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Socio-Economic and Management Practices of Duck in Imo State. A Study of Orlu Local Government Area, Imo State, Nigeria

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ABSTRACT

The present study was conducted to determine the socio-economic profiles of the duck farmers, investigate the management practices of duck farming and to identify the problems of duck farming in two towns in Orlu Local Government Area of Imo State namely: Amaifeke and Okporo during the period from April to May 2016 by using a pre-tested questionnaire. Socio-economic profile of the duck farmers like age, education, family size, occupation, marital status, farm size, training received, annual income and management practices particularly housing, feeding, breeding, cleaning, disposal of diseased/dead birds, vaccination program, veterinary services followed by the farmers were investigated during the research. A total of 100 duck (50 from each town) were selected randomly for this study. The results reveal that most of the respondent farmers were young (60%) having secondary level of education (69%). Family size of the most of the farmers (57%) were small (size 4.53 persons) and majority of the farmers (75%) were marginal (0.021-020 hectare). About 42% farmers had training on farming of different duration (7 to 30 d). Highest proportion of the duck houses were made of tin-shed (74%) having necessary floor space for ducks. The data obtained illustrated that majority of the farmers (74%) used sufficient supplementary feed to their ducks. About 65% of the farmers reared Pekin ducks in their farms. Most of the farmers (70%) cleaned their farm houses regularly. About 73% farmers separated their diseased duck from healthy ones. It was also found that most of the farmers (89%) buried their dead ducks under soil. Data indicated that majority of the farmers (67%) had partial idea about duck diseases. The highest proportion of the farmers (72%) followed vaccination program strictly. About 71% farmers consulted with village doctor. Nearly 51% farmers had low level of knowledge about duck farming. In the present study 10 problems were identified out of which low price of duck meat and egg made ranked as most serious problems. If the problems are addressed properly, the duck raising could be more profitable business in Imo State.

Keywords: Socio-Economic and Management Practices, Duck Farming, Supplementary Feed.

INTRODUCTION

The domestic ducks are water fowls. They are raised mainly in regions of high rainfall, deltas, riverine areas and coastal districts of the tropics. In Nigeria, local ducks are raised on free range alongside with the domestic chickens. Even though ducks are hardier and more resistant to diseases and environmental hazards, they are fewer than the chickens due to cultural beliefs which tend to portray ducks as mystique birds (Udedibie and Ogbonna, 2006).

Duck farming is a way of life for rural farming families. They keep a few ducks to get eggs for home consumption and sell the surplus at the local market or among their neighbours. Commercial duck meat farms are intensive operations similar to chicken meat farms. Ducks are raised in sheds which vary from open-sided naturally ventilated sheds to fully enclosed climate controlled tunnel ventilated houses (Ugbomeh, 2002).

Animal protein shortage has become an endemic problem in Nigeria and it has negative

influence on the health and general well-being of the even increasing population (Ahaotu *et al.,* 2010). Ahaotu *et al.,* (2011) observed that over 70% of Nigerians are poor meaning that majority of Nigerians are faced with shortage of animal protein. To alleviate this problem, there is need therefore to increase the production of small highly prolific livestock with rapid turnover rate at a very low cost. Ducks are capable of increasing the much needed animal protein on account of their reputation for fast growth, high fecundity and efficient feed conversion. They can thrive under a wide range of climatic conditions. They are resistant to common poultry diseases such as *Leukosis, Marek disease, infectious bronchitis and other respiratory diseases* (Ike, 2017).Duck meat belongs to the more expensive kinds of meat. This can have a favourable effect on the image of duck meat but it must be justified by a corresponding quality. In view of increasing concern of consumers about animal welfare, producers will have to deal not only with price and quality of the final product, but also the manner in which ducks are produced. That means that the methods of waterfowl production have to be organized with respect for animal welfare, environment and landscape to get an additional

bonus with regard to consumer acceptance.

The different duck species differ in growth rates and in the degree to which males grow faster than females. White Pekins typically exhibit early growth with a difference of 10 % in size between sexes. The early growth of muscovies is usually quite slow and they develop a marked difference in weight between sexes. At the age of 12 weeks males are about 40 % heavier than females. Mulards have a difference between the sexes of 10 % at the age of 10 weeks. Duck meat belongs to the more expensive kinds of meat.

The specific objectives of the study are: to determine the socio-economic profiles of the duck farmers, to investigate the present management practices of duck farming and to identify the problems of duck farming.

MATERIALS AND METHODS

The present study was conducted to determine the socio-economic profiles of the duck farmers, investigate the management practices of duck farming and to identify the problems of duck farming in two towns in Orlu Local Government Area of Imo State, Nigeria namely: Amaifeke and Okporo during the period from April to May 2016 by using a pre-tested questionnaire. Socio-economic profile of the duck farmers like age, education, family size, occupation, marital status, farm size, training received, annual income and management practices particularly housing, feeding, breeding, cleaning, disposal of diseased/dead birds, vaccination program, veterinary services followed by the farmers were investigated during the research. A total of 100 duck (50 from each town) were selected randomly for this study. For the collection of primary data, direct interview method was followed using pre-tested questionnaire. Data were collected both from primary and secondary sources. The secondary data sources constituted government documents, related literatures, books and journals. Descriptive statistics such as mean, percentage, range, standard deviation and ranking were used to describe the indicators of the study.

RESULTS AND DISCUSSION

Socio-Economic Profiles of the Respondent Farmers

Table 1.Socio-Economic Profile of the Participant Farmers

Characteristics	Category	%	Mean
Age (year)	Young (up-to 35) Middle-aged (36-50) Old (Above 50)	60 34 6	34.48 ±8.94
Education (schooling year)	Primary (1-5) Secondary (6-10) > secondary (>10)	23 69 8	7.40 ±3.05
Family size(no.)	Small (Up-to 4) Medium (5-6) Large (Above 6)	57 31 12	4.53 ±0.82
Occupation	Agriculture Service Business Farming	32 5 13 50	--
Marital status	Married Unmarried Divorced Others	68 17 13 2	--
Farm size (hectare)	Landless (upto-0.02) Marginal (0.0210.20) Small (0.21-1.00) Medium (1.01-3.00) Large (Above 3.00)	0 75 15 10 0	0.18 ±0.24
Training (day)	No training Short (1-7) Moderate (8-15) Long (> 15)	58 22 17 3	3.92 7.28
Annual income	Low (60-106) Medium (107-150) High (151-360)	32 57 11	205000 ±74010

Field Survey, 2016

Data presented in Table 1 express that the highest proportion of farmers (69%) belonged to secondary level followed by primary (23%) and above secondary (8%) level of education respectively. On the basis of the number of family members, the respondent farmers were classified into three categories namely: small, medium and large.

Data show that small family size was the highest (57%) followed by medium (31%) and large family (12%). It is also seen from the table that average family size (4.53) was smaller than that of national level (4.90) (Ike, 2017).The highest proportions of the respondent (75%) were marginal farmers followed by small farmers (15%) and medium farmers (10%). Proportion of large and landless farmers was zero.

Table 2: Duck Housing System

Housing	Amaifeke		Okporo		Mean (n=100)
Frequency	Percent	Frequency	Percent		Percent
Type					
Tin Shed	36	72	38	76	74
Bamboo Straw	8	16	7	14	15
Soil Made	6	12	5	10	11
Total	50	100	50	100	100
Floor Space					
Sufficient	38	76	37	74	75
Insufficient	12	24	13	26	25
Total	50	100	50	100	100

Field Survey, 2016

From the Table 2, it is evident that most of the houses were tin-shed (74%) followed by bamboo-straw made (15%) and soil made (11%). Etuk *et al.,* (2006) found almost similar result regarding type of duck houses in coastal region. This might be the due to the fact that tin-shed houses are permanent and long lasting

Table 3: Duck Feed Management

Feeding (n=100)	Amaifeke		Okporo		Mean
	Frequency	Percent	Frequency	Percent	Percent
Sources of Feed					
Only Scavenging	12	24	14	28	26
Scavenging and Supplementation	38	76	36	72	74
Total	50	100	50	100	100
Quantity of Feed					
Sufficient	33	66	38	76	71

Insufficient	**17**	**34**	**12**	**24**	**29**
Total	**50**	**100**	**50**	**100**	**100**
Feed Ingredients					
Paddy rice	**11**	**22**	**9**	**18**	**20**
Wheat +Paddy rice	**9**	**18**	**7**	**14**	**16**
Mixed Feed	**30**	**60**	**34**	**68**	**64**
Total	**50**	**100**	**50**	**100**	**100**

Field Survey, 2016

The respondent farmers opined that in mixed feed system they were confirmed that all the feed ingredients and nutrients were present in mixed feed. But in scavenging feeding system they were not sure about the presence of all nutrients in required proportion. However, most of the farmers (74%) gave supplementary feed to their ducks (Table 3). The rest 26% farmers depended only on natural feed. Adeniyi and Oguntunji(2011) observed somewhat different result on feed supplementation. They showed that 61.5% farmers gave supplementary feed (additional feed) to their ducks in the coastal areas. The reason might be that coastal region is a good source of natural feed on which a considerable portion of farmers (38%) were depended.

Table 4: Types of breed in Duck Farm

Breeds	Amaifeke		Okporo		Mean (n=100)
	Frequency	Percent	Frequency	Percent	Percent
Muscovy	**33**	**65**	**12**	**64**	**65**
Khaki Campbell	**10**	**23**	**13**	**26**	**23**
Pekin	**7**	**12**	**5**	**10**	**12**
Total	**50**	**100**	**50**	**100**	**100**

Field Survey, 2016

Type of breed used in the duck farm is shown in Table 4. The table indicates that most of the farmers reared Muscovy duck (65%) followed by Khaki Campbell (23%) and Pekin (12%) in their farms.

Table 5: Prevention and Control of Diseases in Farm House

Measures	Amaifeke		Okporo		Mean (n=100)
	Frequency	Percent	Frequency	Percent	Percent
Cleaning Practice					
Regular	34	68	36	72	70
Irregular	10	20	11	22	21
Not at all	6	12	3	6	9
Total	50	100	50	100	100
Diseased Ducks Separation and					
Treatment	35	70	38	76	73
No Separation	9	18	8	16	17
Consumed	6	12	4	8	10
Total	50	100	50	100	100
Dead Birds					
Buried	46	92	43	86	89
Thrown away	4	8	7	14	11
Total	50	100	50	100	100
Idea about Disease					
Clear idea	15	30	18	36	33
Partial Idea	35	70	32	64	67
Total	50	100	50	100	100
Vaccination					
Regular	34	68	38	76	72
Irregular	10	20	8	16	18
Not at all	6	12	4	8	10
Total	50	100	50	100	100
Veterinary Services					
Veterinary Doctor	10	20	8	16	18
Village Doctor	34	68	37	74	71
No consultation	6	12	5	10	11
Total	50	100	50	100	100

Field Survey, 2016

The level of idea of the respondent farmers about duck diseases is shown in Table 5. The data contained in the table indicate that major portion of the farmers (67%) had partial idea about duck diseases. On the other hand, 33% farmers had clear idea about duck diseases. The reason behind it is lack of training facilities for the farmers.

Deaths of ducks are normal phenomena in duck farm. Dead duck should be disposed of very carefully. It is a common practice to burry or burns the dead duck. During burning bad smell is spread

out. For this reason, the system of burying the dead duck is widely used. In most cases (89%), this principle was followed in the study area (Table 5). But 11% farmers of the study area did not follow this rule. They threw away the dead ducks outside. The reason is the lack of proper knowledge. The lack of awareness on the impact of throwing dead birds elsewhere might be a reason. This discovery is in line with Adeyemi *et al*., (2008) who stressed that most rural farmer's lack the technical know-how on dead duck disposals.

Table 6: Knowledge Level of Farmers about Duck Farming

Knowledge Level	Amaifeke		Okporo		Mean (n=100)
	Frequency	Percent	Frequency	Percent	
Percent					
Low: 40-50	24	48	26	52	50
Medium: 51-60	18	36	14	28	32
High: 61-70	8	16	10	20	18
Total	50	100	50	100	100

Field Survey, 2016

The level of knowledge of farmers about duck farming is shown in Table 6. Depending on obtained score of knowledge, the participant farmers were classified into three categories namely: low, medium and high level of knowledge. Data presented in Table 6 show that the highest proportion of farmers had low (50%) knowledge followed by medium (32%) and high (18%) level of knowledge about duck farming. The mean score of knowledge was 56.08 with standard deviation 6.53 in the study area. Lack of sufficient training facilities might be the reason for highest proportion of the farmers having low knowledge about duck farming

Table 7: Problems Faced by Duck Farmers

Problems	Intensity of Problems			Total Score	Rank
Order	High (3)	Medium (2)	Low (1)		
Lack of Sufficient Capital	56 (56)	27 (27)	17 (17)	239	7th
High price of feed	77 (77)	13 (13)	10 (10)	267	2nd
Low price of duck egg and meat	85 (85)	15 (15)	00 (00)	285	1st

Outbreak of disease	**55 (55)**	**45 (45)**	**00 (00)**	**255**	**4th**
Inadequate Veterinary Services	**67 (67)**	**20 (20)**	**13 (13)**	**254**	**5th**
Lack of training	**75 (75)**	**15 (15)**	**10 (10)**	**265**	**3rd**
Irregular supply of Duckling	**55 (55)**	**38 (38)**	**7 (7)**	**248**	**6th**
Price fluctuation of duck eggs	**30 (30)**	**50 (50)**	**20 (20)**	**210**	**8th**
Problem of theft	**28 (28)**	**47 (47)**	**25 (25)**	**203**	**9th**
Pollution of environment	**17 (17)**	**20 (20)**	**63 (63)**	**154**	**10th**

Field Survey, 2016

Most of the farmers (85%) opined that lower price of duck products (meat and egg) greatly affect profit margin from duck farming and they ranked this problem as 1st out of 10 selected problems as indicated in Table 7. Das *et al.,* (2008) further observed higher price of feed and lower price of duck meat and egg as vital problems in coastal area. About 77% and 75% farmers identified that higher price of feed and lack of training respectively as very serious problems for their business. Mahmud (1998) reported lower price of duck meat and egg, lack of credit, scarcity of feed in dry season, lack of proper treatment and medicine were serious problem in duck farming.

CONCLUSION

The study showed that availability of feeds, cost of input and housing and use of hired labour had significant relationship with being involved in duck production, so also were respondents' age and membership of cooperative society. It was also perceived that local taboos have influence on duck production among the respondents but did not perceive religion to have influence. It was therefore recommended that, extension contact should be intensified so as to remove the negative perception of the people towards duck production. Also access to input supply and feeds should be at affordable costs.

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