Factors Affecting Broiler Production; A Case Study Of Njaba Local

Government Area, Imo State.

A Research Project Presented To The Department Of Agricultural Education, School Of Vocational And Technical Education, Alvan Ikoku Federal College Of Education, Owerri.

By

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Dedication

With special thanks to God Almighty, I dedicate this research work to my dad Mr Nnanna Ameachi for his care and support throughout my life and the duration of this

**Acknowledgement**

A thanks of gratitude to God Almighty, who by his infinite mercy and grace made my schooling possible, his praise will forever be on my heat

I register my profound gratitude to my project supervisor Dr Osuaku S.K. for his invaluable guidance, suggestions and Corrections throughout the writing of this project.

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**Abstract**

The purpose of the study was to identify the factors militating and against broiler production in Njaba L.G.A. Imo state. The study area was made-up of 29 autonomous communities and 10 communities were randomly selected.

Four research questions guided the study. The instrument used for data collection was questionnaire which comprised of 25 items of 4 point of Likert rating scale. These were grouped under the various research questions which they are related.

The poor housing system, poor management of day-old chicks, poor health management of broilers, poor quality feeds, inappropriate stocking rate, inadequate funding, among others. The study recommends that the government should provide loans and credits to the farmers at a lower interest rate and provide extension services to the broiler producers in the rural areas to improve broiler production.

**CHAPTER ONE**

**INTRODUCTION**

**Background of the Study**

The term poultry is used to describe all the avian species which include all those birds which are domesticated, fed and generally managed by farmers. These birds which are domesticated include; chicken (fowl), ducks, geese, turkey, and pigeons, among others. These birds are raised for the purpose of obtaining higher yields of the desired products like eggs, meat, feathers and their droppings which are used by man. (Nwakile *et al.,* (1994).

Broiler poultry farming is a lucrative business. Generally, highly meat productive birds or poultry breeds are called broiler poultry. Broilers are like other common poultry birds reared mainly for production of meat in a shorter time. (Roys, (2011).

Broiler chickens (Gallus gallus domesticus) are gallinaceous domesticated fowls, bred and raised specifically for meat production. Broilers are typically the cross bred of Plymouth Rock and Cornish. Typical broilers have white feathers and yellowish skin. Most commercial broilers reach slaughter-weight at between 5 to 6 weeks of age, although slower growing breeds reach slaughter-weight at approximately 14 weeks of age. Due to artificial selection for rapid early growth and the husbandry used to sustain this, broilers are susceptible to several welfare concerns particularly skeletal malformation and dysfunction, skin and eye lesions and congestive heart conditions. The breeding stock (broiler- breeders) grows to maturity and beyond but also has welfare issues related to frustration of a high feeding motivation and beak trimming. Broilers are usually grown as mixed-sex flocks in large sheds under intensive conditions but some breeds can be grown as free-range flocks. (Kruchten, 2002).

Some challenges facing broiler production include: inappropriate selection of site for poultry farm, lack of ventilation, disease outbreak and environmental factors such as temperature, humidity and lightening. (Farhan,2012). However, throughout the world, the domestic birds are unique for their popularity in producing both poultry meat and eggs. In order for poultry birds to produce efficiently, there is need to raise them under a conducive environment. We have various ways of rearing birds like the industrialized system of rearing birds, example; the intensive system which include the battery cage and the deep litter system.

**Statement of the Problem**

Broiler poultry is of economic importance to the entire members of the society, because it provides meat for consumption. It has been observed over the years that there are a lot of impediments in Je process of rearing birds. Rearing broilers and its success are generally affected by some number of factors, especially in Orlu Njaba L.G.A of Imo state which include; high cost of feed, adverse environmental factors (weather and diseases), housing system, lack of fund as well as poor managerial skills in broiler production. According to Ihechere, (2010), the major problems generally are the stocking rate, feeding (quantity and quality), diseases, sources of day-old chicks, breed and management practices. These factors are also bound to militate against broiler production in Orlu Njaba Local Government Area of Imo State.

**Purpose of the Study**

The general purpose of the study is to identify the factors that militate against broiler production in Orlu Njaba L. G. A of Imo State.

The specific objectives include:

1. to examine the socio-economic characteristics of broiler producers in the area.
2. to identify the factors militating against broiler production in Orlu Njaba L.G.A.
3. to find out the management systems broiler producers adopt in the study area. to find out the strategies for improving broiler production in Orlu Njaba LG.A.

**Scope of the Study**

In this scope, broiler production in Orlu Njaba L.G.A was carefully examined. This study paid particular attention to factors militating against broiler production.

**Significance of the Study**

This study focused on the factors militating against broiler production so as to provide some ways of overcoming them. Through the findings, the broiler producers stand to benefit immensely from this study since it is examining the numerous challenges that confront it as an industrial player and also suggest ways of overcoming these identified challenges.

It is expected that if the problems of these broiler producers/ keepers in Orlu Njaba Local Government Area is addressed, it will provide:

1. solutions to the management problems of broiler producers in Orlu Njaba L.G.A of Imo State,
2. help the poultry farmers to fight against poultry diseases in the area,
3. boost the economy of the farmers in the area greatly.

**Research Questions**

1. What are the socio-economic characteristics of broiler producers in the area?
2. What are the factors militating against broiler production in the study area?

1. What are the management systems broilers producers adopt in the area?
2. What are the strategies for improving broiler production in the study area?

**CHAPTER TWO**

**LITERATURE REVIEW**

**Broiler Production**

The word "Broiler" originated from the word "Broil" which means to cook by exposure to direct heat, to cook over hot grill or coal, to heat directly. Broiler is a name given to meat cooked by broiling. This kind of meat is usually tender, succulent and juicy. Broiler is another name given to poultry specie that provides meat that is suitable for broiling. Bird in this category has a rapid growth rate. Akinbobola,(2015). Broiler is a domesticated feathered bird reared mainly for meat production, it reaches market rate of 2.5 to 3.0kg at 8 weeks of age depending on feed quality and quantity. The meat is tender and generally appealing and accepted when processed. The meat is rich in essential and non-essential amino acids required for growth and body building of humans. Broiler is a fast-growing animal and the returns on the investment is very high compared to other livestock. Ihechere,(2010).

Broiler production is the process by which broiler chickens are reared and prepared for meat consumption. The key to successful broiler production depends on a systematic and efficient management program the farmer has adopted. In addition, it is advisable to do proper planning and preparation well on time for the arrival of chicks on site. Broiler production could be practiced as secondary or primary occupation. In Nigeria and other countries, there is high demand for broiler meat especially during ceremony. A.A.F.C,(2006). According to Akinbobola, (2015), there are two broiler production programmes which can be used for raising broilers. These are:

**Occasional Production Programmes:** for special events such as Christmas, Easter, and Sallah festivals or some other demands like weddings, anniversary celebrations, birthdays, thanksgiving etc.

**Regular Production Programmes:** which are all-in, all-out system and multiple production system. Before you start raising broilers either for commercial purpose or personal consumption, there are some management practices that you must know.

**Management Practices of Broiler Production**

According to Roys,(2011), before selecting broilers for business the farmer has to maintain some processes which include; the broiler chicks of one day old should weigh between 36 to 40 grams. To get more and affordable benefit from broiler poultry farming, the farmer should select the good and high productive breed for business. As broiler converts food to meat, so provide them with high quality food and ensure high ratio of protein and calorie in the feed, For the chicken of 0-6 weeks, the feed should contain 22.24% protein and 2900-3000 metabolic heat. Among the amino-acids, lysine and methionine are very essential and important in broiler poultry food because these acids help to enhance chicken health and help to convert food to meat. Nguyen,(2006) states that there are a number of requirement by which broilers should be managed so that best performance is achieved in a way acceptable to those responsible for the care of the animals and to the community generally. These requirement may be called principles; use of good quality and right class of stock, provision of good housing (confining the birds, protection from a harsh environment and satisfying welfare needs of the birds), maintenance of good health (prevention of disease, early recognition of disease and early treatment of disease), nutrition for economic performance, good stock person ship and use of records.

This code of practice has been compiled by the S.A.P.A,(2012) as an objective guide for all poultry and it is endeavor to lay down accepted norms for the broiler industry, incorporating various legal requirements where necessary and applicable. Adequate facilities and resources must be available to supply proper housing, the supply of quality feed and water, attendance to sick and injured chickens. Financial cost should not be a reason for neglecting chickens that are obviously in distress or for failing to secure prompt and appropriate medical treatment or other care which may be necessary. According to William et al., (2004), it requires that houses should be cleaned out after every brood; others permit reuse of old litter. Remove all old litter and manure to the extent reasonably possible. Brush or wash cobwebs and dust-off walls and ceiling just prior to a clean out. Ask your flock supervisor about a disinfectant to use on wall, and equipment, do not use wet, moldy or partially decayed material, and spread 2 to 4 Inches of clean, dry bedding on the floor. It may be necessary to dust equipment after cleaning out or after new shavings have been added.

According to F.A.O., (2014), all management procedures with adult stock during incubation and hatching, brooding of young chicks and rearing of young meat should focus on meeting the birds physiological requirement at all stages of life by providing an ideal physical environment, minimizing exposure to disease, meeting the birds behavioral and social needs and providing them with clean water and good quality feed that satisfies their nutrient requirements.

**Housing System**

The first requirement for growing broilers is adequate housing because broiler production is essentially a chick brooding operation, the house should contain equipment so that such factors as temperature, moisture, air quality and light can be controlled effectively. It should also provide for efficient installation and operation of brooding, feuding, watering and other equipment. (William et al.,2004). Roys,(2011) states that the broiler house should be east-west direction and ventilation system must be well accompanied. The regular distance from one house to another house will be 11-12meters (35-40feets). The house should be cleaned well before bringing the chicks to the farm. Always keep a moderate number of chicks; it will keep the chicken healthy. According to Akinbobola, (2015), it is ideal to fence a broiler farm or unit to reduce human traffic which will reduce incidence of disease outbreak and bird theft. These birds are most commonly raised on deep litter in conventional poultry houses and sometimes in backyard poultry houses They can be raised in metal or wooden cages too. The length of the house for rearing can be a manageable dimension but the width should be maximum of 11meters for sufficient natural ventilation, An average floor space of 0.1m2 is good Reducing the floor spare thereby increasing the population per unit space result to overcrowding, increased mortality, cannibalism reduced feed efficiency, uneven growth and increase breast blister incidence. The more the floor space provided per bird, the more the floor space provided per bird, the more the average mature body weight.

According to prince, (2013), there are two main housing systems; the extensive and the intensive system, plus the semi-intensive. Unlike the extensive system which permits the fullest exposure to pasture and sunlight, the intensive system practically excludes or minimizes this exposure. Obasi, (2012) states that there are four systems of housing generally found to follow among the poultry keepers. The type of housing adopted depends to a large extent on the amount of ground and the capital available. They include; free range or extensive system, semi- intensive system, folding unit system and intensive system. Broilers used in intensive systems are of strains that have been bred to be very fast growing in order to gain weight quickly (with typical weight gain of over 50g/day). Most broiler production has tended to rear their birds not only in free range but under leaky roofs thereby exposing the birds to the vagaries of weather. (Ekeh,2013). Keeping broiler production indoors without any access to outside areas can help with pest control. Globally over 70% of broiler chickens are raised in quite similar indoor intensive (Industrial) farming system and only a small proportion are reared in less intensive. (Steinfeld *et al.,* 2016). Broilers stay at the rearing farm until they reach slaughter age. Over stocking of birds especially broiler may predispose to cannibalism, suffocation and even disease outbreak. (Kekeocha, 2006).

Under the intensive system, it is poultry in confinement. This system prevents access to pastures (unless it is brought to the birds) and sunshine except that allowed in through the design of the birds house for vitamin B. Because of the confinement of the bird, the need for highly balanced diets is imperative, if optimal performance of the birds is expected. (Prince, 2013).

**Cage System**

The cage system of rearing birds has been considered as a super intensive system providing floor area of 450-525sq.cm (0.6-0.75sq feet) per bird. In cage, the birds are kept in one, two or three per cage, arranged in single or double or triple rows. (Paul,2009). In this housing system, a metal cage is place inside a building like a protective from adverse weather. Individual cages are divided into compartment unit containing a bird or two in a cage. It contains a laying nest, sloping floor, feed and water troughs, it permits ventilation and free movement of air from all sides. Poultry droppings fall in a pit been automated and are clean off by mechanical scrapper. (Tolulope,2014). According to Amithbabu, (2011), in this system, the birds are grown in cages made of Iron mesh. For growing about 25fowls a cage measuring 36 by 48 Is used. Lesser dimension cages are used for growing small flocks. The cages are arranged in 2 or 3 tiers in poultry houses. Feeding, watering and other facilities are given to the chicken introduced in these cages. The Expert System for Poultry, (2010) states that the floor space requirement for poultry broilers includes;

**Age Floor Space/bird**

Up to 18days 450cm (0.5sq.ft)

19 to 42days 1000cm (1.1sq.ft)

According to Obasi,(2012) in the cage system, the usual floor space 14 by 16 inches and the height is 17inches, the floor is of standard strong galvanized wire set at a slope from back to the front, so that the eggs as they are laid roll out of the cage to a receiving gutter, underneath is a tray for droppings. The whole structure should be of metal so that no parasites will be introduced and through disinfection can be carried out as often as required. With the cage system, sick and unproductive birds can be easily identified and eliminated, minimum floor space is needed, better feed efficiency, vices like egg eating, pecking is minimal, and less feed wastage and artificial insemination (A.I) can be adopted. (E.S.P, 2010).

**Deep Litter System**

In this system, the poultry birds are kept in large pens up to 250birds each, on floor covered with litters like straw saw dust or leaves up to depth of 8-12inches. In other words, we can define deep litter as the accumulation of the material used for litter with poultry manure until it reaches a depth of 8 to 12 inches. (Obasi, 2012). The deep litter system is based on the repeated spreading of straw or saw dust material. The initial layer of the litter is spread for the chickens to use for bedding material and to defecate in, and as the litter is soiled, new layers of litter are continuously added by the farmer. In this fashion, deep litter tedding can build up to depth of 1-2meters. (Groenestein *et al.,* 1996). The deep litter system consists of a fixed building having suitable litter spread on the floor not only to absorb moisture from the drinker but also to protect the new chick from being chilled from cold floors. (Prince,2013).

Ngigi, (2014) states that vitamin B2 and B12 are made available to birds from the litter material as a result of the bacterial action. The deep litter is used for manure on disposal. Paul, (2009) also states that the deep litter system is economical; it increases the efficiency of production, build up litter supplies vitamin B12 and riboflavin to the birds, hygienic, comfortable and safe to birds.

**Slatted Floor System**

Wire or wooden slatted floors are used instead of deep litter, which allows stocking rates to be increased. Birds have reduced contact with faeces and are allowed some freedom of movement. (Maurice,2011). Under this system, wire mesh instead of litter is used to cover the floor. The cost of the wire mesh is higher than that of the litter, but the problem of litter management is avoided. Droppings fall under the wire mesh, reducing disease incidences. This system is however, not popular either because of the cost of the wire or because of egg breakages or breast blisters of bird which are associated with this system. (Prince, 2013).

The house can be built on treated wooden piers 0.8 to Im above the ground. Ventilation and manure removal are both facilitated and bird density can be 6 to 8per m'. A thatch roof or corrugated iron roof may be used with the roof space about 1.5m above the floor. Some insulation under the roof is required. (Kahi, 2014).

**Feed and Water**

According to Roys, (2011), proper and high-quality feed is the main thing to ensure success in broiler poultry farming. Broiler poultry consume feed and convert them to meat. So, to be successful, the farmer should be conscious in feed management. Broiler poultry needs high ratio of protein in their feed to grow well and they should also be provided with proper vitamins like A, B2, D3, B12 and K to meet their needs. Along with feed, fresh and clean water is very important, the water should be made available all the time to their cages. Broilers can feed on the same diet from day old to market age, if the diet is adequate in protein and energy. According to Akinbobola, (2015), nutritional requirement of broilers however varies with age, hence two different diets are commonly given to broilers:

**Broiler Starter Diet:** This diet usually contains 23-24% protein and 3190kcal/kg energy. This is fed for the first 3-4weeks. Thereafter, the broiler chicks have commensurate additional growth response.

**Broiler Finisher Diet:** This diet usually contains 20-21% protein and 3300kcal/kg energy. This is fed after 3-4 weeks until the birds reach market weight between 8-10weeks. According to Ahmad, (2012), feeding management is the simplest method to ensure adequate nutrient intake in hot climate and it is effective to combat acute heat stress. In the summer season, it is beneficial to feed birds during the cool hours of the day or night. At intervals, fresh addition of feed will stimulate interest in feeding and may help to increase feed intake.

According to William *et al.,* (2004), adequate water supply is an essential component for optimum broiler performance since a chick's body contains approximately 80percent water at hatching. Poor water quality can adversely affect bird performance. Water is not totally pure and it contains substances that influence its quality, these substances include; bacteria, nitrogen and minerals. The goal is to provide birds with drinking water that has bacterial content approaching zero. However, it is often difficult to maintain this level. Total bacteria and coliform bacteria concentrations, however should not exceed 100 and 50 colony-farming units/100mil of water respectively. According to Akinbobola, (2015) states that water is very important to broiler chickens, when deprived of water, they die. A simple way of estimating the volume of water required by broilers is to multiply the age of broilers in weeks by 2. The answer gives the estimated liter of water needed by 100broilers daily that week. For instance, at 7weeks of age, 100broilers will drink 7x2=14 liters of water daily. Water consumption increases during the hot weather.

William et al., (2004) state that mechanical feeders are a necessity when property installed and maintained these feeders save labor and feed. If a controlled feeding program is used, pay special attention to bird density, feeder space, nutrient density and environmental conditions. The amount of time the birds are allowed to eat should increase with age.

**Reasons Why Broiler Fails to Reach Desired Market Weight at Eight Weeks.**

**Stocking Rate:** In a situation of over population, the birds will not grow well, over population will lead to competition for food and consequently reduce the growth performance.

**Feeding:** The quantity and quality of feed given could have effect on market weight, imbalance in nutrient such as energy, protein; minerals could lead to reduced market weight. (Ihechere,2010).

**Disease:** The presence of disease in the poultry flock is reflected in inferior performance and it is a must that the birds are in good health, if their performance is to approach their potential. (Nguyen, 2006)

**Quality of The Chicks:** No amount of care can convert a potentially poor chick into a good one. The chick should therefore be of sound constitution and from disease free parent for its to reach market weight. Prince, 2013).

**Management Practice:** Poor management practices such as poor sanitation, weedy environment, wet litter, failure to follow manufactures instruction and poor handling of birds could lead to poor performance of birds. (Thechere,2010).

**Credit Facilities**

The success or failure of any poultry production especially broiler depends largely to availability and source of regular credits facilities. (Obasi, 2010). Feeding, housing, medication and payment of attendants in broiler poultry production attract huge capital investment. (Kekeucha, 2006). Apart from site selection, other aspects of poultry production attract huge capital investment. Arrangement therefore should be made to secure enough capital either through personal savings, loans from bank or government subsidies to see for the day running of the poultry business. (Michael *et al.,*2004).

**Waste Management**

Every brooder will be faced with removing old litter from broiler house and the responsibility to properly dispose of broiler litter and bird mortality is placed on the contract grower. The amount of manure produced annually for each broiler house can be substantial. For example, a 4-broiler house farm, marketing 4-pound broilers could generate approximately 340tons of manure/year. (William *et al.,* 2004). The method of disposal of poultry wastes plays major role in controlling and eradication of diseases. Improper approach and carelessness of this important aspect of production process in poultry, can lead to constant emergence of disease ailments on poultry farms. This results in the heavy losses in the forms of mortality and reduced productive performance. Therefore, timely disposal of wastes with efficient method is an important poultry waste management tool for raising healthy and profitable poultry (Farhan,2012). According to William *et al.,* (2004), bird disposal methods include; burial pits, incineration and composting. Burial pit is the preferred choice because it is the most economical. There are advantages for some of other methods. Incineration is probably the safest biological method and composting results in a usable end-product for fertilizer.

Michael *et al.,* (2004) states that the clean-out time of the bird house may occur during the winter, when litter is not needed for crop growth. As a result, the poultry grower should have an adequate storage facility for the litter until the spring and summer months. Several litter storing methods are available but the method of choice depends upon length of storage and quantity of litter produced. The primary goals of storing broiler litter are to prevent nutrient run off and leaching and to minimize insects and odour problems. Growers must implement a disposal method that is environmentally friendly.

**Environmental Factors Affecting Broiler Production**

There are environmental factors that must be put into consideration for good performance of broiler during rearing. If the nutrient requirements are met and other mentioned environmental factors are not met, poor performance in terms of feed conversion will be encountered.

**Temperature:** This is the degree of coldness and hotness. Heat is required at the early stage of production (day old to 3weeks of age) the heat requirement decreases as the birds advance in age. (Ihechere, 2010).

**Relative Humidity:** The importance of relative humidity in this regard is through its interaction with temperature, when humidity is too low, the Chicks may get dehydrated, and if too high, the growth of pathogens may be stimulated. Optimum relative humidity is 50-70%.

**Ventilation:** This is necessary in order to meet the respiratory needs of the chick, to supply O, to remove CO, NH, moisture and heat (Prince, 2013).

**Lightening:** light should be provided 24hours a day for broiler (whether natural or artificial), prolonged darkness may injure the eyes of the chicks, Light will increase the feeding time, increase weight gain and improve feathering in broiler. The light should not be too bright and should be gradually reduced as the birds grow older. (Farhan,2012).

**Vaccination**

It has been observed that broilers reach slaughter weight in several weeks, these leaves little time to develop a mature immune system. Therefore, broiler chicks are vaccinated against several different diseases. Some infectious pathogens (such as salmonella) can also be transmitted via the egg (vertical transmission) from the breeder hen to the chick. (Brytenbach, 2005). The term vaccination covers a number of techniques performed with the aim of protecting the birds by activating its specific immune defense system against viral and bacterial infections or parasitic infestations. The vaccine itself activates the bird’s immune system to induce protection. Vaccines are delivered via drinking water. Spray vaccination is a preferred and most administration technique for respiratory type vaccines. (Obasi, 2012).

According to Roys, (2011), here is the detailed vaccination schedule for broilers, sorted by days, vaccination name and applying method.

6-7days....Ranikhet disease (FlorB1)…..Eye drop or nasal drop.

10-12days….Gumboro (intermediate)….Drinking water.

18-21days….Lasota vaccine (intermediate)…Drinking water.

24-30days. Gumboro disease (intermediate)…Drinking water.

**Record Keeping**

Keep adequate records of feed consumed and delivered, mortality, vaccination dates and medications given. The flock supervisor needs this information. It will also be useful to you; complete records are necessary. Broiler production is as much a business as the service station on the corner or the down town merchant, therefore records are necessary for computing taxes, for checking flock performance, for determining profit and loss, for determining returns on investment and for locating excessive cost. ( William et al.,2004). Record keeping helps keep track of your expenses, it can aid in monitoring the progress of your flock. Records are important to the financial health of a business or operation. Record keeping involves; keeping, filing, maintaining and categorizing inventory, financial and production information for your flock. This can be accompanied by hand recording or by using computer software. (Duvick, 2001).

According to Gerloff *et al.,* (1995), record keeping can be as simple or as elaborate as you want. All farm records should provide accurate and necessary information, fit into the farm organization and be available in a form that aids in decision making. Managing an operation requires an individual (usually the manager) to possess skills to allocate scarce resources while conducting business towards the farm. Skills necessary for management include; reducing costs of production, having knowledge of the industry and willingness to adapt to change. Examples of scarce resources (but not limited to) feed, water, fuel, building materials and money.

**CHAPTER THREE**

**MATERIALS AND METHODS**

**Research Design**

The design adopted for this work was a survey design. The investigation focuses on the problems which broiler producers face. It tries to identify the factors militating against broiler production. The results of the findings were analyzed and recommendations were made.

**Area of the Study**

The study was conducted in Orlu Njaba L.G.A of Imo state. Orlu Njaba is one of the 27 local government areas of Imo State comprising of 29 Autonomous communities. Orlu Njaba has an area of 184km and a population of 195,652 (2006 census).

**Population**

The population of the study comprised of 200 registered broiler producers (A D P) in Orlu Njaba local government area which is made up of 29 autonomous communities.

**Sample and Sampling Technique**

Simple random technique was adopted to select the sample size for the study. Ten communities were selected out of the 29 autonomous communities and 8 respondents were selected out of the ten communities to give a sample size of 80.

**Method of Data Collection**

The researcher used 2 methods of data collection namely; primary and secondary data collection. The primary method of data collection was obtained using structured questionnaire while the secondary data were collected or obtained from text books, journals, internets, magazines, websites, and periodicals.

The questionnaire was divided into sections;

SECTION A: was mainly on the socio-economic characteristics of the broiler producers.

SECTION B: Factors militating against broiler production.

SECTION C: Management system broiler producers adopt.

SECTION D: The strategies for improving broiler production.

**Method of Data Analysis**

The data were analyzed by using percentage and statistical mean. The questionnaire items were presented in such a way that it will tally with the research questions. The modified Likert test for four point rating scale of strongly agreed, agreed, disagreed, and strongly disagreed were used for responses to any chosen item by a respondent. They were assigned with scores ranging from 4 to 1 respectively. These assigned Scores were in a reverse order starting with strongly agreed as stated below;

Strongly Agreed (SA) 4

Agreed (A) 3

Disagreed (D) 2

Strongly Disagreed (SD) 1

Formula

Where X = mean

fx = total number of scores.

N = total number of respondents.

The number of people that accept each option above was used to multiply the value of that particular option. The numbers were later summed up to get the total value which was divided by the total number of respondents to item, to yield the mean responses to the particular question analysis. The average mean score rating 2.5 and above was Accepted (A) while average mean score rating below 2.5 was Rejected (R).

Mean responses = = = 2.5

**Validation of Instrument**

The instrument for validation was analyzed by my supervisor and other two experts in the department of agricultural science Alvan Ikoku Federal College of Education to testify the authenticity of the work.

**CHAPTER FOUR**

**DATA PRESENTATION**

**Research Question 1**

Socio-economic characteristics of broiler producers

**Table 1: Distribution of respondents by sex**

Sex frequency percentage

Male 48 60

Female 32 40

Total 80 100

Source: field survey data, 2016.

Table 1 show the distribution of respondents by sex and it indicates that 60% of the respondents consist of male while 40% were females. This implies that males engage more in broiler production. This offers an opportunity for the farmers to participate in broiler production because males face the challenges of taking care of their families and have more resources and are more independent than females in less developed nation like Nigeria.

**Table 2: Distribution of respondents by age**

Age frequency percentage

18-23 7 8.75

24-29 9 11.25

30-35 17 21.25

36-41 14 17.5

42-47 18 22.5

48-53 8 10

54 & above 7 8.75

Total 80 100

Total Source: field survey data, 2016

Table 2 shows the distribution of respondents by age. The distribution of the respondents by age in the study area fell within 42-47 years which constitutes 22.5%. This age range is usually more active and can be an asset to farmers participation in broiler production. Onyebinama, (2009) states that the age of the broiler producers is likely to influence their attitude, mortifications and behavioral pattern which in turn influences santity to risk investment behavior.

**Table 3: Distribution of respondents by marital status**

Marital status Frequency Percentage

Single 30 37.5

Married 40 50

Divorced 4 5

Widowed 6 7.5

Total 80 100

Total Source: field survey data,2016

Table 3 shows the distribution of respondents by marital status. Greater percentage (50%) of the respondents was married while 37.5% of the respondents were single. This can be attributed to the fact that most married men could stand the chance of obtaining loan/credit from financial institutions. Furthermore, they could have advantage of help in their farming activities from their children who supply labor thereby increasing productivity.

**Table 4: Distribution of respondents by household size**

House Hold Size Frequency Percentage

0-3 19 23.75

4-6 21 26.25

7-10 37 46.25

10 & above 3 3.75

Total 80 100

Source: field survey data, 2016.

Table 4 shows the distribution of respondents by house hold size. The analysis of the results indicates that 46.25% of the people that are into broiler production had 7-10 persons per household size while 26.25% of broiler producers had a household size of 4-6 persons. The composition of the house hold plays a crucial role in agricultural production. In Nigeria, the larger the household size, the better for the family in view of availability of labor needed in agricultural production (Bishop-sambrook, 2005).

**Table 5: Distribution of respondents by level of education**

Level Of Education frequency percentage

Non-formal 6 7.5

Primary 12 15

Secondary 20 25

Tertiary 42 52.5

Total 80 100

Source: field survey data,2016.

Table 5 shows the percentage and distribution of respondents by level of education. Greater percentage (52.5%) of the respondents had tertiary education while 25% had at most secondary school education. This indicates that majority of the respondents are post secondary graduates and secondary school leavers who do not have any farm skills. Anthony (2007) stated that education does not only create a favorable mental atmosphere for the acceptance of new ideas but positively changes the overall attitude of the individual towards change. The author further added that education has been known to be a powerful instrument that helps to shape life and make the essence of living meaningful even at adult stage.

**Table 6: Distribution of respondents according to their farming experience.**

Farming Experience Frequency Percentage

1-5 30 37.5

6-10 33 41.5

11-15 13 16.5

16-20 3 3.75

21 & above 1 1.25

Total 80 100

Source: field survey data, 2016.

Table 6 shows the distribution of respondents according to their farming experience. Majority (41.25%) had farming experience that ranged between 6-10 years while 37.5% of the farmers have less than five years of farming experience. Only 1.25% had 20years of experience. This can be attributed to increase in number of new entrances into the enterprise which in turn made them to embark on small scale production since they had little experience to handle large scale production. However, with more years of production, the producers may learn from experience better broiler production techniques. This agrees with Fetuga, (1992) who stated that the knowledge on management which is a key to profitable poultry production, is gained through years of experience of the poultry farmer.

**Table 7: Distribution of respondents according to their primary occupation.**

Primary Occupation frequency percentage

Poultry farming 12 15

Teaching 18 22.5

Trading 16 20

Civil servant 20 25

Banking - -

Crop farming 14 17.5

Total 80 100

Total Source: field survey data, 2016.

Table 7 shows the percentage and distribution of respondents according to their primary occupation. The analysis of the study reveals that 25% of the respondents were civil servant while 22.5% were teachers. The result implies that broiler production in the study area is a secondary occupation to support the meager income of the producers who are mainly civil servants. Consequently, the producers may not pay adequate attention to more careful and sensitive management practices involved in broiler production because of their job demand. While that of teaching can be related to the educational level in table 5 where the greater percentage have formal education and also the teaching profession gives them the chance to attend to the welfare of the birds.

**Table 8: Access to credits to respondents**

Access To Credit Frequency Percentage

Yes 20 25

No 60 75

Total 80 100

Total Source: field survey data, 2016.

Analysis of result in table 8 shows that 75% of the respondents do not have access to credit while 25% have access to credits. This was in line with reports of Agbato,(2000) that credit facilities or loans from financial institutions are not accessible to the poultry farmers in the rural areas.

**Table 9: Distribution of respondents according to their start up capital**

Start up capital frequency Percentage

N 50,000-100,000 45 56.25

N101,000-150,000 20 25

N 151,000-200,000 10 12.5

N 200,000 & above 5 6.25

Total 80 100

Source: field survey data, 2016

Table 9 shows that 56.25% of the respondents used up to S0-100 thousand naira as their startup capital, followed by 25% that used above 100 thousand naira as their startup capital. This implies that the higher the input, the higher the output and vice versa.

**Table 10: Distribution of respondents according to their stocking rate**

Stocking Rate Frequency Percentage

Greater than 100 40 50

Greater than 200 25 31.25

Greater than 500 15 18.75

Total 80 100

Source: field survey data, 2016

Table 10 shows the percentage and distribution of stocking rate by respondents. It shows that 50% of the respondents have a stocking rate of less than 100 birds while 31.25% had a stocking rate greater than 100 and 18.75% had a stocking rate greater than 200. This means that broiler producers in the study area was classified as small or medium scale business. This may be attributed to the fact that this enterprise is at it infancy in the study area and so most producers are cautions of the high risk associated with the business or perhaps because they took the business as secondary. According to Akanni, (2007) most small-scale poultry farmers have limited finance to raise larger number of flocks.

**RESEARCH QUESTION 2**

**Table 11:** factors militating against broiler production

**S/N QUESTIONAIRE ITEM SA A D SD ∑FX X REMARK**

**1. Poor housing system 4 3 2 1**

a. the broiler house should be situation 36 42 2 -

east west direction to control the (144) (126) (4) - 274 3.4 Accepted

intensity of sunlight.

b. ventilation of needed to meet the 56 24 - -

respiratory needs of the chicks, to (224) (72) - - 296 3.7 Accepted

supply O2, to remove CO2, NH3,

moisture and heat.

c. the distance of the broiler house from 26 49 3 -

one house to another should be 11-12 (104) (147) (6) - 275 3.2 Accepted

meters (35-40 feet).

d. the broiler farm should be fenced to 59 21 - -

restrict access to the public in order (236) (63) - - 299 3.7 Accepted

to reduce incidence of disease

outbreak

and theft.

e. the floor space provided per bird (up 38 36 4 2

to 18days) should be 450cm2 (152) (108) (8) (2) 270 3.4 Accepted

(0.5sq.ft).

f. the floor space provided per bird (19 29 46 1 1

to 42 days) should be 1000cm2 (116) (138) (2) (1) 257 3.2 Accepted

(1.1sq.ft)

**2. Management of day old chicks**

a. a day old chick should be from a 65 15 1 -

disease free source. (256) (45) (2) - 303 3.8 Accepted

b. a day old chick should weigh 36-40 29 43 6 -

grams. (116) (129) (12) - 257 3.2 Accepted

c. the farmer should select the breed 54 24 2 -

based on performance record. (216) (72) (4) - 292 3.7 Accepted

d. the source should be reliable 58 21 1 -

(232) (63) (3) - 298 3.7 Accepted

e. heat is required at the early stage 62 21 1 -

of the rearing and decreases as the (248) (48) (4) - 300 3.8 Accepted

birds advance in age

f. when the humidity is too high, the 44 35 1 -

growth of pathogens may be (176) (105) (4) - 283 3.5 Accepted

stimulated

**3. health management of broilers.**

a. monitoring the performance of 67 11 1 -

the birds in order to detect the (268) (33) (4) - 305 3.8 Accepted

sick ones and possibly cull the

infected ones

b. vaccinating the birds 66 13 1 -

appropriately at the right time (264) (39) (2) - 305 3.8 Accepted

c. consulting a veterinary doctor 33 47 - -

in case of any symptoms of (132) (141) - - 273 3.4 Accepted

diseases is detected

d. the broiler house should be 56 21 2 -

cleaned out after every brood (224) (63) (4) - 291 3.6 Accepted

and disinfected

**4. quality of feeds given to the birds**

a. the birds should be given good 65 15 - -

quality feeds to satisfy their (260) (45) - - 305 3.8 Accepted

nutritional requirement

b. the feeds should contain the 58 22 - -

correct or right proportion of amino (232) (66) - - 298 3.7 Accepted

acids, vitamins and mineral

c. the feeds should not contain 34 29 12 -

anti-nutritional factors (136) (87) (24) - 247 3.1 Accepted

**5. inadequate funding.**

a. lack of access to credit facilities. 33 37 9 -

(132) (111) (18) - 261 3.3 Accepted

b. inadequate means of funding. 24 45 9 -

(96) (135) (18) (1) 250 3.1 Accepted

c. high cost of feed and medicament 49 27 2 1

for the birds (196) (81) (4) (1) 282 3.5 Accepted

Source: field survey data, 2016

Table 11 shows the factors militating against broiler production in the study area. The analysis of the result reveals that questionnaire item 1 a b c d e and f has a mean value of 3.4,3.7, 3.2, 3.7, 34 and 3.2 respectively. This shows that the respondents agreed that poor housing system is one of the factors militating against broiler production Mhlupheki, (2014) states that a good housing system is very important in poultry farming. Most small holder farmers use makeshift housing which has poor ventilation and poor security. Poor housing units can result in high mortalities especially in subsequent batches as they tend to have cracks and crevices that harbor pathogens.

In questionnaire item 2 a b c de and f, the following are the calculated mean value of 3.8, 3.2, 3.7,3.7, 3.8 and 3.5 respectively. This indicates that the respondent agreed that poor management of day-old chicks is one of the factors militating against broiler production. Management in the first four weeks of the chicks' life is by far the most valuable skill a poultry farmer must acquire because the birds are totally dependent upon the farmer to meet their needs. (Sophie,2015).

Questionnaire item 3 a b c and d shows a mean score of 3.8, 3.8, 3.4, and 3.6 respectively. This reveals that the respondents agreed that poor health management of broilers affect broiler production in the study area.

Questionnaire item 4 a b and c indicates a mean score of 3,8, 3.7, and 3.1 respectively. This means that the respondents agreed that poor quality feed affects broiler production. Poor quality feed lead to a slow growth in chickens, low egg production and poor immunity. In addition, farmers need to add feed additives (micro and macro nutrients, minerals, vitamins and amino-acids) to make sure their birds have a balanced diet that meet their daily nutrient requirement. (Akai,2015).

Questionnaire item 5 a b c has a mean score of 3.3, 3.1 and 3.5 respectively. This reveals that the respondents agreed that inadequate funding can militate against broiler production. The success or failure of any poultry production especially broiler depends largely to availability and source of regular credit facilities (obasi,2010). This was in line with report of Michael et al, (2004) that apart from site selection, other aspects of poultry production attract huge capital investment. Arrangement therefore should be made to secure enough capital either through personal savings, loans from banks or government subsidies to see for the day to day running of the poultry business.

**RESEARCH QUESTION 3**

**Table 12:** Management system broiler producers adopt

**S/N QUESTIONAIRE ITEM SA A D SD ∑FX X REMARK**

1. **3 2 1**

1. Broiler producers adopt only 31 18 20 11

intensive farming system. (124) (54) (40) (11) 229 2.8 Accepted

2. Broiler producers adopts only 9 25 32 14

the semi-intensive farming (36) (75) (64) (14) 189 2.4 Rejected

system.

3. Broiler producers adopt the 10 22 40 8

extensive and semi-intensive (40) (66) (80) (8) 194 2.4 Rejected

farming system.

4. The farmers adopt both the 19 53 6 1

intensive and semi-intensive (76) (159) (12) (1) 248 3.1 Accepted

farming system.

5. The farmers adopt none of the 11 6 17 44

system (44) (18) (34) (44) 140 1.75 Accepted

Source: field survey data, 2016

Table 12 shows the management systems broiler producers adopt in the study area. The analysis shows that a total number of 49 respondents agreed that broiler producers adopt only intensive farming system while 31 respondents disagreed in questionnaire item 1 which has a mean score rating of 2.8. In intensive management system, producers aim at using recommended practices such as breed of choice, appropriate housing, feeding, health and disease control (Katalyi, 1998).

Questionnaire item 2 has a total number of 34 respondents that agreed that broiler producers adopt only semi-intensive system while 46 respondents disagreed which has a mean score of 2.4. The findings was in agreement with the reports of Oluyemi & Roberts,(2000) who explained that broiler chickens managed under the semi-intensive system may result to exposing the birds to a variety of materials including coarse sand, pebbles, whole grains and other fed materials with varying particle sizes as they scavenge during the day time which may cause the gizzard to be thicker and of a larger weight resulting to increased mascularization of the walls due to series of abrasive actions that could lead to the formation of numerous layers thus making their walls thicker and heavier.

In questionnaire item 3, a total number of 32 respondents agreed that broiler producers adopt the extensive and semi-intensive system while a total number of 48 respondents disagreed which also has a mean Score of 2.4.

Questionnaire item 4, has a total number of 72 respondents that agreed that farmers adopt the intensive and semi-intensive system while 7 respondents disagreed, which has mean score of 3.1. Ekeh, (2013) states that keeping broiler production indoors without any access to outside areas can help against parasites control. Globally over 70% of 4 broiler chickens are reared in queit similar indoor intensive (industrial) farming system and only a small proportion are reared in less intensive.

Questionnaire item 5 has a total number of 17 respondents that agreed that the broiler producers adopt none of the system while 61 respondents disagreed, which has a mean score of 1.75.

RESEARCH QUESTION 4

Table 13: Strategies for improving broiler production

Source: field survey data, 2016

Table 13 shows the strategies for improving broiler production in the study area. The analysis of the table shows that questionnaire item 1 a b and c has a mean value of 3.8, 3.6, and 3.6 respectively, which means that the respondents agreed that appropriate stocking rate of birds is one of the strategies for Improving broiler production. Tomhave & Seeger,(1999) concluded that stocking rate or birds density affect growth rate of broilers.

In questionnaire item 2 a and b, a mean score of 3.6 and 3.8 was calculated. This indicates that the respondents agreed that sinking of bore hole to ensure adequate supply of water facilitates broiler production. Water consumption in broiler production is an effective management tool to monitor flock progress as it is directly correlated to food intake. (Lott, 2003).

Questionnaire item 3 a b c and d has a mean value of 3.7,3.6, 3.6, and 3.5 respectively. This reveals that the respondents agreed that medication/vaccination should be carried out at the appropriate time. Vaccine is a protective measure against outbreak of contagious and infectious diseases and plays a major role in preserving productive health of poultry ( Madeha,2012).

Questionnaire item 4 a b c d e f and g has a mean score of 3.9,3.6, 3.3, 3.4, 3.3, 3.6 and 3.5 respectively. This shows that the respondent agreed that bio-security measures are indispensable in the effective management of broiler production in the study area. Poor management practices such as poor sanitation, weedy environment, wet litter, failure to follow manufacturers instruction and poor handling of birds could lead to poor performance of birds (Ihechere, 2010).

In questionnaire item 5 ab and c, a mean value of 3,7, 3.7 and 3.6 was calculated respectively. This indicates that the respondents agreed that maintaining a good farm record is a strategy for improving broiler production in Orlu Njaba L.G.A. Records are kept to provide information from which the poultry business may be analyzed so that the farmer may develop effective plans for the more enterprise (Ensminger, 1992). The findings were in agreement with the report of Duvick, (2000) who explained that record keeping helps to track expenses, helps in monitoring the progress of the birds. Records are important to the financial health of a business or operation.

**CHAPTER FIVE**

**SUMMARY, CONCLUSION, RECOMMENDATIONS, AND SUGGESTIONS FOR FURTHER FINDINGS**

**Summary**

The broad objective of the study was to analyze the factors Orlu Njaba L.G.A, Imo state. The militating against broiler production in specific objective include examining the socio-economic characteristics of broiler producers in the area, to identify the factors militating against broiler production, to find out the management systems broiler producers adopt and to identify the strategies for improving broiler production.

Simple random technique was used in selecting the sample size. A total number of 80 broiler producers were interviewed using well-structured questionnaire. The data collected were analyzed using descriptive distribution table, percentage and mean.

The analysis shows that majority of the broiler producers are male with 60% higher than females. Also, the highest level of education attained by the producers in the area was tertiary institutions. In the same vein, majority of the people that are engaged in broiler production was 42-47 years of age which has 22,5%. The result revealed that 50% of the broiler producers were married and that their household size ranges from 7-10 persons. The findings show that 41.25% of the respondent had a farming experience of 6-10 years accompanied by 37.5% that had farming experience of 1-5 years. Greater percentage of the broiler producers (25%) were civil servants and the majority of them have no access to credits. 56.25% of the respondents had a startup capital ranging from N50,000-100,000 while 50% had a stocking rate of less than 100 birds.

The factors militating against broiler production recorded; poor housing system, poor management of day-old chicks, poor health management of broilers, poor quality feeds, inadequate funding, among others. The findings recorded that broiler producers adopt the intensive and semi-intensive farming system. The strategies for improving broiler production include; appropriate stocking rate, adequate supply of fresh and clean water, bio security measures, maintaining good farm record, and medication/vaccination.

**Conclusion**

Based on the result of the study, factors militating against broiler production include; age, sex, marital status, primary occupation, household size, farming experience, level of education, startup capital, access to credit and stocking rate. Also, some of the factors observed militating against broiler production in the study area include; poor housing system, poor management of broilers, poor quality feed and inadequate funding. Equally among the management practices adopted by broiler producers in the study area include intensive farming system as well as semi- intensive farming system. It was therefore observed that among the strategies for improving broiler production include regulation of stocking rate, sinking of bore hole to ensure steady clean water supply and vaccination. In no small measure, adoption of bio-security measures as well as maintaining good farm records will go a long way in improving broiler production in Orlu Njaba L.G.A.

**Recommendations**

Based on the findings of the study the following recommendations were made by the researcher:

The government policy in agriculture should include easy access to credit for poultry farmers which will enable the farmers to obtain credits and loans with affordable interest rate. There is also the need to motivate and source for agricultural extension agents to regularly visit and educate farmers on modern poultry production practices to reduce mortality of birds and prevent disease outbreaks.

The study recommends that poultry farmers should endeavour to form co-operatives to enable them to access loans from the various financial institutions at the district and regional levels.

The local government should ensure that vertinary clinics that are well equipped with personnel and drugs are made available at strategic locations in Orlu Njaba L.G.A.

Farmers should in addition compound their own feed as this will help to reduce the cost of feeds which accounts for over 70% of the total cost in raising broiler from day old to point of sale.

**SUGGESTIONS FOR FURTHER STUDIES**

I. Impact of vaccination and vertinary services on broiler production.

II. Investigation into sources of capital for broiler production.

III. Causes of high mortality in broiler production.