

Economic Analysis of Small Scale Piggery Enterprises and Income of Peasants in South-South and South-East Parts of Nigeria

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Abstract

The study was a situational economic analysis of small scale piggery enterprises on income of peasants in south-south and south-east parts of Nigeria. It was informed by the low contribution of pig farming to the livestock production and demands of the country. The specific objectives were to: determine the effect of limited schooling and pig production training on small scale pig farmers' income in South-South and South-East parts of Nigeria; ascertain the impact of incessant harassment from local government and sanitation officials on small scale pig farmers' income in South-South and South-East parts of Nigeria; and examine the effect of obnoxious social and religious beliefs against pork consumption on small scale pig farmers income-generation capacities in South-South and South-East parts of Nigeria. Survey research design was adopted in the study. Results reveal that: Limited schooling and pig production training, incessant harassment from local government and sanitation officials and obnoxious social and religious beliefs all have significant negative effect on small scale pig farmers' production capacity and income in South-South and South-East parts of Nigeria.

Keywords: Economic Analysis, Small Scale Piggery, Peasants, Income, Nigeria.

1. Introduction

It has been emphasized by many authors like Adetunji and Adeyemo (2012), that livestock farming is vital to the national economy since it is the main supplier of the highly essential animal protein. The importance of livestock sub-sector is in line with recommendation of the F.A.O (2003) that on an average basis, a man's daily protein intake should be between 65-72 grams and 53% (about 35 grams) of this should be animal based. Animal protein is essential in human nutrition because of its biological significance. Pig production is one of the major sources of protein in the country, especially in Enugu State of Nigeria. Pig farming is done on micro or small-scale levels in almost all parts of the State, thus, a major economic source of livelihood for the people. One of the major advantages of pig farming is the ability to convert different kinds of feed even including kitchen waste to meat (Rahman et al., 2008). Based on this wastes conversion to feeds, pig farming is by far considered the most lucrative livestock business to some people. Ogunniyi and Omoteso (2011), therefore noted that it is relatively easy to establish intensive pig production in a developing country like Nigeria, if capital are available and adequate feed supplies are assured.

According to the Camerounian Technical Centre for Agriculture (CTA, 1995), another major advantage of pig farming is the high rate of productivity of pigs. Pigs are very prolific. CTA (1995), identified that the average litter size of pig to be 9.3 live piglets per sow. Okoli (2006) also identified the litter per sow to be 9.96, though, before weaning, an average of 1.51 died. Leaving the average number of piglet weaned per sow to be 8.45. So a sow farrowing twice a year comes up with an average of 16.9 piglets per year, as compared to cattle whose maximum is two calves per year. Duniya et al (2013), also observed that apart from the pig's importance in the national human diet, the urgency of increasing pig production in the country especially amongst the small-scale farmers is justified by factors such as stable source of revenue, value added for crop production and the creation of export potential for the meat.

Ezeibe (2014), also pointed out that the pig industry in Nigeria is an important arm of the livestock sub-sector in the overall agricultural sector. This derives from the fact that firstly, the pigs have high fecundity, high feed conversion efficiency, early maturity, short generation interval and relatively small space requirement. Secondly, they are multipurpose animals providing about 40% of meat in the world market, cooking fats and bristles. Pig is equally important for agro-based industries like feed mills for provision of bone and blood which are used for production of bone meal and blood meal respectively, which are good source of calcium in animal nutrition. In addition, pig's manure is an excellent fertilizer for enriching poor soils and provision of biogas methane for cooking. Its skin is also useful for light leather production (Babatunde & Fetuga, 1990). Thirdly, it is produced under a variety of production systems ranging from simple backyard piggery, pigs living on garbage belts to family operated farms or large scale integrated pig industries with sophisticated biosafety measures.

According to FAO (2001), pork is the most popular meat consumed in the advanced countries of the world today. Forty four percent of world meat protein consumption is derived from pork and pork products (FAO, 2001). In many countries, pig farming provides employment opportunities to household members that are unemployed because of mobility constraints as a result of household responsibilities and childcare (Lapar & Staal, 2010; Tisdell, 2010). For instance, there are an estimated 400 commercial pig farms and 4,000 smallholder pig farmers in South Africa, with approximately 125,000 sows (100,000 on commercial farms and 25,000 on smallholder farms) and they employ over 10,000 workers consisting of 4,000 labourers and 6,000 processing and abattoir workers (Roelofse, 2013).

In Vietnam, pig farming activities create jobs for otherwise unexploited household labour, with female household members constituting 54 to 71% of pig farm labour for Vietnamese smallholder pig farmers (Lapar & Staal, 2010). Numerous other smallholder pig farming success stories are available from around the world, including Namibia (Petrus, et al., 2011), Vietnam (Lapar & Staal, 2010) and Lao People's Democratic Republic (Phengsavanh, et al., 2011). Success is defined as the realisation of profitable and self-sustaining smallholder pig farmers. The smallholder pig farmers were able to achieve success because of sufficient agriculture extension support, funding and/or the involvement of cooperative communities (Roelofse, 2013).

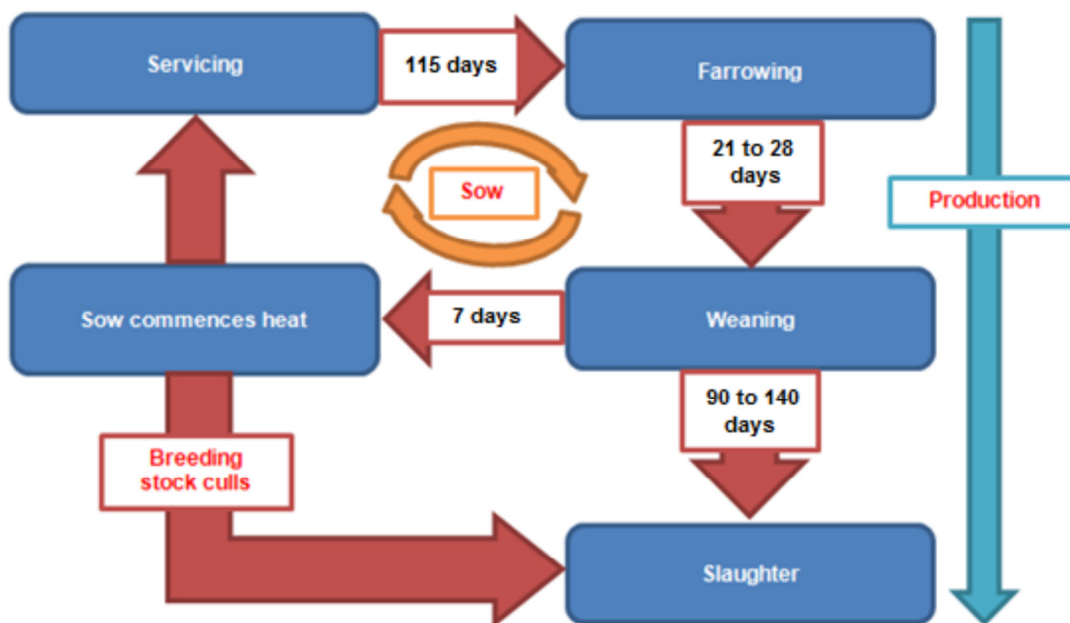


Figure 1: Graphical representation of pig production cycle's timeline .

Source: Kyriazakis, I. & Whittemore, C. T. (2006). *Whittemore's science and practice of pig production*. 3rd Edition. Blackwell Publishing.

Meanwhile, the importance of piggery in the South-East and South-South parts of Nigeria is captured by Ezeibe (2014), who observed that many people here depend on it as an income-sustenance enterprise. Even in some places like Nsukka, there is a very high value for pigs, because it is one of the requirements in their marriages and burial rites, while many other feasts and festivals have special provisions for pork meat. All over Cross River and Akwa-Ibom States, special delicacies of pork meat and bacon could also be seen everywhere. This informs most livestock farmers choice of piggery in these two geo-political parts of the country.

However, despite all these, small scale pig farming in the State is hampered by some social factors that limit the income of farmers. These include the belief that pigs are dirty and constitute health hazards, harassment from waste disposal and sanitation officials, harassment from neighbours and community members, just to mention but a few. Thus, the motivation for this study to critically appraise the impact of small scale piggery enterprises on the income household peasants in South-South and South-East parts of Nigeria, with special focus on Cross River and Enugu States.

1. Statement of the Problem

According to Duniya et al (2013), the piggery industry in Nigeria has not yet fully developed like the ruminants and poultry industries because pigs are not generally accepted by majority of the population specifically in the Northern states, due to culture and religion which makes it a taboo for pork to be eaten by some people. Again, most of the pigs are reared in the extensive system, and their productivity has been reported to be low. Efforts at small-scale pig farming by some households in South-South and South-East parts of Nigeria are sometimes thwarted by some obnoxious social belief in some quarters that pigs are dirty and constitute health hazard to the

people, thereby making demands for pork meat to be low, which is an obvious disadvantage to the income generation potentials of the numerous small-scale pig farmers. Some of the farmers also complain of harassment from the host communities or neighbours, high taxes from local government and sanitation officials which increases their cost of production. All these adversely affect the expected profit of the pig farmers, thereby making some of the pig producers to keep few pigs. However, Ajala et al. (2007), debunked the claim that pigs are dirty and constitute health hazards by stating that pigs produced under modern intensive production techniques and under suitable modern husbandry can be very clean animals and quite healthy for consumption and the environment.

Unfortunately, Ezeibe (2014), observed that pigs in most cases are left to the small scale native farmers who traditionally leave the animals to scavenge with minimal attention for their lives. This system is characterized by high mortality rate, absence or minimal healthcare and improper housing and feeding (Ugwu, 1996). This has led to poor production and improvement of the pigs in areas which encourage spread of disease, low fecundity and low meat yield. According to Karrol and Krider (2001), free ranging of pigs is considered as one of the risk factors for porcine cysticercosis. Therefore, it is imperative to find ways to keep pigs enclosed. Economic studies have shown that traditional production system is wasteful and unprofitable due to poor feed conversion, high mortality rates, low reproductive rates and final products (Verhulst, 1993).

Again, Mtileni et al. (2006) and Kagira et al. (2010) state that smallholder pig farmers' success is hampered by their limited schooling and pig production training. Additionally, there is a distinct lack of pig production information available at the education level and language of smallholder pig farmers. However, Oti, Eze and Odigbo (2016), advise that social marketing campaigns can serve as a veritable tool for public enlightenment geared towards reducing the obnoxious social stigmatizations, its psychological burdens, and thus improve the economic fortunes of peasant families that engage in such small-scale enterprises.

2. Research Objectives

The broad objective of the study is a critical analysis of the impact of small scale piggery enterprises on household livelihood of rural communities in South-Eastern Nigeria, with emphasis on Enugu State. The specific objectives include:

- i. To determine the effect of limited schooling and pig production training on small scale pig farmers' income South-South and South-East parts of Nigeria.
- ii. To ascertain the impact of incessant harassment from local government and sanitation officials on small scale pig farmers' income in South-South and South-East parts of Nigeria.
- iii. To examine the effect of obnoxious social and religious beliefs against pork consumption on small scale pig farmers income-generation capacities in South-South and South-East parts of Nigeria.

3. Research Questions

The study was guided by the following research questions:

- i. To what extent do limited schooling and pig production training have effect on small scale pig farmers' income in South-South and South-East parts of Nigeria?
- ii. Do incessant harassment from local government and sanitation officials have significant effect on small scale pig farmers' income in South-South and South-East parts of Nigeria?
- iii. Do obnoxious social and religious beliefs against pork consumption have significant effect on small scale pig farmers' income-generation capacities in South-South and South-East parts of Nigeria?

4. Research Hypotheses

The following null-hypotheses were tested in the study:

- i. Limited schooling and pig production training have no significant effect on small scale pig farmers' income in South-South and South-East parts of Nigeria.
- ii. Incessant harassment from local government and sanitation officials have no significant effect on small scale pig farmers' income in South-South and South-East parts of Nigeria.
- iii. Obnoxious social and religious beliefs against pork consumption have no significant effect on small scale pig farmers' income-generation capacities in South-South and South-East parts of Nigeria.

5. Scope of the Study

Subject-wise, the study is focussed on a critical appraisal of the impact of small-scale piggery enterprises on household livelihood of peasants in South-South and South-East parts of Nigeria. Geographically, the South East Nigeria is one of the six geopolitical zones of Nigeria, consisting of five States: Abia, Anambra, Ebonyi, Enugu and Imo. From these five States, one (Enugu) is selected as a representative of the South-East in this study. On

the other hand, the South-South part of Nigeria is one of the six geopolitical zones of the country, consisting of six States: Rivers, Cross River, Bayelsa, Delta, Akwa-Ibom and Edo States respectively. From these six States, one (Cross River) is selected as a representative of the South-South in this study. The research frame includes all small-holder pig farmers in these selected areas.

6. LITERATURE REVIEW

6.1 Small-Scale Pig Farming in South-South and South-East Parts of Nigeria

According to Eze, Oti & Odigbo (2016), the importance of small-scale farming lie in the fact that in all parts of Nigeria including the riverine Niger-Delta areas like Cross River State, the majority of the people earn their living through farming, fishing and livestock breeding. Small-scale pig farming by peasants in South-South and South-East parts of Nigeria observed Ezeibe (2014), are in most cases left to scavenge around the vicinities with minimal attention for their lives. This system which is characterized by high mortality rate, absence or minimal healthcare and improper housing and feeding leads to poor production, encourage spread of diseases, low fecundity, low meat yield and poor income to the pig farmers (Ugwu, 1996). Added to these woes, are some negative social beliefs in some quarters that pigs are dirty and constitute health hazard to the people, which is unarguably a disadvantage to the income generation potentials of the numerous small-scale pig farmers in the South-South and South-East parts of the country.

More so, the inability of the pig farmers to export their livestock to the Muslim-dominated Northern parts of Nigeria, due to religious grounds poses another problem to the pig farmers from the South. The farmers complain of harassment from government tax agents and local government sanitation officials also discourage some of them in the trade. Apart from these, the smallholder pig farmers' success is again hampered by their limited schooling, pig production training, distinct lack of pig production information available at the education level and language of smallholder pig farmers (Mtileni et al., 2006; Kagira et al., 2010).

There are the problem of poor business management and poor basic accounting skills of the farmers. Specific smallholder pig production management problems include:

- A lack of disease identification skills (Kagira, et al., 2010).
- Delayed weaning (Kagira, et al., 2010).
- Inbreeding (Petrus, et al., 2011).
- Smallholder pig farmers rarely know how much their pigs are worth. This leads to exploitation (International Livestock Research Institute, 2011).
- Inconsistent product because of unstructured pig rearing methods (International Livestock Research Institute, 2011).

6.2 Social Marketing for Improved Small-Scale Pig Farming in Nigeria

Kotler (1999) observed that social marketing is the application of same marketing principles and techniques used in marketing products or services to advance or promote a social course, idea, project or programme. Oti, Eze and Odigbo (2016), add that it is used to increase the society's acceptability of a social idea, cause or practice, through consumer research, segmentation, communication planning and implementation. Examples of social marketing include: Public health campaigns to reduce the spread of AIDS, smoking, alcoholism, drug abuse, environmental campaigns to reduce deforestation, environmental pollution, and to promote conservation of natural resources; immunization, family planning, population control and such other campaigns (Oti, Eze and Odigbo, 2016). Kotler and Andreasen (2005:3) also see social marketing as differing from other areas of marketing only with respect to the objectives of the marketer and his or her organization. This technique has been used extensively in international health programs, and is being used with more frequency in the United States at the national, state and local levels for such diverse topics as HIV/AIDS, drug abuse, smoking, alcoholism, exercise and human trafficking. So, social marketing could also be used to improve public acceptability farming in developing countries (Odigbo, Ogbidi & Ewa, 2015), especially such aspects that are saddled with social-acceptance problems and religious taboos in some quarters like piggery.

6.3 Africa Traditional Media for Improved Small-Scale Pig Farming in Nigeria

Traditional media of communication are the various culture-centred means of communication by indigenous people amongst themselves. In Africa for instance, it includes communication channels like talking drums, the folk songs, drama, festivals, town criers, traditional wears, the artefacts, art works, paintings, stories and cultural architecture in palaces, town halls, cities, towns and villages (Oti, Eze & Odigbo, 2016; Ugboaja, 1985; Osho, 2011). They also include the traditional means of communication by rural people which essentially sustain their information needs. It embodies the enduring, sustaining and inevitable culture and tradition of the people. They are transmitted from one generation to the other. People grew up with them and get accustomed to them in their day-to-day interactions. It is done through verbal and non-verbal means of communication and this makes it more appealing, affective, enduring, long-lasting in effect and understandable (Oti, Eze & Odigbo, 2016;

Ugboaja, 1985; Osho, 2011).

6.4 Economic Analysis

Economic analysis entails a wholistic assessment of the state of health of an economy or a business in aggregate terms, while financial analysis or accounting analysis refers to an assessment of the viability, stability and profitability of a business, sub-business or project. It is the process of evaluating businesses, projects, budgets and other finance-related entities to determine their suitability for investment. It is usually done so as to assess whether a business or an entity is stable, solvent, liquid, or profitable enough to be invested in. Thus, it is a critical examination of the financial strength and weakness of a business, industry or business sector (Wikipedia.org, 2014; Businessdictionary.com, 2015; Eze, Oti & Odigbo, 2016, Oti, Odigbo & Bassey, 2016).

7. Methodology

The study adopted survey research design, where the primary data were gathered through structured questionnaire administered on the target sample selected from one South-East State (Enugu), and one South-South State (Cross River). The population of the study included all small-holder pig farmers in the two States numbering 12,000. From this, a sample size of 399 was statistically determined through Taro Yamane's formula. The data procured were presented in Likert 5-points scale and statistically analyzed with Measure of Central tendency. 379 of the questionnaire copies representing 94.75% were filled and returned, and were thus used for further analysis in this study.

8.0 Data Presentation and Analysis

8.1 Likert's Scale Issue-Based Multiple Questions

In this study Strongly Agree (SA) = 5points, Agree (A) = 4 points, Undecided (Ud) is 3 points, Disagree (D) is 2 points, while Strongly Disagree (SD) is 1 point.

Table 1: Presentation and Analysis of Respondents' Answers

S/N	Questions	SA	A	UD	D	SD
1	Your level of education has significant impact on your pig production	126 (630)	128 (512)	39 (117)	45 (90)	41 (41)
2	Your level of training on pig farming affects your pig production and income significantly	124 (620)	126 (504)	41 (123)	46 (92)	42 (42)
3	There is a relationship between your pig farming skills and the income you generate	122 (610)	127 (508)	43 (129)	44 (88)	43 (43)

Source: Field survey, 2017.

Test of Hypothesis One

Ho: Limited schooling and pig production training have no significant effect on small scale pig farmers' income in South-South and South-East parts of Nigeria.

Hi: Limited schooling and pig production training has significant effect on small scale pig farmers' income in South-South and South-East parts of Nigeria.

Test Statistics = Measure of Central Tendency

Decision Rule

If Mean < 2.5, the Respondents Disagree.

If 3.5 < Mean ≤ 2.5, the Respondents are Undecided.

If Mean ≥ 3.5, the Respondents Agree.

Table 2: Test of Hypothesis 1

S/N	Questions	SA	A	Ud	D	SD	Mean	Decision
1	Your level of education has significant impact on your pig production	126 (630)	128 (512)	39 (117)	45 (90)	41 (41)	4.72	Agreed
2	Your level of training on pig farming affects your pig production and income significantly	124 (620)	126 (504)	41 (123)	46 (92)	42 (42)	4.70	Agreed
3	There is a relationship between your pig farming skills and the income you generate	122 (610)	127 (508)	43 (129)	44 (88)	43 (43)	3.64	Agreed
	Grand Mean =						4.35	Agreed

Source: Field survey, 2017.

Interpretation of Results

Results displayed on table 2 show that with a Mean score of 4.72 which is > 3.50 , the respondents agreed that their level of education has significant impact on their pig production performance. With a Mean score of 4.70 which is > 3.50 , they also agreed that their level of training on pig farming affects your pig production and income significantly. Then, with a Mean score of 3.64 which is > 3.50 , the respondents agreed that there is a relationship between their pig farming skills and the income they generate. All these gave a cumulative Grand Mean of $4.35 > 3.50$, thus, an acceptance of the alternative hypothesis which holds that “Limited schooling and pig production training has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria.”

Test of Hypothesis Two

Ho: Incessant harassment from local government and sanitation officials has no significant effect on small scale pig farmers’ income in South-South and South-East parts of Nigeria.

Hi: Incessant harassment from local government and sanitation officials has significant effect on small scale pig farmers’ income in South-South and South-East parts of Nigeria.

Test Statistics = Measure of Central Tendency

Table 3: For Data Presentation and Test of Hypothesis 2

S/N	Questions	SA	A	Ud	D	SD	Mean	Decision
1	Multiple taxes from local government officials has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria	120 (600)	121 (484)	39 (117)	52 (104)	47 (47)	3.57	Agreed
2	Multiple taxation from sanitation officials has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria	118 (590)	121 (484)	40 (120)	52 (104)	48 (48)	3.55	Agreed
3	Incessant harassment from touts has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria	117 (585)	120 (480)	43 (129)	51 (102)	48 (48)	3.54	Agreed
	Grand Mean =						3.555	Agreed

Source: Field survey, 2017.

Interpretation of Results

Results displayed on table 3 show that with a Mean score of 3.57 which is > 3.50 , the respondents agreed that multiple taxes from local government officials has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria. With a Mean score of 3.55 which is > 3.50 , they also agreed that multiple taxes from sanitation officials has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria. Then, with a Mean score of 3.64 which is > 3.50 , the respondents agreed that incessant harassment from touts has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria. All these gave a cumulative Grand Mean of $3.555 > 3.50$, thus, a rejection of the null-hypothesis and acceptance of the alternative hypothesis which holds that: “Incessant harassment from local government and sanitation officials has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria.”

Test of Hypothesis Three

Ho: Obnoxious social and religious beliefs against pork consumption have no significant effect on small scale pig farmers income-generation capacities in South-South and South-East parts of Nigeria.

Hi: Obnoxious social and religious beliefs against pork consumption have significant effect on small scale pig farmers income-generation capacities in South-South and South-East parts of Nigeria.

Test Statistics = Measure of Central Tendency

Table 4: For Data Presentation and Test of Hypothesis 3

S/N	Questions	SA	A	Ud	D	SD	Mean	Decision
1	Some religious beliefs against pigs have significant effect on pig farmers income-generation capacities	126 (600)	127 (484)	40 (117)	46 (104)	40 (47)	3.57	Agreed
2	Some social beliefs against pork consumption have significant effect on pig farmers income-generation capacities	120 (600)	125 (500)	45 (135)	42 (84)	47 (47)	3.60	Agreed
	Grand Mean =						3.58	Agreed

Source: Field survey, 2017.

Data on table 4 reveal that with a Mean score of 3.57 which is > 3.50 , the respondents agreed that some religious beliefs against pigs have significant effect on pig farmers income-generation capacities in Nigeria. With a Mean score of 3.60 which is > 3.50 , they also agreed that some social beliefs against pork consumption have significant effect on pig farmers income-generation capacities Nigeria. All these gave a cumulative Grand Mean of $3.58 > 3.50$, thus, a rejection of the null-hypothesis and acceptance of the alternative hypothesis which holds that: “Obnoxious social and religious beliefs against pork consumption have significant effect on small-scale pig farmers income-generation capacities in South-South and South-East parts of Nigeria.”

9. Summary of Results and their Implications

A summary of the results of this study indicates that:

- i. Limited schooling and pig production training has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria.
- ii. Incessant harassment from local government and sanitation officials has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria.
- iii. Obnoxious social and religious beliefs against pork consumption have significant effect on small scale pig farmers income-generation capacities in South-South and South-East parts of Nigeria.

The implication of the number one result is that limited education and pig production training has adverse effect on small scale pig farmers production capacity, income and consequently family living standards in South-South and South-East parts of Nigeria. This result agrees with the study of Saibu (2014), which found that the profit of an average pig farmer with six sows and two boars in Nigeria is N33,249.7, which is barely a subsistence income.

The number two result which says that incessant harassment from local government and sanitation officials has significant effect on small scale pig farmers income in South-South and South-East parts of Nigeria, is quite another sad commentary, that should not be allowed to happen. This is because according to Nigeria’s Minister of Agriculture, Audu Ogbeh, the 2011 National Agricultural Sample Survey indicated that Nigeria was endowed with an estimated 19.5 million cattle, 72.5 million goats, 41.3 million sheep, 7.1 million pigs and 28,000 camels, 145 million chickens, 11.6 million ducks, 1.2 million turkeys and 974, 499 donkeys. Unfortunately, this impressive statistic had not met the national demand of animal protein or contributed to the GDP over the years (Ogbeh, 2015). There is need, therefore, to encourage potential investors in pig production, rather than harassing those that venture into it.

Finally, the number three result which reveals that some obnoxious social and religious beliefs against pork consumption have significant negative effect on small scale pig farmers income-generation capacities in South-South and South-East parts of Nigeria is again disheartening for a developing country like Nigeria. This is why pig pork production in the country is still quite low compared to other livestock. For instance, according to the Federal Ministry of Agriculture, in 1981 Nigeria's livestock population was about 9.3 million cattle, 8.8 million sheep, 20.8 million goats, 133.5 million poultry and only 0.86 million pigs. However, in 2011, according to the report by Audu Ogbeh, the figure was slightly better with 19.5 million cattle, 72.5 million goats, 41.3 million sheep, 7.1 million pigs and 28,000 camels, 145 million chickens, 11.6 million ducks, 1.2 million turkeys and 974, 499 donkeys. This shows the importance of pig farming in the country.

10. Recommendations

Based on the findings of this study, the authors recommend as follows:

- i. The Federal, States and Local Governments in Nigeria, should organise periodic educational training programmes on pig production in order to enable pig farmers in the country acquire the requisite skills for improved production and enhanced income for themselves and the country.
- ii. The Federal, States and Local Governments in Nigeria, should also try to stop the incessant harassment from local government and sanitation officials against pig farmers, so as to boost small scale pig farmers income in Nigeria.
- iii. Public enlightenment programmes should also be initiated by the three tiers of government to

- educate the masses to change their mindsets and attitude on those obnoxious social and religious beliefs against pork consumption, which are adversely affecting pig farmers income-generation capacities in the country.
- iv. The relevant governmental agricultural agencies should also assist pig farmers to acquire hybrid pigs that are more prolific and resistant to common diseases of pigs.
 - v. Citizens interested in pig farming, especially young graduates, should be assisted with loans and micro-credits, in order to encourage them in their ventures.

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