Use of Agricultural Information Sources and Services by Farmers for Improve Productivity in Kwara State

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Abstract
This study was carried out to investigate the use of agricultural information sources and services by farmers for improve productivity in Kwara state, Nigeria. The objectives of the study was to determine the information sources and services available to farmers in Kwara State and assess the purpose for which farmers in kwara state utilize available information sources and services. The study adopted the survey design in a population of 55,522 farmers from whom 447 were sampled in six local government areas, which were made up of two from each of the three senatorial districts in the State. Questionnaire and interviews were used to generate data, which were descriptively analysed to answer the research questions. The results showed that the information sources and service mostly used by the farmers included relations, fellow farmers, town criers, television, mobile phones, film shows, radio, etc. The need for information made the farmers to use it for crop and animal production; pests, diseases and weed control; fishing; disaster control and mitigation, fertilizer procurement and application; post-harvest technology; sourcing for labour; agricultural credit; etc. The study therefore recommended that Kwara State Government should train extension workers on how to use information communication technology such as mobile phone on how to subscribe for agricultural information and also there is a need to extend agricultural extension services to all the local government areas through established centers where farmers can obtain required information on agricultural productivity, marketing of farm produce and post harvest technology to increase their productivity.
Introduction

Information has received a wide range of acceptance as an essential resource of this century. It has been described as a simulating creativity, resulting in new outcomes and processes. All human societies depend very much on information for existence that is information is life. The proper identification and use of information sources are prerequisites for objective decision making. Consequently, the possession of awareness and use of appropriate information guarantee individual and organizational functioning. The major function of information is to increase the knowledge of the user, to reduce his level of uncertainty or reduce the varieties of choices available to the users of information. For information to be effective, it must be accurate, timely and relevant.

Ayanyemi (2006) referred to information as an essential resource for individual growth and survival. An informed mind is an enriched mind and if one is not informed he will be deformed. Information is a common term. It is often in the mouth of people, attracting diverse and ambivalent meanings and interpretations. Uhegbu (2007) opined that hardly can one mention the word ‘information’ without referring to somebody; the educated understand information from their various backgrounds.

Anything human beings interact with or observe can be a source of information (Bates 2012). The information source is a medium in which knowledge and/or information is stored. In other words, it is understood as something that contains and/or stores information (Bitso, 2012). Sources of information are tools that can possibly meet the information needs of different categories of users. They are the information carriers. There are different sources of information but what matters are ‘what’ sources are available and relevant to the different categories of users and what sources of information are useful for their different seeking behaviour, and mainly for utilization in order to accomplish tasks/needs.

Information sources are various means by which information is recorded for use by an individual and organization. Sources of information are: radio, television, extension workers, cooperative societies, friends and colleagues, newspapers and magazines, books/leaflets, phones, libraries and institutes. Also, observation of people organizations, speeches, documents, picture and art work can also be described as information sources.

Information services are the activities performed to facilitate any stage of the life cycle of information. The life cycle includes the creation, organization, use and disuse. Information
services can be defined as services which provide (serves) data, knowledge, and information that are of interest to users. The interaction is that an information service collects (retrieves), manages (structures) and stores data. Productivity is measured as the ratio of agricultural input to output however; individual products are measured by weight and their densities. Measuring overall agricultural output are difficult because the output is usually measured as market value of final product; which excludes intermediate materials that goes to production such as corn feed used in the meat industry.

Agricultural productivity may also be measured by what is termed total factor productivity (TFP). This method of calculating agricultural productivity compares an index of agricultural input to an index of output. Productivity therefore measures changes in efficiency with which input is transformed into output. The indices for measuring are land, input hire, labourer energy input agricultural chemical input, pesticides consumption, fertilizer and capital.

**Statement of the Problem**

Information is an indispensable factor in the development of any nation. Choo (2012) affirmed that people use information to create knowledge, but not just in the sense of data and facts but the form of representations that provide meaning and the context for purposive action.

Information service provision to farmers in Kwara state has been ineffective for the production of varieties of food and, raw materials for sustenance of the people. Majority of our rural farmers depend on indigenous or local knowledge for improved farming systems. Such knowledge (indigenous or local knowledge) refers to skills and experiences gained through oral tradition and practice over many generations but the use of such primitive skills by our rural farmers, especially those in Kwara State, Nigeria, has not substantially helped to improve yield.

Agricultural information is meant to get to rural farmers via extension workers, community libraries, radio, television, film shows, agricultural pamphlets, state government agricultural agencies. However, rural farmers in their efforts to access these agricultural knowledge and information from available sources for better farming system and improved agricultural yield are confronted with certain constraints.
Aina (2008) observed that the missing link between research and sustained productions is lack of effective service delivery services. There is a wide gap between available knowledge of improved technology and actual practice and this has had a considerable effect on the attempt at increasing food production. Thus, this study was conceived to identify the use of agricultural information sources and services by farmers for improving productivity in Kwara State for better farm practices.

Research Questions
The following research questions are pertinent to this study:

(i) What are the information sources and services available to farmers in Kwara State?
(ii) For what purpose do farmers in Kwara State utilize the available information sources and services?

Objectives of the Study
The objectives of this research study are to:

(i) Determine the information sources and services available to farmers in Kwara State.
(ii) Assess the purpose for which farmers in Kwara State utilize the available information sources and services.

Review of Related Literature
Information is a processed and organized data for meaningful purpose which could be in different forms or sources. Every rational person needs some form of information for his / her day to day activities. Therefore, an emphasis on agricultural information importance cannot be overruled, because information had been described as man’s accumulated knowledge in all subjects, in all forms and from all sources that could help users of such information to improve and develop intellectually on their activities. There is no doubt that information is very important in all aspects of agricultural development from planning to the production stage in the farm. It is obvious that those factors that limit agricultural information development are the difficulties in accessing information for research and development activities. Agricultural information is supposed to be made available to research scientists, extension workers, farmers and other users,
so that they can all engage in agricultural development and food production. This means that they require different types of information at the right time in order to make the right decision.

Tadesse (2008) defined agricultural information as the various sets of information and messages that are relevant to agricultural production activities of farmers such as crop production and protection, animal production and management, and natural resource production and conservation. For the purpose of this study agricultural information therefore refers to agriculture related data which are transformed into meaningful and useful contexts or forms for effective decision making in agriculture or farming related activities.

Agricultural information services contribute significantly to agricultural production. Through agricultural information farmers can adopt new technologies or farming systems, know when to plant and harvest, which crop to produce and which animal to rear and where to sell. It is also through agricultural information that farmers can know where to acquire bank loans and other farming inputs, as well as how to control pests and diseases. Such information will consequently increase agricultural production and improve the standard of living of farmers.

There are various types of information on agriculture related activities. These could include information on crop production and protection, livestock production, agro-forestry, pest and diseases control, fertilizer availability and application, agricultural credit facilities, market prices, improved seeds varieties, rainfall gauge and so on. Oduwale and Ikhizma (2003) identified various types of agricultural information, such as information on pest and diseases control, services available from government and private organizations, marketing farm produce, credit and loan facilities to farmers, utilization of fertilizer etc. Aina, Kaniki, Ojambo (1995) and Ekoja (2000) defined agricultural information as published and unpublished knowledge on all aspects of agriculture which are inter disciplinary in nature and have universal application. They classified the types of agricultural information into the following categories:

**Technical/scientific information:** This type of information is obtained from researches and development work conducted in universities, agricultural research institutes, agricultural colleges and private agricultural research organizations.

**Commercial information:** Information under this category gives enlightenment on the marketing of agricultural produce in order to maximize profits.
**Socio/cultural information:** This involves information on traditional agricultural practices, local cultures, norms/values and background information and training done in different communities as well as on the availability of labour etc.

**Legal information:** This type of information educates all stakeholders in agriculture on legislated laws on production and distribution of agricultural produce.

**Information on rural women /women in areas contained in items (i-iv)** These type of information will be useful to train rural women on proven technology in agriculture, food production, processing, and preservation, storage, utilization and marketing and how to improve their standard economically, and socially.

**General Information,** these are information of general interest to farmers for example handling of flood, fire and other disasters.

**Agricultural Information Sources for Farmers**

The information sources for farmers depend on the type of work and services they perform. Information sources are tools or information carriers that meet the information needs of extension workers. Many studies have been conducted to determine the type of information sources of agricultural extension workers. Alfred and Odefadehan (2007) identified various information sources of extension workers to include organizations, individual associates, local, national and international seminars, workers, trainings, print and electronic media, telecommunication, and internet service. Koyenikan (2011) categorized the above mentioned information sources as formal and informal sources. According to him, the formal sources include state radio stations, local and international print media (such as newspapers, newsletters, and journals) and seminars/workshop, while the informal sources are farmers, family friends and personal assessments and judgment. Another related study carried out by Farooq, et al (2010) specifically highlighted the role of Agricultural Research Institutes and Agricultural Officers as information sources while Rama and Joan (1996) identified agent in the office, agents in other countries, extension specialists, immediate supervisor, news agencies, state/federal agencies, school teachers and administrators as prominent information sources to agricultural extension workers. However, Mugwisi, Ocholla and Mostert (2012), after emphasizing the position of libraries, internet, colleagues, personal and departmental collections, workshops and seminars, argued that farmers preferred print sources face to face interaction.
According to Ajuwon and Odeku (2012), information sources come in great diversity and various forms such as print and non-print forms. Print connotes books, periodicals, bibliographies, maps, indexes and abstracts, photographs, government documents, technical reports etc. It can also be in electronic form. Non-print materials include audio visual, multimedia, microfilms, electronic books, journals, images, texts/records from the internet, web documents etc. These information sources can be found in human archives, libraries and the internet.

Idowu (2002) conducted a study on use of agricultural information source among agricultural farmers and extension workers in Nigeria. The findings described the researchers’ scenario as that of being informational deprived, which implies a situation where researchers have too much information and are unable to pick out the right sources. The policy implication of the findings showed that to improve the performance of agricultural researchers and extension workers, the provision of information sources as well as the facilities to enhance their use is very important in the research institutes and information dissemination systems. In an era of knowledge economy, information plays an increasingly important role in every sphere of the developmental process.

Aina (1991) stated that farmers need agricultural information for the purpose of understanding how to apply fertilizers, insecticides for pests and disease control, planting materials, and credits and loans.

**Methodology**

The study adopted the survey design in a population of 55,522 farmers from whom 447 were sampled in six local government areas, which were made up of two from each of the three senatorial districts in the State. Stratified random sampling and purposive sampling procedure was used. Questionnaire and interview were used to generate data, which were descriptively analyzed to answer the research questions.
<table>
<thead>
<tr>
<th>LGA</th>
<th>CROP FARMERS</th>
<th>NON CROP FARMERS</th>
<th>TOTAL</th>
<th>SAMPLE POPULATION</th>
<th>20% OF THE POPULATION SAMPLED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moro</td>
<td>7,415</td>
<td>233</td>
<td>7,648</td>
<td>380</td>
<td>76</td>
</tr>
<tr>
<td>Ilorin South</td>
<td>2,786</td>
<td>47</td>
<td>2,833</td>
<td>351</td>
<td>70</td>
</tr>
<tr>
<td>Oke – Ero</td>
<td>4,144</td>
<td>138</td>
<td>4,282</td>
<td>366</td>
<td>73</td>
</tr>
<tr>
<td>Oyun</td>
<td>4,088</td>
<td>13</td>
<td>4,101</td>
<td>365</td>
<td>73</td>
</tr>
<tr>
<td>Patigi</td>
<td>10,246</td>
<td>202</td>
<td>10,448</td>
<td>385</td>
<td>77</td>
</tr>
<tr>
<td>Edu</td>
<td>15,761</td>
<td>305</td>
<td>16,066</td>
<td>390</td>
<td>78</td>
</tr>
<tr>
<td>Total</td>
<td>53,710</td>
<td>1,812</td>
<td>55,522</td>
<td>2,975</td>
<td>447</td>
</tr>
</tbody>
</table>


Findings and Discussion

Response Rate

The response rates of the farmers are provided in Table 2, which shows the number of questionnaire administered, the number successfully filled and returned and the percentage of the returned questionnaire from each of the Local Government Areas selected.
Table 2: Response Rate of Farmers in Each Local Government Area

<table>
<thead>
<tr>
<th>Local Government Areas</th>
<th>Sample population</th>
<th>20% of the population</th>
<th>Total Returned</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edu</td>
<td>390</td>
<td>78</td>
<td>60</td>
<td>76.9</td>
</tr>
<tr>
<td>Ilorin South</td>
<td>351</td>
<td>70</td>
<td>68</td>
<td>97.1</td>
</tr>
<tr>
<td>Moro</td>
<td>380</td>
<td>76</td>
<td>72</td>
<td>94.7</td>
</tr>
<tr>
<td>Oyun</td>
<td>365</td>
<td>73</td>
<td>70</td>
<td>95.9</td>
</tr>
<tr>
<td>Patigi</td>
<td>385</td>
<td>77</td>
<td>64</td>
<td>83.1</td>
</tr>
<tr>
<td>Oke – Ero</td>
<td>366</td>
<td>73</td>
<td>69</td>
<td>94.5</td>
</tr>
<tr>
<td>Total</td>
<td>2,975</td>
<td>447</td>
<td>403</td>
<td>90.2</td>
</tr>
</tbody>
</table>

Table 2, shows that a good response rate was obtained in all the Local Government Areas covered by the study. As indicated in the table, the least response rate was obtained from farmers in Edu whose total was 78 and 60 were able to fill and returned the questionnaire thus constituting 76.9% of the total issued to them. The highest response rate was obtained from Farmers in Ilorin South where 68 were collected out of the 70 questionnaires issued making a total of 97.1% of the total administered. In all 403 (90.2%) of the total 447 questionnaires administered to the farmers in the six Local Government Areas were completely filled and returned and used for the study.

**Information Sources and Services Available to Farmers in Kwara State**

To establish the information sources and services that were available to farmers in the State, the responses of the farmers on the information sources and services are listed in frequencies and percentages in Table 3.
Table 3: Farmers Rating of the Information Sources and Services Available for Improved Productivity in the Selected Local Government Areas

<table>
<thead>
<tr>
<th>Information sources available for utilization</th>
<th>Highly available</th>
<th>Moderately available</th>
<th>Rarely available</th>
<th>Not available</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq.</td>
<td>%</td>
<td>Freq.</td>
<td>%</td>
<td>Freq.</td>
</tr>
<tr>
<td>Workshop/conference</td>
<td>18</td>
<td>4.5</td>
<td>15</td>
<td>3.7</td>
<td>20</td>
</tr>
<tr>
<td>Town crier</td>
<td>21</td>
<td>5.2</td>
<td>342</td>
<td>84.9</td>
<td>19</td>
</tr>
<tr>
<td>Extension agents and contact with farmers</td>
<td>10</td>
<td>2.5</td>
<td>15</td>
<td>3.7</td>
<td>37</td>
</tr>
<tr>
<td>Relation</td>
<td>36</td>
<td>8.9</td>
<td>172</td>
<td>42.7</td>
<td>52</td>
</tr>
<tr>
<td>Colleagues</td>
<td>19</td>
<td>4.7</td>
<td>340</td>
<td>84.4</td>
<td>29</td>
</tr>
<tr>
<td>Radio set</td>
<td>40</td>
<td>9.9</td>
<td>181</td>
<td>44.9</td>
<td>59</td>
</tr>
<tr>
<td>Television</td>
<td>21</td>
<td>5.2</td>
<td>341</td>
<td>84.6</td>
<td>28</td>
</tr>
<tr>
<td>Film shows</td>
<td>40</td>
<td>9.9</td>
<td>292</td>
<td>72.5</td>
<td>44</td>
</tr>
<tr>
<td>Non-Governmental organization (NGO)</td>
<td>33</td>
<td>8.2</td>
<td>140</td>
<td>34.7</td>
<td>191</td>
</tr>
<tr>
<td>Mobile phone</td>
<td>20</td>
<td>5</td>
<td>168</td>
<td>41.7</td>
<td>62</td>
</tr>
<tr>
<td>Library</td>
<td>8</td>
<td>2</td>
<td>169</td>
<td>41.9</td>
<td>141</td>
</tr>
<tr>
<td>Television viewing center</td>
<td>9</td>
<td>2.2</td>
<td>66</td>
<td>16.4</td>
<td>53</td>
</tr>
</tbody>
</table>

From the table and the chart, the only available information sources and services that could be considered adequate for the farmers in the selected local government areas of the state were town crier 363 (90%), relations 357 (89%) and film shows 332 (82%). However other information sources and services such like conferences and workshop, extension workers or agent and contact, television, Non-Governmental Organization (NGOs), mobile phones were rated low, this implies that they are not adequately available to farmers in the area.

This would imply that the only information sources and services available for utilization in production practices in the areas were town criers, relations and film show; while others like conferences and workshops Non –Governmental organization were inadequate.
Purpose Farmers in Kwara State Utilize the Available Information Sources and Services

To establish the purposes for which farmers utilize available information sources and services in the state, classifications of the associated purposes of agricultural production is made in Table 4. The farmers’ responses are presented in frequencies and percentages along the four point scale used for the assessment. The discussion is however based on a two categorical options of agreed and disagreed with ‘strongly agree’ and ‘agreed’ merged for agreement while ‘disagree’ and ‘strongly disagree’ were merged for disagreement.

Table 4: Farmers Rating of the Purposes for which Information Sources and Services Available Were Used for Improved Productivity in the Selected Local Government Areas

<table>
<thead>
<tr>
<th>Purposes for information sources and services</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>To increase productivity, labour force, capital and land availability</td>
<td>299</td>
<td>74.2</td>
<td>74</td>
<td>18.4</td>
</tr>
<tr>
<td>To know how to treat pests, diseases and improved seedlings</td>
<td>46</td>
<td>11.4</td>
<td>78</td>
<td>19.4</td>
</tr>
<tr>
<td>To know how to preserve and process raw agricultural produce using new post-harvest technology</td>
<td>237</td>
<td>58.8</td>
<td>141</td>
<td>35</td>
</tr>
<tr>
<td>To know current market prices for proper profit margin</td>
<td>290</td>
<td>72</td>
<td>76</td>
<td>18.9</td>
</tr>
<tr>
<td>To know the new technology advancement through extension workers/Non-Government Organization (NGOs)</td>
<td>46</td>
<td>11.4</td>
<td>118</td>
<td>29.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This finding agreed with Ajuwon and Odeku( 2012) and Mugwisi and Mostert ( 2012) who identified that the most effective way of disseminating agricultural information is face to face communication. Singh and Mariathem (2010), Morgono and Sugimoto (2011) posited that
mass media method of disseminating agricultural information is inadequate, due to weak linkages between government and extension workers.

The report therefore affirmed that people use information to create knowledge, but not just in the sense of data and facts but the form of representations that provide meaning and the context for purposive action. Lack of information act as barriers to development as it is seen as critical resources for people and communities in both urban and rural areas.

Among the purposes for the utilization of available information sources and services by the farmers were to know how to preserve and process raw agricultural produce using new post-harvest technology and to increase productivity, labour force, and acquisition of capital and land availability with the respective response of 378(93.8%) and 373(92.6%) farmers involved in the study. Other purposes for the utilization of the available information sources and services are directly associated with marketing of agricultural produce (366 (90.9%). Though knowing how to treat pests, diseases and improved seedlings and knowing the new technology advancement through extension workers 124 (30.8% and Non-Governmental Organizations (NGOs) 164 (40.7%) were not adequately used by the farmers.

From the responses of the farmers, it could be said that available information sources and services were adequately utilized for improved agricultural production by the farmers in the selected Local Government Areas of Kwara state. The finding here agrees with Akanda and Roknuzzaman (2012) that the most significant purpose for agricultural information are: for advancement of primary production of agriculture. This was followed by producing quality product and products planning, achieving sustainable agriculture, marketing agricultural product and controlling pests. Aina (1991) stated that farmers need agricultural information for the purpose of understanding how to apply fertilizers, insecticides for pests and disease control, planting materials, and credits and loans.

**Summary of Findings**

The major findings of the study were:

1. The available information sources and services that are utilized by farmers and the State were mostly colleagues, town criers, television, mobile phones, film shows in media, radio and relations of farmers.

2. The purpose for which farmers used the available information sources and services was to know how to preserve and process raw agricultural produce using new post-harvest
technology and to increase productivity, labour force, and acquisition of capital and land availability. This was the opinion of 378 (93.8%) and 373 (92.6%) of the farmers involved in the study respectively. Other purposes for the utilization of the available information sources and services were directly associated with marketing of agricultural produce. Though knowing how to treat pests, diseases and improved seedlings and knowing the new technology advancement through extension workers and Non-Governmental Organization (NGOs) were not adequately used by the farmers.

Conclusion

It is concluded that majority of the farmers rely on informal sources of information from neighbors, friends and colleagues rather than from the extension workers. Farmers have a little information on animal husbandry, live stock production and fishing. The militating problems to providing information sources and services are the inadequacy of required agricultural information sources, illiteracy and non-availability of extension workers in Kwara State.

Recommendations

The following recommendations are made based on the findings and conclusions reached in this study:

1. The Kwara State government should train extension workers on how to use information communication technology such as mobile phone on how to subscribe for agricultural information.

2. There is a need for Kwara State Government to extend agricultural extension services to all the local government areas through established centers where farmers can obtain required information on agricultural productivity, marketing of farm produce and post harvest technology to increase their productivity.
References


