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EDITORIAL

The Editorial Board Members deeply appreciate God for making it possible for this third edition of the Journal of Agriculture and Agricultural Technology (JAAT) to be in circulation. We thank every member including individuals who have rallied round us to see that this edition is in circulation in record time. It is our desire to continue with this pace in subsequent editions.

The publication of this third edition would have been difficult if not impossible but for the support of the university authority and the Dean of School of Agriculture and Agricultural Technology, Prof. M.G.M. Kolo. The Editorial Board is particularly grateful to the Vice chancellor Prof. M.A. Akanji and the entire University Management for their support. We are equally grateful to our contributors. We are assuring you of a higher quality journal which is credible and acceptable for both national and international researchers.

We are highly indebted to our reviewers who spared time out of their busy schedules to meticulously go through the manuscripts and return them in electronic copies. Thank you for a job well done. Please act the same in the same manner when we contact you again. Our goal at JAAT is to have a quarterly publication of well-reviewed original Scientific work. We therefore solicit your support for quick and prompt reviewing of subsequent articles of this journal so as to make our dream a reality. In conclusion the Editorial Board is sincerely grateful to members of the School Board, School of Agriculture and Agricultural Technology and all those who have made meaningful contributions to the success of this edition. Thank you all.

Editor-in-Chief

Prof. B.A. Anyanwale

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Bridging the Extension Agents / Farmers' Gap through Agro-input Dealers Services on Poultry Production in Kwara State, Nigeria

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ABSTRACT

The huge gap between the extension agents and farm families is partly responsible for the poor growth and development of agriculture in Nigeria. This study was conducted to ascertain the socio-economic characteristics of the agro-input dealers, examine the relationship between them and relevant agricultural organizations, identify their sources of information and evaluate the constraints faced by them in information dissemination. The study was carried out in Ilorin West and Offa Local Government Areas of Kwara State, Nigeria. Questionnaire was used to obtain data from 120 respondents using multiple sampling techniques. Descriptive and inferential statistics were used to analyze the data obtained. Results of the analysis reveal that majority (71.7%) of the respondents were still in their active age of between 36-46 years who had also spent 2-12 years in the business. Agro-input dealers in the study area provide information to farmers in the areas of cleaning of equipments, maintenance of equipments and feed quality which ranked 1st, 2nd and 3rd respectively. They seldom provide information on feed additives, egg grading and marketing of poultry products as these ranked 26th, 27th and 28th respectively. Severe challenges militating against effective service delivery among the respondents were unstable electricity supply, inconsistent Government policies and inadequate information from extension agencies which ranked 1st, 2nd and 3rd respectively. Pearson Product Moment Correlation analysis showed that level of education ($r=0.069$, $p=0.038$), income ($r=0.078$, $p=0.026$) and experience ($r=0.099$, $p=0.000$) were positively and significantly related to the type of information provided by the agro-input dealers to the poultry farmers. The study concluded that agro-input dealers perform extension roles in an informal way and therefore recommended that agro-input dealers should be encouraged to participate in the Forth-night Review Technical Meeting of the Kwara State Agricultural Development Programme (KWADP) in order to enhance their capacity in extension service delivery.

Key words: Agro-input dealers, Extension service, Poultry farmers, Bridging

INTRODUCTION

Agriculture occupies an important position in the economy of developing countries including Asia and Africa. In Nigeria, about 70% of the population lives in the rural areas with their livelihood activities rooted in Agriculture. Indeed, a high share of rural communities and especially the rural poor are directly or indirectly dependent on agriculture through farming, food processing, fishing, forestry, and trade (Muhammed, 2007). A significant number of our manufacturing industries are largely dependent on Agricultural produce for their day to day operations. Agriculture remains a key component of the country's economy, currently contributing about 20.0% of the GDP (NBS, 2015). The contribution of Nigerian small scale farmers to the economic growth and development cannot be over-emphasized, even though, they are still faced with a lot of operational challenges both at the

upstream and downstream sectors of production. This situation is partly responsible for the low economic status of the local farmers as well as the lack of capacity to adopt improved practices necessary for profitable agricultural businesses.

Poultry refers to all birds of economic value to man, all of which belong to the zoological class Aves (Atteh, 2004). Poultry industry has become an important economic activity in many countries. In the recent past, it has become a full time job for many and is considered to be a commercially viable enterprise contributing significantly to Gross National Product (GNP). The environments to which poultry birds are exposed include the housing system, the feed they consume, climatic factor and management systems. All these affect the performance of the birds (Abeke *et al.*, 1998). In Nigeria, the domestic birds notably reared are *Gallus gallus* (chicken), *Gallus domesticus* (local

chicken), *Anas platyrhynchos* (Duck), *Anser anser* (Goose) and *Meleagris gallopavo* (Turkey). They are kept purposely for their meat, eggs and by-products like feather and droppings. Moreover, inadequate agricultural information is a major constraint to agricultural production in Nigeria. The number of trained extension agents who interface directly with the small-scale farmers across the country is grossly inadequate. It is rather unfortunate that the ratio of extension agents to farm families in the country stands at one Extension Agent to approximately (between) 2,500 - 10,000 as against 1: 350 (FMARD, 2002). Unfortunately, most of the extension agents are ageing and gradually close to retirement without commensurate recruitment or succession plan by their organizations. The foregoing scenario makes information dissemination on Poultry production a big challenge as the gap in skill of poultry farmers could not be bridged due to inadequate extension/farmers' ratio. The ability of the Nigerian Government to recruit adequate number of extension agents is further degraded due to the dwindling revenue from the country's oil exports thereby compelling the nation to focus more on the potentials in the agricultural sector to create jobs for the teeming Nigerian youth. Inadequate knowledge on how to apply new technologies has led to low agricultural production among the poultry farmers (Chianu *et al.*, 2008). Sanchez and Jama, (2002) also noted that absence of necessary agro-inputs has been blamed for low agricultural productivity and the overall poor economic growth and development in Nigeria. Agro-input dealers play a vital role in disseminating information to the farmers, they assist poultry farmers to interpret instructions on products, advice them on how to manage their poultry farms which include good hygiene, good vaccination programs, feeding and disease management. The agro-input dealers have for many years not but could be empowered to play more prominent role in extension service delivery (Ladale *et al.*, 2008). The strategic role and position of the agro-input dealers has not been fully recognized and explored for dissemination and communication of the key agricultural information. Although, Agro-input dealers are also faced with a number of challenges such as getting the inputs at the right time, inadequate training and knowledge, insufficient fund, weak partnership with relevant agricultural organizations which has caused

farmers through agro-input dealers. In view of this, the study therefore sought to bridge the Extension Agent/Farmers' gap through the services provided by Agro-input dealers to poultry farmers in Kwara State, Nigeria. The specific objectives of the study are to ascertain the socio-economic characteristics of the agro-input dealers, identify the most important perceived sources of information among the respondents, examine the areas of poultry production where the agro-input dealers provide information and evaluate the constraints faced by the agro-input dealers in the study area.

METHODOLOGY

The study area: The study was carried out in Kwara State, Nigeria. It is located between latitude 8°30'N and longitude 5°0'E. It has an area of 36,825 square kilometers with a population of 2.59 million people who are predominantly Yoruba, Nupe, Fulani, and Bariba extraction (NPC 2006). The State is located in the genuine savannah of Nigeria. The state shares an international border with the republic of Benin along its north western part in Baruten local government. The State has 16 Local Government Areas and these includes Asa, Baruten, Edu, Ekiti, Ilorin South, Ilorin West, Ilorin East, Ifelodun, Irepodun, Isin, Kalamu, Moro, Ota, Oke-Ero, Oyin and Pategi. The State is endowed with a large number of rural communities with farming as the most prominent occupation.

Sampling procedure: The population of the study comprised of all agro-input dealers in the study area. Multi-stage sampling technique was used for the selection of respondents for the study. The first stage involved purposive selection of Ilorin West and Ota Local Government Areas of Kwara State, due to the large number of agro-input dealers in the areas. The next stage involved the selection of two registered agro-input dealers associations from each of the selected local government areas, while the final stage involved the random selection of thirty respondents from each of the selected registered agro input dealers associations giving a sample size of one hundred and twenty (120) respondents.

Analytical tools
Data obtained from the field survey was subjected to both descriptive (frequency distribution, percentage, mean score and ranking order) and inferential (ANOVA, regression analysis, correlation coefficient, etc.) statistical tools.

RESULTS AND DISCUSSION

Socio-economic Characteristics of Agro-input Dealers in the Study Area

Table 1 shows the socio-economic characteristics of (agro-input dealers) the respondents in the study area. The age distribution shows that 86% of the agro-input dealers were youth within the age bracket of 25-46 years. The average age of the respondents in the area was 36 years. It could be inferred from this result that agro-input dealers in Kwara State are people who could assist in agricultural development, as they are presumed to have the agility and vigour needed to disseminate information to small scale farmers (Ogunlade et al, 2011). The table also shows that majority (78.3%) of the agro-input dealers were male while only 21.7% of them were female. Furthermore, majority (81.7%) of the respondents were married, 18.3% were single while 81.7% of them indicated Christianity as their religion.

The educational distribution of the respondents shows a significantly literacy level among the respondents as 46.7% of them had secondary school education, 45% had tertiary education while only 8.3% indicated primary education. This implies that majority of the agro-input dealers have the ability to read, correctly interpret manufacturer's instructions and precaution as well as disseminating same to their customers (farmers). Agro-input dealer in the study area indicated 12 years of business experience even though, 5% of them had spent 24 - 34 years in the business. The level of experience of the respondents could be related to the level of correctness of the information they disseminate to the farmers. Table 1 also shows that apart from English language, majority (75%) of the respondents speak Yoruba, (13%) speak Igbo while only (3.3%) speak Hausa language. The proficiency of the respondents in the local language confers a great advantage on them to decode the instruction on products and disseminate the information to the farmers in their own local language. The mean monthly income of the respondents in the study area as presented in table 1 stood at ₦120,500. The reasonably high income status of the respondents could probably

account for the wide range of information available to them in relation to agro-input businesses.

Sources of information available to the agro-dealers

Table 2 shows the most important sources through which the agro-input dealers access information relating to their business. The table showed that a little above half (56.7%) of the respondents access information concerning agro-input business from radio, 11.7% of them obtain information from research institutions, 8.3% obtain information from the ministry of agriculture, 6.7% use news paper, 6.7% obtain information from their customers, 5% use television, 3.3% obtain information from their colleagues while only 1.7% of them indicated internet. Since majority of the agro-input dealers indicated radio as the most important medium through which they access information, this implies that radio is a veritable tool in disseminating information to the respondents in the study area, particularly on capacity building and recent developments in the field of poultry production.

Areas where agro-input dealers provide information to poultry farmers

The various areas where agro-input dealers provide information to poultry farmers in the study area are presented in table 3. Respondents ranked the type of information they provide to farmers based on 4-point Likert Scale (always, occasionally, rarely and never). As indicated in the table, cleaning of equipment ranked 1st, maintenance of equipment ranked 2nd while information on feed quality control ranked 3rd. The least rated item out of the 28 items presented to the respondents was information on additives. This implies that agro-input dealers appear to provide information to their clientele based on the areas where they have higher pedigree while not much information is provided in areas where their competency is low

Table 1: socio-economic characteristics of the Agro-input dealers

Socio economic variables	Frequency (N = 120)	Percentage (%)	Mean score
Age			
25-35	44	36.7	
36-46	42	35.0	
47-57	30	25.0	
58-68	4	3.3	
Sex			
Male	94	78.3	
Female	26	21.7	
Marital Status			
Single	22	18.3	
Married	98	81.7	
Religion			
Islam	42	35.0	
Christianity	78	65.0	
Educational level			
Primary occupation	10	8.3	
Secondary occupation	56	46.7	
Tertiary occupation	54	45.5	

Income			
₦ 75,000 - ₦ 125,000	90	75.0	
₦ 126,000 - ₦ 176,000	24	20.0	
₦ 177,000 - ₦ 227,000	4	3.3	
₦ 228,000 - ₦ 278,000	2	1.7	
Business experience			
2-12	90	75.0	
13-23	22	18.3	
24-34	8	6.7	
Total	120	100.0	
Business language			
Hausa	4	3.3	
Igbo	26	21.7	
Yoruba	90	75.0	

Source: Field survey, 2015

Table 2: Respondents' most important Sources of information

Sources	Frequency	Percentage
Radio	68	56.7
Television	9	5.0
Newspaper	8	6.7
Internet	2	1.7
Ministry of Agriculture	10	8.3
Research Institutions	14	11.7
Fellow colleagues	4	3.3
Customers	8	6.7

Source: Field survey, 2015

Table 3: Areas of poultry production where the agro-input dealers provide information

Information provided	Always	Occasionally	Rarely	Never	Mean score	Rank
Information on type of feed	92(76.7%)	10(8.3%)	8(6.7%)	10(8.3%)	2.530	7 th
Rate of feeding	76(63.3%)	22(18.3%)	10(8.3%)	12(10%)	2.350	9 th
Rate of water supply	66(55%)	30(25%)	12(10%)	12(10%)	2.275	11 th
Supplements	38(31.7%)	46(38.3%)	18(15%)	18(15%)	1.867	22 nd
Requirement	15(25%)	50(41.7%)	28(23.3%)	12(10%)	1.441	28 th
Additives	52(43.3%)	44(36.7%)	14(11.7%)	10(8.3%)	2.149	15 th
Balanced diet	36(30%)	50(41.7%)	18(15%)	16(13.3%)	1.883	23 rd
Hygiene practice	88(73.3%)	24(20%)	4(3.3%)	10(8.3%)	2.200	12 th
Types of diseases	62(51.7%)	30(25%)	18(15%)	10(8.3%)	2.267	14 th
Symptoms of diseases	62(51.7%)	36(30%)	14(11.7%)	8(6.7%)	2.267	14 th
Vaccination techniques	48(40%)	46(38.3%)	12(10%)	14(11.7%)	2.067	16 th
Choice of vaccine	46(38.3%)	42(35%)	18(15%)	14(11.7%)	2.000	18 th
Disease treatment	46(38.3%)	50(41.7%)	10(8.3%)	14(11.7%)	2.067	16 th
Importance of foot dip	26(21.7%)	42(35%)	26(21.7%)	26(21.7%)	1.567	26 th
Types of equipment	90 (75%)	14 (11.7%)	2 (1.7%)	14 (11.7%)	2.500	8 th
Choice of equipment	90(75%)	26(21.7%)	4(3.3%)	-	2.716	5 th
Uses of equipment	100(83.3%)	14(11.7%)	2(1.7%)	4(3.3%)	2.749	4 th
Cleaning of equipment	108(90%)	10(8.3%)	2(1.7%)	-	2.883	1 st
Maintenance of equipment	106(88.3%)	12(10%)	2(1.7%)	-	2.867	2 nd
Decision on poultry type	30(25%)	64(53.3%)	16(13.3%)	10(8.3%)	1.951	20 th
Production method	26(21.7%)	66(55%)	18(15%)	10(8.3%)	1.900	21 st
Egg grading	18(15%)	34(28.3%)	30(25%)	38(31.7%)	1.767	24 th
Lightening	64(53.3%)	36(30%)	8(6.7%)	12(10%)	2.266	13 th
Temperature management	70(58.3%)	34(28.3%)	4(3.3%)	12(10%)	2.349	9 th
Reducing fecal odour	20(16.7%)	52(43.3%)	24(20%)	24(20%)	1.567	26 th
Debakking	42(35%)	46(38.3%)	18(15%)	14(11.7%)	1.967	19 th
Marketing of poultry products	26(21.7%)	38(31.7%)	36(30%)	20(16.7%)	1.583	25 th

Source: Field survey, 2015

Severity of the constraints faced by agro-input dealers

Table 4 shows the severity of the constraints faced by agro-input dealers in the study area. Out of the ten constraints listed, unstable electricity supply, ranked 1st, unstable Government policy 2nd, literacy level of the farmers ranked 3rd in terms of severity of the constraints faced. However, limited stock, inadequate information, finance and poor patronage were moderately severe and ranked 4th, 5th, 6th and 7th respectively, while substandard products 8th and Language barrier 9th were perceived as not severe constraints by the respondents. Unstable electricity supply was a

serious problem to agro-input business as some of their products need to be stored properly in a refrigerator, products like vaccines, drugs etc, some of the agro-input dealers have to depend on generators for proper storage and this is an additional cost of production. Unstable government policy affects the business as the cost of procuring agro-inputs as well as high tax rate of procuring by Government. Literacy level of farmers was also a serious problem affecting the business as majority of the farmers had no formal education and this makes adoption of new innovation from the agro-dealers difficult for the farmers.

Table 4: constraints faced by the respondents in the study area

respondents	Most	Moderately	Severe	Not severe at	Mean
Language barrier	14(11.7%)	12(10%)	94(78.3%)	0.333	Rank 9 th
Poor patronage	2(1.7%)	30(25%)	66(55%)	0.733	Rank 8 th
Government policy	76(63.3%)	36(30%)	2(1.7%)	2.574	Rank 2 nd
Finance	14(11.7%)	40(33.3%)	9(5%)	1.160	Rank 7 th
Unstable electricity	86(71.7%)	26(21.7%)	2(1.7%)	2.658	Rank 1 st
Limited stock	30(25%)	42(35%)	9(5%)	1.850	Rank 4 th
Farmers' literacy level	30(25%)	72(60%)	8(6.7%)	2.033	Rank 3 rd
Inadequate information	14(11.7%)	56(46.7%)	22(18.3%)	1.466	Rank 5 th
Standard products	2(1.7%)	18(15%)	22(18.3%)	0.533	Rank 8 th

Source: Field survey 2015

Results of Pearson correlation analysis

Pearson correlation analysis in table 4 shows that education level ($p=0.038$), income ($p=0.026$) and business experience ($p=0.000$) were significant and positively related to the type of services provided by the agro-input dealers to the farmers. Thus, the null hypothesis was therefore rejected. This implies that higher the level of education of the respondents, the higher the ability to disseminate information to the farmers. Their level of education gives them the ability to read and interpret manufacturer's instructions to the farmers. It also implied that the higher the income, the higher the stock of products available for sale and the more easier the respondents get access to information and are able to provide more services to the farmers.

Also the higher the business experience of the respondents, the higher the information and services they provide for the farmers, as their level of experience gives them the opportunity to know more about the products and services. However, other socio economic variables of the respondents such as age ($p=0.737$), sex ($p=0.830$), marital status ($p=0.874$), religion ($p=0.316$), occupation ($p=0.741$), language used in business ($p=0.065$) and membership of agro-input association ($p=0.596$) were not significant and not related to the type of services provided by the respondents. This implies that the type of services provided by the respondents were not determined by the respondents' age, sex, marital status, religion, occupation, language and membership of agro-input association.

Table 5: Relationship between selected socio-economic characteristics of the respondents and the type of services provided by the respondents to the poultry farmers

Variables	Coefficient (r)	P-values	Remarks
Age	-0.044	0.737	Not significant
Sex	-0.028	0.830	Not significant
Marital status	-0.021	0.874	Not significant
Religion	0.132	0.316	Not significant
Education level	0.069	0.038*	Significant
Secondary Occupation	-0.044	0.741	Not significant
Income	0.078	0.026*	Significant
Experience	0.099	0.000*	Significant
Language used in business	0.240	0.065	Not significant

NB: p is significant at 0.005

CONCLUSION AND RECOMMENDATION

The finding from this study shows that agro-input dealers perform extension roles though in an unconventional manner to poultry farmers. Information disseminated to farmers includes but are not limited to feed, disease management, equipment and production activities. The study

also concluded that agro input dealers in the study area indicated a reasonably high literacy level and appeared to be well positioned to bridge the existing gap between field level extension agents and the farm families. The study therefore recommended the inclusion of the agro-input dealers in the forth-night technical meetings of Agricultural Development Programmes in all the

states of the Federation in order to build their capacity in extension service delivery.

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