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Obekpa et al., Analysis of Poultry Value Chain and the Opportunity for Youth Employment … pp 39 – 47

Analysis of Poultry Value Chain and the Opportunity for Youth Employment in Makurdi Local Government Area of Benue State

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Abstract
This study analyzed the poultry value chain and the opportunities for youth employment in Makurdi Local Government Area of Benue State. A multi-stage sampling method, which included purposive sampling and simple random sampling techniques, was used to select a sample size of 120 respondents from the total poultry value chain businesses in the area. Data was collected using a structured questionnaire and analysed using descriptive and inferential statistics. The analysis revealed that egg sales had a positive coefficient of 0.0382, which was significant at the 1% level. Feed dealers also had a positive coefficient of 0.00167, which was significant at the 5% level. Additionally, the sales of feeders and drinkers had a coefficient of 0.0883, which was significant at the 10% level. These results indicate a direct relationship with youth employment. In contrast, bird production and veterinary shops showed negative coefficients of -0.00529 and -0.0869, respectively, indicating an inverse relationship with youth employment. The study identified major factors limiting youth involvement in the poultry value chain, including inadequate capital and insufficient government support. It recommended that extension activities be intensified. In conclusion, the study determined that the poultry value chain has a significant effect on youth employment in the Makurdi Local Government Area.

Keywords: Poultry, youth employment, value chain, agri-training, Benue

1.0 Introduction
One of the few options for investment and protection against risk and food insecurity is raising chickens. This initiative arose from the need to address unemployment and create more economic opportunities and food security for rural households, especially for young people. As a result, Agripreneurship has become essential (Nwigbo et al., 2016). Agripreneurship is a process through which young people become determined, creative, and innovative. They are willing to take calculated risks and consistently look for opportunities to improve and expand their farming businesses. In Nigeria, poultry farming is one of the most significant agripreneurship ventures pursued by youths, following crop production (Onuekwusi et al., 2019). The origins of Nigeria's poultry sector can be traced back to initiatives by regional governments in the 1960s. During this period, the Western Regional Government collaborated with several foreign partners, notably the Israeli government, to establish cooperative pilot chicken production schemes (Adene & Oguntade, 2006). The domestic commercial poultry industry began to take shape when private investors entered the chicken production market in the late 1960s and early 1970s. This development spread from the West to the East and even into some areas of the North. The industry experienced rapid expansion, particularly in the West, during the first ten years of this growth (Adene & Oguntade, 2006). Poultry farming has shown a remarkable ability to adapt to various environmental conditions. As a result, poultry birds can

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

be raised in villages, private or commercial farms, small towns, and cities. This is evident from the widespread production of grilled poultry across the country, with no significant social, cultural, or religious restrictions on their consumption. Consequently, there is a large market and demand for poultry products, which supports value-oriented businesses aimed at reducing poverty (Diabuah and Oyana, 2017).

Nigeria's youth unemployment rate is rising at an alarming rate yearly. Every year, hundreds of thousands of graduates enter the workforce, where there are few or no jobs. According to a 2016 National Bureau of Statistics submission, 52 million Nigerians who are part of the country's economically active population do not have a job and are therefore unemployed. As a result, the economy suffers since there will be more consumers than producers, more dependents than value-adding individuals, and more money spent than made.

More products are consumed, yet less are produced. The main productive human resource for socioeconomic development is young people. Nigerian youngsters come from various socioeconomic, religious, and ethnic origins. Because of this variability, efforts must be tailored to each individual's requirements and potential. Since every young person can contribute to any part of the agricultural food value chain, the country's economy would grow quickly if 21.5% of unemployed youths were employed in agriculture (FAO, 2018). According to Morton (2013), agriculture is the foundation of all economies worldwide and accounts for the second-largest portion of Nigeria's foreign exchange earnings. Although it was Nigeria's main occupation and source of income, it lost appeal due to a lack of fresh inventions to support the industry (Osuala, 2017).

Ajani et al. (2015), noted that the chicken industry is one of the agro-entrepreneurial sectors with the most unrealised potential for empowering young people. With meat and eggs that have a higher biological value than plant proteins, poultry is an important source of high-quality animal protein. In addition to having the quickest and best rate of return on investment (short generation), ease of management, and little area requirements, it offers many Nigerian households instant income and development (Inyang and Eko, 2015). Young people in general and educated unemployed youth in particular can readily enter the poultry farming industry, which has enormous potential for growth and job creation. With the assistance of local artisans, basic feeding, watering, and sheltering equipment, small units of pens can be made from materials found in the communities (Okoli, Anyaagbunam, Etuk, Uchegbu, and Udedibie A, 2014).

Due to the numerous definite and indefinite important stakeholders involved, the poultry value chain is quite complex: supply of poultry inputs, production, processing, and marketing. Broiler farming, egg production, feed formulation, sales and marketing, value addition (converting poultry products or by-products into consumables), and agro-transportation were identified by Ajala et al. (2021) as the primary value chain in the poultry sector. The value chain does not just limit its possibilities to farmers but also to feed and drug producers, veterinary specialist, transporters, and a whole lot of others creating a deep stream of employment.

2.0 Research Methodology

A cross-sectional survey was employed for this study. Pre-tested questionnaires were used to gather data. The study was conducted in Makurdi Local government area of Benue State. One hundred and twenty (120) respondents (those working in the poultry value chain industry) were chosen using a multi-stage sample technique. Initially, four (4) council wards were chosen from Makurdi LGA's eleven council wards using the purposive sampling technique. Council wards with significant poultry operations were specifically chosen. Thirty percent (0.3) of all chicken value chain enterprises in each area were chosen at random in the second stage. However, only one hundred and ten (110) questionnaires were completely filled.

Measurement of Variables

The variables that were used in the study are measured as follows;
Youth employment:

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

Sex: male (1), female (0)
Level of experience: measured in years
Marital status: married (0), single (1), divorced (2), widowed (3)
Education: number of years
Household size; number of persons
Slaughter house: number of slaughter houses
Egg marketers: number of egg marketers
Egg production: number of egg producers
Bird production: number of birds producers
Feed mill production/dealers: number of feed mill producers/sellers
Wood shavings: number of wood shaving dealers
Veterinary shops: number of veterinary stores
Feeders/drinkers manufacturers/sellers: Number of sellers

Methods of Data Analysis

Inferential statistics (binary logistic regression analysis) and descriptive statistics were used to analyse the data for this study. The hypothesis was tested using the logistic regression's t-test.

Model Specification

Logistic regression model

The logistic regression model technique was used because the dependent variable "effect of poultry value chain on youth employment" will be measured at two levels as dummy variable (1= poultry value chain increase youth employment, 0 = poultry does not increase youth employment. The influence of the independent factors on the dependent variable can be predicted using the logistic regression model, a binary choice strategy. In estimable form the model is expressed as;

$$P_i = \frac{exp\ (Z)}{1+ exp\ (Z)}$$

Where P is the probability of occurrence
To linearize the above model, we take the natural log. This gives us the linear form of the model presented thus:

$$L_i = \ln\left[\frac{P_i}{1-P_i}\right] = Z = \beta o + \beta_1 X_1 i + \ldots\ldots\ldots + \beta k X_k i + u_i$$

Where X_{1i} .....X_{ki} are the explanatory variables.

The inverse relation of the model is:

$$Z = \frac{P}{Ln\ (1-P\ )}$$

Where;
P_i is the probability of occurrence of the variable (include your variable); $1 - P_i$is the probability of the variable not occurring (include your variable);

The unknown parameters βi are estimated by maximum likelihood. This model is explicitly expressed as:

$Z_i = \beta o + \beta_1 X_1 i + \beta_2 X_2 i + \ldots\ldots\ldots + \beta_k X_{ki} + Ui$
βo = Constant term
βi (i =1,2…..5) vector of the parameters to be estimated
The independent variable (x) would be:
Where Y_i = Youth employment (Yes or No)
X_1 = sex
X_2-= experience of respondent

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

X_3= marital status
X_4= education
X_5 = Slaughter house
X_6 = Egg marketers
X_7 = Egg production
X_8= Bird production
X_9 = Feed mill production/dealers
X_{10}= Wood shavings
X_{11} = Veterinary shops
X_{12} = Feeders/drinkers manufacturers/sellers
X_{13}=House hold size
U_i = error term

3.0 Result and Discussion

Social economics characteristics of Poultry Value Chain in Makurdi local Government Area of Benue State.

Table 1 displays the findings of the social and economic aspects of the poultry value chain in the research region. According to the results of the gender (sex) analysis, 50.0% of the respondents were female, much like their male counterparts. Given that both men and women in the research region were actively involved in poultry value chain enterprises, the result suggests that both sexes actively participate in the industry. This could be because the poultry value chain and its businesses transcend all genders. This result contrasts with that of (Ironkwe & Ajayi, 2007; Daudu et al., 2009), who found that men made up 94.5% of the business while women made up roughly 5.5%. The findings of respondents' marital status indicate that 81.8% were married, 14.5% were unmarried, and 3.6% were widowed. The fact that most respondents were married suggests that married people's sense of duty may encourage them to devote more time to their businesses to support their families. In line with the findings of Abdullahi et al. (2020), approximately 77.5% of the participants were married, 18.5% were unmarried, 3.0% were divorced, and 1.0% were widowed. According to the results of the poultry value chain business experience survey, 32.7% of respondents had less than five years of company experience, 58.2% had six to ten years, 7.3% had eleven to fifteen years, and 1.8% had sixteen years or more. With a mean experience of seven years, most responders appear to have experience, suggesting a higher propensity for technical efficiency. In contrast, Pratap et al. (2017) found that the majority of poultry producers (81.3%) had low experience levels (2–6 years), followed by medium experience levels (16%, 7–10 years) and high experience levels (2.7%, 11–15 years). The result on the educational status of the respondents shows that the majority of the respondents (59.1%) spent 7 to 12 years in acquiring formal education, 17.3% had 1 to 6 years,13.6% had 13 years and above, while 10.0% did not have any form of formal education. Ten years was the average amount of time spent obtaining formal education. This indicates that most respondents had some kind of educational background in the research area and were literate. This is consistent with the results of Ologbon and Ambali (2012), who discovered that a higher proportion of Ogun State's small-scale chicken producers had formal education.

According to the agri-training results, 91.8% of respondents had no agri-training at all, while 8.2% of respondents had some kind of agri-training. Poor extension services in the study area and the government's lack of interest in the chicken value chain may be to blame for this. Farmers that receive quality extension services are more likely to accept and use new technologies.

The results on access to Credit shows that all the respondents had no access to credit. This result is in agreement with the findings of Adeyonu et al., (2017), who reported that access to credit was quite low among the actors in the broiler value chain except for the grandparent stock farmers which were given full access to loan. A significant obstacle has been the limited availability of credit for those involved in

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

agriculture-related operations throughout the nation. This could perhaps be due to the industry's high level of risk.

Table 1: Distribution of Socio-economic Characteristic of the Respondents (N=110)

Variable	Frequency	Percentage	Mean
Sex			
Male	55	50.0	
Female	55	50.0	
Total	110	100	
Marital Status			
Single	16	14.5	
Married	90	81.8	
Widowed	4	3.6	
Total	110	100	
Household size			
<= 3	13.0	11.8	5.97
4 – 6	46.0	41.8	
7 – 9	49.0	44.5	
10+	2	1.8	
Total	110	100	
Level of Experience			
<= 5	36.0	32.7	7.39
6 – 10	64.0	58.2	
11 – 15	8.0	7.3	
16+	2.0	1.8	
Total	110	100	
Education			
<=0	11	10.0	10.1
1 – 6	19	17.3	
7 – 12	65	59.1	
13+	15	13.6	
Total	110	100	
Training			
Yes	9	8.2	
No	101	91.8	
Total	110	100	
Credit			
No	110	100	
Total	110	100	

Source: Field survey, 2021

Employment opportunities in Poultry value chain.

The result of the employment opportunities in poultry value chain business is presented in Table 2 below. Bird production accounted for 45.5% of the employment opportunities in the poultry value chain in the

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

study area, followed by butchers at 14.5%, veterinary clinics at 10.9%, feed marketers at 9.1%, egg sales at 8.2%, egg producers at 4.5%, feeders and drinkers at 3.6%, and wood shavings at 3.6%. According to this data, the majority of respondents (45.5%) were involved in the production of birds. This can be because it is widely accepted in many cultures and religions, making it feasible for both sexes in the research area. Additionally, producing birds yields rapid and regular profits with little upfront expenditure. This supports Farrell's (2013) assertion that poultry meat is reasonably priced, abundant in these varieties, and provides jobs for women, young people, and the impoverished in rural areas, with a ready local market. Furthermore, it is acknowledged that the domestic poultry business can raise incomes and improve people's quality of life. In addition, feeders and drinkers (3.6%) and wood shaving producers (3.6%) were the least practiced poultry business in the study area.

Table 2: Employment opportunities in Poultry value chain.

Variables	Frequency	Percentage
Egg production	5	4.5
Butchers	16	14.5
Veterinary Store	12	10.9
Feeders/Drinkers Sales	4	3.6
Feed Sales	10	9.1
Wood shaving	4	3.6
Egg Sales	9	8.2
Bird Production	50	45.5
Total	110	100

Source: Field Survey 2021

Effect of poultry value chain on youth employment in Makurdi local government

Table 3 below shows the outcome of the poultry value chain's impact on youth employment in the research area. Thirteen explanatory variables were used in the analysis to identify the factors affecting the job status of young people in the research area. The null hypothesis that the poultry value chain has no significant effect on youth employment is rejected because the log-likelihood value of 39.9254 and the associated chi-square value of 47.05 are statistically significant at the 1% level of probability, suggesting that the socioeconomic characteristics and poultry value chain have a significant impact on youth employment in the study area. The coefficient of marital status (0.0957) is positive and statistically significant at a 10% level of probability which implies that an increase in the number of married people could likely increase the probability of youth employment while holding other variables constant. This may be because married people are more committed to business than single. This result agrees with Abdullahi et al. (2020), which showed that about 77.5% of the respondents were married.

At the 5% level of significance, the household size coefficient of 0.0095 is positive and statistically significant, suggesting that a larger household will result in more youth employment in the study area. This could be because poultry value chain businesses are perceived as family businesses, offering employment opportunities to all family members. According to a study by Abdullahi et al. (2020), a high household size is a source of inexpensive labour.

Years of experience and youth employment are inversely correlated, as indicated by the negative but significant coefficient level of experience (-0.02235), which suggests a negative relationship at the 1% level of probability. Egg sales coefficient (0.0382) is positive and statistically significant at the 1% level of probability. This is a clear correlation between adolescent employment in the research area and egg sales and marketing. This could be due to the modest initial investment required for the business and its economic worth, which is recognised by all cultures and genders. The coefficient of bird production (-0.00529) is significant at the 10% level of significance. This demonstrates that youth employment and the bird

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

production industry have a substantial negative association. This might be because many believe that companies that produce birds are only for the elderly and retired who spend all of their time at home. This is consistent with Ebukiba and Luka's (2019) findings. They discovered that the most active age group in bird production in Nigeria was those aged 35 to 60. This suggests that raising birds could be a desirable retirement pastime.

A favourable correlation between feed marketers and youth employment is demonstrated by the feed sales or marketing coefficient of 0.00167, which is positive and significant at the 5% level of probability. This suggests that a rise in feed marketing will directly lead to more job opportunities for young people. This could be because feed marketing involves little to no technological expertise. At the 10% level of probability, the feeder and drinker sales coefficient (0.0883) is positive and significant. This indicates that sales of feeders and drinks and youth employment in the research area are directly correlated.

There is a negative association between veterinarian shops and young employment in the research area, as indicated by the negative and significant coefficient of -0.0869. This may be because the industry is perceived as being run by the elderly and retired, and as a result, launching a business requires a significant amount of money and technical expertise. The employment of young people in the study area was unaffected by the coefficients of sex, education, and butchers.

Table 3: Effect of Poultry Value Chain on Youth Employment.

Variables	dy/dx	Standard error	Z value	P>/Z/
Sex	-0.0304903	0.05629	-0.54	0.588
Marital status	0.0957619	0.08095	1.18	0.-67
Household size	0.0094935	0.01359	0.70	0.485
Education	0.0036423	0.0065	0.56	0.575
Experience	-0.0223532	0.01866	-1.20	0.009
Egg Sales/marketing	0.0382414	0.01226	3.12	0.002
Bird Producers	-0.0052944	0.00515	-1.03	0.064
Feed dealers	0 .0016749	0.00793	0.21	0.053
Feeders/Drinkers Sales	0.0883487	0.06745	1.31	0.090
Butchers	0.0927293	0.07848	1.18	0.237
Veterinary shop	-0.0869551	0.06654	-1.31	0.031
Constant	1.958016	1.746342	1.12	0.262
Likelihood		-39.925385		
LR chi Square(13)		47.05		
P>Chi square		0.0000		
Pseudo R-Square		0.3708		

Source: Field survey 2021.

*,**,*** significant at 10%,5%,1% level of probability.

Dependent variable; youth employment (yes =0, No =1)

4.0 Conclusion

The study concludes that the poultry value chain has a significant effect on youth employment in Makurdi local government area. The number of men and women actively engaged in chicken value chain firms in the research area does not differ significantly, according to the study. The majority of respondents (81.8%) were married, and their typical household size was six persons, according to the findings. Additionally, the study found that the majority of respondents (58.2) had at least one formal degree and six to ten years of experience. It also showed that nearly all of the respondents lacked access to financing, and a significant portion of the respondents lacked any kind of agricultural training. It is recommended that more funds be

ISSN 2536-6084 (Print) & ISSN 2545-5745 (Online)

provided for poultry farmers and the government should encourage more youth participation in the poultry value chain to reduce unemployment in the state.

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