ACCESS AND UTILIZATION OF AGRICULTURAL INFORMATION BY FISH FARMERS IN JIGAWA STATE; NIGERIA.

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ABSTRACT

It has been acknowledged that farmers can use improved information to advance their productivity and profitability as well as contribute to higher rates of agriculture, economic growth and poverty reduction. Fish farming which is said to be predominant in the coastal states of Nigeria is currently one of the varieties of agricultural practices in Jigawa state. Fish farmers therefore need variety of information regarding fish farming technologies, construction and management, breeds and spawning, processing, storage and marketing and financing. Several media outlets have been identified as sources of agricultural information as used by National Agricultural Extension and Research Liaison Services and Agricultural Development Project in Jigawa state. While the issue remained how well the fish farmers can access the information and utilize them as appropriate, especially now that many literate hands have venture into this business. This research work appraises the problems and challenges of access to agricultural information and its utilization by fish farmers in the state. The study covers five local governments namely Dutse, Hadeja, Ringim, Gumel and Kazaure Local Government councils. Survey method was adopted and data was collected through the use of questionnaires, and conducting an in-depth interview with some officials from NAERLS, ADP and the state ministry of agriculture. The result indicate that there is difficulty in accessing agricultural information by fish farmers in Jigawa state, and that fish farmers in the state identified themselves more with Radio and Television than other sources of agricultural information.

Key words: Agric. Information, Access, Utilization, Challenges and Fish Farmers.

INTRODUCTION

It has been acknowledged that farmers can use improved information to advance their productivity and profitability as well as contribute to higher rates of agriculture, economic growth and poverty reduction (Garba Baba A., 2014). Fish farming which is
said to be predominant in the coastal states of Nigeria is currently one of the varieties of agricultural practices in Jigawa state. Presently, there is observed increase in the population of fish farms and farmers in this nourishing state. Fishing in Jigawa state today is no longer restricted to the wild alone; fish farms are available nowadays around towns and villages and even behind people’s homes.

Oladele, (2006) asserted that in agriculture, the role of information in enhancing agricultural development cannot be over emphasized. He further stressed that information is vital for increasing production and improving marketing and distribution strategies. This means that information gives room for sharing experiences, best practices, sources of financial aids and new markets.

In Jigawa state fish farmers needs variety of information regarding fish farming technologies, construction and management, breeds and spawning, processing, storage and marketing and financing. In this regard therefore access to information remained an essential strategy for increased productivity and profitability.

The mandate of disseminating agricultural information in Nigeria rests with National Agricultural Extension Research Liaison Services (NAERLS) and the agricultural development projects (ADPs), thus in Jigawa State, the Jigawa State agricultural development programme (JSADP) is the State’s main implementation agency for all agricultural extension and information services as well as all agricultural policies that concerns rural development. This agency has claimed to have used the different media outlets available in the state as a powerful communication tool for provision and enhancing agricultural information and extension services and has claimed to have recorded a great success (JSADP bulletin, 2013).

Ekoja, N. (2003) stated that in Nigeria, agricultural information is made available through NAERLS and its information services, and it is available in the many agricultural research institutes and school of agriculture in the universities as well as the federal and state ministries of agriculture. Adomi, et al (2003) Posited also that many previous studies agree that the problem of farmers is access to agricultural information. It is evident that even with the advent of information technologies which has succeeded in eliminating bottlenecks in information dissemination; constraints to access to information is still a real experience, (Oladele, 2006).

The Jigawa state agricultural development agency (JSADP) in collaboration with various media outfits, has made tremendous efforts to transfer information agricultural technologies not limited to fish farming only but which encompasses various aspects of agricultural technologies to farmers through various programmes mainly in Hausa,
Fulfulde and English. The programmes were aimed at reaching farmers with improved agricultural technologies so as to increase agricultural production with reduced cost in the state. Other various aspects of the programmes dealt with crop production, crop protection, livestock management and livestock enterprises, women in agriculture, agro forestry and organic farming. Other aspects includes organic technology such as land preparation, planting of early season crops, soil conservation, crop rotation practices, application of compost, mulching of crops, crop rotation practice, intercropping, mixed cropping, crop residues, animal manuring, minimum tillage, planting of legumes and green manure e.t.c. (JSADP report, 20013)

It would be imperative and gain if access to information by fish farmers in Jigawa state is made simple and constraints free. A prospect to fish farming in Jigawa state is showing its beautiful face as more and more people are getting interested with it in this new state. Interview with an executive of state wing of the fish farmers association indicates that many people bencher into this fine business day by day.

**Study Area**

According to the 2006 census, Jigawa State has a total population of 4,348,649 million inhabitants. The population growth of the state is estimated at 3.5 % with about 48 % of the population falling under the age of fifteen. Out of the estimation about 2.9 million are considered to be productive adults. Eighty per cent (80%) of the population is found in the rural areas and is made up of mostly Hausa, Fulani and Manga (a Kanuri dialect). The pattern of human settlement is nucleated, with defined population centers.

Jigawa State, with its capital at Dutse, has twenty seven local government areas (LGAs). These include Dutse, Birnin Kudu, Gwaram, Kiyawa, Gumel, Maigatari, Hadejia, Ringirn, Birniwa, Kirikasamma, Malam Madori, Jahun, Kafin Hausa, Kazaure, Roni, Babura and Garki Kaugama, Sule Tankarkar, Taura, Gwiwa, 'Yankwashi, Gagarawa, Auyo, Buji, Miga and Guri. The state is bordered on the west by Kano State, on the east by Bauchi and Yobe States and on the north by Katsina and Yobe States and by the Republic of Niger.

The topography of the state is generally flat with the northern, central, and eastern parts covered with undulating sand dunes running in the Southwest to Northeast direction. The area around the state capital Dutse is very rocky with some low hills. The southern and western parts of the state around Birnin Kudu and Kazaure have the highest elevations with hills as high as 600 millimeters above sea level. The state is bisected by the Hadejia River which traverses the state from the west to the east through Hadejia-Nguru wetlands and empties into the Lake Chad.
The state lies between latitudes 11oN and 13oN and longitudes 8oE and 10o35'E with a tropical climate while the temperature varies at different times. High temperatures are normally recorded between the months of April and September. The daily minimum and maximum temperatures are 15 degrees and 35 degrees Celsius. The rainy season lasts from May to September with average rainfall of between 600 millimeters to 1000 millimeters. The southern part of the state has a higher rainfall percentage than the northern part.

The state is situated within the Sudan savannah vegetation zone, but there are traces of Guinea savannah in the southern part of the state. Its total forest covers about 5% due to rainfall characteristics and deforestation due primarily to use of wood for cooking. The name Jigawa is a Hausa word used to describe a vast loamy but non-marshy soil.

Cross border migration between Jigawa State and neighboring states and between the State and Niger Republic is common. Migration of people into the state is highest during the dry season when cattle herders from neighboring Niger Republic migrate to the south in search of pasture and water for their animals. Outward migration is a feature of the off farming season known as “cirani” during which people leave the state in search of jobs in the neighboring states, particularly Kano and some major cities in the country.

The people are mainly peasant farmers and they practice farming along with other occupations. Methods of agriculture are basically primitive, mechanized agriculture is rarely practiced despite vast fertile land extended across the state.

Statement of Problem
In Jigawa state fish farming is no longer restricted to wild type alone. Modern type of fish farming is coming on board and is past becoming wide spread throughout the state. Therefore, information and technologies on all aspects of this new trend of business is significantly required by the fish farmers.

Several media outlets have been identified as sources of agricultural information as used by NAERLS and JSADP in Jigawa state. These include farmplets, Workshop/seminar papers, Bulletins, Magazines Newspapers, Extension officers, TV Broadcast, Radio Broadcast, Internet, Libraries and LG offices. The issue is not about the sources of the information or their content, but how well the fish farmers can access the information and utilize them as appropriate, especially now that many literate hands have bencher into this business is the issue of address by many.

In view of the above therefore, this research work will seek to appraise the problems and challenges of access to agricultural information and its utilization by fish farmers in
Jigawa state. The study covers five local governments selected one each from the five emirates that make up the whole state. The local governments comprises of Dutse, Hadeja, Ringim, Gumel and Kazaure.

**Research Questions**

This research work will seek to find solutions to the following questions:

1. What are the source(s) of agricultural information by fish farmers in Jigawa state?
2. What is the level of access to agricultural information by fish farmers in Jigawa state?
3. What are the constraints to access to agricultural information by fish farmers in Jigawa state?

**Methodology**

For the purpose of this research work survey method was employed. Okoye (1996:5) defined survey research as a ‘method which is geared towards the study of people, their attitudinal frame of minds, their systems, opinions, motivational range and behavioral manifestations’. A survey involves asking people questions about their behaviors, attitudes, beliefs, knowledge, feelings, plans and backgrounds. A survey is done through the administration of questionnaires or face to face interviews and thereby filling in responses.

As rightly pointed out, survey method was adopted and data was collected on beliefs, opinions, feelings and perception of fish farmers in Jigawa state regarding their sources of agricultural information, and the problems and challenges faced by the fish farmers in accessing the sources as well as their constraints to the utilization of the information provided by these sources. Data was gathered through the use of questionnaires, and conducting an in depth interview with some officials from NAERLS, ADP and the state ministry of agriculture to gain an insight into the sources used these parastatals for information dissemination and achievements recorded.

The population of the study was drawn from the five local governments selected which cover five emirate councils that make up the state, namely Dutse, Hadeja, Ringim, Gumel and Kazaure. 150 fish farmers were taken as sample 30 each par local government under study. Accidental random sampling technique was employed in the sense that only fish farmers that happen to come across by the researcher were surveyed. These instruments were personally administered by the researcher with the help of research assistant. Data were analyzed using descriptive statistics.
Finding and Discussion
The findings of the study would be used to address the research questions posed earlier. The data gathered would provide solution to the problems indicated in the study.

Research Question: What are the source(s) of agricultural information by fish farmers in Jigawa state?

TABLE 1: SOURCES OF INFORMATION TO FISH FARMERS

<table>
<thead>
<tr>
<th>SOURCES</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio Broadcast</td>
<td>52</td>
<td>34.6%</td>
</tr>
<tr>
<td>TV Broadcast</td>
<td>28</td>
<td>18.6%</td>
</tr>
<tr>
<td>Newspapers</td>
<td>14</td>
<td>9.3%</td>
</tr>
<tr>
<td>Magazines</td>
<td>6</td>
<td>4%</td>
</tr>
<tr>
<td>Ministry of Agric</td>
<td>5</td>
<td>3.3%</td>
</tr>
<tr>
<td>Friends and Neighbors</td>
<td>3</td>
<td>2%</td>
</tr>
<tr>
<td>Extension officers</td>
<td>3</td>
<td>2%</td>
</tr>
<tr>
<td>Local Government Offices</td>
<td>2</td>
<td>1.3%</td>
</tr>
<tr>
<td>Non Government organizations (NGOs private &amp; coops)</td>
<td>9</td>
<td>6%</td>
</tr>
<tr>
<td>Workshop/seminar</td>
<td>3</td>
<td>2%</td>
</tr>
<tr>
<td>Personal Experience</td>
<td>9</td>
<td>6%</td>
</tr>
<tr>
<td>Internet</td>
<td>2</td>
<td>1.3%</td>
</tr>
<tr>
<td>Bulletins</td>
<td>2</td>
<td>1.3%</td>
</tr>
<tr>
<td>Journals</td>
<td>2</td>
<td>1.3%</td>
</tr>
</tbody>
</table>
Multiple responses are shown on the table above in relation to sources of information available to the fish farmers in the area under study. Topping the list as the responses indicated is the Radio Broadcast with 52 (34.6%), followed by TV Broadcast 28 (18.6%). Newspapers accounts for 14 (9.3%), Magazines 6 (4%), Ministry of Agric 5 (3.3%) while Friends and Neighbors, Extension Officers, Workshop/Seminars and Libraries accounts for 3 (2%) respectively. Non Government organizations (NGOs) and Personal Experience accounts 9 (6%) respectively. Posters 7 (4.6%) while Local Government Offices, Internet, Bulletins, and Journals accounts for 2 (1.3%) respectively. It would not be surprising how Radio and TV Broadcast topped the list above considering the fact that Radio is the most widely used medium of communication in Africa. Since various Radio and Television in Jigawa transmits agricultural programmes access to these programmes by the fish farmers would not be a problem as indicated by Haruna, U. (2013). These Programmes still run today and the farmers patronized them and indicate them as sources of information. This has been in line with Fraser & Restrepo-Estrada, (2002) who asserted that ‘Because radio sets are cheaply available, portable, run independently of power grids and do not exclude those that are illiterate, are far away the mass medium of choice for more than two thirds of Africans, both rural and urban. It is thus considered a key driver to spread development messages and advance poverty reduction and agricultural mobilization’.

The above table as well as data collected from the interview indicated that fish farmers see agricultural extension officers only occasionally. They indicated that where they get information from agricultural extension officers, information was not current as the information received do not answer to their agitations and therefore do not solve some of their problems.

<table>
<thead>
<tr>
<th>NEEDS</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeds</td>
<td>31</td>
<td>20.6%</td>
</tr>
<tr>
<td>New trends</td>
<td>20</td>
<td>13.3%</td>
</tr>
<tr>
<td>Disease control and treatment</td>
<td>19</td>
<td>12.6%</td>
</tr>
<tr>
<td>Credit facilities</td>
<td>17</td>
<td>11.3%</td>
</tr>
</tbody>
</table>

TABLE 2: INFORMATION NEEDS OF FISH FARMERS
The above table shows various needs of the fish farmers in Jigawa state. It is manifested from the table that fish farmers need information in nearly all the areas presented to them and the reason may not be unconnected to their urge to improve and increase yields. It is indicated that they need Information on Feeds 31(20.6%) which claim the highest need, that may be due to scarcity of feeds during the course of the study. How to buy or lease equipments 14 (9.3%). It is revealed also that they need information on where and how to buy or produce fingerlings 13 (8.6%) and is identified as a pressing need among fish farmers. Fish farmers however need information on a continuous basis on new trends 20 (13.3%); disease control and treatment 19 farmers also need information on credit facilities 17 (11.3%). It is certain that many of them need capital for investment and improvement.

**Research Question: What are the constraints to access to agricultural information by fish farmers in Jigawa state?**

### TABLE 3: CONSTRAINTS TO ACCESS TO INFORMATION

<table>
<thead>
<tr>
<th>CONSTRAINTS</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High cost of materials</td>
<td>41</td>
<td>64%</td>
</tr>
<tr>
<td>Lack of irrelevant materials in offices and libraries</td>
<td>36</td>
<td>54%</td>
</tr>
<tr>
<td>Insufficient agricultural Extension officers</td>
<td>22</td>
<td>39.6%</td>
</tr>
<tr>
<td>agricultural Information Providers</td>
<td>20</td>
<td>30.6%</td>
</tr>
<tr>
<td>Format of Presentation</td>
<td>18</td>
<td>27.3%</td>
</tr>
<tr>
<td>Language barriers</td>
<td>13</td>
<td>24%</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3 above reveals various constraints to access to information by fish farmers in Jigawa state. Famous among the constraints indicated is lack of relevant materials in agricultural offices and libraries (54%) in the area. Most of these farmers pointed out that when they bother to visit the above mentioned places, they left disappointed because of lack of relevant and out of date materials which cluster the shelves of these offices. These farmers also assert that where they got information i.e. workshop and seminars attended, the cost is a major constraint (64%). Another constraint was in the format and
language of presentation of information they consider relevant to them (27.3%) and 
(24%) respectively. This problem is further compounded by the lack of agricultural 
extension officers (39.6%) who would serve as interpreters of what is in the information 
bulletins and practical instructors on the field for the fish farmers; extension contact is 
inadequate. These constraints combined together make access to agricultural information 
in fish farming difficult in Jigawa state.

CONCLUSION AND RECOMMENDATION
From the above findings one can understand that despite enamors constraints, fish 
farmers in Jigawa state identified themselves more with Radio and Television than other 
sources of agricultural information. Without disregard to other means of communication, 
Mboho (2009) noted that the use of broadcast media in disseminating agricultural 
information is an example of planned communication. McQuail and Windafil cited in 
Mboho (2001) explained that this role of broadcasting emanates from a collective, 
organized source with a purpose and clearly specified objectives. Such communication 
through broadcast media is targeted to a specific section of the population and conforms 
to established norms (Mboho, 2009). In view of the above therefore, it is imperative to 
note that in Jigawa state the broadcast stations guarantee participation and volunteerism 
especially in production of its agricultural programmes and may speak so much of the 
reason why even the fish farmers in the state patronizes these stations.
It can also be that it involves consultations with the people and stakeholders at the 
conception of messages, and programmes including a general programme encompassing 
interview of farmers, a music request programme interspersed with farming advice, a daily 
broadcast of agricultural news information amongst other techniques.
Fish farmers in this new world engaged in fish farming through created fish farms 
(homestead fishing). These farmers are mostly literate and business minded, fishing is 
not their only business or occupation. Majority of them depend on statistical reports, 
research results and market analysis for increased productivity and profitability. 
Information for this kind of farmers is exceptionally essential.

This study concludes that there is difficulty in accessing agricultural information by fish 
farmers in Jigawa state. Even on the agricultural programmes transmitted there is less 
reflection of Information that would otherwise create a platform for improved and 
increased yields of fish for the populace and a more profitable and meaningful job for 
the fish farmers. Reliable and relevant information for farmers are available in the areas 
where farmers indicated that they need information i.e. feeds, fingerlings, credit 
facilities etc. This information are available in the Ministry of Agriculture, ADP offices, 
National Agricultural Extension and Research Liaison Services (NAERLS), agricultural 
research centers, libraries and privately organized workshops, seminars, and 
conferences, but they are rarely made available.
This wealth of information is however not readily accessible because of many impeding variables among which are; insufficient agricultural extension officers, lack of use of media, language barriers and the unreliable nature of electricity in Nigeria. The study thus, recommends the following:

1. Since Broadcasting is one of the quickest ways of reaching a large number of farmers it shall be employed by NAERLS, ADPs and Ministries of agriculture as a major channels of agricultural information dissemination in Nigeria.
2. Broadcast media stations in Jigawa state shall be encourage to give more attention to designing agricultural programmes that address the information needs of fish farmers since the findings of the study shows the patronage of these media by Jigawa state farmers.
3. Community-based approach should be adopted to stimulate interactions among farmers toward accessing and utilizing fish farming innovations to increase fish production in the country.
4. Information delivery and dissemination should be consistent and continuous by stakeholders in the agricultural sector in Nigeria. This would eliminate the bottlenecks of late and out of date information and even non-information at all.

References


