

*Original Research Article***Implications of Deceptive Practices of Poultry Input Suppliers on Poultry Production in Kwara State, Nigeria**

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Abstract

Deceptive practices of poultry input suppliers are partly responsible for inability to meet the consumption of recommended animal protein (35g/person/day). The study examined the prevailing deceptive practices and effects on poultry production in Nigeria. Proportionate random sampling technique was used to select 70 small scale poultry farmers used as respondents. Data were analyzed using percentages and means. The respondents (68.6%) had a minimum of secondary school education and spent averagely 15.7 years in poultry production. The findings showed that deceptive practices include adulteration of feed ingredients, marketing of under-weighted feeds, lack of proximate analysis of nutrient composition of feeds and use of old bags for packaging. The respondents (81.3%) agreed that deceptive practices delayed the start of growing period of the fowls. Similarly, 79.5% and 61% experienced low meat and egg production, respectively, resulting in expensive animal protein, increased production overheads (83.4%), lowered returns on investment (90.1%). The result of hypothesis indicated a positive significant relationship between the level of educational attainment of respondents and ability to identify deceptive practices in poultry production ($R = 0.214$, $P \leq 0.05$) among respondents. Nigerian Institute of Animal Science and other relevant regulatory agencies should have a structure to regulate and award penalties to culpable individuals in these deceptive practices. Extension organizations should educate poultry producers on the concept of deceptive practices and its consequences.

Keywords: adulteration; poultry feeds; egg production; poultry meat production.

INTRODUCTION

The agricultural sector in Nigeria currently accounts for about 42% of the Nation's Gross Domestic Product (Abubakar, 2011). This author also stated that crop, livestock, forestry and fishery sub-sectors represent 37.52%, 2.65%, 1.37% and 0.53%, respectively, to the agricultural contribution's to nation's real GDP. Except for poor performance of the flock and herd, livestock sub-sector is capable of contributing meaningfully to the nation's GDP comparable to the situation in many developed and developing nations of the world (Steinfeld et al., 2006). Livestock systems occupy about 30% of the planet's ice-free terrestrial surface area and are a significant global asset with a value of at least \$1.4 trillion, as emphasized by Steinfeld et al. (2006). The livestock sector is increasingly organized in long market chains that employ at least 1.3 billion people globally and directly support the livelihoods of 600 million poor smallholder farmers in the developing world (Thornton and Gerber, 2010).

Keeping poultry is an important risk reduction strategy for vulnerable communities. Going by the livestock resource endowment, Nigeria can be self-sufficient as well as export poultry products to outside West African region, while providing meaningful livelihood to numerous rural and urban inhabitants. The industry could, indeed, be turned around from being a dismal contributor to the GDP to that of a vibrant earner of domestic and foreign income (Owolabi et al., 2016).

The primary goal of the livestock sub-sector is to attain self-sufficiency in the production of livestock and livestock products to meet the needs of the country and improve economic well-being of various categories of producers. Other objectives include sustainable management of the nation's livestock industry, resources, and maintenance of health and optimal productivity of national herd and flock (Umar et al., 2008). However, the attainment of these policies was constrained by inefficient modern animal

husbandry and deceptive practices. Consequently, meeting the recommended need of animal protein (35 g/person/day) is almost becoming a mirage due to a poor performance of poultry and other livestock enterprises in Nigeria. Consequently, the Federal Government of Nigeria committed N76.076 billion to import milk and dairy products for youths and lactating mothers in 2008 (National Bureau of Statistics, 2009) at the expense of local production.

Despite the prevailing unproductive environment, poultry industry is one of the fastest growing segments in the agricultural sector and undoubtedly, plays an important role in the Nigerian economy. It creates great business opportunity for entrepreneurs, and provides employment for the citizens. The chicken and its products are very rich source of protein required to maintain healthy living. Poultry manure is an important source of nutrients for crops – it is an excellent supply of major nutrients such as Nitrogen, Phosphorus and Potassium (NPK). The manure is also used to power operating plants to generate electricity and biogas for domestic cooking (Bolan et al., 2010). Indeed, poultry enterprise remains the most commercialized of all Nigeria's agricultural sub-sectors. Nigeria's poultry is about 150.682 million head (Owolabi et al., 2016) of which 25% are commercially farmed, 15% semi-commercially and 60% in backyards (small scale). This shows that small scale poultry producers are responsible for the bulk of poultry production in Nigeria. However, the growth of this profitable sub-sector is threatened by a number of limiting factors. For instance, the quality of day-old-chicks but also early access to food has a profound effect on the feeding pattern and consequently on the growth performance of the flock. In the first five days after hatching is the growth rate of digestive tract, especially of the small intestine, about 600% in chicks fed immediately after hatching (Baranyiova, 1972). Early *ad libitum* feeding stimulates growth of intestines and their absorptive surface whereas prolonged fasting results in their retarded growth (Baranyiova and Holman, 1976). Failure to provide newly hatched chicks with adequate food thus results in a considerably retarded growth rate and, consequently, in a low return on investment.

The market is now flooded with poor quality chicks. Their performance is also affected as a result of deceptive practices that are ubiquitous in other agricultural sectors in the country. They include food and fertilizer adulteration, which usually involves fertilizer being mixed with products like sand and crop or weed seeds, changes the appearance and potency of the product (Saweda et al., 2010) and government workers demanding for gift or money whenever they render agricultural services (Ladele and Fadairo, 2013). Longman Dictionary of Contemporary English (2011) describes deceptive as something that is different and not true. It could also be described as

'cunningness, cheating, misinterpretation, tricks and other unscrupulous behaviour just short of the legal definition of fraud' and or corruption. Many individuals and organizations have perfected several ways of cutting corners; including forgery of documents and by-passing legal modes or channels of conduct.

In the advanced nations and specifically, the United States of America, one of the characteristic securities litigation patterns for many years has been that lawsuit filings tend to come in distinctive waves, in which specific sectors get hit with a series of securities suits or companies engaging in certain types of business practices or conduct which resulted in securities litigation. Kevin (2016) reports that the poultry industry's pricing practices began to circulate and attract suspicions by the marketers of poultry products. As a result, a food distributor (Maplevale Farms, Inc.) filed a private antitrust class action lawsuit in the Northern District of Illinois against 27 defendants, alleging that the defendants had conspired to fix chicken prices. The plaintiff's complaint alleges that the defendants manipulated the price of broiler chickens by limiting production and exchanging information about prices, capacity and sales. The complaint alleges that as a result of the defendants' conspiracy to manipulate supply and pricing, in violation of the federal securities laws, direct purchasers of chickens paid inflated prices for broilers. Among other things, the plaintiff alleges that the defendants' activities had resulted in a 50% increase in the prices since 2008.

Deceptive practices are rearing its ugly head into the poultry sub-sector in Nigeria yet; documentation of deceptive practices in poultry enterprises and its implications on poultry production in the country has not been a subject of any serious focus in social research. It is therefore important to investigate the types of deceptive practices and their effects on poultry production. It is expected that the outcomes of the study will unveil the achievements of Nigerian Institute of Animal Science (NIAS) and Nigerian Standard Organization (NSO) established to play regulatory functions in the industries. Furthermore, it is expected that the outcomes of the study will stimulate policy makers, NIAS and NSO to initiate legislation or enforce existing control measures on the emerging deceptive practices in the poultry industry in the country.

The broad objective of the study is to examine the implications of deceptive practices of poultry input suppliers on poultry production In Kwara State, Nigeria. Specifically, the studies are to assess: (i) the socio-economic characteristics of respondents, (ii) types of deceptive practices experienced by respondents, (iii) the effects of deceptive practices on poultry production of respondents, (iv) respondents' level awareness of institutions established to control deceptive practices in poultry production in Nigeria,

(v) the statistical relationship between educational attainment of respondents and their ability to identify deceptive practices in poultry production.

MATERIAL AND METHODS

The study area

The study was carried out in Kwara State, Nigeria. The state is located within the North Latitude 11°2' and 11°45'. It is sandwiched between longitudes 2°45' and 6°40' East of Greenwich Meridian. The temperature range (30 °C–35 °C) and rainfall (900–1500 mm) are favourable to poultry and grain production. The population of Kwara State is 2.5 million people (NPC, 2006), hence it will provide a good market outlet for poultry meat and eggs.

The target population for the study was the small scale poultry producers in the rural areas of Kwara State. A two-stage sampling procedure was used to select the small scale poultry producers. Stage one involved a purposive selection of four Local Government Areas (LGAs) located in the rural areas of the state where commercial or multinational livestock feed companies with standards of operations were not available. Thus, Moro, Irepodun, Isin, and Oyun LGAs were selected. This was followed by proportionate random selection of 15, 30, 15 and 10 poultry producers in Moro, Irepodun, Isin and Oyun LGAs, respectively. The selection was based on the frame of the population of poultry farmers provided by the extension agents in each of the selected local government areas for the study. Thus a total of 70 small-scale poultry producers were selected and used as respondents. A validated structured interview schedule was used to collect the primary data and analyzed with percentages, mean score and Pearson Production Moment Correlation statistics.

RESULTS AND DISCUSSION

Socio-economic characteristics of members of PAN

Results presented in Table 1 show that the average age of poultry farmers was 49 years and majority of the respondents were married and literate with a minimum of secondary school education. More than one-third of the respondents had spent six to eight years in poultry rearing. Thus, the respondents were expected to have experienced and understand what deceptive practices entail. The average flock size of the respondents was 140 birds. This shows that the respondents were small scale producers. It is important that these categories of poultry producers access quality inputs, more so, the bulk of poultry that are produced in Nigeria originate from small scale producers.

Table 1. Socio-economic characteristics of respondents

Variables	%
Age (Years)	
≤ 30	12.8
31 – 50	44.3
51 – 70	28.6
70 and above	14.3
Average	48.7
Gender:	
Male	58.6
Female	41.4
Marital status:	
Single	15.7
Married	62.9
Divorced	7.1
Widowed	14.3
Educational attainment:	
No formal education	-
Adult education	2.9
Primary School education	7.1
Secondary sch. education	68.6
Tertiary education	21.4
Years of experience in poultry production (years):	
≤ 2	10.0
3–5	32.9
6–8	42.9
≥ 8	14.3
Average	15.7
Flock Size (Number):	
50–100	15.7
101–150	51.4
150–200	18.6
201–250	14.3
Average	140

Source: Field survey, 2015

Types of deceptive practices as experienced by the poultry producers

Table 2 depicts the deceptive practices experienced or not experienced by the small-scale poultry producers in the study areas. More than half of the respondents experienced non-attachment of label to finished feed by the local poultry feed producers to show the weight and proximate analysis of the nutrient composition of the feeds. As a result the poultry producers were not given ample opportunity to ascertain the adequacy of feeds in meeting the nutritional requirements of the birds. Feed alone accounts for the main cost of raising poultry under the intensive management (Carew et al., 2005). The beginning of low productivity is wrong application of incorrect and unbalanced ration for the feeding of the fowls as recommended by research. Similarly, majority of the respondents experienced

Table 2. Types of deceptive practices experienced by respondents

	Deceptive practices	Experienced		Ability to identify	
		Yes (%)	No (%)	Yes (%)	No (%)
1.	There is no label attached to feeds to indicate its nutrient content (proximate analysis) vis-a-vis its feeding value	52.9	47.1	90.0	10.0
2.	Sales of poor quality chicks hatched from fertile eggs of local poultry breeds	72.9	27.1	18.9	81.1
3.	Incorporation of sand into poultry feed	51.4	48.6	77.2	22.8
4.	Recycling of used bags for packaging of finished feed	62.8	37.2	10.2	89.8
5.	Sales of expired drug and vaccine	32.8	67.2	35.4	64.6
6.	Palm kernel cake is now incorporated to replace groundnut cake during the processing of the latter	55.7	44.3	72.8	27.2
7.	Politicization of access to maize grain for ration	47.1	52.9	92.3	7.7
8.	Poor processing of soya bean meal in order to minimize loss of weight and price	64.2	35.7	20.4	79.6
10.	Selling of under weighed finished feeds (lower than the tagged weight)	65.7	34.3	94.0	6.0

Source: Field survey, 2015

the sales of poor quality chicks in the locality. This was ranked as the most important deceptive practice identified in the study area. Poor quality chick is responsible for low performance and mortality in the flock (Geidam et al., 2006). Indeed, the phenotype or physical status of the fowls is the sum of the genotype and the environment. If the poultry environment (feed and management practices) is inadequate, the bird cannot realize its full potentials. Over half of the respondents experienced the incorporation of sand in the poultry feed apparently designed to replace conventional ingredients such as corn/rice/wheat bran in the diet in an attempt by the suppliers to make more profit. With this deceptive practice, the recommended crude protein of 23–24% and metabolizable energy of 2800–3000 kcal (Dairo et al., 2010) for poultry chicks cannot be realized. Consequently, the growth, meat and egg production of the fowls are reduced. In addition, the flock also record high mortality arising from under-feeding and malnourishment. This is a threat to the profit making of the poultry producer and a favour to the feed ingredient suppliers. However, less than half of the respondents that experienced sales of expired drugs implies that there is a control of deceptive practices in the animal health management in the country.

In the same vein (Table 2), majority of the respondents indicated that the weight of the finished feed purchased by the poultry farmers was grossly lower than the weights that were stated on the labels. This will become significant if the quantity of feed purchased ran into several tonnes. Thus, the continuous use of such feeds would amount to under-feeding and

malnourishing of the fowls. These deceptive practices can frustrate the small scale poultry producers who may perceive the enterprise as poor economically rewarding. Therefore, this calls for the control of these undesirable behaviours if the attainment of self-sufficiency in poultry production will not remain a mirage in Nigeria. Regulatory agencies of government such as Standard Organization of Nigeria (SON) and Nigerian Institute of Animal Science should sweep into immediate action to control the emergence of these unacceptable behaviours and bring to book the perpetrators of these deceptive acts.

Majority of the respondents further indicated (Table 2) that they were able to identify deceptive practices such as sales of weighed finished feeds lower than the tagged weight, politicization of access to maize grain for ration, lack of label attached to feeds to indicate its nutrient content (proximate analysis) vis-à-vis its feeding value, incorporation of sand into poultry ingredients to replace a reasonable proportion of conventional ingredients such as corn/rice/wheat bran (adulteration) and use of palm kernel cake in replace of groundnut cake during the processing of the latter. The ability of respondents to identify these deceptive practices may be connected to formal education attainment and relatively long years (six and above years) of experience of poultry farming among majority in the study area.

Effects of deceptive practices on poultry production

Table 3 is the summary of the respondents' experienced effects of deceptive practices on poultry

Table 3. Effects of deceptive practices on poultry production

Effects	Yes (%)	No (%)
1. High mortality, attributable to deceptive practices	54.3	45.7
2. Low return on investment	90.1	9.9
3. Delayed starting growing period and consequently on the final performance	81.3	18.7
4. Resulted in reduced poultry meat production	79.5	20.5
5. Resulted in reduced egg production	61.0	39.0
6. Resulted in high price of animal protein.	80.0	20.0
7. There are increases in production overheads	83.4	16.6

Source: Field survey, 2015

production. Table 3 shows that more than half (54.3 %) of the respondents experienced high mortality in their poultry flock attributable to deceptive practices. The recycling of used bags in feed packaging is a major source of contamination of diseases such as Highly Pathogenic Avian Influenza (HPAI). Similarly, the use of contaminated or spent grains harbors pathogens such as fungi responsible for production of mycotoxins. In addition, the spent grains are highly deficient in vitamin A. Vitamin A is essential for tissue growth and eyesight. Furthermore, majority of the respondents experienced delayed start of the growing period in their flock and consequently on the later performance of the fowl such as feathering, bone formation and the development of nervous and muscular tissues in the immediate post-hatching period and later in life. For instance, broiler chick requires a particular minimum of crude protein and kilo calorie of energy in the diet (Dairo et al., 2010). The use of spent grains and replacement of ground nut cake with palm kernel cake cannot guarantee the optimal supply of these nutrients. Palm kernel cake is of high fibre content, deficient in many essential amino acids such as methionine and lysine. Hence the bird is engulfed with poor feeding regime. The result of the adulteration is exhibited in form of stunted growth, malformation and unattractiveness of the fowls for a good economic price. Also, the inclusion of high fibrous feed ingredients such as palm kernel cake above the recommended substitution level for ground nut cake can reduce fowls' feed intake with attendant poor growth rate and general unthriftiness. The implication is that the attainment of market size by the fowls within a reasonable period becomes extremely difficult. An increase in production overheads was experienced by majority of the respondents. This in effect explained high cost of animal protein experienced by majority of the respondents. In the same vein, majority of the respondents experienced low return on the investment, a situation that may portray the enterprise as unprofitable, encourage withdrawal of farmers and discourage new entrants especially the youths in search of employment. It is

evident that deceptive practices have the potential to make the attainment of self-sufficiency in poultry production an illusion in Nigeria. In view of these findings it is desirable that poultry associations and regulatory agencies should work as a team to secure appropriate legislation and enforcement of existing regulations to control these intolerable practices.

Respondents' awareness of available institutions established to control deceptive practices in poultry production in Nigeria

Table 4 summarizes a list of institutions established to exercise regulatory functions on poultry industries in Nigeria. The list (Table 4) includes Standard Organization of Nigeria (SON) and Nigerian Institute of Animal Science (NIAS). Table 4 shows that majority of the respondents have no knowledge the existence and regulatory functions of SON and NIAS in the poultry industry. It is desirable that on establishment, such agencies should interact, sensitize and educate its clients or potential beneficiaries of the missions and objectives of the organizations. The clients, especially the community leaders can help the agencies to generate basal information that can help in the accomplishment of tasks and objectives. More of the respondents indicated that the effectiveness of the agencies in monitoring and control of deceptive practices was not experienced and hence the high spread of the menace in the poultry industry. Unless the agencies are effective, the deceptive practices in poultry industry will remain a canker worm comparable with corruption in other sector of the economy in the country. This could hinder attainment of self-sufficiency in poultry production. Majority of the respondents have not been experiencing the regular visit to poultry farms/feed mills by the agencies as a result of inadequate personnel, an indication of ineffectiveness. Therefore, NIAS, established by Act 26 of 2007 with regulatory function in the industry and SON should have a structure to regulate and award penalties to culpable individuals in these deceptive practices while extension organizations should educate poultry producers on deceptive practices.

Table 4. Institutions established to regulate activities in poultry industries

Institutions for control of deceptive practices in poultry industry		Yes (%)	No (%)
1.	I am aware of the existence of Standard Organization of Nigeria and its regulatory functions in poultry industry	47.2	52.8
2.	I am aware of the existence of Nigerian Institute of Animal Science and its regulatory functions in poultry industry	72.9	37.1
3.	The agencies were not effective enough in monitor and control of deceptive practices and hence the vast spread of the menace in the poultry industry.	32.9	67.1
4.	The visit to farms/feed mill by the agencies was regular as a result of inadequate personnel to perform the regulatory functions.	24.3	75.7

Source: Field survey, 2015

Table 5. Pearson Correlation statistics (r) for establishing relationship between level of educational attainment and ability to identify deceptive practices in poultry production

Variables	r	p-value	Remarks
Level of educational attainment	0.214	0.018	A linear and significant relationship exists

Correlation is significant at 0.05 level (2-tailed).

Hypothesis of the study

The hypothesis tested the relationship between educational attainment and ability to identify deceptive practices in poultry production. The result of hypothesis indicated a positive significant relationship between the level of formal education attainment and ability to identify deceptive practices in poultry production ($r = 0.214, P \leq 0.05$), this indicates that the null hypothesis was rejected and the alternative is accepted. This finding further implies that increase in educational attainment of poultry farmers in the study area will improve their ability to identify deceptive practices in the poultry industry.

This finding may be connected to level of education among majority (68.6%) of the respondents having attained formal education. With this level of education, the respondent is expected to be able to read and interpret labels attached to finished feeds and compare the contents with recommendations from research. The producers can also undertake weighing of purchased feeds and compare the weight obtained with the weights attached to finished feeds by the feed millers. A reduction in the weights will be an evidence of deceptive practice.

The extent of Good Agricultural Practices (GAPs) of farmers is the product of their level of education attainment and training received (Jill, 2007). Education has been known to be a powerful tool for shaping people’s life and making life meaningful, even at adult age. Okpachu et al. (2014) stands to affirm that there exists a positive correlation between education and

human survival. *“It is a common knowledge that people perish for lack of knowledge, for the wise it is what one does not know that could kill”.*

CONCLUSION AND RECOMMENDATIONS

Based on the empirical evidences, deceptive practices in the poultry industry have emerged and permeating the industry. Selling of underweight feed and without any label to indicate the nutrient content, incorporation of sand to replace some of the ingredients such as maize and rice offal’s, recycling of used bags for packaging of feeds and the use of fibrous and less nutritious palm kernel cake to replace soya bean and or groundnut cake were reported to be a new dimension and a cut corner approach in the industry. Consequently, deceptive practices were held accountable to low egg and meat production, flock mortality and high price of animal protein. The institutions that are charged with regulatory functions in the industry were unknown and with inadequate human resources to carry out their primary assignments. Therefore, deceptive practices have the potential to make the attainment of self-sufficiency in poultry production difficult in Nigeria. The control of deceptive practices should be given proper attention by Nigeria Standard Organization and Nigerian Institute of Animal Science that are charged with regulatory functions in the industry. The institutions should always spell out their missions to their clients so that poultry farmers will see their personnel as

partners in progress. The poultry farmers should be educated on regular basis on items and behaviours that could be better described as deceptive practices in the poultry industry.

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