

**EFFECT OF POST ECONOMIC RECESSION ON PROFITABILITY OF SMALL
SCALE POULTRY EGG FARMING IN EKITI STATE, NIGERIA**

BY

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A PROJECT

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TO

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FACULTY OF AGRICULTURE
FEDERAL UNIVERSITY, OYE EKITI**

2019

DECLARATION

I, ORONTI OLAYINKA OMOLAYO, hereby declare that this project work is entirely my own work and has not been submitted to any other university or higher education institution, or for any other academic award in this university.



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Date

CERTIFICATION

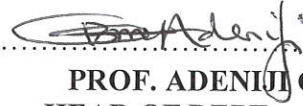
This is to certify that this project was carried out by **Olayinka Omolayo ORONTI** of the department of Agricultural Economics and Extension of Federal University Oye-Ekiti, Ekiti State, Nigeria.



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DEDICATION.

This project is dedicated to:

1. The one and only true God, the master of the universe, the God of all flesh, the Father of all spirits.
2. My mother, my precious jewel, my father, my siblings and loyal friends.

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ABSTRACT

Developing countries all over the world, Nigeria inclusive has suffered low profitability or losses in poultry egg farming during economic recession. Therefore this study examined the effects of post economic recession on profitability of small scale poultry egg farming in Ekiti State, Nigeria. This study adopted a Three-stage sampling procedure to select eighty poultry egg farmers in Ekiti State. Primary data for the study was collected through the use of well structured questionnaire. Data were analyzed using descriptive statistics, Gross margin analysis, benefit cost ratio, multiple regression analysis and 5 point likert scale. Findings from the study showed that majority (63.7%) of the respondent were male with a mean age of 44 years. Farmers with formal education were (98.8%). The married respondents were 58.8% with 41% having large household size of above 5 persons. Majority (68.8%) are medium size farmers with 200-500 birds. The study revealed the mean profit margin during economic recession as ₦418,067 and ₦1,576,953.00 for post recession. Also, the benefit cost ratio for business viability revealed 6.67 for during economic recession and 41.96 for post economic recession. The regression analysis indicated that years of experience in poultry egg farming, number of birds raised, price of egg and crates of egg produced positively affect profit per crate of egg during post economic recession. The coping strategies adopted by the farmers to maintain their profit after economic recession includes the use of disinfectant/bath, cleaning and disinfecting programmes, sales of poultry manures, manipulating some daily and routine practices and increasing price of egg and spent layers. The study offers useful policy recommendation which includes the need for the government to invest more in the agriculture production so as to help maintain and improve the small scale poultry egg production and hence improve the country's GDP.

Keywords: *Economic recession, Profitability, Small scale farmers, coping strategy, GDP*

CHAPTER ONE

INTRODUCTION

1.1 Background of study

Agriculture gives way to many opportunities such as employment, income, and also food for Nigerians. Agriculture is the most important sector towards the development of all nations (FAO, 1998). The growth in the GDP was mainly due to the growth recorded in agriculture, financial and insurance, electricity, gas, steam and air conditioning supply, and mining and quarrying sectors of the Nigerian economy. According to Oyejide (2008), agriculture is the sector accounting for the dominant share of GDP, employment, export earnings and food supply; it carries a great deal of the economic burden and contains much of potential of many African countries.

The discovery of crude oil in commercial quantities in Nigeria in 1958 and the subsequent oil boom of the 1970s culminated in the displacement of agriculture as the source of the nation's economy (NISER, 2015). According to Onyekwum, (2016), before the exploration of oil, Nigeria was doing well with its abundant mineral resources, cocoa, palm oil as well as iron ore, including other agricultural products, stressing the need for government to encourage the informal sector which includes manufacturers and entrepreneurs whom he said are key to any nation's economic growth. He noted that government has the obligation to ensure regular and steady power supply, provide soft loans for farmers and entrepreneurs and grant them tax waivers to increase productivity and generate employment for the youth.

The development of the poultry industry has also been described as the fastest means of bridging the protein deficiency gap prevailing in most of the developing countries. The poultry industry, if properly harness can also serve as a means of foreign earnings

complementing crude oil which at present constitutes the main source of foreign earnings in our country Nigeria . In poultry production small scale poultry production represents one of the little opportunities for saving, investment and security against risks. It accounts for approximately 90% of total poultry production (Branckaert 1999)..

The Nigerian poultry industry at the moment is faced with so much enormous problems among which includes lack of government funding, lack of credit facility, high cost of feedstuffs, diseases, increasing cost of vaccination and medication, marketing and lack of storage facility (Sahara reporter, 2009).. During economic recession, the prices of agricultural inputs such as fertilizers and crop protection products increases which made farmers experienced some problems accessing their products. Due to recession, poultry farmers grappled with skyrocketing cost of inputs, adulteration of raw materials, incessant egg glut, poor pricing of eggs, outbreak of poultry diseases as well as inconsistent government policies (Adeoye,2017). The importance of poultry to the national economy cannot be overemphasized, as it has become popular industry for the small holders that have great contribution to the economy of the country (Adebayo, 2005).

Most of the farmers involved in agriculture face so many obstacles; one of the major obstacles is economic recession. Economic recession is described as a period of time when a nation's Gross Domestic Product (GDP) declines for at least two consecutive quarter-to-quarter comparison (Mazurek, 2013). An economy is said to be in recession after contracting for two consecutive quarters. The Nigerian economy got into recession in early 2016 (Oladeinde, 2017). According to the Nigerian Bureau of Statistics (NBS), in the second quarter of 2017, the nation's GDP increased by 0.55% (year-on-year) in real terms, indicating the emergence of the economy from recession after five consecutive quarters of contraction (Oladeinde, 2017).

In Ekiti State, small scale poultry farming is very common because most of the farmers prefer starting with the little capital they have. It is either production in cages or they allow them to roam about freely (extensive). Small scale poultry farming can be said to be flock ranging from 50-100 birds, raised in either intensive or extensive farming system. The importance of the poultry sub-sector is mainly in the provision of meat and egg as well as the provision of employment either directly or indirectly also the contribution to the revenue (Gross Domestic Product) to the country (Adebayo and Adeola, 2005). Poultry keepers particularly in Ekiti State earn more income, spend less on food, and have better food security, more assets and a lower school drop-out rate than rural dwellers who do not keep poultry. Women and children are particularly involved in small-scale poultry production for paying school fees from their backyard poultry microenterprises (Abiola, 2007).

Economic recession factors that affects profitability of poultry farming includes: price of purchased pullets, cost of feed, cost of labour, cost of veterinary services and medicine, egg sale price, cost of building, machinery and equipment, government policies, repair and maintenance. In Nigeria, livestock sub-sector plays an important role in relative to GDP contribution, employment opportunities, foreign exchange, source of income (Oyejide, 2008). Therefore, this research work will focus on the appraisal of effects of post-economic recession on poultry egg farming.

1.2 Statement of problem

Recession as a phase of economic cycle occurs after two consecutive quarters of negative growth featuring low output and investment, abnormal increases in unemployment due to massive retrenchment, fall in the availability of credit facilities. The causes of economic recession in Nigeria as identified by Noko (2016) includes poor economic planning, high inflation rate, high interest rate, high taxation, policy conflict, mass unemployment, and

general loss of confidence on the government. The Nigerian economy slid into recession path in the first quarter of 2016 (Oladeinde, 2017). The negative part of the recession is that it led to the huge reduction of standard of living and the quality of life of the people and increase in poverty rate (shido-ikwu,2017).

Poultry egg farming has definitely gone through the phase of economic recession, which is expected to have had negative impact on their profit. Poultry farmers in Nigeria have decried that recession has foisted great challenges upon production and marketing of its products that tilt towards strangulating the poultry industry. According to Adeoye, (2017) the situation translated into increasing abysmal returns for poultry farmers. Due to the economic recession in Nigeria, the following problems were discovered to have arisen for poultry egg farmers, Poultry farmers grappled with skyrocketing cost of inputs, adulteration of raw materials, incessant egg glut, poor pricing of eggs, outbreak of poultry diseases, inconsistent government policies and high cost of feed. According to him, the telling effects of the situation was closure of farms, downsizing of production, high cost of products like maize and soybeans, hike in prices and scarcity of raw materials especially maize.

According to the Nigerian Bureau of Statistics (NBS), in the second quarter of 2017, the nation's GDP increased by 0.55% (year-on-year) in real terms, indicating the emergence of the economy from recession after five consecutive quarters of contraction (Oladeinde, 2017). Since Nigeria declared her eviction from recession GDP figures from NBS has present a ray of light at the end of what has been a very dark tunnel for the average Nigerian. Nigeria has been talking about diversifying the economy away from oil as a result of the price of oil plunging in the international market, investors have been making a return to Nigeria, due to the new flexible exchange rate policy of the Central Bank of Nigeria, the floor of the Nigeria Stock Exchange (NSE) is buzzing again, Nigeria crude oil production level have been stable for a while now, as a result of the relative peace experienced in the Niger delta region and

also the foreign exchange reserves are now in excess of thirty billion US dollar (US\$30B) (Oladeinde, 2017). In view of all this post recessional indicators as revealed by the Federal Government of Nigeria (FGN) and quoted by Oladeinde (2017), poultry egg farms still grappled with various economic challenges. Then the question keep rolling in the minds of most poultry egg farmers, is Nigeria really out of recession as revealed by these indicators? Therefore this study seek to assess the effect of the post recessional factors on the profit of the small scale poultry egg farmers since the small scale farmers are those at the grass root that were directly impacted by the recession.

In the view of this, the following highlighted problems are intended to be solved by this research questions.

- i. What are the socioeconomic characteristics of the small scale poultry egg farmers in Ekiti State?
- ii. Are the small scale poultry egg farmers making profit during and after economic recession?
- iii. What are the factors affecting profit after recession?
- iv. Was the economic recession a threat to the profits they make or not?
- v. What are the coping strategies of the small scale poultry egg farmers in the study area, if they are still affected by the recession?

1.3 Objective of the study

The general objective of this study is to assess the Effect of Post economic Recession on Profitability of small scale poultry egg farming in Ekiti State.

The specific objectives are to:

- i. Describe the socio-economic characteristics of the small scale poultry egg farmers.
- ii. Analyse the profitability of poultry egg farming during and after economic recession.
- iii. Estimate the relationship between profit per crate of egg and variables affecting profit of the small scale poultry egg farmers after recession.
- iv. Determine the viability of poultry egg farming during and after economic recession.
- v. Determine the coping strategy of the small scale poultry egg farmers, if they are still affected by the recession.

1.4 Justification of the study

The study seeks to identify the constraints of the recession on poultry egg farming. It is necessary for farmers in Ikolè Ekiti and in Ikere ekiti to know the effect so as to be prepared whenever there is another recession in the country. It is also necessary for extension agent and governments to also know the effect of the post economic recession on farmers to encourage and link the farmer to financial institutions in order to access credit to increase food production in the country. The study will benefit the poultry farmer to adopt efficient production strategies. This approach will enable the Federal Government to meet the target of reducing poverty and generate productive employment to avoid any future economic recession.

CHAPTER TWO

LITERATURE REVIEW

2.1 Concept of Recession

Recession as a phase of economic cycle occurs after two consecutive quarters of negative growth featuring low output and investment, abnormal increases in unemployment due to massive retrenchment, falls in the availability of credit facilities, fluctuation in forex market, illiquidity, downsizing and layoff as well as reduce amount of trade and commerce (Shidoikwu, 2017). The NBER's Business Cycle Dating Committee defines a recession as "a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in production, employment, real income, and other indicators (Kose, 2008). A recession can also be triggered by a country's decision to reduce inflation by employing contradictory monetary or fiscal policies (Terrone, 2008). Recessions are costly characterized by substantial declines in output (real gross domestic product), investment, imports, and industrial production, whereas declines in consumption are smaller. Economic recession is a period of economic slowdown featuring low output, illiquidity and unemployment which is characterized by falling availability of credit, reduced amounts of trade (Tinuke, 2012). A recession begins when the economy reaches a peak of activity and ends when the economy reaches its trough." The economic recession has caused extreme poverty and suffering of the masses; children right to quality education, affordable inclusive healthcare are deprived, cost of living has gone extremely high for the core poor and the middle income class (Shidoikwu, 2017). The economy is deteriorating in human development indices, the quality of education and healthcare has collapsed, with extreme poverty, acute hunger and starvation prevailing amongst the poorest poor (Agri, Maliafia and Umejiaku, 2017).

2.2 General Causes of Economic Recession

The major causes of economic recession in any given economy may include:

- i. High inflation, a general rise in the price of goods and services.
- ii. Fall in aggregate demand
- iii. High interest rate
- iv. Accumulation of debt servicing (foreign debt).

2.3 CAUSES OF ECONOMIC RECESSION IN NIGERIA.

1. **High interest rate:** an interest rate is the percent of principal charged by the lender for the use of its money. The principal is the amount of money lent (Kimberly amadeo,2019). Interest rate is between 26.77-27% is very high and also very discouraging for investor which leads to unemployment in the country. The poor investment culminates into high rate of unemployment in the country.
2. **High rate of importation:** This has been a great menace to the Nigerian economy as many commodities are imported and other economies benefit from Nigeria. For example ,many electronic products are imported from china.
3. **Poor economic planning :** poor economic planning and no concrete implementation of her economic planning is the major cause of Nigeria current recession (Abba kale et al .2017) No doubt ,the government has taken some steps like the elimination of dollar purchase privileges for importers of 40 items such as rice, cement, toothpicks, private planes, poultry, meat, margarine, wheelbarrows, textiles and soaps. The government has on the other hand, caused serious poverty in the land by her. The government through her policy widen the gap between the rich and the poor-creating more economic hardship.

4. **High taxation:** in Nigeria governments charge high tax rate during economic recession. Small businesses are slaughtered with high interest rate. Both high interest and tax rate has lowered Nigeria aggregate demand.
5. **High inflation rate.:** the government banning the importation of certain essential agricultural products like rice without considering gestation period is error (Abba kale et al, 2017). Removal of fuel subsidy shouldn't be simultaneously with the banning of these agricultural products. Nigeria inflation rate currently 17% which is extremely high.
6. Overdependence of the nation on petroleum as a source of income overlooking other means of wealth for the nation.
7. Policy conflict high interest rate, high tax rate are light monetary policy measures. Government told the public it is adopting expansionary policy budget deficit.
8. **Resource management:** so many countries such as Singapore and Malaysia are doing better than Nigeria in as much as they all started with the same revenue.
9. The national relocation of employment: many people are migrating from urban to rural areas such as Lagos, Abuja making these cities overpopulated and few people left to farm in the other states.
10. Other factors: these include ethno-religious crises, political instability, fraud, leadership crises, disease burden, budget priority and implementation etc

2.4 Recession in Nigeria

The current economic recession in Nigeria emerged like a thunderbolt at the instance of the negative growth rates recently released by the National Bureau of Statistics (NBS, 2016). The Nigerian economy slid into recession path in the first quarter of 2016. The negative part of the recession is that it led to the reduction of standard of living and the quality of life of the people and increase in poverty rate (shido-ikwu, 2017). According to NBS data, the Nigerian economy has recorded two consecutive quarters of economic contraction. In Q1 2016, GDP growth was negative (-0.36%) and recently released Q2 2016 data reflects a larger contraction (-2.06%) (RTC, 2016). The National Bureau of Economic Research (NBER), defines recession as “a significant reduction in economic activity spread across the macro-economy, lasting more than a few months, normally visible in real gross domestic product (RGDP), real income, employment, industrial production and wholesale retail sales. The only exceptions are agriculture and telecommunications (RTC, 2016). The business cycle is the upward and downward movements of levels of gross domestic product (GDP), and refers to the period of expansions and contractions in the level of economic activities (business fluctuations) around its long-term growth trend. These fluctuations involve shifts over time between periods of relatively rapid economic growth (boom), and periods of relative stagnation or decline (a contraction or recession (CBN, 2012). When a country is in recession, the economy is far from the point of effective use of resources, i.e. Far from the optimal production and the natural rate of unemployment. Confronted with the slide in key economic indicators, custodians of economic policy decisions need to do more than simply restoring growth. Yes, aggregate demand could rebound and the economy officially declared out-of-recession by the middle of 2017, the underlying issues behind the current crisis include a combination of economic, social, and infrastructure-related challenges that require deliberate, purposeful, and concerted action:

1. Inadequate investment
2. High unemployment with low productivity
3. Heavy fiscal burden at all levels of government
4. Declining competitiveness
5. Insecurity
6. A sharply depreciated currency and exchange rate uncertainties
7. Weak energy base
8. In-efficient transport. (Adesoji, 2017).

2.5 Impacts of the Recession in Nigeria.

Economic recession has caused extreme poverty and suffering of the masses, affordable inclusive healthcare are deprived, there is adverse demand and supply shocks. The purchase of goods and services by individuals, household, and firms has drastically reduced as a result of the economic recession. There is scarcity of foreign exchange, few money, reduced consumer spending and decrease in sales of goods and services. Business activities are now at the low ebb, job losses and increase in unemployment rate. There is decline in savings and investment, increase in crime rates, budget deficit in government spending, lack of portable water, high cost of transportation and poor infrastructural facilities.

2.6 Poultry egg production in Nigeria

Poultry production is an important aspect of livestock production in Nigeria. Nigeria has potentials to produce a wide range of livestock based on its climate and agro-ecological conditions. While northern part and middle belt can guarantee the production of sheep, cattle, goat and poultry the southern parts of the country have potentials to produce goat, pig, and poultry. Thus poultry production takes place in all parts of the country (Ekunwe *et al.*, 2006). Poultry is by far the largest livestock category and is estimated to be about 140,000 million, consisting mainly of chickens, ducks, and turkeys (FAO, 2010). In total poultry products (egg and meat) constitute 30% of all animal protein consumed worldwide. Within the last 10 years, this proportion has increased from 20% to 30% of all animal proteins and is predicted to increase to 40% before the year 2015. Egg, which is one of the major products of poultry production, is one of the most nutritious and complete foods known to man. Chicken egg protein has biological value of 1.0 and so shares with human protein the distinction of being a perfect protein (Orji *et al.*, 1981). Egg is more easily affordable by the common man than other sources of animal protein. Eggs are excellent sources of iron, zinc, and vitamin A, all of which are essential for health, growth and wellbeing.

Poultry egg production can serve as a means of improving the living condition of most rural households as a result of its immense contribution in alleviating poverty and increasing their standard of living. The great advantage of egg production is that, although output may not be large, the household is provide with frequent if not daily provision of nutrients of high biological value; ideally this is consumed by pregnant or lactating women and young children. In the economic terms, eggs are highly divisible and less lumpy and when marketed they can provide important small earnings that can provide important small earnings that can be used to cover daily needs such as food to improve and diversify the diet, or other household items such as soap Egg production business is very lucrative but one thing most

beginners don't know is that the breed of chicken you get makes a huge impact on the amount of eggs you should expect to receive each day. Certain breeds tend not to lay eggs at all; whereas Hybrid hens can lay more than 280 eggs per year- nearly an egg every day. Selecting the right breed is crucial if you want fresh eggs all year long, be prudent while making decision on which one to go with.. Best Breeds of egg Laying Chickens are White Egg Laying Hens: These types of hens are comparatively smaller in size. Relatively eat less food, and the color of egg shell is white. Isa White, Lehman White and Brown Egg Laying Hens: Brown egg laying hens are relatively larger in size. They eat more foods, compared to white egg layers. Lay bigger eggs than other laying breeds. Egg shell is brown colored. There are many types of brown layer available. Among those Isa Brown, Hi Sex Brown, Sever 579, Lehman Brown, Hi Line Brown, Bab Cock BV-380, Gold Line, Bablona Tetro, Bablona Harko, Havard Brown.

The number of eggs that a hen produces each year and the number of years that a hen produces eggs depends on some factors:

- Management of pullets prior to lay
- Breed
- Light management
- Space allowances
- Nutrition.

Eggs are the major business outputs in commercial table egg production and the higher the egg production the better will be the profit. Farooq *et al* (2001b) found positive association of egg production with net profit and reported major contribution of eggs in total returns.

2.7 Poultry Farming during and after Recession

It was discovered that about ten (10) percent of the Nigerian population is engaged in poultry production mostly on subsistence and small or medium-sized farms.) The importance of poultry to the economy of the nation cannot be overemphasized, as it has become popular industry for the small holders which have a great contribution to the economy of the country (Adebayo, 2005). Poultry egg production enterprise is known to be a very profitable business but if not managed properly, it can make the venture unprofitable (Apata, 2005). The importance of the poultry sub-sector is chiefly in the provision of meat and egg as well as the provision of employment either directly or indirectly and the contribution to the revenue (Gross Domestic Product) of the country (Adebayo and Adeola, 2005). According to Ajala and Otchere (2007), incomes from sales of birds and eggs serve as reserve for important household expenditures. Olasimbo (2006) observed that the variation in returns from table egg production was comprised from numbers of birds kept and type of production system used. Generally, Adrian and Michael (2009) reported that government policies should focus on absorbing transaction costs of small-scale poultry producers and interventions like provision of mentoring and training services to stakeholders.

In Nigeria, feed cost accounts for about 70% of the cost of poultry production (Adejoro, 2004). This is due to the high cost of some critical feed ingredients (e.g. maize and soybean) which are needed in poultry ration and has impacted favorably on the feed supply situation in the country especially in terms of feed quality. During the discussion among poultry farmers it was said that there should be need for government to give poultry business the much needed support, considering the huge employment opportunities, lying within the poultry value chain (Nwandu,2016). He also said that one of the ways of providing such support is through the eradication of imported poultry products in Nigeria. He also queried the rationale behind exportation of critical raw materials, stating that while government encourages far

production of these raw materials, it should ensure satisfaction of the local manufacturer's usage before exporting such to other countries. The government should use poultry production business to pursue youth empowerment with extra vigor to drastically reduce level of prevalent unemployment in our society. According to adeoye 2016, he urged that the federal government to grant local poultry farmers waivers and leverages for them to be able to produce and export standardized products. There is existence of unhealthy eggs in the market, stemming from poor production processes. Farmers are advised to adopt efficient production strategies and technology to survive current challenging times (Adu, 2017)

CHAPTER THREE

METHODOLOGY

3.1 Study Area

The study was carried out in Ekiti State. The State is bounded on the south by Ondo State, on the north by Kwara State, on the east by Kogi State. It has 16 local Government councils which include Edo-Ekiti-east, Ekiti South-west, Ekiti West, Ikere, Irepoḍun, Ijero, Oye, Ikole, Efon, Mobaetc. And its major town includes Ado-Ekiti, Efon alaye, Aramoko-Ekiti, Ikole-Ekiti, Iyin-Ekiti etc. The State is one of the largest producers of rice, kolanut, oil palm, and cocoa in the country and it also produce crops such as cassava, yam, cocoyam, maize, cowpea, plantain and fruits like cashew, mango and orange. From 2006 census, the State was estimated to have a human population of 2,384,212 with an area of 6,353 km square. The State enjoys tropical climate with two distinct seasons. These are rainy season (April-October) and dry season (November-March). Because of the favourable climatic conditions, the land enjoys luxuriant vegetation, thus, it has abundant resources of different species of timber. In addition, people in the State engage in different occupations such as tailors, traders, carpenters, bricklayers, goldsmiths, blacksmiths, and shoe-makers.

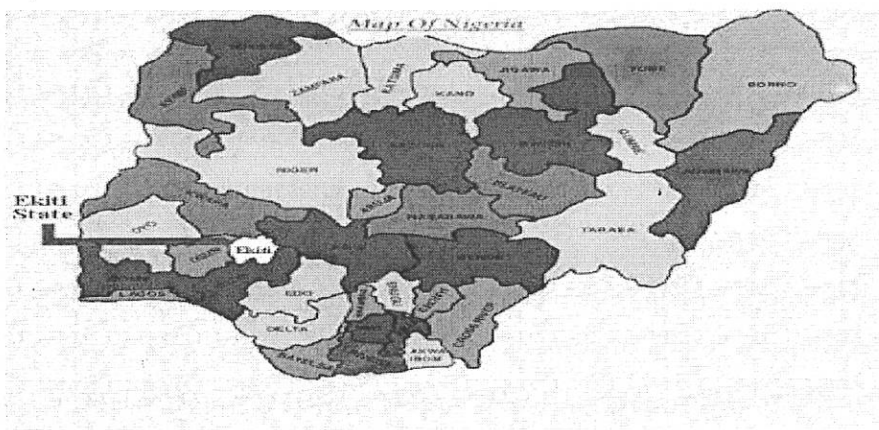


Figure 3.1: Map of Nigeria Showing Ekiti State

Table 1: Sampling Design

Name of Zones	Dominant Agro Ecology	Location Headquarter	Blocks	Cells	Small-scale Poultry egg farmers
Zone II	Rainforest	Ikole	Ikole	Ikole,	10
				Ayedun,	10
				Ijesa-	10
				isuOkeako	10
Zone III	Derived Savannah	Ikere	Ikere	Afao-Kajola,	10
				Ogbonjana,	
				Eporo,	10
				Aba Itire	10
					10
				Total	80

3.3 Method of Data collection: Data for the research was collected from primary and secondary sources. The primary data was collected using the structured questionnaires while the secondary data was collected from textbooks, journals, Magazines and other literature materials. Detailed information were collected on the socio economic characteristics of the respondents such as age, sex, marital status, farming status, membership of organization, educational qualification, farm size, sources of capital.

3.4 Method of Data Analysis

3.4.1 Descriptive statistics: Descriptive statistics such as frequencies, percentages, means, was used to analyse the data and also to describe parameters such as age, sex, household size, educational qualification, farm size, management techniques, farming experience. This was used to achieve objectives 1.

3.4.2 Gross margin analysis: Gross margin analysis tool was used to determine the profitability of the small scale poultry egg farmers in Ekiti State (objective 2). Olukosi and Erhabor (1998) defined gross margin analysis (GM) as the difference between the gross farm income (GI) and the total variable cost (TVC).

The formula is given as:

$$GM = TR - TVC \dots\dots\dots (3.0)$$

Where;

GM= Gross Margin (₦ /Crate)

TR =Total revenue (₦)

TVC=Total Variable Cost (₦)

3.4.3 Multiple Regression model: Ordinary least square (OLS) regression model was used to achieve objective 3 using SPSS software. The multiple regression models were used to estimate the direction and quantity of relationship between profit per kg egg and variables affecting profit.

The four functional forms of the OLS multiple regression model, namely, linear, double logarithm, exponential and semi-logarithmic functions, were fitted with the data. The lead equation was selected based on statistical and econometric criteria, which include the magnitude of R^2 , the significant level of the F- ratio, the number of significant variables and the conformity of the variables to prior expectations. The four functional forms of OLS model are explicitly stated as:

Linear function:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + e_i \dots\dots\dots (3.1)$$

Semi -log function:

$$Y = a + b_1 \ln x_1 + b_2 \ln x_2 + b_3 \ln x_3 + b_4 \ln x_4 + b_5 \ln x_5 + b_6 \ln x_6 + b_7 \ln x_7 + b_8 \ln x_8 + e_i \dots\dots (3.2)$$

Double-log function:

$$\ln Y = a + b_1 \ln x_1 + b_2 \ln x_2 + b_3 \ln x_3 + b_4 \ln x_4 + b_5 \ln x_5 + b_6 \ln x_6 + b_7 \ln x_7 + b_8 \ln x_8 + e_i \dots \dots (3.3)$$

Exponential function:

$$\ln Y = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + b_6 x_6 + b_7 x_7 + b_8 x_8 + e_i \dots \dots \dots (3.4)$$

Where,

Y = Profit (GM) (₦/crate)

X₁: Price of breeding pullet (₦/hen)

X₂: Price of feed (₦/kg)

X₃: Cost of labor (₦/month)

X₄: Cost of veterinary service and medicine (₦/days)

X₅: Years of experience in poultry egg production (number of years)

X₆: Market/Government bills (₦/month)

X₇: Number of birds raised during the production season (Number)

X₈: Egg sale price (₦/kg)

X₉: Crates of eggs produced during the production season (Number)

a = constant intercept;

b₁.....b₉= the coefficient corresponding to x₁.....x₉;

e_i= stochastic error.

3.4.4 Benefit-cost ratio (BCR): This is division of total revenue by total cost. The BCR was used to determine the viability of the poultry enterprise (objective 4). This measures the ability of the business to upset its financial obligations and still remain standing.

$$BCR = \frac{\text{Total Revenue}}{\text{Total Cost}} \dots \dots \dots (3.5)$$

3.4.5 Likert scale: Four point Likert scale was used to analyse objective 5. The respondents were asked to indicate how often they still engage the basic, cost-effective routine activities. Their responses were scored: Very Often, Often, Rarely and Never as 3, 2, 1 and 0 respectively. The possible maximum score was 12 and the possible minimum score was 0. The respondents' coping strategies was calculated as Adopted or not adopted using the grand mean of 1.85

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Socioeconomic characteristics of the Poultry egg farmers

The results obtained from the analysis as shown in the Table 2 shows that the mean age of the poultry egg farmers were 44 year. Majority (81.2%) were aged below 60 years. This result implies that poultry egg farming activities in the study area are not in the hands of too old people. The poultry egg farmers are still active and should be highly productive if they are not handicapped by economic hardship and recession. The results also showed that majority of the respondents (63.7%) were males while 36.2% were females. This implies that more males were involved in poultry egg farming. According to Afolami *et al* (2013) the majority of poultry egg producers being male can be attributable to lack of easy access to loans by female farmers as compared to their male counterparts. Afolami *et al*(2013) also asserts that the female gender as compared to the male folks is less efficient as poultry egg farmers.

Furthermore, the result showed that a larger percentage (63.7%) was Christians, 31.2% were Muslims and 5.1% were traditionalists. The larger percentage of Christian farmers could be as a result of the fact that the Ekiti State is a Christian dominated State. The result also showed that most of the respondents (58.8%) were married, whereas 26.2% were single, 10% were divorced and 5% separated. The marital status of the poultry egg farmers has implication on the household size and subsequently on the availability of family labour to assist on the poultry farm. The result further showed that the mean household size of the respondents were 6 with 41.2% having more than 5 members in their households The Majority (98.8%) of the poultry egg farmers had formal education. This implies that literacy level attained by the respondents was high having a greater percentage (98.8%) possessing formal education and this will hence assist them cope with the aftermath of the economic

recession by adopting several coping strategies to survive the recession. Majority (68.8%) of the poultry egg farmers operated medium scale of production having between 200 and 500 birds whereas 23.8% operated small scale and 7.4% operated large scale production. The result also showed that 45% of the respondents had annual income of between 100,000 – 500,000, where as 33.8% had less than 100,000, 13.7% had between 500,000 and 1,000,000 while 7.5% had more than 1,000,000.

Table 2: Socioeconomic characteristics of the respondent

Variable	Frequency	Percentage (%)
Age		
<30 years	21	26.2
31-60 years	44	55.0
≥61 years	15	18.8
Total	80	100.0
Mean	44	
Sex		
Male	51	63.7
Female	29	36.2
Total	80	100.0
Religion		
Christianity	51	63.7
Islam	25	31.2
Traditional	4	5.1
Total	80	100.0
Marital status		
Single	21	26.2
Married	47	58.8
Divorced	8	10.0
Separated	4	5.0
Total	80	100.0
Household size		
1-5	47	58.8
6-10	28	35.0
≥ 11	5	6.2
Total	80	100.0
Mean	6	
Education		
Never went to school	1	1.2
Primary education (1-6 years)	15	18.8
Secondary education (7-12 years)	27	33.8
Tertiary education (≥ 13 years)	37	46.2
Total	80	100.0
Farm size		
Small size (<100 birds)	19	23.8
Medium size (200-500 birds)	55	68.8
Large size (≥1000 birds)	6	7.4
Total	80	100.0
Annual income		
≤ 100,000	27	33.8
101,000 - 499,000	36	45.0
500,000 – 999,000	11	13.7
≥1,000,000	6	7.5
Total	80	100.0

Source: Field Survey, 2018

4.2 Poultry egg Farmers Membership of Cooperative society

Table 3 showed that 67.5% does not belong to any cooperative group whatsoever while 32.5% of the small scale poultry egg farmers belong to one cooperative or the other. The farmers involvement in cooperative societies could enhance the farmers the opportunity of securing capital that could assist them cope after the recession and thereby assist them to revive their poultry business.

Table 3: Distribution of Respondent's Cooperative Societies membership

Variables	Frequency	Percentage (%)
Non cooperative Societies membership	26	32.5
Cooperative Societies membership	54	67.5
Total	80	100

Source: Field study, 2018.

4.3 Management Systems of the Poultry egg farmers (battery cage or deep litter)

Table 4 showed that 51.2% of the small scale poultry egg farmers use battery cage system in the poultry production while 48.8% use deep litter system in poultry production.

Table 4: Distribution of Respondents on their Management System

Variables	Frequency	Percentage%
Battery Cage	41	51.2
Deep litter	39	48.8
Total	80	100

Source: Field study, 2018.

4.4 Mode of Occupation of the Poultry egg farmers

Table 5 represented showed that 71.2% are into poultry production part time while 28.8% of the small scale poultry egg farmers are into poultry production full time.

Table 5: Distribution of respondents about their Mode of Occupation

Variables	Frequency	Percentage%
Full time	23	28.8
Part time	57	71.2
Total	80	100

Source: Field study, 2018.

4.5 Location of the Poultry egg farmers

Table 6 showed that 71.2% are located in the rural area ,28.8% of the small scale poultry egg farmers are located in the urban area or the city. This implies that most of the poultry farmers run their poultry businesses in the rural settlement.

Table 6: Distribution of respondents on their location (Urban or Rural)

Variables	Frequency	Percentage%
Urban	23	28.8
Rural	57	71.2
Total	80	100

Source: Field study, 2018.

4.6 Poultry egg farmers coping levels during Recession

Table 7 represented below explains that 32.5% of the remaining farmers cope worse during recession, 41.2% cope fairly during recession period , 26.2% of the small scale poultry egg farmers cope very well during the recession. This further explains the fact that majority of the respondent did not do very well in poultry production during the recession period because the recession had adverse effect on their production process.

Table 7: Distribution of respondents to know how they cope during recession

Variables	Frequency	Percentage%
Very well	26	26.2
Fair	33	41.2
Worse	21	32.5
Total	80	100

Source: Field study, 2018.

4.7 Poultry egg farmers coping levels after Recession (Post Recession)

Table 8 represented below explains that 57.5% of the small scale poultry egg farmers cope very well after recession, 35% cope fairly after the recession, 7.5% of the remaining farmers cope so worse after recession. This indicated that the small scale poultry egg farmers cope very well after recession than during the economic recession.

Table 8: Distribution of respondents to know how they cope after recession (Post Recession)

Variables	Frequency	Percentage%
Very well	46	57.5
Fair	28	35.0
Worse	6	7.5
Total	80	100

Source: Field study, 2018.

4.8 Profitability of Poultry egg Farming during and after (post) Economic Recession

4.8.1 Profitability of Poultry egg Farming after Economic Recession

The results in the Table 9 revealed that the mean value of eggs and spent layers produced in a poultry farm within a production cycle after recession as ₦1,207,412.25 (73.00%) and ₦446,533.75 (27.00%) respectively which resulted to a mean total revenue of ₦1,653,946.00

(100%) while the mean total cost incurred in the production process was ₦76,992.59 (100%), which entailed the cost of price of purchased pullets (21.25%), cost of feed (39.38%), cost of labour (20.97%), cost of veterinary service and medicine (6.33%), cost of water (2.24%), cost of electricity (3.02%), cost of repair and maintenance (2.74%) and market/government bills (4.07%). The cost of feeding also accounted for highest proportion of the total variable cost after recession but the enterprise enjoyed higher sales of egg than during recession which offset the cost of feed experienced during this period. In addition the mean gross margin was ₦1,576,953. This implies that an average poultry farmer in the State earns total revenue of ₦1,653,946 and gross margin of ₦1,576,953 after economic recession. The analysis therefore reveals that poultry egg production was profitable after recession when compared with production during recession. The result also confirms the findings of various researchers (Yusuf *et al.*, 2016; Nurudeen, 2012; Tijjani, 2012; Ibrahim *et al.*, 2009; Yusuf and Malomo, 2007; Ojo, 2003) in different States of the federation who concluded that poultry business was highly profitable all things being equal.

4.8.2 Profitability of Poultry egg Farming during Economic Recession

The results in Table 9 revealed the mean value of egg and spent layer produced in a poultry farm within a production cycle during recession as ₦47,903.10 (9.69%) and ₦446,533.75 (90.31%) respectively which resulted to mean total revenue of ₦494,436.9 (100%). It was observed that the revenue from spent layer was higher than revenue from egg during recession because most of the poultry egg farmers were selling off their birds because of high cost of feed in relation to revenue generated from egg sales. Also, the mean total cost incurred was ₦76,370 which entailed the cost of price of purchased pullets (26.83%), cost of feed (35.31%), cost of labour (18.85%), cost of veterinary service and medicine (5.28%), cost of water (2.57%), cost of electricity (3.38%), cost of repair and maintenance (5.10%) and

market/government bills (2.67%). The cost of feeding accounted for highest proportion of the total variable cost during recession. The cost of pullet was also high during recession and even higher than after recession. The mean gross margin was estimated as ₦418,067. This implies that an average poultry egg farmer in the State earns total revenue and gross margin of ₦494,436.9 and ₦418,067 respectively during economic recession. The analysis therefore reveals that poultry egg production was not profitable during the recession period when compared with the profit after recession as revealed in Table 9.

Table 9: Profitability of Poultry Egg Variables during and after Economic Recession.

Items	Mean (₦)	During Economic Recession	Percentage %	After Economic Recession	Percentage %
Revenue					
Egg	47,903.10		9.69	1,207,412.25	73.00
Spent layers	446,533.75		90.31	446,533.75	27.00
Total Revenue (TR)	494,436.90		100	1,653,946.00	100
Variable Cost					
Price of purchase pullets	20,488.75		26.83	16,361.25	21.25
Cost of feed	26,968.213		35.31	30,317.50	39.38
Cost of labour	1,4395		18.85	16,146.25	20.97
Veterinary service/medicine	4,031.5		5.28	4,871.88	6.33
Cost of Water	1,965.875		2.57	1,730.29	2.24
Cost of Electricity	2,581.25		3.38	2,327.10	3.02
Cost of Repair and maintenance	3,896.875		5.10	2,106.25	2.74
Market/government bills	2,042.5		2.67	3,132.08	4.07
Total Variable Cost (TVC)	7,6370			76,992.59	
Total Revenue (TR)	494,436.90			1,653,946.00	
Gross Margin (GM)=TR -TVC	418,067			1,576,953.00	
Benefit Cost Ratio (BCR) = $\frac{TR}{TC}$	6.47			41.96	

Source: Field Survey, 2018

4.9 Relationship between Profit Crate and Variables affecting Profit of the Poultry egg Farmers after Recession

Table 10 revealed the regression estimate of relationship between profit per crate of egg and variables affecting the profitability of the poultry egg farming after recession in Ekiti State, Nigeria. The linear functional form was chosen as the lead equation based on the magnitude of R^2 , the significant level of the F -ratio, the number of significant variables and the conformity of the variables to a-priori expectations. The linear functional form posted R^2 value of 0.993, which indicates that 99.30% of the variation in the dependent variable was explained by the independent variables.

The linear model could be written as follows

$$Y \text{ (GM ₦/ Crate)} = a - 0.03X_1 - 0.014X_2 - 0.008X_3 - 0.006X_4 + 0.016X_5 - 0.008X_6 + 0.206X_7 + 0.032X_8 + 0.961X_9$$

The results in Table 10 showed that the price of purchased or breeding pullet (X_1) and feed price per kg (X_2) were negatively signed. This indicates that the rise in price of the pullet and feed price per kg by one naira will cause a decrease on the profit per crate of egg by 0.003 and 0.014 of egg in percentage point respectively. The raise in labour cost (X_3), veterinary services and medicine (X_4) and market /Government bills (X_6) were negatively signed. This also indicates that a rise in labour cost in ₦/month, veterinary services and medicine in ₦/days and market/government bills in ₦/month will lead to decrease on profit per crate by 0.008, 0.006 and 0.008 respectively. The years of experience in poultry egg production (X_5) was positively signed, therefore an increase in the number of years of experience in poultry egg production will lead to increase in profit per crate of egg by 0.016. The number of birds per production season (X_7) has a positive coefficient and significantly affects profits earned

by the farmers at 1% level. This means that an increase in number of birds in the poultry egg production will lead to increase in profit per crate of egg by 0.206. Also, the price of egg (X_8) was positive and significant at 5% level and the crates of egg (X_9) was also positive and significant at 1% level. This indicates that an increase in the price of egg in ₦/kg and number of crates of egg produced will lead to increase in profit per crate of egg by 0.032 and 0.961 respectively.

The feed price was discovered to be the factor which has the highest negative impact on the profitability of poultry egg farming showing the coefficient -0.014. This indicates how important the use of good quality feed is in a profitable production and also it revealed how the economic recession has drastically affected the price of feed. The effect of feed price has a great impact on profitability because feed price was varying according the brand, purchased amount, the distance between the farm and the market and the dealer. The crate of egg produced during the production season was found to be the factor with high positive impact on profitability showing the coefficient 0.961.

The remaining investigated factors vary in their impact on profitability of the poultry egg farming after recession. Generally speaking higher prices of purchased or breeding pullet, higher feed price, higher cost of labour, higher cost of veterinary service and medicine, higher cost of market and government bills are associated with lower profitability of poultry egg enterprises after economic recession, while higher years of experience in poultry egg production, higher number of birds raised, higher egg sales and higher crates of egg produced are with higher profitability after the economic recession.

Table 10: Regression estimates of the Relationship between Profit per crate of egg and Variables affecting Profit of the Small Scale Poultry egg Farmers after Recession

Variable	+Linear	Exponential	Double-log	Semi-log
Constant	1.261	12.557	12.408	4.439
Price of breeding pullet (X_1)	-0.003 (-0.289)	0.125 (1.300)	-0.294 (-1.395)	0.124 (0.400)
Price of feed (X_2)	-0.014 (-1.332)	-0.029 (-0.281)	-0.522 (-1.577)*	-0.099 (-0.282)
Cost of labor (X_3)	-0.008 (-0.775)	-0.035 (-0.345)	-0.308 (-1.044)	-0.359 (-1.069)
Cost of veterinary services (X_4)	-0.006 (-0.530)	0.013 (0.129)	0.568 (1.494)	-0.327 (-0.606)
Years of experience (X_5)	0.016 (1.469)	-0.287 (-2.328)	0.120 (0.345)	-0.409 (-0.754)
Market/government bill (X_6)	-0.008 (-0.626)	0.047 (0.461)	-0.067 (-0.271)	0.322 (0.922)
Number of birds in production season (X_7)	0.206 (20.117)***	0.678 (5.290)***	0.617 (1.480)	0.049 (0.097)
Egg sale price (X_8)	0.032 (2.974)**	-0.026 (-0.250)	0.134 (0.792)	-0.258 (-0.847)
Crates of eggs in the production season (X_9)	0.961 (7.385)***	0.294 (3.060)***	1.295 (3.079)***	1.356 (3.151)***
R^2	0.993	0.422	0.950	0.801
Adjusted R^2	0.992	0.343	0.801	0.352
F -ratio	(1.102)	(5.345)***	(6.369)***	(1.785)

Source: Field survey, 2018.

Numbers in parenthesis are the t -ratio. ***, ** and * indicate variables are significant at 1.0%, 5.0% and 10.0% risk level, respectively. +Lead equation.

4.10 Viability of poultry egg farming after (post) and during Economic Recession

The viability of poultry egg production after (post) and during economic recession was presented in Table 9. This was determined by benefit-cost analysis. The ratio of benefit (mean total revenue) to cost (mean total cost of production) for the poultry egg farmers after recession and during recession was found to be 21.48 6.47 respectively.

This implies that poultry egg production in Ekiti State after economic recession was viable, capable of offsetting its own cost, and still generates ₦41.96 from every one naira invested. But it was contrary during the economic recession because for every one naira invested the poultry egg business yields ₦6.47 which was far below what was recovered after recession

4.11 Coping strategies of the poultry egg farmers during the post economic recession

The result in Table 11 shows that the respondents did not allow visitors into their farms (mean= 1.38) which would have been a means to reduce the rate of contamination and subsequently increase expenditure on veterinary and drugs. The respondents also maintained the use of disinfectant bath (mean= 2.25) which also would help to reduce disease incidence, they did not use dedicated farm kit for each house (mean= 1.64) which would have been as a result of the cost of purchasing the kits, they maintained the use of cleaning and disinfecting program (mean= 1.90) which would have increased the incidence of infections and diseases and subsequently increase expenditure.

Furthermore, the results shows that the respondents collected and sold the waste products from the farm such as the poultry dung and feathers (mean= 2.08) which might be in order to increase their farm net income and subsequently ensure profitability. The results also indicates that the respondents manipulated some daily and routine activities (mean= 2.05) which are cost-effective which would have been to increase their farm net income and subsequently ensure profitability of the farm. More so, the results shows that the farmers

increased the selling prices of eggs and spent layers (mean= 2.11) which would be a means to augment income, due to the high cost of input and hence ensure profitability.

Table 11: Coping strategies of respondents after recession

Coping Strategies	N = 80	
	Mean	Strategies
Do you allow visitors on your farm?	1.38	Not adopted
Do you use disinfectant bath/deep?	2.25	Adopted
Do you use dedicated kit for each house?	1.64	Not adopted
Do you use cleaning and disinfecting programmes?	1.90	Adopted
Do you sell the poultry manure for other purposes?	2.08	Adopted
Do you manipulate some activities?	2.05	Adopted
Increased price of eggs and spent layers	2.11	Adopted

Source: Field Survey, 2018.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The economic recession in Nigeria was reviewed from year 2012 to date which caused some negative impact on profits of poultry production and we looked at some indicators that reflected the effects on the profitability. It was revealed that the gross domestic product attributed to agriculture had been on a fluctuation, the rate of unemployment increased making jobs hard to find, inflation rate increased from 8.50% in 2013 to 15.70% in year 2016 which caused high cost of goods and also the exchange rate of naira to the US Dollars has risen drastically which devalued the naira. There are some indicators that shows Nigeria came out of recession which includes: Latest GDP figures from NBS which present a ray of light at the end of what has been a very dark tunnel for the average Nigerian. Nigeria has been talking about diversifying the economy away from oil since, so with the price of oil plunging in the international market, its diversify or burst for Nigeria, Investors are making a return to Nigeria, thanks to the new flexible exchange rate policy of the central bank of Nigeria, Foreign exchange reserves are now in excess of US\$30B. All this indicated when the economy of Nigeria was in recession and post economic recession and looking down to this effects, the main objective of this study was to examine the effects of post economic recession on the profitability of small scale poultry egg farmers in Ekiti State. The result obtained from the study could be summarized as follows:

It was reported that majority of the respondents (63.7%) were males while 36.2% were females. This implies that more males were involved in poultry egg farming. It also reported that majority (98.8%) of the poultry egg farmers were literates who can read and write. The result also shows 45% of the respondents had annual income of between 100,000–500,000 where 33.8% had <100,000 13.7% had between 500,000-1,000,000 and 7.5% had more than

1,000,000. It was also reported that after series of analysis, the analysis therefore reveals that poultry egg production is very profitable after recession compare with during recession and was confirmed by the findings of various researchers (Yusuf *et al.*, 2016; Nurudeen, 2012; Tijjani, 2012; Ibrahim *et al.*, 2009; Yusuf and Malomo, 2007; Ojo, 2003). It was also reported that majority of the respondent uses cage system for poultry production. Also, most of the poultry farmers have part time jobs followed up. Majority of the respondent resides in a rural area. 26.2% of the respondent coped very well during recession while 57% of the respondent coped very well after recession.

The profit gained during recession was lesser than the profit gained after recession which indicated that the effect of post economic recession on the small scale egg farmers is equating to high profit. Years in poultry business, number of birds, number of egg sale and crates of egg produced have a significant on the profit earned after recession. It also reported that the poultry egg business is viable after recession when compared with during recession. The poultry egg business after recession was capable of offsetting its own cost, and still generates ₦41.96 from every one naira invested. It also reported the coping strategies used by the farmers to manage the poultry business after recession (no visitors were allowed into the farm, no dedicated kits for each houses).

5.2 Conclusion

According to this study, post economic recession has effect on the profitability of the small scale poultry egg farmers in Ekiti State. In such a way that after recession there are changes in the economic indicators which further promote the activities and practices in the poultry production making it highly profitable than during recession. During recession ,profits wasn't made because the price of feed went so high that farmers couldn't afford to buy feed which

led to reduction in the laying of eggs of the birds , so they sale the spent layers instead to generate income.

5.3 Recommendations

Based on the findings of the study, the following recommendations were suggested;

- i. Government and non-governmental organisation should invest more on small scale poultry production so as to continue to increase their profit whereby increasing the nation wealth and GDP.
- ii. Extension services should be made available in areas of the country involved in poultry production so as to increase their knowledge about new methods and inventions and also on how to manage the farm so as to be prepared for any recession later.
- iii. Since economic recession is a macro-economic issue, the government should invest more in the agricultural sector so as to curtail the increase in food prices in the country.
- iv. Poultry egg farmers should collaborate in their various cooperative societies to create and get a small farm to cultivate maize, which is can be used to make feedstuffs thereby reducing the adverse effect of feed price.
- v. There should be adequate market for poultry egg produced to avoid egg glut after recession as there was more production.

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APPENDIX:

Study Questionnaire

**FEDERAL UNIVERSITY OYE-EKITI, EKITI STATE, NIGERIA
DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION**

Research Questionnaire

Dear respondent, this questionnaire on the effects of post economic recession on profitability of farm household poultry egg farming among small scale farmers in Ekiti state, Nigeria, is designed to obtain information for academic research purpose only. It will be appreciated if the under listed questions are answered honestly and to the best of our knowledge.

Thanks for your cooperation.

Schedule number

Date

Please fill up where is necessary and tick as appropriate.

SECTION A. SOCIO-ECONOMIC CHARACTERISTICS

1. Local Government Area
2. Age:.....
3. Sex: (a) Male (b) Female
4. Marital status: (a) single (b) married (c) separated (d) widowed
5. Religion: Christianity (a) Muslim (b) Traditional (c)
6. Educational status: (a) primary (b) secondary (c) tertiary (d) others
specify.....
7. Size of household:

Please tick as appropriate

No of male	Age	No of female	Age	Total

8. Farm size (number of layers) _____
9. Annual income _____
10. Do you have any other occupation? Yes or No if yes specify.....
11. Do you belong to any cooperative? Yes or No if yes how many (a)1 (b) 2 (c) 3 (d) greater than 3 ()
12. How long have you been into poultry (egg) production?yrs
13. What housing system are you using? (a) Cage (b) deep liter (c) others specify
.....
14. How many birds per cage/deep liter?
15. Do you have trees/shade in the surroundings? () YES () NO
16. Do you have proper cross-ventilation? () YES () NO

SECTION B

17. On what basis do you earn income? (a) daily (b) weekly (c) monthly.
18. Do you save part of your income?
19. How were you coping during recession period? (a) very well (b) fair (c) worse
20. How are you coping after recession period ? (a) very well (b) fair (c) worse
21. Are your children going to school Yes or no if yes ,is it private () or public() school
22. The number of your farming activities now is (a) increasing (b) decreasing (c) remains constant.

23. The amount of money you get from sales now is (a) increasing (b) decreasing (c) remains the same .
24. What is the number of years of your farming experience in poultry egg production?
.....years
25. What was the number of birds(layers) raised in your poultry farm during the last production period?number.
26. What was the total quantity of egg crates produced in your poultry farm during the last production period?.....crates.
27. Do you have any other sources of income other than poultry farming? Yes() no ()
28. If yes, indicate your other source of income :.....
29. Is your poultry farm land on rentage or backyard?
30. If yes to rentage, what is the amount paid annually?
31. Are you full time/part time on the poultry farm? full time () part time()
32. What is the location of your poultry farm? Urban () rural ()
33. What is the average number of days spent on the farm/week?
34. Do you collect loan from government or any organization to run your poultry farm during the last production period? Yes () no ()
35. If yes how much loan do you collect? and at what interest rate
.....%

SECTION C: AFTER RECESSION STRATEGIES.

Instruction: tick ✓ to indicate agreed, disagreed, strongly disagreed, undecided

	agreed	disagree	Strongly agree	Strongly disagreed	Undecided.
i. After recession, does poor pricing of eggs still occurs?					
ii. After recession, is there still enough capital to vaccinate?					
iii. After recession, is supply of water still available?					
iv. After recession could you still afford to buy feedstuff or manipulate it?					
v. After recession , the profit earned increased or decreased?					
vi. After recession ,is cost of input increased or decreased?					
vii. After recession, is there reduction in spending on clothes or food ?					

SECTION B: COPING STRATEGIES AFTER RECESSION

Instruction: tick ✓ to indicate Very Often, Often, Rarely or Not Used

Copping strategies	Very often	Often	Rarely	Not used
Do you use disinfectant bath/deep?				
Do you use dedicated kit for each house?				
Do you use cleaning and disinfecting programmes?				
Do you have vaccination programme?				
Do you have good and steady water supply?				
Do you dispose the poultry manure away from the farm?				
Do you allow visitors on your farm?				
Continue regular activities? Still forced to increase price of eggs? Do you manipulate some activities? Lack of feedstuff?				

SECTION D

How much do you spend on the following during recession?

Item	Detail (daily/weekly/monthly)	Cost (unit)	Total
Price of purchase pullets	How many?		
Cost of feed			
Cost of labor			
Veterinary service/medicine			
Cost of Water			
Cost of Electricity			
Cost of Repair and maintenance			
Market/government bills			

SECTION E

How much do you spend on the following after recession?

Item	Detail (daily/weekly/monthly)	Cost (unit)	Total
Price of purchase pullets	How many?		
Cost of feed			
Cost of labour			
Veterinary service/medicine			
Cost of Water			
Cost of Electricity			
Cost of Repair and maintenance			
Market/government bills			

SECTION F

How much do sell the following (Income):

Item	Detail	Cost	Amount	Total
Egg	Single/Crate			
Spent layers				
Others				

Thanks so much for your cooperation.