

# Knowledge Management in Agriculture and its methods: A study

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## **Abstract:**

Knowledge Management is about capacity of the maximum sharing and approaching of people in terms of plan programme or result. It is the sharing of tacit/implicit knowledge. At present lots of KM tools and services are available to provide standard solutions for knowledge based society. Knowledge management in agriculture is relatively a new idea. Knowledge management in agriculture requires lot of ability building. Knowledge management training strategies, exposure it in worldwide, managerial skills are the Knowledge management strategies in Agriculture. This article aims at providing knowledge management tools, services and strategies in Agriculture.

**Key words:** *Knowledge management, Agriculture*

## **1. Introduction:**

Knowledge is regards as an economic resource. In the knowledge based society, the tasks of knowledge management is high. The efficient distribution of knowledge is assuming a greater role. Agriculture and its extension is not an exception of it. Agriculture organizations realized the importance of managing the both explicit and implicit knowledge for dissemination of knowledge as well as to fulfill the Ranganathan's concept right information to the right user at the right time. In the changing scenario, the National Agricultural Research (ICAR) wishes to be the knowledge portals for Agriculture. There is a need to transform the agricultural knowledge up to rural society as because of agricultural based country of India. There is need to framework and knowledge management worldwide to become success stories of knowledge management. In today's competitive market, there is need for vale added farming and demand for transformation of agriculture around the world. The use of information technology necessities the knowledge management in agriculture. ICT can be a major role for all round development in Agriculture.

The concept of “digital divide “has been entered in the field of agriculture. India has the second largest number of extension workers in the world are working in the rice regions. The role of extension workers is to set extension priorities at the district and block levels. This could be possible only through a knowledge management process with the help of information & communication technology. Agricultural research knowledge is just another piece of information integrated in to knowledge.

## **2. Objectivity of Study:**

The objective of the study may be state as below.

- a) To study the Knowledge management.
- b) To study the importance of Knowledge management in Agriculture.
- c) To find out its problems & solutions of knowledge management in Agriculture.

## **3. Methodology:**

The study seeks to describe how knowledge management influences the behavior of farmers towards improvement. The study is based on the secondary sources. It is expected that it will helps for knowledge seeker to gain the right knowledge at right time. The paper can be termed as concept paper to give the awareness of Knowledge management in Agriculture.

## **4. Literature Review:**

Literature review is a part of any study. For this study a systemic literature review was conducted. According to Islam, 2010 “Knowledge includes information, understanding, insights and other information that has been processed by individuals through learning and thought”.

Knowledge management (KM) can be defined as a systematic discipline of policies, process, and activities which empower organizations to apply knowledge to improve effectiveness, innovation, and quality (Sehai, 2006).

Agricultural knowledge management system (AKMS) consists of organization’s source of knowledge, methods of communications, and behavior involved in agricultural process (Islam, 2010).

## **5. Information Explosion in Agriculture:**

Information is the basic of any development action. Information has a social, political, cultural value. It is useable only if it is available for users. Knowledge and information are important to put in the right hands. The input for development is knowledge. Knowledge and information is basic factor of food security and essential for social and economic change. Information on supply of input knowledge, credit,

market prices, pest, diseases are essential to communities. Management in time and space between knowledge and input delivery systems is essential to communicate credibility to the extension message. Accessing information in rural locations is become difficult and costly to deliver information to farmers, extension workers due to changing pattern of information revolution. The distance learning mode through media to farmers is essential. ICT can acts as linkages between the research and the extension sub systems. The ICT in extension can lead to the emergence of knowledge, technology generation, refinement and transfer. The success of Green revolution in India indicates that giving rural communities access to knowledge, technology in the Agriculture. The first step toward bringing a knowledge revolution in India's 6, 00,000 villages was initiated by National Virtual Academy for food security and Rural Prosperity (NVA) on 23 August 2003 to bring scientific knowledge to villages. On 21<sup>st</sup> February 2004, the steering Communities of NVA recommended the set up in collaboration with Indira Gandhi National Open University (IGNOU), National Association of Software and Service Companies (NASSCOM), IIT and private sector.

## **6. Knowledge Management Processes and Tools:**

Knowledge is a fluid mix of framed experience. Today many countries are demanding for knowledge based society. For this knowledge should be managed for better and efficient right information to the right user at the right time. The challenges to achieving food self sufficiency, accessibility, awareness of extension services in Agriculture creates the concept of knowledge management. The solution must be innovative and knowledge based with proper system design with evaluation and assessment process. Various knowledge management tools have been used that would help for developing the knowledge management process. Some of them are given below.

### **6.1 World press:**

World press is publishing software for easy, speed and greater user based community software. It is a blogging tool in the world and seen by millions of people all over the world. It is licensed under the GPL. It can be used for content management system. It is the official successor of b2/cafelog. World press is an open source project and there are hundreds of people all over the world working on it. It was started in 2003 with a single bit of code. Since then it has grown to be the largest blogging tool in the world. It is built on PHP and My SQL and licensed under GPL.

## **6.2 Media-Wiki:**

A wiki is a type of website that allows the users to add, remove, edit and change the content of the WebPages. Wiki is regarded as an effective tool. It is an essential capturing indigenous knowledge of masses. It is an effective way of rice workers using the wiki paddy. Media wiki is further used for Agriculture Knowledge Management.

## **6.3 Videoconferencing:**

Videoconferencing, is or two way synchronous video and audio transmission over the network. It is useful tool for applications of many collaborating efforts. It saves time and costs and allows for face to face between individuals and groups. For large group of people polycom unit and access grid rooms are possible choice for this type of conferencing. The access grid is capable of very high quality display of video sources and it offers high speed connectivity.

## **6.4 Desktop Videoconferencing:**

Desktop videoconferencing is a method for individuals to communicate between single users. It is the most basic form involves two- way voice and video contact. It involves many other activities like screen sharing, media display, chatting and remote login.

## **6.5 Webcasts:**

A webcast is a method of broadcasting information via the Web. It is one way communication process. Sometimes, in webcasts the end user may not have the ability to interact with the presenter. It can be seen by single users on one computer screen or by multiple users through projector.

## **6.6 Webinars:**

Webinars are also the method of broadcasting over the web. It is require advanced registration for access of the content which allows the two way of communication in the form of text messages. It can be seen by both single user and multiple users by connecting the computer. The key feature of webinars is that it provides the real time interact with the users. It is web based seminar method for information dissemination.

## **6.7 Podcasting:**

Podcasting are the methods for delivering media content. Podcasts allow users to subscribe and automatically receive new content. Podcast use RSS or XML based feeds to bring content to users

automatically. It is used for subscribe to web based news and information feeds.XML code is short and once it is created the first time, it does not need created again. Podcast can be played directly on users' computer. Podcasting permit student/trainees to listen of lecture, without attending classes.

**6.8 Classroom Capture:**

Classroom capture technologies allows a presenter to record lectures and make them available to the students via media content such as iTunes U and Management system. Class room capture is the recordings of classroom based activities that are made available for review. Thanks to improvement in technology and the use of smart classes.

**7. Knowledge Management method an Overview:**

Knowledge management process is the process of step by step process of from enabled people and technology based on knowledge, trust and credibility. It involved process of creating, organizing and sharing of knowledge. Blogs, twiter, book marking, tagging, social media, twitter are the transformation of knowledge organization from one to many.

Effective knowledge management is reached when the right knowledge and information is delivered to right person at the right time. The outcome of effective knowledge management improved the productivity and performance in Agriculture sector. The attainment of efficient knowledge management in agriculture includes the farmers, farmer organizations, policy makers, extension agent, and scientist. The knowledge management process may be shown in the following fig.

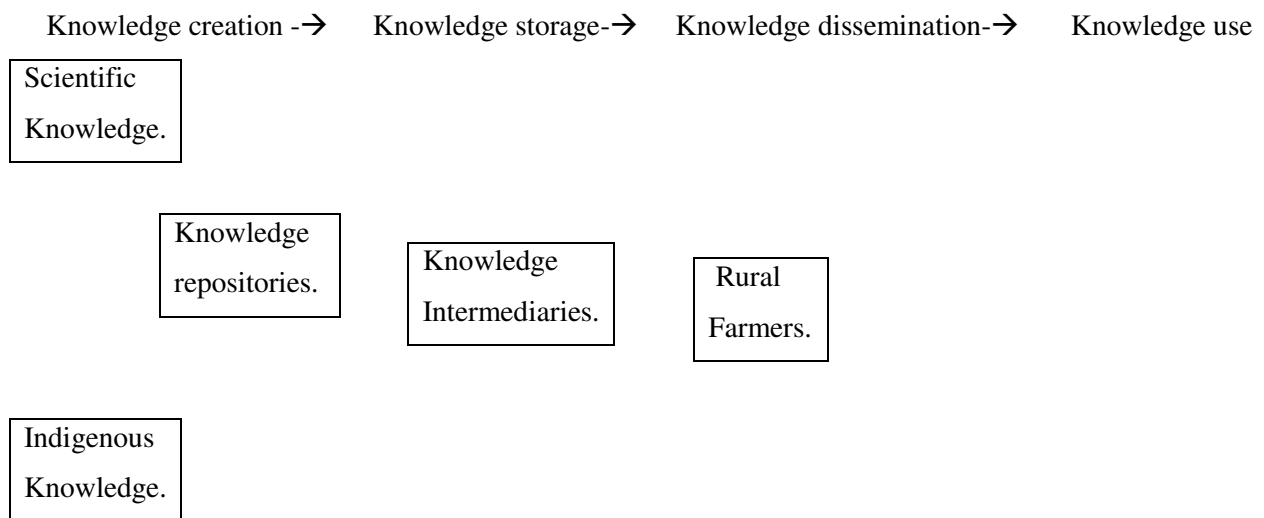


Fig-Knowledge management method in Agriculture.

### **7.1 Extension Programme:**

The extension programme is a part of an any knowledge management. An effort is given by the Directorate of Extension Education to give the knowledge management via Internet accessible portal for public. Much of this initiative is focused through extension committees. This process is designed to promote the extension information to public users. Extension is basically on learning, content shared and brief information, digital diagnosis. The Directorate of extension education has taken effort for knowledge based responses. The extension programme can make available by Web 2.0 technologies

### **7.2 Role of Directorate of Knowledge management in Agriculture:**

The Directorate of Knowledge Management in Agriculture is an ICT driven technology and information dissemination system for quick, efficient and cost-effective delivery system to all the users in agriculture. Keeping in view with the current knowledge explosion trends, Directorate is delivering and platform ICAR technologies, policies and other activities through print, electronic and web approach. Directorate is the apex center for plan, preservation and updating of facilitation of network connectivity across ICAR institutes and KVKs. Moreover Directorate provides public relation and publicity support to the council and its component across the country. The main areas of knowledge management in Agriculture are regarded as following.

1. Dissemination and sharing of agricultural knowledge through value added information products in print, electronic and web approach.
2. Expansion of e-resources on agricultural knowledge and information for global coverage.
3. Strengthening e-connectivity among ICAR institutes State Agricultural Universities and KVKs.
4. Capacity building for agricultural knowledge management.

### **7.3 Knowledge Management in Agriculture: Case of Rice Management Portal.**

For providing the most comprehensive agricultural knowledge, Rice Knowledge Management Portal was launched during 83rd ICAR Foundation Day on 16th July 2011. It is now serves as an information highway for sharing rice knowledge across the country. It has several positive points in terms of comprehensiveness and utility. Built on web 2.0 standards, this portal caters to location specific information needs for many users. This is the first comprehensive agricultural portal of the country. This portal also caters to information needs of users and farmers through the information system. Anybody can directly access area, production, productivity trends for all districts.

It is the first time public sector R&D organisation for providing the realistic information to the farmers and other information seeker of rice. Data, Information and Knowledge is delivered through this portal.

Farmers, Extension workers, Rice Researchers, Traders and private sector related to rice NGOS/ Krishi Vigyan Kendra Staff, Policy makers, Rice consumers, and many other stakeholders of rice are related to this portal.

#### **7.4 Agricultural Knowledge Management Portal in North-East India:**

**KIRAN** (Knowledge Management Repository in North-East): Kiran is a user platform of scientific knowledge and technology invention for strengthen agricultural production system in N.E.region.It was come into on 16<sup>th</sup> July; 2012.KIRAN is an umbrella programme through dynamic partnership. KIRAN acts as an information technology and knowledge gateway. It is a knowledge and technology repository in North-East region. Indian Council of Agricultural Research dreams a NE cell for Agriculture to effective use of right knowledge, as a result KIRAN was started in Umiam, Meghalaya.At present it is acting as a knowledge Management portal of N.E. for Agricultural development.

#### **7.5 Assam Agricultural University & Web portal development:**

Assam Agricultural University, Jorhat launched a website ([www.aau.ac.in](http://www.aau.ac.in)) in the year 1994-95 and afterward a farmer based website “BRIDDHI” has been lunched. As per recorded till date more than 500 farmers queries on agriculture have been replied. All the KVKs under Assam Agricultural University have developed their own website which is linked with AAU website. Both ([www.aau.ac.in](http://www.aau.ac.in), Briddhi) are working as a knowledge resource portal for the information seeker.

#### **8. Problems in Knowledge Management for Agriculture:**

The flow of knowledge management may not be treated as smooth functioning. Communication process is destructed in some cases; it should be always efficient and effective for sender & receiver in communication process via channels. Sometimes, seems that communication is too late for feedback information. This may acts as barrier of communication due to shortage of information & other technology problems.

In today’s global village, the information may be blocked for transfer to the right user at the right time. This is against of Dr.S.Ranthan’s library Science Law. People living in remote area or inaccessible place may create another geographical problem. The Knowledge will be completed when it reached to right person via any database system. For, proper dissemination of Knowledge there should be always a database with proper document. It will helps for sharing and storing of knowledge. Until and unless without database the question of Knowledge management is practically tends to zero.

### 9. Suggestions:

It may be said that the use of Knowledge management can take a vital role for agricultural development and impacts. These could be in the field of improving productivity, access to market, and other benefits. In order to understand the benefits of Knowledge management the following suggestions should be follows.

- a) The service must be available and accessible to the farmers.
- b) The information provide to farmer's should be up to date information among the stakeholders.
- c) It is necessary to see the details information before provide the knowledge to farmers and other knowledge seekers.

### 10. Conclusion:

It has been observed that the agricultural information is becoming a part & parcel of any agrarian based community. The growth of it reflects the essentiality of it. Reducing of poverty and improvement of firm productivity are also important for millennium development goals (MDG) of India. The new agricultural model in India, National Agricultural Research System, and Indian Council of Agricultural Research (ICAR) has taken a leadership role in promoting of ICTs by developing knowledge management portals for Agriculture. Effective use of knowledge management will assist bringing a sustainable agriculture development in India.

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