

Revenue and Income Analysis of Poultry Egg Marketing in Nnewi North Local Government, Anambra State, Nigeria

Ositanwosu, C.O., *Nkamigbo, D.C. & Gbughemobi, B.O.

Department of Agricultural Economics and Extension,

Faculty of Agriculture, Nnamdi Azikiwe University, Awka, Nigeria, West Africa.

*dc.nkamigbo@unizik.edu.ng, co.ositanwosu@unizik.edu.ng and bo.gbughemobi@unizik.edu.ng
chinezenkamigbo@yahoo.com

DOI: 10.56201/ijaes.v10.no5.2024.pg301.313

Abstract

The study examined revenue and income analysis of poultry egg marketing in Nnewi North Local Government, Anambra State, Nigeria. Specifically, it described the socio-economic characteristics of the marketers, marketing channels and volume of trade, marketing structure, profitability and marketing efficiency and constraints to poultry egg marketing in the study area. Primary data were collected by means of structured questionnaire and were analyzed using descriptive statistics, gini coefficient, enterprise budgeting, Shepherd-Futrell technique and relative importance index. Finding from socioeconomic characteristics showed that majority of the marketers were within the age bracket of 20-39 which implies that the marketers are within their active years. There is a female dominance (51.6%) in the area while majority are married (35.8%). The first channel recorded the highest percentage among the four channels (38.3%), and this is as a result of poultry eggs being cheaper when purchased by consumers directly from the producers. The result of profitability of poultry egg marketing showed that out of the total cost of ₦1, 891722.1 spent by the marketers, purchases constituted (86.81%) while the least expense was recharge card (1.00%). The enterprise generated a net return on investment of 1.16 and the implication of this is that the marketers return ₦1.16 kobo for every 1 Naira invested in the enterprise. The result of analysis revealed a market efficiency of 86.2% implying that the marketers were inefficient in the operation of poultry egg marketing in the study area. There is high concentration of sales in the hand of few marketers; hence there is existence of imperfect competition in the market. Risk of breakage, poor storage facility and price fluctuation were perceived as the most serious constraints in the enterprise. Government and other relevant stake holders should assist the marketers on modern storage facilities and good road network should be made available for optimum output were recommended.

Keywords: Revenue, Poultry Egg, Marketing

Introduction

Agriculture is the engine of growth for most developing countries of the world and also one of the most effective ways to alleviate poverty and hunger. It can raise income and improve food security for 80% of the world's poor, who live in rural areas and work mainly on farms. Agriculture in Africa has a massive and economic footprint; more than 60% of sub-Saharan Africa are small-holder farmers, and about 23% of sub-Saharan Gross Domestic Product comes from Agriculture (Gbughemobi, Meludu, and Nkamigbo, 2021). Nigeria has an agrarian economy and Agriculture is the main stay of the economy providing employment to over 90% of the rural dwellers who contribute about 70% of the total population through agricultural output, processing, packaging and marketing Nkamigbo and Isibor (2019).

Poultry is the term used for a collection of birds that are reared or hunted for a useful purpose by man. It provides animal protein for the populace because it yields quick returns and provides meat and eggs in a very short time. The egg is the major product of poultry and it is one of the most nutritious and complete food known to man Jatto, Adeoye, Oke, Ogunbela and Lawal (2020). The term poultry refers to local and exotic fowls which are raised and fattened for their products, this include eggs, meat and in some cases feathers Hassan, Ahmadu, Oseni, Dawang, Rahman and Abdulsalam (2016). Chiekezie, Ozor and Isibor (2021) states that poultry egg is one of the most nutritious and complete food known to man and it is the cheapest per unit source of animal protein and readily affordable by the populace than other sources of animal protein. Egg is a rich source of protein, liquids, vitamins, phosphorus and other nutritionally substances. They are easily digestible and are a source of raw materials for agro-allied industries that utilize them in the production of food, drinks, baking and confectionery and in the propagation of viruses in vaccine production. Poultry industry is very important to the Nigerian economy because it provides a good source of animal protein in meat and eggs. Poultry egg play a very useful role in bridging the protein gap in Nigeria. It gives about 3.5g of the total 7.2g animal protein requires for individual dietary need per day. It is a good source of several minerals that can be hard to get in other foods such as iodine and selenium. This is probably one of the reasons why the campaign for one egg per day could not be easily faulted lawal, Yusuf, Dambazau, Ahmad, Adoni, Sadiq, Suleiman and Barau, (2020).

The poultry egg industry, apart from providing employment and livelihood to thousands of people in Nigeria, also provides high quality, nutritious foods. The egg is a complete protein with excellent quality; one egg will give 6g of protein and egg white protein has a biological value of 100g, the highest biological value of any single protein Nse-Nelson, Kurumeh and Osondu (2018). Tijani, Alimi and Adesiyani (2006) reported that eggs have a number of uses apart from domestic consumption in household; they are used in confectionery bakery products, ice-cream and cosmetics. Egg shell is a good source of calcium. The nutritional status of many Nigerians is characterized by low calorie and protein intakes and Nigerians' greatest problem is that of inadequate animal protein in their diets Adepoju (2008) reported that the average per capita protein intake in Nigeria is 51.7g of which only 6.8g came from animal sources, but in developed countries the average per capita protein intake is over 90g with more than 65g of animal protein. Thus, widespread malnutrition will become more evident in the country if there is no substantial

improvement in poultry production as a major source of protein. Egg production involves the use of good layer birds for the purpose of table egg production Ogunlade and Adebayo, (2009). Eggs are major sources of animal protein in human diet. Poultry goes a long way in providing animal protein for the populace because it yields quickest returns and provides for meat and eggs in a very short time. Poultry eggs nearly approach a perfect balance of all food nutrients. The yolk and albumen contain 17.5% and 10% respectively protein by weight. It was also found by the Food and Agricultural Organization of the United Nations (FAO, 2012) that eggs rank second to cow milk in terms of nutritive value and are the most economically produced animal protein.

Poultry products in most developing countries especially in Nigeria are still expensive and the production system is generally informal and poorly developed. Many commercial poultry egg productions are now striving for hybrids. This is because it gains weight more quickly, are disease resistance and lays more healthy eggs than the local breed and therefore generally used by poultry egg producers. Poultry egg and poultry egg products has been in short supply due to the ever-increasing cost of feed stuffs with this high cost of feed stuffs many producers are either out of production or are producing poor quality of poultry eggs. However, despite the nutritional and commercial values of poultry egg, its production remains low in Nigeria when compared to other Nations of the World. The problem of protein and caloric malnutrition has been repeatedly highlighted as a major contributing factor to the serious health hazard in developing countries especially Nigeria (Nurudeen, 2012). In Nigeria alone, the demand for poultry egg has risen from 500,000 metric tons in 1980 (FAO, 2012) to about 1,500,000 metric tons in 2012. The problem of satisfying this demand is the increasingly human population and diminishing production capacity. In Nigeria, large scale poultry egg production began in the early 1960s. Ever since, it has assumed relatively important position in the nation's livestock industry. Nutritionally, eating an egg a day is a good way of putting protein, fat, vitamins and minerals in the human diet. Okpeke and Ellah (2017) stated that poultry egg has become one the most effective sources of protein for human consumption and the poultry industry has also served as a major provider of employment, income, industrial raw materials, manure and financial security. Ademtimirim (2000) revealed that poultry egg is a good source of vitamin A, which protects against night blindness and prevents skin infections. With other vitamins such as *B1*, *B2*, and *D* and with minerals such as *Ca*, *Fe* and *P* (are all present in Poultry egg). Poultry egg production serve as major ingredient in some food industries such as the confectioneries and cocoa powder.

Nigeria is the major contributor of poultry egg in Africa, producing about 784,000 metric tonnes of Africa's total of 951,000 metric tons (FAO, 2012). Also, it has been reported that the protein supply per capita was 44grams out of which animal product constituted less than 2 percent. As such, the average Nigerian still consumes less than 0.1 percent of animal protein per day compared to 0.7 percent of animal protein consumed in developed countries. Thus, malnutrition and under nutrition affect all age groups in Nigeria. The existence of a local market offering good sales opportunities and adequate transport facilities are obvious prerequisites for family poultry development as most consumers with good hassling power live in cities, intensification of poultry production should be initiated in peri-urban areas or, at least, in areas having a good road network.

The death in the quantity and quality of protein supply in Nigeria is a challenge that is beyond dependence on plant protein alone. It suffices therefore, to explore quality protein of animal origin

of which poultry egg is of prime importance. The Federal Ministry of Agriculture and Natural Resources (1998) and Eduvie (2002) stated that Nigerian poultry industry is dominated by smallholder farmers who on the aggregate raise bulk of the birds for egg production and meat, but individually rear less than 1000 birds using different production strategies in consonance with little resources available to them.

Agricultural marketing is the performance of all business activities involved in the movement of agricultural commodities from the point of production to consumers yard (Ozor, Nkamigbo, Chiekezie, 2019 and Nkamigbo, Isibor and Ekeke, 2021). It helps the producers such as farmers and the middlemen to earn income with which they purchase other useful goods and services (Nkamigbo, Ugwumba and Okeke, 2019). The income of the farmers depends to a large extent on the smooth operation of the marketing system therefore making marketing very useful to agricultural producers (Isibor et al, 2019 and Ezeano, Okeke, Anyanwu and Nkamigbo, 2021).

MATERIALS AND METHOD

The study was conducted in Nnewi North Local Government area, Anambra state. Nnewi is a metropolitan city that is made up of four autonomous communities, namely; Otolo, Uruagu, Umudim and Nnewichi. It has a population of over 2 million and land square of 2,789Km², latitude 6000, 60, 000N and Longitude 6054, 59. 990E (Nkamigbo, Chiekezie and Ozor, 2019 and Wikipedia, 2022). Nnewi is the second largest city in Anambra state and it is referred to as the Japan of Africa due to the presence of several large- and small-scale Industries, automobile production company, automobile and other markets (Nkamigbo, et al, 2019). It is widely circulated that Nnewi Metropolis houses over 2 million people and this has boosted the economic and marketing activities of several agricultural produce especially poultry eggs. The rainy season occurs from the month of March through October. The dry season occupies months of November to February. The Annual rainfall ranges from 1400mm in the North to 2500mm in the south with temperature of 25°C to 35°C. Four major markets were purposively selected and these are Eke-Amaobi, Nwafor-Uruagu, OrieAgbor and Afia-Okponoegbu. Thirty marketers were randomly selected from each of the markets, totaling 120 marketers for the study. Data for the study were collected using a structured questionnaire as the targeted population is poultry egg marketers. Data were analyzed by the use of descriptive analysis such as mean, frequency, percentages, Enterprise budgetary technique and relative importance index.

Model specification

The model was used to measure the influence of socio-economic characteristics on net marketing income of farmers. Socioeconomic factors are as follows:

NMI=Net Marketing Income

AGE= Age in years

GEN = Gender (dummy: male =0; female = 1)

MRS = Marital status

EDU = Educational level

SOF = Source of finance

HOS = Household size (number of persons living together)

TOU = Membership of trade union (dummy: member =0, non-member = 1)

BOP = Branding of product. (Dummy: branding =0, non-branding = 1)

EXP = Marketing experience

MKS = Marketing cost

e = Stochastic error term.

It is implicitly represented below as

$NMI = \beta (AGE_1, GEN_2, MRS_3, EDU_4, HOS_5, SOF_6, TOU_7, BOP_8, EXP_9, MKS_{10} \dots \beta_n)$

The budgetary technique was used to determine the profitability of the marketers

$$NER = \sum P_{yxi} Y_i - (\sum P_{xij} X_{ij} + \sum F_{ij})$$

Where \sum = sum

$P_{yi} Y_i$ = unit price \times quantity of 1th respondents' sales = Total revenue (TR) for 1th respondent.

$P_{xij} X_{ij}$ = Prices \times quantities of 1th respondents' variable inputs = total variable cost (TVC) for 1th respondent.

F_{ij} = Depreciation values of equipment, annual rent for store, interest on loan, for 1th respondents = Total fixed cost (TFC) for 1th respondent.

TC = Total cost (TVC + TFC).

The marketing efficiency of farmers' will be achieved was using Sherpherd-Futrell technique.

The marketing efficiency

$$ME = \frac{TC}{TR} \times 100$$

Where:

ME= Coefficient of marketing efficiency,

TC= Total marketing cost incurred

TR= Total value of product sold

$$\text{Gini-coefficient} = 1 - \sum XY$$

Where:

X= the ratio of percentage of respondents

Y= the ratio of cumulative percentage

\sum = summation

RESULTS AND DISCUSSION

Table 1 Socio-economic Characteristics of The Respondents

VARIABLE	FREQUENCY	PERCENTAGE
AGE		
20 – 29	30	25%
30 – 39	36	30%
40 – 49	25	20.8%
50 – 59	16	13.3%

60 and above	13	10.8%
Total	120	100
GENDER		
Male	58	48.3%
Female	62	51.6%
Total	120	100
MARITAL STATUS		
Single	27	30.8%
Married	59	35.8%
Divorced/widow/widower	14	33.2%
Total	120	100
HOUSE HOLD SIZE		
1 – 3	31	25.8%
4 – 6	63	52.5%
7 – 9	21	17.5%
10 and above	5	4.1%
Total	120	100
MARKETING EXPERIENCE		
1 – 4	29	24.1%
5 – 9	80	66.6%
10 and above	11	9.1%
Total	120	100
EDUCATIONAL LEVEL		
0 – 6	31	25.8%
7 – 13	54	45%
14 and above	35	29.1%
Total	120	100
OCCUPATION		
Trading	51	42.5%
Farming	14	11.6%
Civil service	45	37.5%
Artisan	10	8.3%
Total	120	100
SOURCE OF FINANCE		
Personal savings	40	33.3%
Friends and relation	71	59.1%
Cooperatives/isusu	7	5.8%
Micro-finance bank	0	0%
Commercial bank	0	0%
Bank of agriculture	2	1.6%
Total	120	100
OTHER BUSINESS ACTIVITIES		
YES	101	84.1%
NO	19	15.8%
Total	120	100

Source: Field Survey; 2023.

Socioeconomic characteristics of the marketers in Table 1 indicates that majority of the marketers were within the age bracket of 20 and 39 years. This implies that the marketers were relatively young, energetic and able to face the hustle of perishable marketing. This agrees with Okpeke and Ellah, (2017) who stated that poultry eggs marketers in Ika South LGA were dominated by young people who were still in their active age. The result revealed a female dominance of (51.6%) in the study area. Women are taking the center stage in the marketing of the product to increase inflow of income to their household as men are taking the laborious part of production. Majority of the marketers were married with household size of 4 - 6 persons. Also, the educational level of the marketers is interesting implying that almost all had one level of education or the other thus making the study area a vibrant center. From the result most marketers have spent 5-9 years (66.6%) in the enterprise. This agrees with Nse-Nelson, Kurumeh and Osondu (2018) who reported marketing

experience of 6-10 years of poultry egg marketing in Ikwuano LGA. This implies that the marketers are relatively experienced in their venture. Source of finance revealed that friends and relations took the center stage (59.1%) implying that in the study area, poultry egg marketers rely mostly on funds gotten from friends and relation to start and uphold the business, Also, (84.1%) of them engage in other trading activities for support.

Marketing Channels of Poultry Egg

Marketing channel refers to the various path ways through which poultry egg moves from producers/suppliers till it gets to the consumers. The distribution channels of poultry egg in the study area indicated four marketing channels as shown below. The marketing channels identified were:

- i. Producer/Supplier → Consumer (38.3%).
- ii. Producer/Supplier → Retailer → Consumer (25%).
- iii. Producer/Supplier → Wholesaler → Consumer (23.3%).
- iv. Producer/Supplier → Wholesaler → Retailer → Consumer (13.3%).

The first channel revealed the flow of poultry egg from the producer to the end users (Consumers) without going through any middlemen or intermediaries, this channel recorded the highest percentage among all four channels (38.3%), and this is as a result of poultry eggs being cheaper when purchased by consumers directly from the producers. The second channel reveals that retailers often buy directly from the producers to sell to consumers, it recorded at (25%), and this suggests that retailers buy directly from producers at a cheaper rate, but will later be subjected to high cost of transportation on getting the poultry eggs to the consumers. This agrees with Nkamigbo and Isibor (2019) who reported that retailers who buy directly from producers were subjected to higher cost of transportation in conveying the produce to consumer markets. The third channel records the flow of poultry eggs from the producers to the wholesalers and then the consumers at a percentage of (23.3%). The fourth and final channel is the longest of the four channels, it involves the flow of poultry eggs from the producers to the wholesalers who sell in bulk to the retailers and in turn the retailers sell in small quantities to the consumers. The implication is that, the longer the channel the higher the possibility of consumers buying poultry eggs at increased rates, also the lower the price accrued to producers due to more exploitation of middlemen. This channel records the lowest percentage of (13.3%). This finding is agreement with Nkamigbo, Isibor and Ekeke (2021) who reported that longer channels will accrue lower price to producers due to exploitation of middlemen.

Table 2: Estimated Monthly Profitability of Poultry Egg Marketers

VARIABLES	PARAMETERS	%
TOTAL REVENUE	2,194,500	
VARIABLE COST		
Purchases	1,567,500	86.8%
Transportation	75,750	4.2%
Recharge Cards	19,000	1.0%
Nylon Bags	142,000	7.8%
Total Variable Cost	1,804,250	99.8%
FIXED COST		
Monthly Shop Rent	62,500	71.4%
Wheel Barrow	940.6	1.0%
Egg Crates	3,050.5	3.5%
Buckets	71.65	0.08%
Table	166.88	0.2%
Chair	142.47	0.16
Interest on Loan	15,100	17.5%
LGA Charges	5,500	6.2%
Total Fixed Cost	87,472.1	100%
Total Cost TC = (TVC + TFC)	1,891,722.1	
Gross Margin = (TR – TVC)	390,250	
Net Marketing Income NMI = (GM – TFC)	302,777.9	
Return on Investment = TR/TC	1.16	
Net Return on Investment = NMI/TC	0.16	
Gross Ratio = TC/TR	0.86	
Marketing Efficiency = TC/TR × 100/1	86.2%	

Source: Field Survey; 2023.

The enterprise budgeting was deployed to determine the profitability of poultry egg marketing as shown in the study area. Result of the analysis indicating Total Cost (TC), Total Revenue (TR), Total Variable Cost (TVC), Total Fixed Cost (TFC), Gross Margin (GM), Net Marketing Income (NMI) and Net Return on Investment is presented in Table 1. It could be seen from the table that out of the total cost of ₦1, 891, 722.1 spent by the marketers, purchases constituted (86.8%), while the least expense was recharge cards which came in at (1.0%). This result is in tandem with Nkamigbo and Isibor (2019) who reported that the cost of purchases constituted (94.2%) and (89.76%) of the total cost of marketing dry maize and watermelon respectively to become the most

important cost to consider in starting the marketing enterprise. The marketers realized ₦2, 194,500 after spending a total variable cost of ₦1, 804,250 and total cost of ₦1.891, 722.1. The transaction generated a gross margin of ₦390, 250, Net marketing income of ₦302, 777.9 and net return on investment of 0.16, the result equally revealed a gross ratio of 0.86, which gave a marketing efficiency of (86.2%). The implication of the net returns on investment figure is that the marketers return ₦1.16 kobo for every 1 Naira invested in the business. Overall profit indicators (gross margin, net marketing income, mean net marketing income and net return on investment values) proved the enterprise profitable. This is in tandem with Nes- Nelson et al, (2018) who reported a profit of 1.035k as profit.

Marketing Efficiency of Poultry Eggs

The shepherd-Futrel method was used to determine the coefficient of marketing efficiency. The method expresses marketing efficiency as the ratio of total cost to total revenue expressed as percentage. The lower the percentage, the better the marketing efficiency, since less proportion of the revenue will be expanded on total cost of marketing.

$$ME = \frac{TC}{TR} \times 100$$

$$ME = \frac{1,891,722.1}{2,194,500} \times 100$$

$$ME = 86.2\%$$

Where:

ME = Marketing Efficiency

TC = Total Cost

TR = Total Revenue

The Shepherd-Futrel technique was used to determine the coefficient of marketing efficiency. The method express marketing efficiency as the ratio of total cost to total revenue expressed as percentage. The lower the percentage, the better the marketing efficiency, since the less proportion of the revenue will be expanded on the total cost of marketing. The result of analysis revealed a market efficiency of 86.2% implying that the marketers were inefficient in the operation of poultry egg marketing in the study area.

Table 3 Estimated Gini Coefficient of the Marketing Agents

Monthly Sales	F	X ₁	Cumulative	TMS	TMS OF Y ₁	X ₁ Y ₁
50,000 – 150,000	9	0.0750	0.0750	164,587.5	0.0750	0.0056
151,000 – 301,000	41	0.3416	0.4166	749,787.5	0.3416	0.1166
302,000 – 453,000	60	0.5000	0.9166	1,097,250	0.5000	0.2500
454,000 and above	10	0.0833	0.9999	182,875	0.0833	0.0069
GC = $1 - \frac{\sum X_1 Y_1}{TMS^2} = 1 - \frac{0.3791}{0.6209} = 0.6209$						0.3791

Key note = TMS = Total monthly sales, Source: Field Survey; 2023.

Gini coefficient which measures the relative degree of income distribution among poultry egg marketers in the study area. The result revealed a gini coefficient of 0.6209, this implies a high level of income inequalities (sales margin) in the distribution of income among poultry egg marketers, high concentration of sales in the hands of few marketers, thus the existence of an imperfect competition in the market. The result further revealed that some marketers can influence the price of produce. This agrees with the result of Nse-Nelson et al (2017) and Isibor and Nkamigbo (2023) who reported a gini coefficient of 0.50, 0.68 and 0.74 in the marketing of poultry eggs and turmeric in their study areas showing possibility of competitive behavior and inequality in earnings of the marketers. This finding is in variance with Okpeke and Ellah, (2017) who reported a gini coefficient of 0.3054, which is an indication of a moderate inequality in the income of the marketers which suggests low level of concentration and hence some level of perfect competition of the market structure.

Table 4. Constraints to Poultry Egg Marketing

Variables	Mean	Rank
High cost of transportation	3.00	5 th
Risk of breakage	3.27	1 st
Poor storage facility	3.19	2 nd
Price fluctuations	3.07	3 rd
Inadequate capital	2.20	7 th
Rotting due to prolonged stay	3.03	4 th
Bulkiness	2.40	6 th

Source: Field Survey; 2023.

The constraints associated with poultry egg marketing are shown in table 4. The findings reported seven (7) constraints of which risk of breakage ($m=3.27$), poor storage facility (3.19), price fluctuations (3.07) and rotting due to prolonged stay (3.03) were the most pronounced constraints of importance among the marketers. The egg shells are fragile and stands a risk of cracking and breaking during transportation, loading and off-loading, which will reduce the value or even render the poultry egg worthless. Another constraint of importance to poultry egg marketers is poor storage facility ($m=3.19$), this is because most marketers who do not sell off all their eggs lack the necessary facility to store them, this agrees with Boateng (2016) and Obayelu (2014) who identified inadequate and poor storage facility as a major problem to marketers. Price fluctuation ($m=3.07$) is another constraint among poultry egg marketers because it makes it difficult to keep track of profit and losses. Rotting due to prolonged stay records a mean of ($m=3.03$), because poultry eggs tends to become rotten when they are not sold off to consumers on time, this agrees with Isibor and Ugwumba (2013) who reported spoilage as one of the major constraints to the marketing of farm produce. High cost of transportation (3.00) is another major constraint to poultry egg marketing, this agrees with Adekunle, Olagoke and Ogundare (2013) who reported that adequate transportation facility could enhance successful marketing, Osundu, Nwadike, Ijeoma, Udah and Ugboaja (2014) reported that transportation cost constitutes the highest marketing cost in cabbage supply chain. Other constraints of poultry egg marketing include; Bulkiness ($m=2.40$) and Inadequate capital ($m=2.20$).

SUMMARY

Socioeconomic characteristics of the marketers in Table 1 indicates that majority of the marketers were within the age bracket of 20 and 39 years. This implies that the marketers were relatively young, energetic and able to face the hustle of perishable marketing. The first channel revealed the flow of poultry egg from the producer to the end users (Consumers) without going through any middlemen or intermediaries, this channel recorded the highest percentage among all four channels (38.3%), and this is as a result of poultry eggs being cheaper when purchased by consumers directly from the producers. Overall profit indicators (gross margin, net marketing income, mean net marketing income and net return on investment values) proved the enterprise profitable. The result of analysis revealed a market efficiency of 86.2% implying that the marketers were inefficient in the operation of poultry egg marketing in the study area. The result revealed a gini coefficient of 0.6209, this implies a high level of income inequalities (sales margin) in the distribution of income among poultry egg marketers, high concentration of sales in the hands of few marketers, thus the existence of an imperfect competition in the market. The findings reported seven (7) constraints of which risk of breakage, poor storage facility, price fluctuations and rotting due to prolonged stay were the most pronounced constraints of importance among the marketer. Government and other relevant stake holders should assist the marketers on modern storage facilities and good road network should be made available for optimum output were recommended.

Conclusion

Poultry egg marketing in the study area proved a profitable enterprise looking at the overall profitability indicators (gross margin, net marketing income and net return on investment). Also the marketers returned ₦1.16 kobo on every one Naira invested in the enterprise proving the

business profitable. Addressing the most perceived constraints identified in the study area will increase their income and also improve their welfare.

References

- Adekanye, T.O. (2008). The Markets for Foodstuff in Western Nigeria. In: Adekanye, T.O. (Ed.). Readings in Agricultural Marketing. Longman, Ibadan, pp.: 12- 22.
- Adekunle, V.A.J., Olagoke, A.O. and Ogundare, L.F. (2013). Timber Exploitation rate in Tropical rainforest Ecosystem of Southwest, Nigeria and Implications on sustainable forest management. *Applied Ecology and Environmental Research* 11(1), 123-136.
- Adetimirin, OT (2000). *Analysis of Egg Marketing in Agege Local Government area of Lagos State*. Unpublished B. Tech Thesis, Department of Agricultural Economics and Extension, Ladoké Akintola University, of Technology Ogbomosho.
- Boating, V.F., Amfo, B., Abubaksri, A.H. and Yeboah, O.B. (2016). Do marketing margin determine local leafy vegetables marketing in the Tamale Metropolis? *African Journal of Eduvie*, L. O. (2002). "Poultry Production as an Important Component of Nigeria's Livestock Subsector." A Training Manual, National Training Workshop on Poultry Production in Nigeria in NAPRI, ABU, Shika, Zaria, Nigeria.
- FAO (2009). Food and Agriculture Organization statistic Online Issue. www.fao.org
- FAO (2012). Food and Agriculture Organization Statistic; Online Issue www.Fao.org.
- Hassan, A.A., Ahmadu, H.J., Oseni, Y., Dawng, N.C., Rahman, S.A. and AbdulSalam, Z. (2016). Economic analysis of poultry egg enterprise in Kaduna State, Nigeria. *Journal Anim. Prod. Res*, 28(1), 196-204.
- Isibor, A.C. and Ugwumba, C.O.A. (2014). Analysis of watermelon (*Citrullus Lunatus*) Marketing in Nnewi Metropolis, Anambra State, Nigeria. *Journal of Science and Multidisciplinary Research*, 6(2), 1-11.
- Isibor, A.C. and Nkamigbo, D.C. (2023). Market structure and net determinants of turmeric marketing in Onitsha agricultural zone, Anambra State, Nigeria. *International Journal of Life Science and Research*, 5(2), 21-30.
- Jatto, k, A., Adeoye, A. S., Oke, O.O., Ogunbela, A.A. and lawal, M.O. analysis of poultry egg Marketing in Ijebu-Ode, LGA, Ogun State, Nigeria. *Intl Journal of Advanced Academic Research Sci. Technology and Engineering*, 6 (10), 72-79.
- Lawal, A. T., Yusuf, A.O., Dambazau, S, A., Ahmad, Y.S., Adomi, A.A., Sadiq, M.S., Suleiman, and Barau, S.S. (2020). *FUDMA Journal of Science*, 4(2), 443-451.
- Nkamigbo, D.C., Isibor, A.C. and Ekeke, N.C. (2021). Socioeconomic determinants of farmers using social network in advancing agribusiness in Anambra State, Nigeria. *International Journal of Research and Review*, 8(8), 138-144.
- Nkamigbo, D.C., Ugwumba, C.O.A. and Okeke, Uche (2019). Market Structure, Conducts and volume of trade among watermelon marketers in Anambra State, Nigeria. *International Journal of Agriculture and Biosciences*, 8(2): 91-98.
- Nkamigbo, D.C, Chiekezie, N.R. and Ozor, M.U. (2019). Performance Efficiency of fresh tomato marketing in Nnewi North LGA, Anambra State, Nigeria. *Intl Journal of Applied Science and Research*, 2(5), 91-100.

- Nkamigbo, D.C. And Isibor, A.C. (2019). Inter-Market Price Spread and determinants of Net farm income in Watermelon Marketing in Anambra State, Nigeria. . *International Journal of Agricultural Policy and Research*, 7(4): 100-107.
- Nurudeen, A.J. (2012). Economics and social characteristics of registered poultry egg producers in Ilorin, Kwara State, Nigeria. *Russian Journal of Agricultural and socioeconomic Sciences*, 11(11), 18-23.
- Nse-Nelson, F.A., Kurumeh, J.C and Osundu, K.R. (2018). Evaluation of poultry egg marketing in Ikwuano LGA, Abia State, Nigeria. *Agro-Science Journal of Tropical Agriculture, Food, Environment and Extension*, 17 (1), 1-6.
- Ogunlade, I. and Adebayo, S. A. (2009). “Socio-Economic Status of Women in Rural Poultry Production in Selected Areas of Kwara State, Nigeria”. *International Journal of Poultry Science* 8(1):55-59.
- Okpeke, M.Y. and Ellah, G.O. (2017). Analysis of poultry eggs marketing in South-South part of Nigeria. A case study of Ika South LGA, Delta State, Nigeria, *European Centre for research training and development UK*, 6(4), 1-15.
- Obayelu, A.E. (2014). Effect of rural infrastructure on profitability and productivity of cassava based farms in Odogbolu LGA, Ogun State, Nigeria. *Journal of agricultural Sciences*, 59(2), 187-200.
- Osundu, C.K., Nwadike, F.C., Ijeoma, J.C., Udah, S.C. and Ugboaja, C.I. (2014). Marketing performance of salad vegetables: the case of cabbage marketing in Abia State, Nigeria. *Intl Journal of agricultural science Research and Technology in Extension and Educational Systems*, 4(3), 151-162.
- Ocholi, A., Nyiatagher, Z.T. and Udeh, M (2017). Economic Analysis of sweet potato marketing in Benu State, Nigeria. *Journal Research in Business Management*, 5(7): 41-47.
- Ozor, M.U., Nkamigbo, D.C and Chiekezie, N.R. (2019). Performance evaluation of dry white and yellow maize (*Zea mays*) marketing, implication for employment and poverty alleviation in Anambra State, Nigeria. *Intl. Journal of Applied Science and Research*, 2(5), 80-90.
- Tijani, A. A., Alimi, T. and Adesiyon, A. T. (2006):” Profit Efficiency among Nigerian Poultry Egg Farmers: A Case Study of Aiyedoto Farm Settlement, Nigeria. *Research Journal of Agricultural Biological Sciences*, 2(6):256-261.
- Wikipedia (2022), estimated population of Nnewi North LGA. Retrieved from <https://en.m.wikipedia.org/wiki>.