owned farms that also rears broiler chicken for sale, mostly at Yuletide seasons.

Since the quantity demanded of a commodity refers to the amount a buyer is ready to pay for such good. A potential consumer must be able to pay readily for such commodity. Hence, in the case of poultry products generally, the cost of production must be low, with high output and low retail price for consumers to purchase more of the product. In fact, the more of the poultry product that is consumed the more will be the sales, turnover and profit of the poultry farmers.

Most of the respondent will like to produce more of the broiler chicken if given the right condition. The right condition in the sense of availability of capital, housing, market and other factors of production necessary for maximum productivity.
5.2 RECOMMENDATIONS

Quantity demanded of any commodity refers to the amount buyers are willing to buy from the market at given prices and over a specified period. However, as shown on the Table 4.6. Seasonal influence on the demand for broiler is real and this affects the price of the commodity, such that the price becomes quite unpredictable, particularly towards the end of the year.

Social factors that affect broiler production also varies from individual farmer. While some have enough funds to invest, many are lacking seriously in this area. In the study area however, farmers are noticed to be coping well with the problems that may not have immediate solution, such as lowering the number of stock so that they could feed their birds adequately, preparing their own feed themselves on the farm, as well as using cheap substitute of drugs to curtail diseases such as coccidiosis.

1. The price of any commodity is very important if it is to be sold easily and effectively in order to make appreciable profit. The majority of the consumers is of the low-income group and only has the ability to purchase cheap goods. In other words, their purchasing power is weak. Broiler chicken therefore being a consumable food item must be produced cheaply and made available to the consumers.

2. There is the need to increase the number of broiler farms as well as improve the existing production method in order to produce more broiler meat at a cheaper rate and higher quality.
3. The broiler industry is capable of generating employment for the teeming population of higher institution graduates being churned out each year. Skilled and unskilled labour are needed in the industry, making it a highly formidable employer of labour. The industry therefore can be valuable in realising the objectives of the poverty alleviation programme.

4. Farmer’s association like the Poultry Association of Nigeria can be organised at the grass root level and encouraged through her members to produce more of the products. Incentives such as loans, input supply and subsidies can be given by the government and other private agencies.


Smith A (1987): Tropical Poultry Production
                CTA Publishers

Tewe and Egbunike (1994): Utilisation of Cassava in Non-Ruminant
                Livestock production series
APPENDIX I

FEDERAL COLLEGE OF AGRICULTURE, AKURE
DEPARTMENT OF AGRICULTURAL EXTENSION AND MANAGEMENT
QUESTIONNAIRE/INTERVIEW SCHEDULE FOR THE STUDY OF THE
SOCIO-ECONOMIC PROBLEMS ASSOCIATED WITH BROILER
PRODUCTION IN AKURE CITY

N.B. The information supplied on this sheet is meant for academic purposes only. Effort should be made at giving accurate information.

Instruction: Please, answer the following questions (write or tick boxes as applicable).

1. Name of poultry farm ..............................................................
2. Capacity of farm .................................................................
3. No of Workers employed .........................................................
4. Average monthly salary paid to workers .................................
5. No of birds presently on your farm ...........................................
6. No of Broilers presently on your farm ......................................
7. Age of Broiler at stocking: Day Old □ 4wks □ 8wks □
8. Cost of chick / broiler at stocking ...........................................
9. No purchased at the initial stage ..............................................
10. Age of broiler at sale ............................................................
11. How much have you spent on each broiler till date .................
12. Price per broiler chicken sold ............................................... 
13. Why are you selling at this price? ...........................................
14. Actual number sold at the price above

15. What happened to the remaining birds not sold on the farm?

16. What other costs are associated with your production cost at the beginning of stocking?

17. With the above price, do people buy broiler chicken? Yes/No
   If yes, How often?

18. Does the price affect the No. of birds you sell? Yes/No
   If yes, How?

19. At what period of the year do you sell most?

20. What reason(s) can you give for this high sale?

21. What problems do you encounter during broiler production?

22. Do you see feed as a factor that affect broiler production in Akure City? Yes/No
   If yes, How?

23. Do you see availability of farm labour as affecting broiler production? Yes/No
   If Yes, How?
24. Do you see housing as a problem? Yes/No
   If Yes, How?

25. Do you see lack of fund as a problem? Yes/No
   If yes, How?

26. What other problem(s) do you encounter on course of broiler production?
REFERENCES


