# Disseminating and Promoting Agriculture Information through Library and Information Services in Ghana

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**Abstract:** Farmers in Ghana are expected to be given relevant information they need for high quality and quantity of food, cash crops and animal production required to meet nutritional demands by the growing Ghanaian population. Librarians and information workers should participate actively in disseminating agricultural information to farmers in Ghana using audio-visual materials, Web 2.0 tools and Information Communication Technologies. This paper looks into the role of information in boosting food and cash crop production in Ghana. It highlights the problems associated with information dissemination to farmers in the country. Better agricultural practice and high associated yields can, however, be realized in the country through the provision of relevant agricultural information to farmers. Librarians and information workers in the country should make useful agricultural information available, and on time via researchers, agricultural extension officers or direct to farmers; using emerging technologies as a way of contributing to improve on the current food insecurity. Agricultural librarians, researchers and extension officers can get useful information from the Internet and various databases on agriculture and make same available to farmers in the manner and languages they can understand for use in ensuring faster agricultural development.

**Keywords:** Library, Information Services, food insecurity, agriculture information, Web 2.0, ICT

## 1. Introduction

Agriculture is wrongfully assigned to the poor and less privileged members of the Ghanaian society. On the other hand, agriculture stands for the cultivation of the soil for the purpose of producing crops and rearing of farm animals to meet man's needs. Farmers play major roles in the lives of Ghanaians by producing farm animals, food and cash crops; their processing, packaging, and marketing both within and outside the country (Ugwoke, 2013).

Agriculture however, plays a major role in poverty reduction. It has been the backbone of the Ghanaian economy and still remains as such despite the discovery and production of oil and gas in the country.

However, Nankani (2009) opined that "Agriculture has been negatively affected in most oil-exporting countries by what is termed "Dutch" disease. That is, when higher foreign exchange earnings strengthen the exchange rate to such a degree that traditional export such as agricultural cash crops and foods become less competitive on the international market. Moreover, food imports are becoming cheaper at home. Nigeria however, is the prime example of a country whose booming agricultural sector went into decline after its discovery of oil. There is a severe risk that, unless compensatory measures are taken, the same might happen to Ghana after oil exports commence."

When this happens it could lead to food insecurity and poverty with their attending problems. To prevent this, there is the need to disseminate the right agriculture information to the farmer at the right place and time.

## 2. The relevance of Web 2.0 and ICT to agricultural development in Ghana

The field of agriculture covers a wide range of specializations, including, Agronomy, Horticulture, Soil Science, Plant Pathology, Entomology, Agricultural Economics, Agricultural Engineering, Agricultural Extension, Plant Breeding and Genetics. There is a vast amount of agricultural information on the internet as a result of research but most of this relevant information does not reach the needy farmers on time and in some cases they do not receive the information at all. As a result, many farmers are still practicing old farming methods. Again, illiteracy and or little education among majority of farmers have widened the gap between agricultural research and its application, resulting in low crop yield (Chisita, 2011).

With the advancement in technology worldwide, there is the need for librarians to innovatively integrate the use of Web 2.0 tools to meet the information needs of their users. Again, all efforts must be made to bridge the gap between the vast agricultural research output and the local farmers, increase patronage and resource usage through the incorporation of ICTs.

The idea of using web 2.0 in libraries is a new innovation. Librarians have adventured and created blogs where they can interact with their users and also get feedback from them. In the blogs general information about the library are posted. This service is a new trend aimed to replacing the notice boards. When librarians interact with users, library management gets to know exactly what the users are saying about the library, hence create room for improvement Ilako and Ikoja-Odongo (2011). Some of the commonly used web 2.0 tools are Blogs, Instant Messaging (IM), Really Simple Syndicate (RSS), Wikis and Social Media.

According to Goodfellow and Graham (2007) as in Chua and Goh, (2010) "A blog comprises a hierarchy of text, images, and media objects arranged chronologically. Due to their low-cost implementation and ease of use, the number of blogs has exploded in recent years. By giving library users a voice, blogs facilitate conversation between librarians and users"

The Instant Messaging (IM) tool is mainly used for handling users' enquiries during specific time periods. A wiki is a collection of Web pages that allows people to add and edit contents collectively. Wikis can be used by faculty members and instructors to develop subject guides in academic libraries for students (Chua & Goh, 2010).

Information dissemination can refer to the distribution of information by libraries to their users. Rich Site Summary (RSS), known also as "Really Simple Syndication", is a Web 2.0 application that supports information dissemination. Through RSS, users can be kept informed of the changes made to Web content including blogs and podcasts without having to revisit the website. Librarians can also use RSS feeds to update users on new items in a collection, service provided, and content in subscription databases (Maness, 2006)

Chisita (2010) opined that ICT is a general or all-inclusive term that embraces all those technologies that are employed in collecting, storing, organizing, and communicating information in various forms. ICT devices include computers, television, radio, mobile phones, CD ROMs, digital cameras, etc. and they are capable of being used to disseminate information to farmers with ease.
Huyer and Sikoska,(2003) as in Chisita (2011) noted that ICT's have the immense potential to reshape, reorganize, and restructure working methods because of their inclusive advantages of efficiency, information sharing, storage, faster knowledge accumulation, dissemination which permit new and collaborative work methods. This is critically essential in agriculture where lack of reliable information can be too costly to business.
In conclusion, Ilako and Ikoja-Odongo (2011) stated that creativity and innovativeness in our libraries will be a way to make our users feel at home while using the library. With the advancement in technology, libraries will have to effectively implement web 2.0 tools which our users are commonly using. When librarians continue thinking creatively then the library will be seen as a productive place rather than a place to find "dusty and old books" on the shelves. With better application of Web 2.0 and ICT, research librarians and information officers can design a cost-effective system to provide expert advice to farmers in a timely manner and by so doing increase agricultural productivity.

### 3. Statement of the problem

Ghana's agricultural growth has been impressive in recent past but there is serious concern for sustainability. Annual agricultural growth was 5.5% from 2001 to 2006, with a lot of this growth happening in crops—both cocoa and

other cash crops, including some new produce such as fruits and vegetables (Nankani, 2009).

However, this could not be sustained in recent years as agricultural production declined to 5.2% in 2013 and 2.3 % in 2012 respectively. (GSS, 2014) This was as a result of serious factors such as old/poor farming methods due to inadequate agricultural information, rural-urban migration, illegal and small scale mining (popularly known as 'galamsey' in Ghana), poor road networks etc.

What is more crucial is the fact that with the growing population, which implies more mouths to feed , increased raw materials for industry and for export etc., farmers do not require large land sizes to meet these demands but rather efficient practices to maximize production. This can only be possible when information on sound agricultural practices is passed on to the farmers.

Librarians and information workers have a major role to play in providing the relevant information to the farmer, at the right time and place in order to increase agricultural production and/or at least sustain its development in the country.

## 4. Objectives

The purpose of this paper is to examine the role of libraries and information services to improve agricultural productivity. The specific objectives of the paper are:
  a) To discuss the role of librarians and use of Web 2.0 and ICT's in agriculture;
  b) To identify problems associated with the effective use of Web 2.0 and ICT's by libraries and information officers in Ghana
  c) To make recommendations to facilitate the effective and efficient use of Web 2.0 and ICT's

## 5. The importance of useful agricultural information to the Ghanaian farmer

The need for agricultural information is as vital as the need for health information to the rural farmers. Lancaster and Beecher (1981) as in Paskoff (1990) stated that: "The results of agricultural research must be presented in one form for the research community and in a completely different form for the farming community or for the extension agents who carry information to this community" (p. 199).

Nankani (2009) stated that "Agriculture has a central role to play in promoting growth and poverty reduction in the Ghanaian economy at this stage of our development and Ghana needs an agricultural revolution based on productivity growth; this will raise almost a million more Ghanaians out of poverty by 2015, improve rural livelihoods significantly, and make an impression in the poverty of the rural savannah, especially in the North." However, this could not be achieved because farmers did not receive the relevant agricultural information

with regards to marketing, land acquisition, good farming methods, and sources of agricultural loans, fertilizer and pesticides.

Researchers and librarians have a major role to play in this direction since they are committed to identifying, promoting and the dissemination of relevant and scholarly information to their patrons. The main duty of librarians is to collect, organize, store, retrieve and disseminate useful information to their users on time and at the place. In this regard, Ugwoke (2013) is of the view that organized agricultural information and knowledge in libraries and information centers by information specialists are as nutritious food prepared by cooks.

Some local farmers in a number of Sub-Saharan African countries are getting technology-related advice and specific market information on inputs and outputs through ICT kiosks. Moreover, mobile telephone service is being used to disseminate agricultural information to Ghanaian farmers and the program has been successful so far. Bwalya and Kwadwo (2012) stated that "In Ghana, Esoko, a local company, implemented Cocoalink, a pilot program that provides cocoa farmers with useful information about improving farming practices, farm safety, crop disease prevention, post-harvest production, and crop marketing. In this program farmers receive information and specific answers to questions at no charge through voice and SMS messages in their local language or English."

## 6. The role of libraries and information services in disseminating agricultural information

In Ghana, community libraries and information van services are created to provide the information needs of the local people. The main concern of these facilities is the repackaging and the dissemination of information (which is often in foreign language) in the language and medium best understood by the farmers and the local people who are mostly illiterates.

Agricultural librarians and agricultural extension workers are therefore required to transmit the available information to the local farmers in the format they can understand. Information sharing can refer to the bilateral flow of information between libraries and their users.

The use of web 2.0 applications that support information sharing include instant messaging (IM) with which social networking services must be applied. For instance, librarians and information officers can use Instant Messaging to provide chat-reference services so that users can ask questions and receive responses directly from them at specific time periods. Libraries can also rely on free social networking services such as Facebook, and MySpace to build online social networks.

## 7. Challenges associated with dissemination of agricultural information to farmers in Ghana

Dissemination of agricultural information to Ghanaian farmers is affected by many challenges and it appears that every information channel in the country is at least partially restricted (Wresch, 1998) Some of the challenges are briefly discussed as follows:

a) Illiteracy- Majority of Ghanaian farmers have little or no education and this poses a major challenge to dissemination of agricultural information.
b) Poor Electricity Supply- Unreliable power supply seriously impedes dissemination of information via internet, television, radio and mobile phones.
c) Poverty- Many Ghanaian farmers cannot afford to buy and maintain electronic gadgets like computers, television and mobile phones due to poverty.
d) Ghana as a developing country has limited budgets and this affects the funding of libraries in the country.
e) Language Barrier- Researchers and agricultural scientists are generating a wide range of agricultural information via the internet and books, but most of the contents are in foreign languages which cannot be understood by the local farmers.
f) Technological Barrier- Lack of technological expertise is one of the major challenges of dissemination of information. There is so much research but little application because only about 10% of Ghanaians are online.

## 8. Recommendations

a) There is the need to repackage agricultural information using audio-tapes, audio-visuals, drama and photographic exhibitions.
b) Library schools in Ghana need to incorporate the teaching of Web 2.0 and ICT into their curriculum.
c) Hands on practice workshops should be organized for librarians and extension officers to empower them to deliver their services diligently.
d) Libraries and all agricultural agencies should include the Web 2.0 components on their websites
e) Government should ensure the allocation of funds and the availability of the necessary infrastructures in a timely manner.
f) Agricultural librarians and agricultural departments need to collaborate to incorporate Web 2.0 and ICT in all facets of agricultural development.

## 9. Conclusion

Proper dissemination of information can play a vital role in enhancing agricultural productivity and addressing the problem of food insecurity in Ghana. To achieve this objective, librarians need to effectively engage the use of Web 2.0 and Information and Communication Technology (ICT) to generate,

capture, and disseminate agricultural information to farmers through extension officers (Samuel Bwalya, Kwadwo, 2012)

The use of Web 2.0 and ICTs by libraries will not only improve the dissemination of information to farmers via extension officers but improve agricultural productivity as well. Web 2.0 and ICT have to take a center stage in agriculture because of its importance to food security and poverty reduction in Ghana.

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