ISSN 1682-8356
ansinet.org/ijps

INTERNATIONAL JOURNAL OF

POULTRY SCIENCE

ANSInet
308 Lasani Town, Sargodha Road, Faisalabad - Pakistan
Mob: +92 300 3008585, Fax: +92 41 8815544
E-mail: editorijps@gmail.com

International Journal of Poultry Science 9 (10): 984-987, 2010
ISSN 1682-8356

Perception of Threat of Avian Influenza by Agricultural Extension Professionals and Poultry Farmers in Nigeria

*Augustine J. Udoh and Ene Oku
Department of Agricultural Economics and Extension, University of Uyo,
Uyo 530002, Akwa, Ibom State, Nigeria

Abstract: Avian influenza has become a serious threat in poultry farming in recent times in Nigeria. A study was undertaken to ascertain the perception of extension professionals and poultry farmers on the threat of avian influenza towards a possible outbreak in Akwa Ibom State of Nigeria. One hundred and three (103) extension officers and 43 poultry farmers were randomly selected to take part in the study. Questionnaire was used to collect data from the respondents and the data collected were analyzed with descriptive and inferential statistics. The result of the hypotheses show no significant relationship between the level of awareness of extension officers and their perception on avian influenza (r = 0.90). Similarly, there was no significant relationship between the level of awareness of poultry farmers and their perception on avian influenza (r = 0.129). Awareness campaign on avian influenza should be intensified and with more training programs for the extension officers.

Key words: Perception, avian influenza, extension professionals, poultry farmers, Nigeria

INTRODUCTION

Influenza pandemics are rare but recurring events. Research has shown that avian influenza typically occurred every 10-50 years throughout recorded history. It has found a permanent ecological niches becoming entrenched among domestic ducks. Avian influenza has been recognized as a highly lethal generalized viral disease of poultry since 1901. In 1955, a specific type of influenza virus was identified as causal agent of what was then called fowl plague. This virus disease was however first noticed in South Africa in 1961. The virus is usually host specific with more than 100 subtypes that only infect birds and in rare instances, pigs and cause a wide range of disease syndromes, ranging from mild to severe in domestic poultry. Since 2003, Highly Pathogenic Avian Influenza (HPAI) H5N1 had shaken the world. In 10 countries; 258 confirmed cases in humans and 154 deaths have been reported. The number of countries with confirmed HPAI in poultry and wild birds jumps to 54, (WOAH, 2006). Almost all persons infected with H5N1 have had close contact with sick or dead poultry by having butchered them, plucked them or played with them.

Avian influenza is a global challenge with animal and human health implications. It is unknown what percentages of birds are infected with H5N1 in Nigeria. Wild birds can pass on the H5N1 virus without becoming sick, that is, they can be asymptomatically infected. The danger posed by wild birds is that they transmit H5N1 to domestic poultry flocks, which is a direct threat to both animal and human health (WHO, 2004b). the incidence of avian influenza in Nigeria has led many poultry farmers into psychological breakdown due to losses incurred. Avian influenza has a gross attack rate of 20-40% (Tanbenberger, 2005). Culling birds in order to eradicate and control the spread of the disease has negatively affected the livelihoods of all classes of poultry owners and producers. Such an impact is most serious on the smaller family operated commercial producers for whom poultry production is their sole source of income generation. Effect of avian influenza on the economy, where market is lost through the reduced ability to export, restriction of movement of birds and the closure of some domestic markets is especially the constraint which affect the income generating ability of smaller producers (Meltzer *et al*., 1999). The non-consumption of poultry meat as well as its products has also affected animal protein intake of a large sector of the population. The most pronounced effect is the sharp decline in demand as people avoided eating poultry products out of fear of being infected, (WHO, 2004a). However, as more information became available, consumer's fears subsided somewhat upon learning that poultry meat is safe if properly handled and cooked over 165°F (Office International des Epizooties (OIE) 2005; Swayne, 2006).

Perception among people varies towards the threat of avian influenza overtime (UNICEF, 2007). Perception is the way people regard something and a belief about what it is like; it is also the natural ability to understand feelings or notice something quickly. Threat of avian influenza is becoming more worrisome as the disease

Corresponding Author: Augustine J. Udoh, Department of Agricultural Economics and Extension, University of Uyo, Uyo 530002, Akwa, Ibom State, Nigeria

is spreading across the country. From the single case reported in Kaduna in February 2006, avian influenza had swept across 92 Local Government Areas in 26 states including Abia State which is very close to Akwa Ibom State the study area. The government of Nigeria confirmed the presence of the highly pathogenic avian influenza in 2006 on a commercial farm in Kaduna State and immediately took emergency measures to control the outbreak at source, such as stamping out of the affected area, imposing restrictions on movement of birds within the country, halting importation of poultry products and starting surveillance from 170 points across the country.

This study is significant because the role of agricultural extension professionals in animal disease control is very pertinent and relevant in generating income to farmers. The role of agricultural extension officers is a service which assists farm people through education procedures in improving farming methods and techniques, increasing production efficiency and income, improving standard of living and lifting the social and educational standards of rural life (Scrimgeour *et al*., 1991). Attitude traditionally needs to be strengthened to facilitate change and provide adequate information to farmers. The notion of "farmer first" or "bottom-up" change implies that the farmers require a change, that there is an issue about which they want solutions. Agricultural extension officers in Nigeria have been mandated with a number of roles such as facilitating change, consultancy, information dissemination, data collection and disaster response, therefore, it is not out of place for extension professionals to get prepared in case of possible outbreak of avian influenza. This study therefore assessed the perception of the threat of avian influenza by extension officers and poultry farmers in Akwa Ibom State of Nigeria.

MATERIALS AND METHODS

The study area is Akwa Ibom State, which is one of the 36 states of Nigeria located in the Southeastern zone and covers 31 Local Government Areas. Akwa Ibom State is located in the Southeastern part of Nigeria between Latitude 4°33' and 5°35' North and Longitude 7°35' and 8°25' East. The State occupies a total land mass of 7,246.935 square kilometers of Nigeria wealth basin with a shoreline of 129 kilometers.

The population of the study covers Akwa Ibom State Agricultural Development Programme (AKADEP) extension officers and poultry farmers, on their perception about the threat of avian influenza in the area. A multi-stage sampling procedure was used to obtain data for the study. First, three zones out of the six Agricultural Development Programme (ADP) zones in the State were randomly selected for the study. The selected zones were Abak, Ikot Ekpene and Uyo. Then, 103 extension officers from a list of 183 were randomly selected for the study. Finally, 43 poultry farmers from a list of 62 in the selected zones were randomly picked to take part in the study. A structured questionnaire was used to collect data from extension officers and poultry farmers in the study area. The split-half method of product moment correlation coefficient (r) was used to adjudge the reliability of the instrument. The value of the coefficient of correlation (r) was 0.82 above 0.50 which showed that the instrument was reliable. The data that were collected for the study were subjected to descriptive statistics and inferential tools such as Pearson's Product Moment Correlation. In further analysis use of ranks as very often, often, seldom, never, not aware, much aware etc on Likert Scale as 4,3,2,1 and 3 point Thurstone respectively were used.

RESULTS AND DISCUSSION

Level of awareness of the threat of avian influenza by extension officers and poultry farmers: Table 1 shows analysis of the level of awareness that extension officers have about the threat of avian influenza. It indicates that they are much aware about the records of avian influenza in some states of Nigeria, for example, many strains of A1, with some strain attack on both humans and birds as represented by mean responses of 2.0 respectively. The causative agents and spread of the disease were ranked 1st in mean response. However, awareness on mortality rate in birds up to 100% and clinical symptoms of A1 were ranked 2nd respectively. Also their response on avian influenza being close to the study area was ranked 3rd, which showed that they were not much aware in terms of closeness of avian influenza to Akwa Ibom State. Similarly vaccination of birds against avian influenza on birds was ranked 4th. This further explained that though the extension officers were not much aware of the threat they did not know about the vaccination that should be used on birds as the threat, of A1 was being close to the study area.

Table 2 indicates that poultry farmers in the study area were aware of the fact that bird flu' has no cure, as it was ranked 1st. The table further shows that the poultry farmers were not aware of the different strains of avian influenza which ranked 6th with a Mean Response (MR) of 1.0 in the ranking scale. However, the farmers were fairly aware of the clinical symptoms of avian influenza as it ranked 3rd. This indicates that some symptoms of Avian Influenza (A1) appear to resemble those of New Castle Diseases e.g. cough, loss of appetite, etc. This again simply means that if training is made on different symptoms of avian influenza to poultry farmers in the study area, the farmers will avail themselves to be enlightened in differentiating the various symptoms of avian influenza from that of New Castle Diseases, which will go a long way to sustain them in poultry business. The farmers ranked the closeness of avian influenza to Akwa Ibom State as 4th and the use of vaccination to prevent the disease as 5th. This shows almost lack of awareness by a majority of the farmers.

Table 1: Distribution of extension officers based on the level of awareness on avian influenza

		Not aware		Fairly aware		Much aware				
	Items	No	%	No	%	No	%	C.Pt	MR	R
A	Avian influenza has been recorded in some States in Nigeria	0	0	4	3.88	99	96.12	305	3.6	1st
B	A1 pandemic is close to Akwa Ibom State	17	16.50	66	64.08	20	19.42	209	2.0	3rd
C	A1 has no cure	9	8.74	84	81.55	10	9.71	207	2.0	3rd
D	Mortality rate in birds is 100%	0	0	6	5.83	97	94.17	303	2.9	2nd
E	There are so many strains of A1	0	0	0	0	103	100.00	309	3.0	1st
F	Some strains attack both human and birds	0	0	0	0	103	100.00	309	3.0	1st
G	Causative agents of A1	0	0	0	0	103	100.00	309	3.0	1st
H	Clinical symptoms	0	0	9	8.74	94	91.26	300	2.9	2nd
I	Transmission and spread	0	0	0	0	103	100.00	309	3.0	1st
J	Vaccination	82	79.61	0	9.71	11	10.70	135	1.31	4th

Source: Field Data, 2009. C.Pt = Cumulative point; MR = Mean response; R = Rank

Table 2: Distribution of poultry farmers based on the level of awareness on the threat of avian influenza

		Not aware		Fairly aware		Much aware				
	Items	No	%	No	%	No	%	C.Pt	MR	R
A	Avian influenza has been recorded in some States in Nigeria	7	16.28	7	16.28	29	67.44	108	2.5	2nd
B	A1 pandemic is close to Akwa Ibom State	21	48.84	15	34.88	7	16.28	72	1.7	4th
C	A1 has no cure	3	6.98	8	81.60	32	74.42	115	2.7	1st
D	Mortality rate in birds is 100%	2	4.65	17	39.53	24	55.81	108	2.5	2nd
E	There are so many strains of A1	41	95.35	2	4.65	0	0	45	1.0	6th
F	Some strains attack both human and birds	1	2.33	19	44.19	23	53.49	108	2.5	2nd
G	Causative agents of A1	38	88.37	5	11.63	0	0	48	1.1	5th
H	Clinical symptoms	6	13.95	37	86.05	0	0	80	1.9	3rd
I	Transmission and spread	0	0	20	46.51	23	53.49	109	2.5	2nd
J	Vaccination	40	93.02	3	6.98	0	0	46	1.1	5th

Source: Field Data 2009; C.Pt = Cumulative point; MR = Mean response; R = Rank

Analysis on the perception of the threat of avian influenza by extension officers: The result reveals that a majority of the extension officers were not affected economically by the threat of avian influenza in the study area, due to the fact that the pandemic disease is a threat and has not infected any poultry farm in Akwa Ibom State. This shows that they were not concerned whether there is an outbreak of avian influenza or not. For example, 84.47% of the extension officers felt that the threat of the A1 was not effective. None of the extension officers admitted the response to effectiveness of the threat as that which could influence their perception toward work performance. Implication here is that, since avian influenza has not infected any poultry farm in their region, the extension officers feel reluctant in seeking for more information in preventing the disease in case of an outbreak in the study area. However, 90.70% of the poultry farmers in the study area were concerned about the economic down-turn of their business due to the threat of avian influenza. The poultry farmers who felt less threatened by the disease were only 9.30% and those who were not threatened at all was nil. Implication here is that the perception of extension officers differs from that of the farmers since the farmers will be mostly affected in case of a possible outbreak of avian influenza. Therefore, the farmers were mostly scared than the extension officers.

Hypothesis testing

Hypothesis (I): There is no significant relationship between the level of awareness of the threat of avian influenza by extension officers and their perception on the threat of avian influenza.

Hypothesis (II): The analysis of the Pearson's Product Moment Correlation (PPMC) showed the level of awareness and perception by extension officers had no significant relationship ($r = 0.090$, $p>0.05$) while that of the farmers also showed no significant relationship ($r = -0.129$, $p>0.05$) (Table 3). This implies that awareness about the threat of avian influenza has not really been implemented. Therefore, there will be need for much awareness campaign.

Hypothesis (III): There is no significant relationship between the level of awareness of the threat of avian influenza by poultry farmers and their perception on the threat of avian influenza. The result of the hypothesis shows that there is no significant relationship between the level of awareness and perception about the threat of avian influenza by poultry farmers ($r = -0.129$, $p>0.05$).

Table 3: Correlation result on the level of awareness and perception about the threat by extension officers and poultry farmed

Extension officers		Awareness	Perception
Awareness	Pearson correlation	1.000	0.090
	Sig. (2-tailed)	-	0.365
	N	103	103
Perception	Sign. (2-tailed)	0.365	-
	N	103	103
Poultry farmers			
Awareness	Pearson correlation	1.000	-0.129
	Sig. (2-tailed)	-	0.410
	N	43	43
Perception	Person correlation	-0.129	1.000
	Sign. (2-tailed)	0.365	-
	N	103	103

Summary, conclusion and recommendation: The study was conducted to assess the level of awareness of the threat of avian influenza by extension officers and poultry farmers and to ascertain the perception of the extension officers and poultry farmers on the threat of avian influenza in Akwa Ibom State. Abia State, a neighbouring State recorded an incident of avian influenza and this became necessary for the Akwa Ibom State Agricultural Agencies to be prepared against a possible outbreak and to create awareness on the disease to poultry farmers. Data were collected from 103 AKADEP extension officers and 43 poultry farmers in the study area with the aid of a structured questionnaire. The date which were analyzed with the use of descriptive and inferential statistics.

To assess the level of awareness on the pandemic disease; responses from the extension officers showed that they were fairly aware of the threat, as avian influenza has been recorded in some States in Nigeria ranking 1st while the farmers were not much aware as they ranked the closeness of avian influenza to Akwa Ibom State as 4th. To ascertain the perception of extension officers and poultry farmers on the threat of A1, the result indicates that farmers will be mostly affected by the disease if there were an outbreak in Akwa Ibom State since nothing has been put in place as preventing measures in combating the disease. For both extension officers and poultry farmers, the level of preparedness in case of avian influenza outbreak is therefore very low.

Based on the findings of the study, the following recommendations are made:

1. Akwa Ibom State Agricultural Development Programme, an Extension Agency should undertake training on symptoms of Avian influenza and vaccination of birds for the extension officers in order to assist them in dissemination of such information to poultry farmers.
2. Awareness campaign on the disease should be intensified in order to inform poultry farmers about the threat and the danger the disease might cause their economy.
3. Extension officers and poultry farmers should be well prepared on preventive measures of avian influenza.
4. Increase in surveillance should be maintained especially on poultry and its products which are usually brought in from outside.

REFERENCES

Meltzer, M.I., N.J. Cox and K. Fakuda, 1999. The economics impact of pandemic influenza in the United States. Priorities for Intervention Emerging Infect. Dis., 5: 659-671.

OIE, (Office International des Epizoofies), 2005. Avian Influenza web. Page. Accessed October 2005.

Scrimgeour, F., J. Gibson and P. O'Neil, 1991. Agricultural Extension: An Economic Assessment MSF Policy Technical paper 91/11.

Swayne, D., 2006. Microassay for measuring thermal inactivation of H5NI 4054 high pathgoenicty avain influenza virus in naturally infected chicken meat. Int. J. Food Technol., 108: 268-271.

Tanbenberger, J., 2005. Casing the Eluisive 1918 Virus: Preparing for the Future by Examining the Past". In S. Knobler, A Mack and A Mahmoud (Editors,) the Threat of Pandemic Influenza: Are we Ready? Washington, D.C. National Academics Press.

UNICEF, 2007. Information Sheet on Avian Influenza UNICEF Nigeria, September, 2007.

WHO, 2004a. Avian Influenza H5NI Infection in Humans: Urgent need to eliminate the Animal Reservoir-update 5. EPR January 22.

WHO, 2004b. Avian Influenza a H5NI in Humans and Poultry in Vietnam. EPR 13 January 2004. http://222/who.int/es./den/204_13/en/index.html.

World Organization for Animal Health (WOAH) and the Food and Agriculture Organization (FAO), 2006. Second Regional Meeting on Avian Influenza Control in Animals in Asia. Ho-Chi min city (Vietnam); 2005 Feb. 23-25 (cited 2006 June 27) Available.htt://222.fao.org/AGAINFO/subjects/21/health/diseases.

*Augustine Udoh is an Associate Professor of agricultural extension in the University of Uyo, Nigeria. His research focuses on extension development issues communication and evaluation of programs by research and extension agencies and diffusion and adoption of agricultural technologies.