



**ROLES OF AGRICULTURAL EXTENSION WORKERS IN DEVELOPMENT OF
RURAL PIG FARMING IN DELTA NORTH AGRICULTURAL ZONE OF DELTA
STATE, NIGERIA**

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ABSTRACT

The study examined the roles of agricultural extension workers in the development of rural pig farming in Delta north agricultural zone of Delta State, Nigeria. A multistage sampling procedure was used to collect data from 80 respondents using questionnaire. Data collected were analyzed using frequency, percentage and mean. The result revealed that male (93.7%) dominated pig farming in the study area. One-half of the respondents (50%) had 11 – 20 years pig farming experience. Extension workers assisted farmers to secure loan (\bar{x} =3.36), demonstrate suitable practices (\bar{x} =3.25), provide educational assistance on the farm and home (\bar{x} =3.18), persuade farmers to belief and act on new teaching (\bar{x} =3.16). Again, Agricultural extension were favorable in target group methods (\bar{x} =3.41), individual/ household method (\bar{x} =3.21). The study concluded that agricultural extension workers had performed their roles creditably well in teaching and demonstrating innovations to farmers as well as how to use new technologies in development of pig farming. It was observed that many of the pig farmers and some agricultural extension workers have no agricultural education background. Its recommended agricultural extension workers ability to provide teaching to farmers in development of more pig farms in Delta north should be enhanced.

Keywords: Agriculture, Development, Extension, Farming and Pig

INTRODUCTION

Rural development in any country is not mainly agricultural programme. However, agricultural agencies and organizations do perform prominent role in such development. A remarkable facet of rural development is the nonexistence of any special agency accountable for its implementation. Rural development programmes had been established to tackle the basic problems of low income in rural areas. Rural development of any country does not solely depend on programmes and policies made by Government. Many stakeholders in production processes are involved and carryout tasks according to their roles. Developing the rural communities is paramount on the whole development of any nation. Extension is fundamentally the means by which latest knowledge and thought are initiated into rural areas sequentially to bring change and progress to the lives of farmers and their families (Oyibo and Ovharhe 2016: Nwachukwu, 2018).

Agricultural extension workers are set of organizations that carryout support and facilitate people to engaged in agricultural production to solve their problems and get information, skills and technology to enhance their well being and livelihood. They support, provide, help organize, encourage local participation, obtain information, follow up activities, on-the-farm assistance to individual farmers, farm and home development of farmers. The major function of extension workers is to assist and teach rural families in applying science to the day to day routine of farming, home making and other aspects of rural living. So, extension is inter alia, a means of obtaining and disseminating vast useful knowledge (Nwalieji and Nwabueze, 2018; Hazem *et al.*, 2021).



Piggeries in Delta State play prominent role in rural households' additional/sole income and protein source. Pigs for many years have the ability to be developed because they can adapt in any location. Pigs are kept in towns and rural areas of Delta north agricultural zone. Pigs farming within Delta north were practiced using intensive method of production. Enhancing pigs productivity in rural areas small farms are essential strategy recognized to increase protein intake of the people and financial security of pig farmers in rural areas due to high rate of poverty and malnutrition (Hunter *et al.*, 2021; Pham *et al.*, 2021). Pig farming in Delta north agricultural zone are characterized by sourcing pig feeds from humans' same sources, house/ kitchen waste and plantation crops or weeds. The main constraint to pig farming in Delta north agricultural zone is cultural factor as many people within the research area believe pig is a taboo to them. Maximizing the responsibilities of agricultural extension workers in educating rural farmers on pig rearing and management, providing veterinary support, improving animal health, providing required nutritional sources will subdue constraints to pig farming and brings development of pig farming in rural areas of Delta north agricultural zone (Gomes, 2021).

According to Ghimire and Suwedi (2017) and Danso-Abbeam *et al.* (2018) agricultural extension workers that are directly involved with farmers are capable of performing these duties well: they are programme planners, programme implementation, resource mobilization, technical knowledge, coordination skills, professionalism, strengthening linkages in extension research, communication, leadership skills and managerial, information and communication technology. Agricultural extension workers teaching methods adapted towards development of rural farming are; 1.locate local leaders who command respect from the people.2.visit individual families informally.3.establish rapport with the families before doing any work with them.4.assist families to identify their resources and work on their problems.5.work with small groups.6.use organized community groups, clubs or committees.7.arrange for the training of youth and adult lay leaders.8.organize youth programmes by giving educational leadership.9.consider family wants or interests before making recommendations to them. However, the objectives of this study were to: identify roles agricultural extension workers performed towards development of rural pig farming and examine the methods used in reaching out to rural pig farmers in Delta north agricultural zone.

MATERIALS AND METHODS

The Study Area

The study was conducted in North Agricultural Zone of Delta State, Nigeria. It is made up of Nine Local Government Areas (LGAs). The zone is agrarian in nature. Some animals reared in the zone are poultry birds, pigs, goat, cattle, dogs and others. The population of the study comprises rural pig farmers in the zone. The lists of these farmers that constitute the sampling frame were obtained from Delta State Ministry of Agriculture. Multi-stage sampling procedures were used for this study. The first stage involved the purposive selection of 5 LGAs due to good number of pig farms sited in the area. The second stage is the purposive selection of 2 communities from the 5 LGAs because of their intensity of pig production. The third stage involves randomly selection of 8 farmers from the 10 communities that gave a total of 80 respondents as the sample size of the study. Data were collected with aid of questionnaire on farmers' socioeconomic characteristics, role performed by agricultural extension workers and methods used in reaching out to pig farmers in rural area. The objectives were measured on a 4-point Likert type scale on strongly Agreed =4, Agreed =3, Disagreed =2 and Strongly Disagreed =1. A mean cut-off of 2.5 was calculated and used to determine agreed options. Also, options less than 2.5 signify disagreed. Data were analyzed using frequency, percentage, and mean.



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RESULTS AND DISCUSSION

Socioeconomic characteristics of respondents

The socio-economic characteristics of the respondents are depicted in Table 1. The result shows that male (93.7%) dominated in pig farming within the study area while female (6.3%) are into pig farming. They are either widow or separated from their husband. Some were politically empowered while some do not want pig farming because of the tediousness characteristics of the business. The result shows that majority of the respondents (70%) are within 31 – 50 years. It mean the pig farmers are in good productive age and reasonably agile for productivity. Only 72.5 % of the respondents are married. Majority of respondents (36.2%) are secondary education holders. The result shows a high level of literacy among pig farmers and that can create better understanding of agricultural extension workers and their teaching methods. This finding is in agreement with Ighoro *et al.* (2022) who stated that high level of literacy among farmers can consequently create better understanding of agricultural information and result oriented decision making by farmers. The figure of households was highest for respondents with 4-5 children (41.2%), followed by 6-7 children (30%), 1-3 children had (17.5%) and 8 and above children (11.3%). Majority of respondents (50%) had 11-20 years pig farming experience which indicates a reasonably long time in pig farming, therefore requires development and better methods of pig farming

Table 1: Socio-economic characteristics of the respondents

Variables	Frequency	Percentage
Gender		
Male	75	93.7
Female	5	6.3
Age		
25 - 30	4	5
31 - 50	56	70
Above 50	20	25
Marital Status		
Single	10	12.5
Married	58	72.5
Widow	4	5.0
Divorced/Separated	8	10.0
Educational Level		
Informal education	7	8.8
Primary	24	30.0
Secondary	29	36.2
Tertiary	20	25.0
Household size		
1 – 3	14	17.5
4 – 5	33	41.2
6 – 7	24	30.0
8 and above	9	11.3
Farming experience		
1 – 10	12	15.0
11 – 20	40	50.0
21 – 30	23	28.8
Above 30	5	6.2

Source: Field Survey, 2023



Roles of Agricultural Extension Workers

The result in Table 2 shows the roles of agricultural extension workers. The result revealed that assist farmers secure loan ($\bar{x} = 3.36$), demonstration of suitable practices ($\bar{x} = 3.25$), provide educational assistance on every farm and home ($\bar{x} = 3.18$), persuade farmers to belief and act on new teaching ($\bar{x} = 3.16$) and other role as shown in Table 2 were agreed by the respondents as roles agricultural extension workers had performed to develop pig farming in Delta north agricultural zone. It was observed that many pig farmers and some agricultural extension workers have no agricultural education background. Piggeries in the study area is practice mainly under intensive management. Feed and proper management limit large scale pig production, because of economic challenges and available markets. No available market where pigs products are sold. Pigs are sold with scale by the farmers. The farmers source market for themselves through extension workers and other co farmers and most times, buyers usually come from outside the zone to buy pigs. Pork consumption in the study area is significantly low due to cultural background. Therefore, there is need to raise advocacy for development of piggeries and other farm animals production in Delta north agricultural zone. The study agreed with Almeida (2021) who opined that increasing the production of pigs on small farms are renowned as a crucial strategy to develop financial security and boost food security in the area owing to high rates of poverty and malnutrition. The findings of this study is in harmony with Afrad *et al.* (2019) who stated that to control productivity tribulations, government is indebted to find ways and means to make agriculture more viable through the policies and procedures that are following incentives for transforming this sector to sustainable agricultural development, nourishment and poverty alleviation. That in developing agriculture, the roles of agricultural extension workers are highly needed since they provides support and facilitates farmers agricultural production.

Table 2: Roles of agricultural extension workers

Role	Mean (\bar{x})	STD	Rank	Remarks
Technical advice to farmers	3.36	0.82	1 st	Agreed
Supply of inputs and services	2.95	1.09	10 th	Agreed
give information and new ideas to farmers	2.99	0.99	9 th	Agreed
Provide educational assistance on every farm and home	3.18	0.73	3 rd	Agreed
Persuade farmers to belief and act on new teaching	3.16	0.89	5 th	Agreed
Help farmers with decisions of what, when, where and how to market their products	3.18	0.81	3 rd	Agreed
Demonstration of suitable practices	3.25	0.74	2 nd	Agreed
Assist farmers secure loan	3.06	0.85	8 th	Agreed
Assist farmers form groups	3.15	0.78	6 th	Agreed
Advice people of various marketing services available	3.09	0.77	7 th	Agreed

Source: Field Survey, 2023

Agricultural Extension Teaching Methods

Table 3: the result shows agricultural extension teaching methods and it revealed carrying out demonstrations ($\bar{x} = 3.65$), target group methods ($\bar{x} = 3.41$), individual/ household method ($\bar{x} = 3.21$) and other items in Table 3 were agreed agricultural extension teaching methods used to tutor rural farmers pig farming development. The teaching methods employed by agricultural extension workers had directly influence the success of their efforts in rural farmers towards development of pig farming in Delta north agricultural zone. The agricultural extension workers

and rural farmers had effective communication towards development of piggeries that had resulted in increased pig farming in Delta north agricultural zone.

The study agreed with Nwachukwu *et al.* (2020) who stated that whether the extension worker is a village extension worker or a state subject matter specialist or the learner is a farmer or nonfarm person, an understanding of the capabilities and limitations of the available teaching tools is essential to their intelligent selection and efficient use, that extension remains a crucial institution for supporting rural livelihoods and the sustainable development goals (SDGs). They further stated that extension teaching method is conceptualized as strategy used to produce circumstances where new and old information are communicated freely between the extension worker and the farming communities or rural dwellers. This work is in agreement with statement of Ojo and Nwachukwu (2020) who acknowledged that effective communication is a process of exchanging ideas, thoughts, facts and information such that the purpose or intention is fulfilled in the best possible manner.

Table 3: Agricultural extension teaching methods

Activity	Mean (\bar{x})	STD	Rank	Remarks
Demonstrations method	3.65	.55	1 st	Agreed
Target group members	3.41	.57	2 nd	Agreed
Village meetings	2.95	.89	9 th	Agreed
Agricultural shows	3.11	1.01	6 th	Agreed
Farm visit	3.20	.83	4 th	Agreed
Mass extension methods	3.10	.96	7 th	Agreed
Pamphlets	3.19	.89	5 th	Agreed
Individual/household	3.21	.84	3 rd	Agreed
Follow up visit to farmers site	3.06	.79	8 th	Agreed
Meet local leaders	2.93	.92	10 th	Agreed

Source: Field Survey, 2023

CONCLUSION AND RECOMMENDATIONS

Agricultural extension workers had performed their roles creditably well in teaching and demonstrating innovations to farmers and new technologies in development of pig farming in the study area. Many pig farmers and some agricultural extension workers have no agricultural education background. The teaching methods employed by the agricultural extension workers had directly influence development of pig farming in Delta north agricultural zone. Therefore, agricultural extension workers ability to provide effective teachings to farmers in development of more pig farms in the research area should be enhanced by government.

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