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EFFECTS OF IMPROVED PRACTICES ON POULTRY PRODUCTION IN OGUN STATE

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ABSTRACT: *This study examined the Effect of Improved Practices on Poultry Production in Ogun State, Nigeria. The study was based on primary data obtained in a cross-section survey of 120 respondents drawn by multi-stage random sampling across communities the Local Government Areas (LGAs). Trained enumerators, that personally administered questionnaires/interview schedule, were employed in collecting the study data. The study data were analysed by descriptive techniques. Descriptive techniques including construction of frequency distribution, computation of descriptive statistics (mean, standard errors, etc) were used to analyse socio-economic characteristics of the farm households. Evidence from the findings shows that majority (96.8 per cent) of the sampled rural farm households, and by extension, rural farm households in the study area have the age of their household heads (farmers) falling between 31 and 60 years. Majority (94.2 per cent) of the household heads were married as expected. Majority (92.5 percent) of the household heads possess some formal education, which is predominantly at the primary and/or secondary level; an appreciable level of illiteracy exists among the respondents. It is also worthy of note that most (67.5 per cent) of the households' heads have farming as their main occupation. A typical household in the sample is made up of 4-6 members. The result shows that farmers having 11-15 years poultry farming experience constitutes majority of the respondents having 47.05%The coefficient of income and religion are statically significant and positive in determining the level of awareness of the farmers in the study area. The measures of performance indicate that poultry production in the study area is viable and profitable. **O**nly educational level and number of extension contact are statistically significant in determining the level of output of the poultry production in the survey area. The following are recommended for high production and improved profitability level of poultry in the study area; Poultry egg producers in the study area should also be encouraged to engage more in the rearing and production of Layers in order to develop egg production. Therefore, government policies should also be concentrated on encouraging farmers in investing more in Layer birds and make them understand the profitability of poultry eggs and its positive effect on the economy.*

KEYWORD: Poultry, Seeds, Feed. Profit, Production

INTRODUCTION

The mere mention of sustainability in the field of agriculture in the developing world will simply tilt the minds of average farmers towards crop production either in form of cereals or tree crops on continuous basis. This is basically the mind-set and perception most farmers in less-developed countries and particularly Nigeria possessed. The attitude stemmed from the huge emphasis placed on crop production against livestock production, by both the public and private sectors through the supply and provision of subsidies on inputs such as tractors, fertilizers, seeds, agro-chemicals and

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extension services, among many. However, in the context of Bruntland concept of sustainable development and by extension sustainable agricultural development (Bamiro *et. al,* 2007). It encompasses all processes involved in the promotion of agriculture (crop and livestock production) with the intent of meeting the food requirement of the present generation without compromising the ability of the future generation to meet their own needs. This therefore, calls for a rethink in the structuring of agriculture towards achieving appropriate diversification in order to attain a level of meaningful food security for the poor majority.

Rural development has been approached from many perspectives: political, industrial, economic and agricultural perspectives. Also, Nigerian government over time had instituted various programmes and policies to increase agricultural productivity. Most of such programmes had been scrapped due to their failure in achieving set objectives but out of the existing few programmes, the Agricultural Development Programme (ADP) however, possesses a high prominence and state-wide status (Adubi *et. al*. 1994). It is one of such approaches to rural development. The need to improve agricultural production and rural income led to its establishment in 1975 to break the barriers to agricultural development and more importantly, to meet the needs of the small-holders and rural farmers (Amos, 2006; Folorunso & Onibi, 2005).

In Nigeria, Awoniyi, 2003 found that contact farmers were more aware of maize and Cassava technology recommended practices than non-contact farmers. They were also more knowledgeable than non-contact farmers in terms of the recommendations since they are more aware and more knowledgeable; they are also more accurate at implementation of recommendations.

Improved Poultry Production Practices

To improve the agrarian practices on production, some forms of appropriate technologies were necessary. Appropriate technologies (agricultural practices) in this context are defined as the latest scientific and technological developments that have been adjusted to suit the local conditions to the highest possible degree, (Ojo 2003; FMA 1990; Yusuf & Malomo, 2007). The national and international research centers have reported significant yield increase in many crops; insects' pest and disease that cause damage to plants, animal and crops have been brought under substantial control. In Nigeria, the extension services system is the most important public service institution with the widest range of responsibilities for agricultural and rural development (Akinyosoye 1991). Agricultural extension workers serve as conduct pipes between research institutes and farmers through the transmission of improved technique of farming that will enable farmers' to increase their productivity in order to meet the increasing food need of the teaming population (David 2002)). The extension service being the bridging link between the research centers and the farm families, convince farmers through the use of educational methods to accept scientific findings and technological development that are relevant to improve their methods of agricultural practices (Okonkwo & Akubuo, 2001). The responsibilities of extension services include transferring problems from the farm and rural home to research centers for solutions. Thus agricultural extension services aims at changing the rural people and train them to make independent decisions and make use of available local resource (Hermadez, 2005).

Livestock production constitutes an important component of the agricultural economy in developing countries and it is an instrument to socio-economic change, improved income and quality of rural life in Nigeria (Okumadewa, 1999). It is an important source of protein presently producing about 36.5% of total intake of Nigerians. In livestock production, poultry occupies a prominent position in providing animal protein as it accounts for 25% of local meat production in Nigeria (Adebayo and

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Adeola, 2005). Over recent decades the poultry industry has made tremendous adjustments to meet the increasing demand for inexpensive and safe supply of meat and eggs. Over the past three decades, the poultry sector has been growing at more than 5 percentage *per annum* (compared to 3 percentage for pig meat and 1.5 percentage for bovine meat) and its share in world meat production increased from 15 percentage three decades ago to 30 percentage currently (CBN, 2004).

The word "poultry" is applicable to chicken or domestic fowl. The domestic fowl is the commonest avian species raised in most countries such as Nigeria for either table meats or for eggs production or both for human consumption throughout the world; the domestic fowl is unique for its use for both meat (e.g. turkey, duck and guinea fowl) and egg production. Poultry farming has now developed into a commercial enterprise involving thousands of birds. Large poultry units have replaced the backyard poultry units while more efficient strains of meat or egg type birds, balanced feed, intensive housing and better poultry equipment came into use by farmers. Nevertheless, commercial poultry farming has not been fully developed in the tropics unlike the temperate regions.

Poultry has always been an important livestock sector. Poultry provides abundant relatively cheap food of high quality (Ajibeful and Daramola 1999; Adegunle, 2003). Whole Fresh carcasses' still dominate the broiler market in Nigeria, although consumer preferences are slowly changing towards cut and processed chicken parts. Though this is in line with global trend in poultry meat consumption, the level of technology in poultry industry in Nigeria has not developed filly to meet this standard. The economics of poultry meat and table eggs production are different for different types of producers.

In Nigeria, poultry represents an appropriate system to feed the fast growing population and to provide income for small-scale farmers. The development of the poultry industry in Nigeria has been described as the fastest means of bridging the protein deficiency gap prevailing in the country. It has been reported that most Nigerian diets are deficient in animal protein, which results in poor and stunted growth as well as increase in spread of diseases and consequently death (Federal Government Nigeria/UNICEF, 1994; Afolabi & Ojo 2000). Poultry production has become a fulltime job for many Nigerians and it significantly contributes to the Gross National Product (GNP). Poultry products mainly meat and eggs represent important food for improving the nutritional status particularly of the most vulnerable populations – children and pregnant women.

However, Nigeria's self-sufficiency indices are influenced by farmers' decision to plant and export, which are in turn influenced by prices offered domestically versus internationally; the profitability of production; and climatic conditions. Farmers' decision-making process has thus far been poorly supported, due to the poor management and dissemination of required information. Furthermore, without the consumer and national food security as priority within this critical decision-making process, mitigation between these factors (food production, food availability, profitability of production, and affordability of food) has remained ad hoc. Subsequently, Commercial poultry production is faced with many problems, such as high cost of feeding and veterinary drugs, poor quality of commercial feeds due to formulating abuses of the manufacturers, inadequate capital investment and lack of knowledge of nutrients and energy requirements of the various classes of poultry. Diseases/parasites, mortality, high cost of fixed inputs as said by Aromolaran (1999), give poultry farmer's serious challenges and thus, hinder the poultry business. This culminates to low production and subsequently reduced income which frustrates the business venture and sometimes lead to financial bankruptcy.

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Despite the acknowledge importance of poultry production Laseinde 2003 opined that it is characterized by low production level due to limited finance for the procurement of basic poultry equipment and materials. The result of this is that many of the small-scale poultry farmers are not encouraged to increase their productivity; thereby moving from small-scale production to a large scale production by small–scale poultry farmers encountered hindrances in the poultry industry which could be detrimental to increase poultry production.

Objectives of this Study

The Broad objective is to examine the effect of improved agrarian practice on poultry production in Yewa North Local Government, Area, Ogun State, Nigeria.

The specific objectives are to

(i) determine the awareness level of poultry farmers in the study area
(ii) examine the profitability level of poultry production;
(iii) determine the effect of improved agrarian practices in poultry production:
(iv) describe the constraints faced by poultry farmers in the study area;

RESEARCH METHODOLOGY

Study Area

The study was conducted in Yewa North Local Government Area of Ogun State (formally called Egbado North Local Government Area). Ogun State is located in the south western part of Nigeria. It is bothered by the republic of Benin on the West, Ondo State on the east, Oyo Osun State in the North, while Lagos State and Atlantic Ocean are to the South. It has twenty (20) local governments. Yewa North Local Government Area has its headquarters in the town of Aiyetoro (or Ayetoro) at 7°14′00″N 3°02′00″E in the north-east of the Area.

The Local Government Area came into existence via the Local Government edict No 9 of 1976, among the twenty (20) Local Governments Area in Ogun State. It has the land mass of 2,043.60 square hectares and human population of about 2,338,570 (National Population Commission 2007). It (the local government) shares it boundaries with Imeko-Afon Local Government Area in the North; Yewa South Local Government Area in the south; Republic of benin in the West and in the East, it is partly bounded by Abeokuta North and Ewekoro Local Government Area respectively. The area is richly endowed with fertile soil suitable for large scale farming and cattle rearing alongside – with various kinds of mineral resources that are available in large deposit for industrial use.

Sources and Methods of Data Collection

The study based its findings on both primary and secondary data collection. The primary data were collected through the administration of well-structured questionnaire, and interview scheme to collect information from the poultry farmers, while the secondary data we3re obtained from the internet, journals, and other sources.

Sampling Technique

A Multi- stage sampling technique was used for this study. The first stage involved the selection of six (6) wards with most institutions out of ten (10) political wards in Yewa North Local Government Area while the second stage involved the selection of twenty (20) poultry farmers' households, making a total 120 respondents.

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METHODS OF DATA ANALYSIS

The data was analyzed by using the descriptive statistics which includes percentage, frequency distribution and means and inferential statistics like logit model, budgetary analysis and multiple regression analysis.

Logit model

Logit model technique was used to determine the awareness level of poultry farmers
Empirical specification of the model variables are presented as follows;

$$L = Ln\left(\frac{P_i}{1-P_i}\right) = \beta_0 + \beta_1 C_1 + \beta_2 I_1 + \beta_3 H_0 + \beta_4 M_e + \beta_5 R_1 + \beta_6 W_p + e$$

Where:
L= level of awareness (assigning 1 if one is aware and 0 if otherwise).
β_0 = the intercept.
C_1 = Number of living children (to be measured by the number of children one has).
I_1 =Income (₦)
H_0 = Household Size (No of person)
M_e =Exposure to media (the source of information available to one).
R_1 = Religion (religious denomination).
W_p = Wife's or husband's education (measured by the level of schooling).
e = random element.

Gross Margin Analytical technique

Gross Margin Analysis technique was used to determine the profitability level of poultry production (objective three).

Model Specification

Profit Equation is given as follows:
$\pi = TR - TC$,
Where;
π = Net Profit
TR = Total Revenue
TC = Total Cost
Total Revenue equation is given as; $Q.P_q$
Where;
Q =Quantity of output
P_q = Unit price of output
Total Cost is given as;
$TC = \sum P_i X_i + F$
Where;
$P_i X_i$ = The variable cost of the input
F = Fixed cost of input
Hence $\pi = Q.P_q - \sum P_i X_i + F$

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Multiple regression analysis

Multiple regression analysis was used to determine the effect of improved agrarian practices in poultry production (objective five).
.The implicit form of the model is given thus:

$$Y = f\left(X_1 + X_2 + X_3 + X_4 + ... + X_n\right)$$

Where:

Y = Value of poultry production (₦)
X_1 = Age of farmers (years)
X_2 = Level of education (years)
X_3 = Household size (numbers)
X_4 = Farmers experience (years)
X_5 = Access to mass media
X_6 = Number of extension contacts
X_7 = Gender (dummy: 1 = male, 0 = female)
X_8 = Membership of any society (dummy: 1 = members, 0 = nonmembers)

RESULTS AND DISCUSSION

Table 1: Socio-Econ Characteristics of the Respondents

Variables	Frequency	Percentage
Age (years)		
Below 30	5	4.2
31 - 40	30	25.0
41 - 50	49	40.8
51 - 60	26	21.7
Above 60	10	8.3
Sex		
Male	97	80.8
Female	23	19.2
Marital Status		
Single	7	5.8
Married	113	94.2
Educational Level		
No formal education	9	7.5
Primary education	43	35.8
Secondary education	22	18.3
NCE/OND	23	19.2
HND, B.Sc.	23	19.2
Family Size (hectares)		
1 - 3	3	2.5
4 - 6	71	59.2
7 - 9	29	24.2
10 - 12	13	10.8
Farming Experience (years)		
Below 5	1	0.8
5 - 10	52	43.3
11 - 15	57	47.5
16 - 20	10	8.3
TOTAL	**120**	**100**

Source: Field Survey, 2017

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Data in Table 1 presents the results of various data analyses carried out in pursuit of the study objectives and their interpretations. The age of the respondents is an important factor that affects their level of productivity and overall coping ability within the business. Age is believed to influence the level of physical work. Findings showed the age distribution of the respondents that majority (96.8 per cent) of the sampled rural farm households, and by extension, rural farm households in the study area have the age of their household heads (farmers) falling between 31 and 60 years. As much as 8.3 per cent were aged, while youths (30 years or younger) featured less prominently (4.3 per cent) among the farmers.

Production, especially with respect to farming practices is generally tedious and energy demanding and as a result is often termed a mans' job while the women are left with the processing and sometimes marketing and sales activities. Evidence shows that 80.8 per cent of the heads of the rural farm households were males: This is a reflection of the prevailing custom of the area where most of the households are male-headed.
Marital status indicates a condition of being Married (by Law, Religion and/or Tradition) or Unmarried (Single, Widow/Widower, Divorced e.t.c). As farming households expand from being single to married, there will be more people to cater for and feed. Table 4.1.3 reveals the marital status of the respondent household heads in the study. Table 4.1.3 also shows that majority (94.2 per cent) of the household heads were married as expected.

Education is seen as a social capital that has the ability to impact positively on the ability of the household to take good and well-informed production and nutrition decisions. Education is vital in eradicating ignorance and increases the farmers' exposure and ability to make use of new farming practices and innovation. Majority (92.5 percent) of the household heads possess some formal education, which is predominantly at the primary and/or secondary level; an appreciable level of illiteracy exists among the respondents. And this may limit their ability to take full advantage of extension services, thus affecting their income generation and poverty.

The major occupation of the rural dwellers is farming. However, due to the nature and several challenges associated with rice production, many have had to seek occupational opportunities in several other areas. It is also worthy of note that most (67.5 percent) of the households' heads have farming as their main occupation. The total household size of the respondents comprises the head of the home, the wives, children as well as all other dependants resident in the house. Household size and its composition are important factors to consider in analyses of rural farm households, most especially as it determines the availability of labour to household farm economic pursuits. The result shows the household size distribution of the sampled farming households is made up of 4-6 members. This implies that increase in household will possibly increase labour for their farm production or activities.

Farming experience (years) is expected to play vital roles in agricultural practice, decision making and risk management on the farm. An experienced food (crop/animal) farmer would be expected to have a better understanding of his production environment than someone else that is relatively new in the practice. The result above shows that farmers having 11-15 years poultry farming experience constitutes majority of the respondents having 47.05% which implies that the more experience a poultry farmer gains, the better he would be in the poultry production operation.

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Logit Regression Analysis of Determinants of Level of Awareness of the Farmers.

Table 2: Determinants of Level of Awareness of the Farmers

Variables	Co-efficients	T-value
(Constant)	-3.368	-0.358
Income	0.281**	2.427
Household Size	-0.402	-0.518
Exposure to Media	-0.301	-0.571
Religion	0.851**	1.683
Educational Level	-0.167	-0.388
Log-ikelihood Function	-62.592	
Restricted log-likelihood	-65.193	
Chi-squared	5.202	

1% Significant level= ***, 5% Significant level= ** and 10% Significant level= *
Source: Field Survey, 2017

Data in Table 2 presents the determinants or factors affecting the level of awareness of improved poultry practices among the farmers. It was found that income, household size, religion were found positive and statistically significant at 5% respectively, which implies that important factors, the more they are increase in unit, the more the increase in level of awareness of the poultry farmers. While the coefficient of exposure to media, education level were negative, which implies there is less advertisement, extension services and exposure to relevant information of improved poultry practices by poultry farmers which have adverse effects on their production level.

Table 3: Budgetary Analysis Results of Poultry Production

Items	Mean
Cost of bird	123,377.38
Cost of feed	103,858.75
Cost of water	46.76
Labour cost	6,361.67
Electricity cost	18.69
Transportation cost	3,006.83
Total Variable Cost	240,485.37
Total Fixed Cost	415,025.67
Total Cost	655,511.03
Revenue from egg	149,235.00
Revenue from Layers	869,838.67
Revenue from Cockrel	244,905.33
Total Revenue	1,263,979.00
Gross Margin	1,023,493.63
Net Income	608,467.97

Source: Field Survey, 2017.

As shown in Table 3, the estimated costs and return of poultry production on the average in the zone were ₦655,511.03 and ₦608,467.96 per annum, respectively. Revenue from poultry on the average was ₦1,263,979.00, while the gross margin and net income or returns to management were ₦1,023,493.63 and ₦608,467.96, respectively. These measures of performance indicate that poultry production in the study area is viable and profitable.

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Multiple Regressions Result of Determinants of Poultry Production Total Output.

The estimated parameters and the relevant statistical test results obtained from the analysis are presented in Table 4. It had an adjusted R^2 value of 0.731. This implies that about 73.1% of the variation in (Y) is accounted for by the variables (X_1-X_8) included in the model, while the remaining 39.4% is as a result of non inclusion of other explanatory variables in the model. The F-value is positive and statistically significant at the $p \leq 0.10$, indicating that the variables included in the model adequately explain the net income in the survey area.

Out of the eight variables modelled, only educational level and number of extension contact are statistically significant in determining the level of output of the poultry production in the survey area.

Table 4: Regression Analysis Result of total output determinants.

Variables	Linear Coefficients	T	Double log Coefficients	T	Semi-log Coefficients	T	Exponential Coefficients	T
(Constant)		1.621		13.113		0.737		37.199
Age	-0.136	-1.303	-0.136*	-2.293	-.133	-1.235	-.137	-1.341
Education	0.212**	2.213	.227**	2.444	.214**	2.259	.224**	2.388
Household size	0.094	0.865	-0.051	-.473	.076	.685	-.043	-.402
farming experience	-0.057	-0.510	-0.049	-.417	-.065	-.543	-.035	-.323
Accessibility to mass media	-0.089	-0.930	-0.132	-1.404	-.098	-1.019	-.124	-1.326
Number of extension contacts	0.087	0.923	0.126**	2.335	.104	1.078	.109	1.177
Gender	-0.071	-.731	-0.105	-1.103	-.064	-.657	-.112	-1.181
Membership of any society	0.032	0.296	0.101	.912	.055	.485	.088	.833
F-Value	1.101		1.732		1.120		1.726	
R Square	0.074		0.899		0.075		0.111	
Adjusted R Square	0.007		0.731		0.008		0.047	

1% Significance level= ***, 5% Significant level= ** aand 10% Significant level= *

Source: Field Survey 2017

The finding as shown in Table 5, presents the problems encountered by the poultry farmers in the study area. It was found that diseases and parasites was very high with a highest percentage of 98.7%, followed by inadequate capital and marketing problems which 97.5%. The least is lack of support

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from government which 1.7%. Efforts should be made to control the poultry diseases and parasites through chemicals and vaccination of poultry birds regularly. Creation of awareness, give necessary market information financial support from government and credit agencies will go a long way in assisting the poultry farmers and eventually increase the poultry yields

Problems Encountered in Poultry Productions

Table 5: Distribution of Farmers by Problems Encountered in Egg Production.

Constraints	**Severe**		**Partially severe**		**Not severe**	
	Freq	%	Freq	%	Freq	%
Inadequate capital	117	97.5	3	2.5	0	0.0
Inadequate of water supply	115	95.8	5	4.2	0	0.0
High cost of feed	117	97.5	3	2.5	0	0.0
Marketing problem	116	96.7	2	1.7	2	1.7
Disease and parasites	118	98.3	2	1.7	0	0.0
Labour supply	0	0.0	0	0.0	120	100.0
Lack of credit facilities	0	0.0	0	0.0	120	100.0
Poor weather condition	0	0.0	0	0.0	120	100.0
Lack of veterinary knowledge	0	0.0	12	10.0	108	90.0
Pilfering and theft	0	0.0	38	31.7	82	68.3
No support from government	2	1.7	103	95.0	4	3.3
No ready market for birds	119	99.2	1	.8	0	0.0

Field survey 2015.

CONCLUSION

From the research being carried out, it was denoted that poultry production in the study Areas tends to be profitable and viable. The poultry production output in the study area is being determined by the farmer's level of education and the number of contact with the extension agents, the level of awareness and income of the farmers. Educational level and number of contact of extension agents to the farmers were found statistically significant $p < 0.05$ and create awareness about modern and improved practices of poultry production. Most of farmers adopted the newly introduced practices which consequently have positive impact on the production level and increased their standard of living.

RECOMMENDATIONS

Based on the above findings, it has been identified that some factors are hindering the development of poultry farms as regards large production, which will cater for the entire population of the people in the study area and the nation entirely.

The following are recommended for high production and improved profitability level of poultry in the study area;

(i). Government should improve on the credit guarantee schemes which they have made available to the public. It is in recognition of the strategic role of the poultry farmers and entrepreneurs in national development, that the federal, states, local governments, and even some corporate institutions are continuously creating the enabling environment to enhance entrepreneurship.

(ii).Government should also ensure the availability of well-tested and highly productive machines and reduced cost of feeds.

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(iii). Availability and adequate supply of Animal Drugs to the study area will also enhance the production of poultry eggs.

(iv). Poultry egg producers in the study area should also be encouraged to engage more in the rearing and production of Layers in order to develop egg production. Therefore, government policies should also be concentrated on encouraging farmers in investing more in Layer birds and make them understand the profitability of poultry eggs and its positive effect on the economy.

REFERENCES

Adebayo O. O. and Adeola, R. G. (2005): "Socio-economic Factors Affecting Poultry Farmers in Ejigbo local Government area of Osun State". *Journal on Human Ecology* volume 18(1): 39-41.

Adegunle O. A. (2003). "Economics Analysis of Egg Production in Ijebu Division, Ogun State, An Unpublished B.Agric project of the Department of Agricultural Economics, Olabisi Onabanjo University, Ogun State, Nigeria. Pp. 2-5.

Aduli Malau-Aduli, Shaibu Bawa and Kayode Joel (1994):*Journal on Factors affecting egg production and layer bird mortality in private poultry farms*. National Agricultural Research Centre for Western Region. Pp. 2 – 4.

Afolabi and S.O. Ojo, 2000. Economic Analysis of Replacing the Fish meal component in Broiler starter Mash with *Gliricidia Sepium*. Animal Options Book of Proceeding. Ed. By S.N. Ukachuwku *et al*. Af. Farming J. Jan/Feb (1998), pp: 4.

Ajibefun, I.A. and A.G. Daramola, 1999. Measuring and Sources of Technical Inefficiency in Poultry Egg Production in Ondo State. *Journal of Rural Economic. Development.* pp: 85-94.

Akinyosoye, V.O., (1991): Poultry Production, In, Senior Tropical Agriculture. Macmillan Publisher Limited, London. Reprint 1985. Pages 161-165.

American Egg Board (1999): http://www.aeb.org/ (June 29, 1999).

Amos, T.T (2006): "Analysis of Backyard Poultry Production in Ondo State, Nigeria" in *International Journal of Poultry Science.* 5 (3): 247-250,

Awoniyi T.A.M. (2003): The Effect of Housing on Layer-chicken's Productivity in the 3-tier Cage*International Journal of Poultry Science 2 (6): 438-441, 2003*. Department of Animal Production and Health, Federal University of Technology, P.M.B. 704, Akure, Nigeria. Pp. 438 – 439.

Bamiro OM, (2007), Effect of Vertical Integration and Enterprise Combinations Profitability in the Poultry Industry in Ogun and Oyo States of Nigeria. Agric Journal 2 (3): 397-404.

Central Bank of Nigeria, (2004). Annual Report and statement of Accounts. CBN Publications.

David A. M. (2002). "Nigeria Poultry and Products: Poultry Update". Global Agriculture Information Network Report (2002) Pp 2-4.

Federal Ministry of Agriculture (1990) *Agricultural Policy for Nigeria.*. Published by the Directorate for Social Mobilization Pg 28-32

Folorunsho, O.R and G.B. Onibi (2005 Assessment of the Nutritional Quality of Eviscerated Waste from Selected Chicken Types. In Proceedings of the 1st Annual Conference on Developments in Agriculture and Biological Sciences, 27th April, 2005. School of Agriculture and Agricultural Technology, Federal University of Technology, Akure, Nigeria, pp: 300.

Food and Agriculture Organisation (1991): Animal Production and Health, Paper 50, FAO, Rome.

Hernandez, Nelson (2005). "Advocates Challenge Humane-Care Label on Md. Eggs". *Washington Post*. http://www.washingtonpost.com/wp-dyn/content/article/2005/09/18/AR2005091801449_pf.html. Retrieved 2009-07-30.

Laseinde, E. O. (2002): '*Economic Analysis of Egg Production*'. Tropical Agricultural Production Series. Woye and Sons Nig. Ltd. Ilorin. Pp 10-11.

Print ISSN: ISSN 2054-6319 (Print), Online ISSN: ISSN 2054-6327(online)

Ojo, S.O. (2003): Productivity and technical efficiency of poultry egg production in Nigeria. *International Journal of Poultry Science*, 2:6 (2003).

Okonkwo, W .I. and Akubuo, C. O. (2001): Thermal analysis and evaluation of heat requirement of a passive solar energy poultry chick brooder in Nigeria. *Journal of Renewal Energy*, 9(1) (2001).

Okunmadewa, F.Y (1999): "Livestock Industry as a tool for Poverty Alleviation". *Tropical Journal of Animal Science*. Vol.2. Pp 21-30

Yusuf S. A. and Malomo O. (2007): Technical Efficiency of Poultry Egg Production in Ogun State: A Data Envelopment Analysis (DEA) Approach. *International Journal of Poultry Science 6 (9): 622-629, 2007.* Department of Agricultural Economics, University of Ibadan, Ibadan.

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