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Role of Information and Communication Technology in the Nigerian Livestock Industry

[1]H.I Kubkomawa and [2]J.M Salihu

[1]Department of Animal Health and Production Technology,
Federal Polytechnic, P.M.B. 35, Mubi, Adamawa State, Nigeria
[2]Professor Jibril Aminu Library Federal Polytechnic, P.M.B. 35 Mubi, Adamawa State, Nigeria

Abstract: The study was conducted to describe the socio-economic characteristics of livestock producers, determine sources, type of information and communication technology obtained, assess level of utilization and effect of information and communication technology on the Nigerian livestock industry. Data were generated through random administration of 1000 questionnaires to livestock producers and oral interview of herdsmen. Results showed that seventy percent (70%) of the livestock producers contacted were men, 45% were between the ages of 31 and 49 years old. 65% of the livestock producers are married with 30, 20 and 10% having OND/NCE, Nomadic education and degree qualifications, respectively. 50, 40 and 10% of livestock owners are Moslems, Christians and traditional believers, respectively. While,60% are fulltime farmers, 35 and 5% are absentee farmers (civil servants) and students, respectively. Farmers are more familiar with radio (50%), mobile phones (20%) and television (15%) than internet (5%), magazines(5%) and newspapers (5%). 30% of the livestock producers use ICT to watch football and other sporting activities, 20% to obtain agricultural and 20% use ICT for political news whereas 5% use ICT to obtain health information and 5% as business outlet, 10% also use ICT for entertainment and 10% for religious news. Only 30% of the farmers agreed that ICT have positively impacted their livestock agriculture while 70% confirmed that they have not been able to coordinate and harness information obtained from ICT to improve their productivity in livestock agriculture. This showed that there is still limited level of awareness on the use of ICT to improve and enhance livestock production in Gombi Local Government Area.

Key words: Agricultural % Information % Livestock % Development % Nigeria

INTRODUCTION

Information and communication technology (ICT) refers to all information and communication systems and technologies including not only the digital formats such as the internet or the world- wide web, but also interfaces with radio, cable and wireless television, video, cellular phones and print media [1]. Nigeria is an agricultural oriented country because the majority of her population is based in the rural areas and these people heavily depend on livestock as a source of animal protein and their livelihood. Information and knowledge are indispensable tools for empowering livestock producers so that they will be able to make informed decisions. Throughout the world, Information and Communication Technology (ICT) has formed a source of linkages, thus bringing the world into a small global village. It should be noted that several types of ICT have contributed positively to the development of this country as a source of information in commerce, industries, agriculture, education, health, sports, culture and tourism and even religion [2].

For instance the use of radio in communication is one of the oldest form of relaying information to people at all levels [2]. The radio is generally conceived as a receiving set, especially one for receiving the waves of the adopted frequency of certain transmitters or broadcasting stations. Adams [3] described the radio as the most powerful medium of education and entertainment in the tropics. Most development support communication researchers

Corresponding Author: H.I. Kubkomawa, Department of Animal Health and Production Technology, Federal Polytechnic., P.M.B. 35, Mubi, Adamawa State, Nigeria.
GSM: 07066996221, E-mail: kubkomawa@yahoo.com.

and extension experts have severally recommended it as the cheapest medium for reaching majority of rural farmers in many developing nations [3].

Television is another medium of providing information to farmers in most developing nations. Slots are devoted to weekly programs, interesting agricultural information and news generally, but it is not widely distributed like radio due to the fact that many farmers cannot afford it and also lack of electricity in the rural areas where majority of the full time farmers dwell [2].

Equally, since the advent of the Global System of Mobile Communication (GSM), mobile phones have become useful to farmers in dissemination of information from one place to another with ease. However, this also is limited due to lack of service coverage nation wide. The cellular phones help in faster delivery of information and news [4].

According to Wolf [5], the internet is a threatening place for morally upright people due to pornography mail bombs and online sexual harassment. People could say things online that they would never have said in face to face conversation. The introduction of radio and television had profound effects on many countries where they were vital tools of development in creating a sense of nation and national identity and enhancing agricultural productivity in the country.

In Nigeria, the use of networked information and communication is mostly the privilege of elite groups of the middle and upper class people in wealthy zones. The farmers and low class people are relegated in area of information and communication technology even though they are the food producers. Access, efficiency and affordability of information related to livestock production are the major barriers in the battle to uplift livestock productivity amongst small scale producers in Nigeria.

The objectives of the study were to describe the socio-economic characteristics of livestock producers; determine the sources of information and communication technology obtained by livestock producers; determine the type of information being obtained by livestock keepers; assess the level of information and communication technology utilization by the livestock producers and assess the impact of information and communication technology on the Nigerian livestock industry.

MATERIALS AND METHODS

The study was carried out in Gombi Local Government Area of Adamawa State, Nigeria. Data on the socio- economic characteristics of livestock producers, various sources, type, utilization and impact of information and communication technology on Nigerian livestock industry were generated through random administration of 1000 well-structured questionnaires to livestock producers and oral interview of herdsmen. The study covered a period of 12 months (between January and December, 2010). The data generated were subjected to descriptive statistics.

RESULTS AND DISCUSSION

As regards gender the results show that 70% of the livestock producers contacted are males and 30% females. 45% are between the ages of 31-49 years, 30% are between 18-30 years of age while 25% are 50 years old and above. This results clearly showed that majority of the livestock in Gombi Local Government Area are produced and kept by men. About marital status the results show that 65% of the livestock producers are married and responsible people, 20% are single while 15% are divorced. Concerning educational qualification this study results indicate that 10% of the livestock producers have no formal education, 20% have nomadic education 10% have primary school education, while 30% have OND/NCE and 10% university degree qualifications. Religious affinity amongst the livestock owners shows that 50% are Moslems, 40% Christians while animists/traditional believers make 10%. The results also show that 60% are fulltime farmers while 35% are absentee farmers (civil servants) and 5% student farmers. The results are tabulated below in table 1.

The study indicated that farmers are more familiar with radio (50%), mobile phones (20%) and television (15%) than internet (5%), magazines (5%) and newspapers (5%) as shown in table 2.

These results agreed with that of ICT Update (2) and MIB (6) which reported that in rural areas of Africa, radio, mobile phones and television remain the most frequently used tools of relaying information. Only few people used information obtained from dailies and magazines for livestock advancement and development. Few livestock marketers use ICT in relating information regarding to market prices, weather, security and other critical issues for quick decision making.

Majority of youths nowadays can spend their last kobo to buy battery into their radios or get tickets into DSTV public stations to watch football at the expense of their businesses, education and even religion. Fulani herdsmen are always seen carrying radios about even when grazing their animals, but this was mainly for entertainment rather than obtaining useful information

Table 1: Distribution of Livestock Producers Based on Their Socio-Economic Status.

Variables	Frequency	Percentage(%)
Sex		
Male	700	70
Female	300	30
Age		
18-30	300	30
31-49	450	45
50-above	250	25
Marital status		
Single	200	20
Married	650	65
Divorced	150	15
Educational Qualification		
No formal Education	100	10
Nomadic Education	200	20
Primary School	100	10
Secondary School	200	20
OND/NCE	300	30
University Degree	100	10
Religion		
Christianity	400	40
Islam	500	50
Traditional religion	100	10
Occupation		
Civil Servant	350	35
Farming	600	60
Student	50	5
Total 1000	100	

Table 2: Distribution of Livestock Producers Based on Sources of Information

Variables	Frequency	Percentage(%)
Radio	500	50
Television	150	15
Internet	50	5
Mobile Phone	200	20
Magazine	50	5
Newspaper	50	5
Total	1000	100

Table 3: Distribution of Livestock Producers Based on Type of Information Obtained

Variables	Frequency	Percentage(%)
Agricultural News	200	20
Political News	200	20
Sports Watch	300	30
Health News	50	5
Business	50	5
Entertainment	100	10
Religious Programs	100	10
Total	1000	100

that could lead to enhanced management of their animals. Many young men patronize or use internet not as a tool for research and capacity building, but to send mails to their friends, chat with their boy or girl friends, transact business and even watch pornographic films.

In table 3 above it is indicated that 30% of the livestock producers use ICT to watch football and other sporting activities, 20% to obtain agricultural and 20% political news whereas 5% use ICT to obtain health information and 5% as business outlet, 10% use ICT for entertainment and 10% for religious doctrine. The major agricultural news obtained include programmes that equip farmers with knowledge and skills on how to treat animal diseases and parasites, upgrade animals using modern breeding techniques, improve feeding and management systems that increase productivity in the livestock sector. Marketing of livestock products are often broadcast on both radio and television which is highly interactive as they provide farmers with an opportunity to contribute through phone calls. The common radio and television stations received by farmers in Gombi area include Adamawa Broadcasting Corperation (ABC) Yola, Fombina FM station Yola, Radio Gotel Yola, Radio Nigeria Kaduna, Radio Nigeria Abuja, Hausa services of British Broadcasting Corporation (BBC), Voice of America (VOA), Radio Deutchevelle. Others are television stations like Nigerian Television Authority (NTA), Adamawa Television (ATV) Yola, Cable News Network (CNN), Africa Independent Television (AIT). The print media are Tell magazine, Punch, the Scope (Adamawa state Newspaper), Newswatch, Daily Trust, Leadership, Newsworld.

In Gombi Local Government Area, mobile phones services are provided for by Global communication (Glo), Mobile Telecommunications Network (MTN) and Airtel which aid farmers in faster dissemination of information related to market prices, weather, security, epidemic. These results are in agreement with that of Ilahiane (7) who reported that mobile phones have revolutionalised the way in which farmers access, exchange and manipulate information, because they have changed the way farmers interact with markets and cities and enabled farmers to extract current and relevant information critical for decision making.

The results shown in table 4 considers the level of use of the various sources of information. It was observed that only 30% of the farmers used the various sources of information frequently. This shows that there is still limited level of awareness on the use of ICT to improve and enhance livestock production in Gombi Local Government Area of Adamawa state, Nigeria.

Table 4: Distribution of Livestock Producers Based on Information Utilization

Variables	Frequency	Percentage(%)
High (60-100)	30	30
Medium (31-59)	60	60
Low (0-30)	10	10
Total	100	100

Table 5: Distribution of Livestock Producers Based on the Effect of Information and Communication Technology on Nigerian Livestock Industry

Variables	Frequency	Percentage(%)
Affected	30	30
Not Affected	70	70
Total	100	100

Table 5 shows that only 30% of the farmers agreed that ICT has seriously impacted on their livestock agriculture positively, while 70% confirmed that they have not been able to coordinate and harness information obtained from ICT to improve their productivity in livestock agriculture. This is expected since majority of the animals are in the hands of farmers that have little or no formal education and farmers who are economically challenged. The few livestock owners that are civil servants perhaps with OND/NCE and or Degree are mostly absentee farmers that only buy animals and handed them over to herdsmen and remain in urban areas in pursuit of white collar jobs.

In conclusion, farmers are more familiar with radio (50%), mobile phones (20%) and television (15%) than to internet (5%), magazines (5%) and newspapers (5%). It was observed that majority of the livestock in Gombi Local Government Area of Adamawa state are produced and kept by men and only 30% of the farmers used the various sources of information frequently. Furthermore, there is still limited level of awareness on the use of ICT to improve and enhance livestock production in Gombi Local Government Area since only 30% of the farmers agreed that ICT have positively affected their livestock agriculture while 70% confirmed that they have not been able to coordinate and harness information obtained from ICT to improve their productivity in livestock agriculture.

It was recommended that more awareness should be created on the utilization of ICT by farmers to promote livestock production in Nigeria. This challenge can be addressed through the effective exploitation of innovative solutions that integrate information and communication technologies in the dissemination of agricultural information.

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