

# E-Extension / E-Agriculture and Role of Library and Information Centers

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## Abstract

*Information has always been an essential element in all the time in our society. We need information to decide and do the right thing at the right time. Information technology does not have only changed our lifestyle but also the way of dealing with agriculture. As information is affecting agriculture like other sectors, the role of libraries and information centers has increased. Information has become a key instrument to improve and change the course of action. Traditionally, the agriculture sector was full of uncertainty, but with the help of information, we can drastically change the result and impact in modern times. This paper outlined some significant points to describe the role of libraries and information centers and the current developments of technologies, in the context of e-extension or e-agriculture and their impact on the farmers.*

**Keywords:** E-Extension, e-Agriculture, Libraries, Information Centers, ICT, Agricultural Development.

## Introduction

In modern society, the role of libraries and information centers has become crucial. Due to the tremendous advancement of information communication technology (ICT) and web-based services, information centers and libraries have drastically changed their course of action, dealing with their holdings and the medium of interaction with the users. They are now user-oriented,

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now they are more accessible in remote areas through internet-based technology.

Library holds books, periodicals, literary materials, newspapers, pamphlets, print-non print materials, audio-visuals, artifacts, and reference sources. Dr. S R Ranganathan described the libraries through his five laws of library science as a public institution with the core of the collection of books and bound the libraries to make them accessible to those who require to use them.

The library's primary purpose is to provide services to society and work as a powerhouse. It collects the information in hard or soft copies, audio-visual, or other forms and disseminates it to promote education, culture, research, and ultimately enlighten society. An information center can be defined as an organization that selects, acquires, stores, and retrieves information in response to requests; prepares abstracts, extracts, indexes of information; disseminates information in anticipation and response to the request.

Information centers are attached to highly specialized research and development organizations. An information center provides various services such as referral service, literature search, translation, bibliographies, abstracting to its user. We know these centers around us as data centers, information analyzing centers, data banks, clearinghouses and others.

E-extension is defined as the extension over cyberspace, using the power of online networks, computer communications, and digital interactions with multi-media to facilitate and disseminate agricultural technology. In general, it includes transferring information, knowledge, and technology from research systems to farmers, advising farm families in their decision-making, educating and empowering farmers to clarify and realize their potential and goals. In this way, we can say that agricultural extension uses modern communication techniques instead of traditional methods.

The e-Extension has various dimensions, and timelines and quickness are among them. As agricultural operations are time-bound and uncertainty is

always associated, e-Extensions intervention is the fastest and most reliable means of delivering extension services to farmers. e-Extension can only be a means to seek information that is also valuable agricultural inputs from online agricultural stores. The services of e-Extension cannot overtake the traditional method of agriculture fully, but it can help the farmer make the right decision at the right time to gain much.

Information and communication technology (ICT) in agriculture plays a vital role in e-Extension services; it enhances agricultural activities through ICT application. Information and communication technology includes devices, networks, software, machines, mobile services, and other applications. ICT in agriculture has been developed and tested worldwide to help farmers and agro companies improve agricultural productivity and income, reduce risks, and facilitate mechanized production. It is a global community of practice where people from all over the world exchange information, ideas, and resources related to the use of information and communication technology for sustainable agriculture and rural development.

We know that e-Extension services are vital in the growth of agriculture and for fulfilling the food demand, but at the same time, there are many challenges associated with it. These are Food security, climate change, and sustainable development of agriculture with limited natural resources such as groundwater, energy and land.

When we disseminate knowledge or information through any platform like information centers, mobile Agriculture, agriculture knowledge resources, digital libraries repositories for agricultural knowledge management, ICT at the grassroots level, libraries are playing central role by providing authentic knowledge. e-Extension services can use e-resources to forward practical problems to research institutes and use the same tools to access information from various sources, including libraries and research institutes. Library also provides services and facilities to support training, teaching, research, and consultancy programs through their resources in any

organization. They also allow access to various databases according to the user's demand, for example, PROWESS, commodities, and India Stat in the agricultural domain. Current Awareness Services (CAS) and Selective Dissemination of Information (SDI) services are some of the essential services of libraries.

On the other hand, the information center includes various services such as referral services, literature search, translation, bibliographies, abstracting, and literature search services. They are assisting the use of the information resources. At present, libraries and information centers provide services like mobile libraries or libraries on wheels, institutional repositories, Research portals, Kisan Gyan Portal, Agri-tech portals, Weather portals, information kiosks, Kisan podcast.

Nowadays, libraries and information centers are being well equipped with ICT. Thus, the role of these centers is equally important as the IT sector. ICT has become a bridge between user and information and brings user and knowledge together. Now we can access and disseminate information from anywhere, which is also essential in the agricultural sector. E-extension is an emerging field focusing on improving agricultural and rural development through information dissemination. E-extension involves conceptualizing, designing, developing, evaluating, and applying innovative ways to use information and communication in rural areas, focusing primarily on agriculture. (Singh et al., 2015).

Information centers are core participants to provide information on E-extension. Despite the efforts of teaching and training, still, more than 50 to 60 percent of farmers are away from these facilities. Here, the role of information centers is very crucial. ICT-enabled e-Extension initiatives like AGRISNET, AGRI business centers, e-Krishi Vipnan, Kisan Call Centers, Query Redress Services, Decision Support Systems, dissemination of weather warning information, etc., are essential information sources for all farmers. The Village Knowledge Centers, successful initiatives like Gyandoot in Madhya Pradesh, Esagu system in Hyderabad, Gyan Ganga

Project in Gujarat, Bhoomi Project in Karnataka, AGMARKNET, and e-Chaupal Project are some examples in the agriculture sector where E-extension services are playing key role synching with libraries and information centers. (Pradhan, 2015)

Libraries are assisting the effort of E-extension by acquiring, processing, storing, and disseminating information. They undertake the dissemination of information and educational knowledge to assist rural farmers, information repackaging, changing the attitude of farmers towards the use of libraries, acquire relevant information in the library and improve information literacy, etc.

It is imperative to know information and communication technology to synch with the current information medium. Nowadays, information can be quickly and easily accessed through the web. Mostly, the farmers have not attended school and cannot read, write, or even speak the universal language like English. Most information is available in English, which becomes a massive hurdle for non-English-speaking communities. In the above background, we need to develop a system which suits us. Currently, Government and private sectors provide the facilities and training through satellite-based services. National agriculture policy also emphasizes the use of information through technology for reaching the goals and development of agriculture.

ICT plays a vital role in agricultural marketing. It can be helpful for farmers to make the correct decision and make more profit. Farmer can be guided about soil health profile, consisting of organic matter, pH value, nitrogen, phosphorous, and other elements. Such information can be obtained from information centers and broadcast through radio, TV, and new ICT tools.

## **Conclusion**

The agricultural sector is facing many challenges like drought, groundwater scarcity, climate change, low-income challenges, inadequate irrigation facilities, land mismanagement, etc. However, the most critical issue is the

lack of awareness and information. Agencies like the Ministry of Agriculture, research institutes, autonomous and private bodies are constantly sorting out these issues. The role of libraries and information centers has become crucial in disseminating right information to the doorsteps of farmers.

## **References**

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