ASSESSMENT OF TRADITIONAL PRODUCTION SYSTEM (HOUSING, FEEDING, AND MARKETING) OF DOMESTIC CHICKEN WITHIN ZARIA METROPLIS

M. ABDULRASHID[1], A. K. OLUTUNMOGUN[2], J. DAUDA[1] AND F. U. ANOSIKE[2]
[1]*Department of Animal Science, Ahmadu Bello University, Zaria, Kaduna State, Nigeria*
[2]*National Animal Production Research Institute (NAPRI), Shika, Zaria, Kaduna State, Nigeria*
Correspondence: olutunmogunkayode@yahoo.com

ABSTRACT
This study was conducted to assess the traditional production system of domestic chicken within Zaria metropolis in Kaduna State. The survey involved random distribution of questionnaires to fifteen (15) different households in seven areas which include Shika, Bomo, Sabongari, Samaru, Gaskiya, Tudun-jukun and Gelleysu. The households were chosen on the basis that they practice traditional method of domestic chicken production. One hundred and nine (109) questionnaires distributed and seventy one (71) were retrieved. The data collected was analysed using descriptive statistics. The result shows that majority of the respondents (69.01%) involved were female, while 64.8% respondents were civil servants. Also 40.8% of the respondents had five years experience in domestic chicken production. Most of the respondents (69.0%) practiced the semi-intensive system of production. Majority of the farmers sell their bird at adult stage (29.6%). Furthermore most of the farmers (32.4%) sold their birds during festivities, while 32.4% do not have specific period for sales of their birds. In conclusion, the productivity of the chickens was sub-optimal and under small scale production meaning that people are leaving the domestic chicken production to the females who only prefer to sell at adult stage with some kept for family consumption.

INTRODUCTION
Poultry, as an aspect of livestock production outnumbers all other forms of livestock in Nigeria and not surprisingly is found throughout the country wherever there are human settlements (Adeyemo and Onikoyi, 2012). Today, poultry production has developed from backyard business to a commercially oriented industry. Its offer of highest turnover rate and quick returns to investment outlay in the livestock enterprises has made it unique (Adeyemo and Onikoyi, 2012). The indigenous chickens are widely distributed in the rural areas of tropical and sub-tropical countries where they are kept by the majority of the small scale farmers. These birds are generally hardy, adaptive to rural environments, survive on little or no inputs, ability to hatch their own egg and adjust to fluctuation in feed availability. Domesticated birds largely dominate flock composition and make up to 98% of total poultry numbers kept in Africa (Gueye, 2003). In Nigeria, the indigenous chicken constitutes 80% of 120million poultry type raised in rural areas (RIM 1992). It has been observed that there are various strains/ecotypes of the local chicken in the different agro ecological zones of Nigeria. They are the normal feathered, naked neck and the frizzled feather (Ozoje and Ikeobi, 1995). Others include the Fulani and dwarf types. Their output (egg and meat) are readily available to villagers and people in urban and semi urban areas as this product has grown by 5.8% per annum(Sonaiya and Swan, 2005); thus serve as good source of protein in their diet, in the same vein they serve as good source of income. Indigenous chicken has the potential to satisfy at least part of this demand through increase productivity and reduced wastage and losses (Jane *et al,* 2014). Therefore the main objective of this study is to assess the traditional production system of domestic chicken within Zaria metropolis.

MATERIALS AND METHODS
The study was carried out in Zaria. Zaria is a major city in Kaduna state in northern Nigeria, standing at a height of about 670M above sea level and more than 640km away from the sea. It is located within a span of lat-long 11^0 04'N 7^0 42'E and 11.067^0 N 7.700^0 E. It covers an area of about $300km^2$ with a population estimate of

about 1, 0180,800 (NPCC, 2006). The climatic characteristics exhibited by Zaria is that of a tropical continental savannah climate with a distinct wet and dry season caused by the movement of the inter-tropical discontinuity (ITD) which is dictated by two dominant winds. Detailed climatic description of Zaria was reported by (NIMET, 2011).

One hundred and nine (109) structured questionnaires were used to cover important major details of traditional production system on housing, feeding, and marketing of domestic chicken. Information acquired through the questionnaires included, production systems, housing, feeding, and marketing of domestic chicken. The survey study involved random distribution of questionnaires to fifteen (15) different households in seven (7) different areas within Zaria metropolis. The areas covered include Shika, Bomo, Sabongari, Samaru, Gaskiya, Tudunjukun and Gelleysu. The households were chosen on the basis that they practice traditional method of domestic chicken production. From the one hundred and nine (109) questionnaires distributed, seventy one (71) were retrieved. The data collected was analysed using descriptive statistics such as frequency distribution and percentages.

RESULT AND DISCUSSION

The socio-economic variables investigated are reported in Table 1. The result shows that majority of the respondents (69.01%) involved in indigenous chicken production were female. This is in line with the observation of Anosike *et al.* (2015) who noted that the small scale poultry business are carried out by females who are said to know the importance of poultry keeping in the home. Similarly, 50.7% of the respondents have secondary education implying that they are able to understand basic techniques in of production. Majority of the respondents (64.8%) were civil servants while 59.2% are single. This also agrees with the report of Anosike *et al.* (2015) that confirms the assertion that small scale poultry are kept as an adjunct to main business or occupation. The result also shows that 40.8% of the respondents had five years experience in domestic chicken production meaning that they have good knowledge in production.

Table 2 shows the housing management of chicken. Majority of the respondents (69%) practiced the semi-intensive system of production; this they say is more economical to them. The type of housing provided however were mud block and poorly constructed zinc sheets. Except on large scale farms were birds are kept intensively, most domesticated birds are kept under semi-intensive or extensive management systems. This confirms the accretion of Katherine *et al.*, 2010 who revealed that semi-intensive systems are dominate amongst rural and developing urban areas.

Table 3 shows the feeding pattern. The result shows that 69% of the farmers provide supplementary feed for the birds. These feeds are in form of grains and it concur with the findings of Ajala *et al.*(2007) who revealed that non-conventional feeds are used routinely or as supplements to local poultry feeding. 40.8% provides well water as it is the main source of water. This agrees with the findings of Ajala *et al.* (2007), who observed that clean water from different sources are provided to their birds including well water at any weather condition.

Table 4 describes the marketing pattern. The result shows that majority of the farmers (29.6%) select their bird at adult stage ready for market and out of which 57.7% sell them alive while 18% sell their birds based on the weight. Similarly, 21% do not sell their birds as they are meant for family consumption usually during celebration. This result confirms the findings of Ajala, *et al.* (2007) and Apuno *et al* (2011) who reveal that farmers rear this bird for sale to generate cash and some part for family consumption at festive periods. Furthermore most of the farmers (32.4%) sold their birds during festivities, while (32.4%) do not have specific period for sales of their birds.

CONCLUSION

The study established that domestic chicken production practiced in Zaria is mostly semi-intensive and under small scale with most of the farmers being females. The birds are commonly sold live only at adult stage and mostly during festivities.

REFERENCES

Adeyemo, A.A and Onikoyi, M.P. (2012). Prospects and challenges of large scale commercial poultry production in Nigeria. *Agricultural Journal* (7): 388-393. 20012.

Ajala, M.K., Nwagu, B.I. and Otchere, E.O. (2007). Socio-economic of free-range poultry production among Agro-pastoral women in Giwa local government area of Kaduna State. *Nigeria Veterinary Journal* 28(3): 11-18

Anosike, F.U., Naanpose, C.D., Rekwot, G.Z., Sani, A., Owoshagba, O.B and Madziga, I.I. (2015). Challenges of small-holder poultry farmers in Chikun local government area of Kaduna State Nigeria. *Proceedings of the 20th Annual conference of the Animal Science Association of Nigeria*. 6-10th September, 2015, University Ibadan, Oyo State. Pp. 302- 306.

Apuno, A.A., Mbap, S.T. and Ibrahim, T. (2011). Characterization of local chickens (*Gallus gallus domesticus*) in Shelleng and Song Local Government Areas of Adamawa State, Nigeria. *Agriculture and Biology Journal of North America* 2(1): 6-14.

Gueye, E.F. (2003). Production and consumption trend in Africa. *World Poultry Journal* 19:12-14.

Jane, C., Ifeoma, I. and Cynthia, I. (2014). Constraints to indigenous chicken production in Enugu State, Nigeria. International Conference on Sustainable Environment and Agriculture. IPCBEE Vol (2014) LACSIT press Singapore.

Katherine, K., Mary, K.G. and Robert, P. (2010). Poultry market in West Africa: A survey, prepared for the market Access Team of the Bill and Melinda Gates Foundation.

National Population Census Commission, (NPCC, 2006).

Nigerian Meteorological Agency (NIMET, 2011).

Ozoje, M.O. and Ikeobi, C.O.N. (1995). Productive performance and occurrence of major genes in the Nigeria local chicken. *Nigerian Journal of Genetics* 10: 67-77.

RIM (Resources Inventory and Management Ltd). (1992). Nigerian National Livestock Survey, Federal Department of Livestock and Pest control services, Abuja, Nigeria. pp 287.

Sonaiya, E.B. and Swan, S.E.J. (2005).Small-scale poultry production. In: Technical guide manual. Rome, Italy: Food and Agriculture Organization of the United Nations, Page 1 - 10.

Sonaiya, E.B. and Swan, S.E.J. (2004). Small-scale poultry production. In: Technical guide manual. Rome, Italy Food and Agriculture Organization of the United Nations, Animal Production and Health Manual 1, Rome.

Table 1. RESPONDENT PERSONAL DATA

SEX		
PARAMETERS	**Frequency**	**Percent**
MALE	22	31.0
FEMALE	49	69.01
TOTAL	**71**	**100.0**
EDUCATIONAL STATUS		
PARAMETERS	**Frequency**	**Percent**
NO RESPONSE	3	4.2
PRIMARY	8	11.3
SECONDARY	36	50.7
TERTIARY	22	31.0
OTHERS	2.8	2.8
TOTAL	**71**	**100.0**
MAJOR OCCUPATION		
PARAMETERS	**Frequency**	**Percent**
NO RESPONSE	3	4.2
POULTRY FARMING	4	5.6
MIXED FARMING	18	25.4
CIVIL SERVANT	46	64.8
Total	71	100.0
MARITAL STATUS		
PARAMETERS	**Frequency**	**Percent**
NO RESPONSE	3	4.2
MARRIED	26	36.6
SINGLE	42	59.2
TOTAL	**71**	**100.0**
EXPERIENCE OF CHICKEN PRODUCTION		
PARAMETERS	**Frequency**	**Percent**
NO RESPONSE	9	12.7
1-3YEARS	11	15.5
3-5YEARS	22	31.0
5YEARS ABOVE	29	40.8
TOTAL	**71**	**100.0**

TABLE 2. PRODUCTION SYSTEM AND HOUSING OF DOMESTIC CHICKEN

PARAMETERS	Frequency	Percent
NO RESPONSE	6	8.5
EXTENSIVE	11	15.5
SEMI INTENSIVE	49	69.0
INTENSIVE	5	7.0
TOTAL	**71**	**100.0**

TABLE 3. FEEDING PATTERN OF DOMESTIC CHICKEN

PARAMETERS	Frequency	Percent
FEED STUFF	12	16.9
COMMERCIAL FEED	3	4.2
GRAINS	49	69.0
OTHERS	7	9.9
TOTAL	**71**	**100.0**

WATER SOURCE TO THE CHICKEN

SOURCE	Frequency	Percent
BORE HOLE	19	26.8
TAP	8	11.3
WELL	29	40.8
OTHERS	15	21.1
TOTAL	**71**	**100.0**

TABLE 4. MARKETING OF DOMESTIC CHICKEN

HOW CHICKENS ARE SELECTED FOR MARKETING

PARAMETERS	Frequency	Percent
NO RESPONSE	11	15.5
ANY TYPE	3	4.2
DON'T SELL	15	21.0
ADULT STAGE	21	29.6
PHYSICAL APPEARANCE	3	4.2
RANDOM	1	1.4
WEIGHT	13	18.3
WHEN MANY	4	5.6
TOTAL	**71**	**100.0**

IN WHAT FORM DO YOU DISPOSE YOUR CHICKENS

PARAMETERS	Frequency	Percent
NO RESPONSE	23	32.4
LIVE	41	57.7
DRESSED	7	9.9
TOTAL	**71**	**100.0**

WHEN DO YOU SELL YOUR CHICKEN MOST

PARAMETERS	Frequency	Percent
NO RESPONSE	21	29.6
DRY SEASON	4	5.6
FESTIVITY	23	32.4
OTHERS	23	32.4
TOTAL	**71**	**100.0**