

SURVEY ON INFLUENCING FACTORS LIMITING DUCK PRODUCTION IN KAZAURE LGA, JIGAWA STATE

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ABSTRACT

A total of 150 residents were surveyed to gather information responsible for declining duck farming in Kazaure Local Government Area. A well-structured questionnaire and verbal interview were administered at random to the respondents. The data collected were analyzed using simple descriptive statistics. The socio-economic activities of the respondents are mainly farming (61.06%) including livestock (29.20%), crop (25.66%) and mixed (45.14%) production systems. In poultry production, the respondents engaged more into chicken production (50.45%) compared to the duck production (35.40%). Majority of the duck farmers are keeping 6 – 10 ducks (60.10%) within a range of 6 – 10 years (33.63%) of farming experience. Extensive system is the main management practice in the area (84.08%) with no provision of supplementary feeding and housing. The main reasons responsible for rapid decline of duck production includes production of exotic chicken (45.14%), disease outbreak (35.39%), lack of adequate water (10.62%) and allergy for consuming duck meat (5.31%). In conclusion, duck population is still decreasing with no sight of ducks in many areas with the history of production. To prevent further damage on duck species, it is highly recommended that population genetic study must be conducted. Also, extension agents work must be intensified on general public awareness and new innovations concerning duck production.

Key words: Conservation, Duck production, Genetic resource, Nigeria

INTRODUCTION

Ducks were first domesticated in Southeast Asia at least 4000 years ago during the Neolithic Age, and commonly raised by Romans in Europe and the Malays in Asia (Cherry & Morris, 2008). The world production of duck meat has steadily increased during last few years. The total production was 3.78 million tons in 2008 and will continue to grow at a rate of 3.0% per annum (FOA, 2010). In most tropical countries, there are local duck breeds that have been selected to suit local conditions. They may not perform well as improved breeds, but they do have ability to survive and produce well under local extensive and semi-intensive systems. Different breeds of ducks are usually grouped into meat or general purpose, egg production and ornamental (Ngapongora *et al.*, 2004).

The continued decline in duck production and duck meat consumption in Nigeria is a matter of great concern (RIM, 1992). Duck is the prominent among poultry species neglected by the established poultry operators and local farmers in Nigeria. The neglect is probably arising from uncertainty and fear concerning the demand and sale of duck meat products. There is a compelling need to integrate duck production into Nigerian agricultural systems as they are source of nutritious meat and egg for human consumption. Raising ducks requires unskilled labor, it is successful under poor feed and ability to produce high quality protein. There is alarming and continuous decrease in duck production because of the certain elements and negligence from both farmers and government. Therefore, the aim of this study was to survey the influencing factors limiting duck production as a base for genetic conservation of this species.

MATERIALS AND METHODS

Study Area

Kazure Local Government Area in Jigawa State of Nigeria lies between the longitude of 12° 39'10''N and latitude 8°24'43''E. It has a total land area of 1780 Km² with population 161,494 (NPC, 2006). The daily maximum and minimum temperature are 33.1°C and 15.88°C respectively. The annual average rainfall is about 608mm per annum. The land area is covered by shrubs and trees with dense population of mango trees along Fadama areas. The land is relatively flat with scattered rocks especially around the metropolis area. Their main occupation is crop and animal production.

Method of data collection

The data were obtained using structured questionnaires and verbal interviews. One hundred and fifty (150) structured questionnaires were randomly administered to farmers. However, one hundred and thirteen (113) were retrieved and analyzed. The research was conducted from June to August 2019.

Statistical analysis

The primary data collected were analyzed using Microsoft excel (2016) for simple descriptive statistics (frequency and percentages).

RESULTS AND DISCUSSION

Demography is the statistical study of changes such as the number of births, deaths, marriages and illnesses that occur over a period of time in human populations. The demographic and socio-economic of the respondents (Table 1) shows that 69.1% were males; while 30.9% were females and mostly young (62.7%) and married (80.6%). The household size of 1–5 recorded high percentage (53.99%). This result implies that majority of the respondent are in active years and should be capable of being involved in poultry and duck production. The finding is similar with work of Abdullahi *et al.* (2016) on personal and socio-economic characteristics of respondent in Katsina State. The result further revealed that approximately 40% engaged in farming, whereby chicken (50.45%) and duck (35.40%) dominated the entire poultry enterprise respectively. Mostly, duck farmers had 6–10 years of farming experience and can keep up to 6–10 ducks. While the management system adopted by the respondents was extensive system (84.08%) which is characterized by non-provision of supplementary feeding and housing to the birds.

Table 1. Demographic and socio-economic characteristics of the respondents

Categories	Variables	Frequency	Percentage(%)
Gender	Male	78	69.10
	Female	35	30.90
Age	16 – 25	11	09.70
	26 – 35	31	27.40
	36 – 45	29	25.60
	46 – 55	21	18.50
	56 – 65	15	13.20
	66 and above	06	05.60
Marital Status	Married	91	80.60
	Single	13	11.50
	Divorced	09	07.90
Household size	1 – 5	61	53.99
	6 – 10	38	33.63
	Above 10	14	12.38
	Farming	69	61.06
Occupation	Civil Servant	20	17.70
	Business	24	21.24
Type of farming	Crop production	29	25.66
	Livestock production	33	29.20
	Mixed	51	45.14
Type of poultry	Duck	40	35.40
	Chicken	57	50.45
	Guinea fowl	10	08.85
	Turkey	06	05.30
Capacity of duck	1 – 5	31	27.44
	6 – 10	38	33.63
	11 – 15	26	23.00
	16 – 20	10	08.85
	Above 20	08	07.08
Farming experience	1 – 5	45	39.83
	6 – 10	52	46.01
	Above 10	16	14.16
Management system	Intensive	0	00.00
	Semi intensive	18	15.92
	Extensive	95	84.08

The responses on specific reasons for the declining of duck farming has been presented in Table 2. Introduction of exotic chicken (broilers and layers) for meat and egg production (51%) is the major factor that forces farmers to migrate from other poultry species. This is because, exotic chickens are easier to raise, faster to attain market size with higher profits compared to ducks. On the other side, disease also plays a significant role in down grading the duck production (35.39%). Ducks are naturally connected to water for bathing and feeding purposes. Lack of water sources (10.62%) such as small ponds and lakes cause ducks to feeds on dirty gutters and drainages especially during dry season. Such dirty feeding nature resulted in duck meat rejection (verbal interview) by some individual consumers (5.31%). Other

factors affecting duck production includes major diseases such as DVH (53.99%) which resulted to sudden death, opisthotonus, paresis and paralysis. Moreover, 62.83% of the respondent preferred traditional method of controlling disease than consulting veterinary personnel. This might be due to lack of proper extension services in the area. John *et al.* (2003) and Farrell and Stapleton (1985) have reported that isolation and vaccination of breeder ducks with attenuated live duck hepatitis and duck virus enteritis vaccines provide adequate protection. while Umeh *et al.* (1999) reported Colibacillosis required good sanitation and antibiotics in feeds are helpful in controlling the disease; likewise, to prevent Aspergillosis is to avoid using moldy straw and preventing feed from getting wet (Timmler & Rodehutsord, 2013).

Table 2 Responses on specific reasons for decline in duck production

Categories	Variables	Frequency	Percentage(%)
Reason for decline of duck production	Disease	40	35.39
	Lack of capital	04	03.54
	In adequate water	12	10.62
	Production of exotic chicks	51	45.14
	Non consumption of duck	06	05.31
Diseases	Aspergillosis	08	07.07
	Colibacillosis	06	05.31
	Duck plague	31	33.63
	Duck virus hepatitis	61	53.99
Control of disease	Veterinary method	42	37.17
	Traditional method	71	62.83
Extension officer visit	Yes	18	15.93
	No	95	84.07

CONCLUSION AND RECOMMENDATION

Duck population is under threat because of the above-mentioned factors. The extensive system of management adopted by the farmers help in exposing the ducks to the external risk and danger of predators and diseases. Hence, it is recommended that future study on population genetics will help in understanding duck population for better genetic resource management and conservation. General public awareness and development of new innovations concerning duck production through extension workers must be intensified. This could also be achieved by introducing courses related to threatening species such as ducks into the university and other institutions.

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