



---

**IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON  
AGRICULTURAL SECTOR IN KARNATAKA: A STUDY ON RAITHA SAMPARKA  
KENDRAS**

**Nandeeshha HK\***

**Dr. Navitha Thimmaiah\*\***

---

**Abstract:** *In the recent decade, many Information and Communication Technology (ICT) projects in Indian agriculture have emerged, either substituting or supporting extension services by providing forms with access to agricultural information. In Karnataka Raitha Samparka Kendra (RSK) has been playing a prominent role to reach many farmers with timely and accessible content. But, the content that the RSKs deliver has more relevance if it is localized and context specific, as this improves the value and action ability of the information, which can have important impacts on farm management. The localization of content is influenced by how the RSKs program access, apply, and deliver the content. This paper examines the content development and management process of RSKs in Karnataka agriculture. There are important lesson learned from study of this process. Content management and development through RSKs are important to examine because, agricultural extensional services would be able to increase the efficiency and effectiveness in farm management. Though, there are many other services working in Karnataka for agriculture extension, RSKs are working for farmers at gross root level and it is trying to bridge knowledge gap of the farmers. RSKs play a prominent role in knowledge management for agriculture in rural livelihood. The effectiveness of RSKs will improve with centralized activity at Panchayat level with digital agricultural information and expert inputs.*

**Key words:** *Raitha Samparka Kendra, agricultural extension, management, agricultural services*

---

\*Research Scholar, Dos in Economics, Manasagangotri, University of Mysore, Mysore

\*\*Assistant Professor, Dos in Economics, Mannasagangotri, University of Mysore, Mysore



## **INTRODUCTION:**

Information dissemination can play a pivotal role in enhancing agricultural productivity and addressing the problem of food security in country. If properly managed, it enables appropriate knowledge and information to reach knowledge intermediaries and small holder farmers in a timely manner. Such timely dissemination of information undoubtedly reduces the risk and uncertainty of smallholder farmers. But, to efficiently engage in agricultural information management, adequate mechanisms are essential for generating, capturing and disseminating knowledge and information through the use of effective process and institutional arrangements. Source of agricultural information include scientific research and also indigenous knowledge. Information and Communication Technology (ICT) can play a critical role in facilitating adequate, efficient, and cost effective information management. However, ICT application in agriculture is low in India when compare to other developed nations. For instance, in a number of nations (Latin America, South Africa, Chile.etc ) small farm holders get technology & agriculture related advice as well as market information on input and output through ICT kiosks and mobile telephone.

To enhance production efficiency and speed up technology adoption, the government of India needs to quickly review and modernize its public extension service delivery system particularly, the agricultural extension system and provide an enabling framework for utilizing advances in information and communication technology to deliver agricultural extension services. Using ICTs will not only improve information and knowledge management for extension workers and farmers but optimize and rationalize public resources devoted to agricultural extension services. This is an illustrative study on *Raitha Samparka Kendra*, an ICT system, which has been utilized to deliver effective information and services to farmers to bring out the asymmetric information of agriculture sector in Karnataka state.

## **BACKGROUND AND POLICY FRAMEWORK**

In Indian economy, agriculture is the mainstay and underpins its development process. It is a sector with great for potential for stimulating growth and employment and eradicating poverty (UNDP ETHIOPIA NO. /2012) because of it's importance to national food security and poverty reduction. National policy for farmers (2007) clearly indicated that ICT is the most essential instrument of agriculture sector to eradicate the obstacles with regards to



information and provide a accurate and adequate information to farmers to improve the food production level in the nation.

State agriculture policy of Karnataka (2006) has given the more importance to enhance the agriculture productivity in state. This policy is farmer centric and mainly focuses on farmer's information source. In this view it has taken a step towards information revolution in the field of agricultural by setting up *Raitha Samparka Kendr* - a important source of information. This programme has made possible for access of information to farmers even at the grass root level. Each taluk of the state will have a fully equipped *Raitha Samparka Kendra*. Today it is operating in all talukas of Karnataka. Specifically, this policy document suggests that:

- As an immediate action, *Raitha Samparka Kendras* should be started at the taluk headquarters in all the talukas identified as most backward by the Committee on Regional Imbalances in Karnataka.
- An Agricultural graduate trained in agriculture as well as allied disciplines will be in charge of each *Raitha Samparka Kendra*. This training should concentrate only on giving the basic knowledge of the disciplines at the agricultural universities in the state. Refresher courses should be run for these graduates once in two years.
- The graduates in charge of *Raitha Samparka Kendras* will coordinate the activities of the farmers and help to constitute farmers groups for the purpose of purchase of inputs as well as marketing produce.
- The *Raitha Samparka Kendras* will display prominently, the prices prevailing in the markets as well as new technologies that have been developed by Agricultural Universities and Research Stations.
- Satishchandran Committee (1993) recommended that there is a need to start a Plant Protection Training Institute. One of the RDTCs (Regional Development Training centers) may be converted as an institute for Plant Protection to provide training to grass root level functionaries at *Raitha Samparka Kendras* by properly developing and up-grading the present facilities.
- *Raitha Samparka Kendras* will be equipped with rural kiosks that have preloaded information about various farming practices and market information. These kiosks



should also have the data on the products demanded in the world market, as well as the prices prevailing in the world market.

- *Raitha Samparka Kendras* should be equipped with a toll-free telephone number that will be accessible to the farmers in the region in case of any emergencies. These *Kendras* should serve as hub centre for the farmer as well as a meeting point for consultation. Knowledge inputs from farmers will also be available here.
- *Raitha Samparka Kendras* will hold consultations with the farmers at the beginning of every season and advice the farmers about the ensuing season, as well as crops to be grown based on market intelligence.

### **ICT IN AGRICULTURE**

At present, the ratio of farmers to extension workers is as low as 1000:1. Although the appointed Village Local Workers (VLWs) disseminate information, there is lack of accountability. These two issues have created an urgency to effectively address the information needs of poor farmers. In addition, the cost involved in face-to-face information dissemination at the right time and the difficulties of reaching the target audiences have also created the urgency to introduce ICT for this purpose. It is only through the introduction of ICT that information can also be updated and extended at the lowest cost. There are several ICT models in Indian agriculture, which have made significant difference to agricultural operations (Meera, Jhamtani, & Rao, 2004).

As the agriculture scenario has become more complex, farmers' access to a reliable, timely, and relevant information source has become increasingly important. Farmers require access to more varied, multisource, and context-specific information, related not only to best practices and technologies for crop production and weather but also to information about postharvest aspects, including processing, marketing, storage, and handling (van den Ban 1998). Thus, generalized content might not help farmers in different regions, which have their own crops, times, and agro ecological specificities. Information that is context specific rather than generic could have important impacts on the adoption of technologies and could increase farm productivity for marginal and small agricultural landholders (Samaddar 2006).



## ICTS INITIATIVES FOR AGRICULTURAL DEVELOPMENT IN INDIA

The Central Ministry of Agriculture and National Informatics Centre (NIC) Emphasized Informatics for Agricultural Development through their National Conference on “Informatics for Sustainable Agricultural Development. As a follow-up action, the following major informatics network services were initiated to provide information access and services. The major some of initiatives are:

- **AGRISNET** - an Infrastructure network up to block level agricultural offices facilitating agricultural extension services and agribusiness activities to usher in rural prosperity
- **AGMARKNET** - with a road map to network 7000 Agricultural produce wholesale markets and 32000 rural markets
- **ARISNET** - Agricultural Research Information System Network
- **SEEDNET** - Seed Informatics Network;
- **COOPNET** - To network 1:40000 Agricultural Primary Credit Societies (PACS) and Agricultural Cooperative Marketing Societies to usher in ICT enabled services and rural transformation
- **HORTNET** - Horticultural Informatics Network;
- **FERTNET** - Fertilizers (Chemical; Bio and Organic Manure) Informatics Network

At the center of the information system is the content provided by any ICT initiative (Heeks 1999). Thus, although many factors play an important role in determining the success of an ICT project, content management and delivery mechanisms are a central component for the project’s usefulness in the agricultural development context. In ICT projects, content needs to be gathered, stored, retrieved, adapted, localized, and disseminated (Balaji, Meera, and Dixit 2007). The process by which all of this occurs will influence how relevant, trustworthy, affordable, useful, and usable that information is for the user.

## LITERATURE REVIEW

**K. P. RAGHUPRASAD et.al., (2011)** *Raitha samparka kendras and their role in agro-information delivery.* The study focused on information delivery mechanisms of the RSKs located in Southern Karnataka has revealed that 25 percent of technical and 20 percent of para-technical staffs in many RSKs and fractured information delivery mechanism in these RSKs require adequate training to keep up the pace with development. Farmers are less



aware about the structure and functioning of RSKs and are using RSKs mainly as a government retail outlet for subsidized agricultural inputs. The officials at RSKs are found to be over burdened with more administrative work than real extension work and are unable to deliver the required technical information on agriculture and allied aspects. There is a strong need for RSKs to mould and adopt to emerging extension methods such as ICT enabled approaches to cater the needs of farmers and sustaining agriculture development in future.

### **OBJECTIVE OF THE STUDY:**

To explore the role of *Raitha Samparka Kendra* in agriculture sector

### **METHODOLOGY**

Present study is based on secondary data. Secondary data collected by different sources of information like, raithamitra.nic.in, Agricultural Department of Karnataka.

***Raita Samparka Kendra:*** The Department of Agriculture established Raitha Samparka Kendras at hobli level with the objective of providing updated crop production related knowhow, arrangement of critical agricultural inputs, primary soil and seed testing facilities and arranging interface with public and private sector technologies.

Developing country like India is carrying forward nationwide programmes of modernizing agriculture with a view to achieve food security and to bring about socio-economic changes among farming community since majority of population in the country depends on agriculture for their livelihood. Karnataka's agriculture, as in the rest of the country, has been making impressive strides, since mid 60's. Out of the total population, rural contributes to about 70 percent and most of them are engaged in agriculture and allied activities. According to the recent Economic Survey report of 2011, the contribution of agriculture and allied activities accounts to 16.78 percent of the state income, and is a reflection of the prominence of agriculture in the state.

Considering the importance of the need to provide effective extension services to the farmers, *Raitha Mitra Yojane*, a demand driven Agricultural Extension System was initiated in Karnataka state in 2001, replacing the earlier extension system by establishing agricultural extension centers at hobli level called *Raitha Samparka Kendras* (RSKs). So far in Karnataka state, 745 *Raitha Samparka Kendras* (Agricultural Extension centers) are established at Hobli/Sub-block level in 176 taluks (Anon., 2000) These RSKs cater to the need of 5628 Gram



Panchayaths covering 78 lakh Farmer families. These RSKs located in proximity to the farming community are aimed at addressing wide range of local issues related to agriculture. They also act as a common platform and create a terminal linkage to the farmers to access and interact about agriculture based technology and information at the grass root level.

### **OVERALL OBJECTIVES OF RSK**

- To provide technical information on crop selection, crop production related know-how, market information with to farmers.
- To provide primary seed and soil testing facilities locally.
- To facilitate on-site provision of critical inputs like seeds, bio-fertilizers, plant protection chemicals etc.
- To provide a forum for interface and on-farm demonstration about new technologies developed by both public and private sector.

### **Most important activities of the RSK**

RSK activities involve; Transfer of latest Technology developed by Agriculture University Scientists or progressive farmers by way of Demonstrations fields. To conduct “Kshethrotsava”, a activity which is held at farmers field with aim to impart firsthand knowledge. Providing technical and Knowledge support to farmers, when they approach the RSK with, problem of pest disease problems, selection of seeds, fertilizers, cropping pattern, etc.,

When we look into the detailed activities of RKS;

#### **1. Distribution of Seeds**

- Distribution of field crop seeds to farmers (sowing purpose), such as paddy, redgram, ragi, jowar, maize, sunflower, cotton, groundnut, wheat etc. mainly during Kharif season from May to August and again during Rabi/Summer from November to February.
- Different hybrids and varieties of the same crops may be distributed or sold under various subsidy schemes (eg. 25 %, 50%, 75%, etc).
- Number of beneficiaries during 2009-10 is 34.03 lakh farmer families.
- Quantity of seed sold is 9.33 lakh quintal.



- RSK collects 4 % service charges from farmers at every the sale proceeds. The farmer's share thus collected is remitted to the Bank. Which will later be used for agricultural related activities.

## **2. Farm Mechanization, Micro Irrigation and Plant Protection Equipment**

- Similarly, farm machinery such as tractors, power tillers, maize shellers, threshers, etc are also distributed under various subsidy schemes.
- Subsidy for the establishment of custom hiring centers.
- Distribution of drip irrigation and sprinkler irrigation devices to farmers at 75% subsidy (40% from Central Government assistance and 35% from State Government assistance).

## **3. Distribution of Plant Protection Chemicals**

- Plant Protection (PP) Chemicals such as insecticides, fungicides, bactericides etc.,
- PP chemicals are distributed at 50% subsidy per ha limiting Rs 500/-
- PP chemicals are distributed based on the local conditions and requirement.
- In addition to PP chemicals, PP equipments are also distributed to farmers through RSK at 50% subsidy.

## **4. Distribution of Soil Ameliorants –*Bhoochetana***

- Bridging yield gaps through Science-led Interventions for sustainable use of Natural Resources.
- Under this scheme, micro-nutrients such as gypsum, boron, Zinc sulphate etc., are distributed at 50% subsidy to farmers.
- In addition, Bio-pesticides and Plant protection chemicals are also distributed to farmers.
- Soil sampling and analysis for preparation of GIS (Geographical Information System) based soil maps.

## **5. Promotion of Organic Farming**

- Distribution of green leaf manure seeds.
- 50% subsidy for establishment of vermicompost unit.
- Distribution of improvised seed storage bins for scientific seed storage.

## **6. Quality control**

### **a. Soil and water testing:**





- Designated number of soil and water samples are collected by the AO (Advisory officer) and sent for analysis to designated laboratories.
- Distribution of Soil Health cards, which will help farmers gain knowledge about fertility of the soil.

**b. Seed testing:**

- As soon as seeds are stocked in the *Raitha Samparka Kendras* by the companies/organizations, the seed inspector (AO) draws seed samples and gets the seeds analyzed by the designated laboratories.
- Seed inspectors also draw samples from the stores of licensed seed dealers before and after sowing peak season.
- A seed register comprising number of seed samples drawn, analyzed and analysis results is maintained in the RSK

**c. Fertilizer testing:**

- Fertilizer inspector has to draw designated number of fertilizers from the stores of licensed dealer and send the samples for analysis to designated laboratories.
- Verify stock books of the dealer and has to take legal action if any mishap is found.

## **VISION OF DEPARTMENT OF AGRICULTURE FOR RSKS COMPUTERIZATION**

Computerization of all activities at *Raitha Samparka Kendras* which will enhance;

1. IT infrastructure and non-IT infrastructure.
2. Development of web-based modules for various activities that are rooted through RSK.
3. Updating the transactions especially seed and fertilizer stocks and sales on a day to day basis during peak season.
4. Monitoring of RSK, Taluk and District wise availability of Seed stock and sales, Fertilizer stock and sales, Pesticide stock and sales, Farm machinery and processing equipment sales etc.,
5. Monthly report generation and reporting to the Taluk ADA.
6. Internet connectivity to all **Raitha Samparka Kendras** and networking to ADA, JDA and Head Office
7. Providing Data Entry Operators at every RSK's
8. Continuous un-interrupted power supply to *Raitha Samparka Kendra*



9. Display of important information pertaining to Agriculture and Allied Department in RSK
10. Computerized billing and e-Accounting

## CONCLUSION

*Raitha Samparka Kendra* provides essential information to farmers at grass root level .when the farmers are utilizing these benefits then it encourages the agriculture sector to enhance the productivity. Presently RSKs are located at Hobli level or sub block level, when they are located at Panchayat level farmers can get more benefited from them. Advisory committee and basic infrastructure of the RSKs should improve to attract farmers and provide adequate information. India till date is facing inadequate supply of food which is coupled with farmer's divergence from the agriculture sector. So, government should address this crisis of agriculture sector. When the farmers are smart then it is easy to tackle the challenges looming agriculture sector. In this wake, it is imperative for farmer's to utilize programmes like this for a better future.

## REFERENCE:

1. Claire J. Glendenning Pier Paolo Ficarelli (2012) the Relevance of Content in ICT Initiatives in Indian Agriculture, IFPRI Discussion Paper 01180 April
2. K. P. Raghuprasad, B. M. et.al, (2012) Raitha samparka kendras and their role in agro-information delivery *Karnataka J. Agric. Sci.*,25 (1) : (82-85)
3. Department of Agriculture,(2011) Strengthening of Raitha Samparka Kendras (RSKs) through Computerization,