RESEARCH REVIEW JOURNALS
NCIDCAS-2018
DEC- 2018
Special Issue

ISSN: 2455-3085 (Online)
RESEARCH REVIEW International Journal of Multidisciplinary
www.rrjournals.com [UGC Listed Journal]

Use of ICT to increase Efficiency in agricultural Development: footstep towards Rural Development

[1]Prof. Sangeeta Mahesh Borde, [2]Prof. Kavita Prashant Shinde & [3]Prof. Bareen K.Shaikh

[1,2,3]*Assistant Professor (Dept Computer Science) MIT ACSC,Alandi (D),Pune-412105 (India)*

ARTICLE DETAILS

Article History
Published Online: 22 Dec 2018

Keywords
ICT, Rural development, Information technology, Economic growth

ABSTRACT

In developing country like India, ICT evolution makes rural population become an active participant in growth of our country. The purpose of the study is to explore the use of ICT in rural development and its efficiency in agricultural development. ICT is not related with only item like internet, computers or telecommunications but it is different electronic tools that provide the functions of information processing and communication, including transmission and display. Through ICT tools people in rural areas can connect with local, regional and national economy, access market, banking/financial services and employment opportunities. The present study assesses the extent of use of ICT tools.

ICT can help an average Indian farmer to get relevant information regarding agro-inputs, crop production technologies, agro processing, market support, agro-finance and management of farm agri- business. For eg; A case of weather forecasting was taken up where the farmers of Maharashtra state are given weather updates through mobile phones SMSs. Based on these SMSs, the farmers can take preventive/ corrective measures. It will definitely increase economic growth in India.

1. Introduction

ICT development is currently so fast; these developments affect the developing technology in all aspects, to the development of agriculture. Where the development of ICT transform traditional agriculture to modern. Rural Development which is concerned with economic growth and social fairness, improvement in the living standard of the rural people by providing sufficient and quality social services and minimum basic needs becomes essential. The present strategy of rural development mainly focuses on shortage mitigation, better livelihood opportunities, provision of basic amenities and infrastructure facilities through innovative programmes of wage and self-employment. ICT is the new tool for rural development. Information and Communication Technology, if used properly can be of great advantage for the development at grass root levels. At the same time challenge remains with the administration to capture the minds of the rural masses, mostly illiterate, to make them adapt the new technology which is completely alien to them. Many ICT projects were taken up, to provide relevant agricultural information in rural areas, helping farmers to improve their labor productivity, increase their yield, and realize a better price for their produce. Thus, the role of Information technology to develop agriculture and quality of life in rural area is well established.

2. Importance of Rural Development Why Rural Development?

Rural development is necessary not only because an irresistible majority of the population lives in villages but also because the development of the country. Rural development has assumed greater importance in India today than in the earlier period in the process of development of the country. There is much evidence to show that public interest in rural development is growing rapidly. Reaching the benefits of development to India's 5,75,000 villages and improving the living standards of the rural people, particularly of those living below the poverty line, have been the affirmed goals of India's Five Year Plans and the 20 Point Programme. More and more effort has been directed in the successive plans to improve the rural economy. The government has initiated a number of programmes to solve the chronic problem of villages in India even then; the percentage of people living below the poverty line in rural areas has been steadily increasing from year to year.

3. Aims of Rural Development

Rural development aims at ensuring that the fruits of economic development reach the villages, and the common man. Broadly the aims are:

1. Bridging the rural-urban divide: To ensure rapid and time bound development, budgetary support for implementing the various rural development schemes has increased manifold in recent years.
2. Guaranteeing wage employment and ensuring food security: This is sought to be achieved through the National Rural Employment Guarantee Act.

Making rural people the arbiters of their own destiny and to provide for their economic uplift by self-employment: For the development to be in consonance with the people's wishes and aspirations, emphasis is put on participation of people as also social mobilization of rural poor through Self-Help Groups and Panchyati Raj Institutions.

4. Scope of ICT in the Rural Development

India's most of the industries has undergone through many revolutions. The success story of the Indian IT industry has

benefited only urban India. The rural India was disadvantaged from this benefit. **Although the primary resource for industry is from agriculture**. In developing countries like India the concept of development linked up with the rural development. Today, e-mail facility, social media have made it possible to cover a large distance in very small time. ICT as an enabler has broken all bounds of cost, distance and time. In rural areas, one cyber cafe is sufficient to make the rural citizens known to ICT. The world is connected under one term globalization. So, rural areas must be provided training to make good entrepreneurs. The natural resources are available in plentiful quantity. The current era of globalization and increasing competitiveness requires that every citizen should be resourceful to run their livelihood enterprises. ICT is the fastest medium for communication. From the perspective of information technology, India is most widely known for its impact on global markets in the software and services sectors. We can give opportunity to Indian rural markets to trade in foreign countries.

ICT is a major tool to leverage the scheme for ensuring access to the target group of beneficiaries. The Information and Communication Technologies have facilitated the design of solutions to deliver government services for social development at the door step of villagers. While there is a strong link between access to ICT and development, it is not a panacea, but rather a powerful tool to tackle development challenges. A strong communication channel can be established with the help of mobile phones. Rural citizens can use the toll free numbers to call and leave messages about any issue concerning their community and listen/ learn from messages left by others from the same community. **ICT does not include only the Internet but a gamut of other tools which could be used individually or in convergence with each other**. Financial problems are faced by most of the rural families. This is the root cause for poor standard of living. ICT platforms help in generating incomes through new ways of carrying out business, reducing cycle times or increasing productivity. Many government schemes are provided for those who want to start a new business, loan facilities are also available. The rural citizens should take benefits of such schemes.

To implement ICT, computer literacy in fact, technical literacy is also essential. In business, entrepreneurs must not bring international branded products because the rural economy is not so strong. So, this mistake should be avoided. Problems in establishing network: This is a technical issue to establish a network. The first point is the large investments needed to establish a strong network along with infrastructure. To achieve the balance between rural and urban areas, communication is important. This communication is well established through internet. Access to the Internet as well as the telecommunications is confined mainly to the urban centers in India and the rural areas remain beyond the realm of new technology

5. Rural Development Schemes in India

Some of the Rural Developments Schemes in India are—

Digital India: This scheme includes the creation of digital infrastructure, Digital literacy and delivering services digitally.

Pradhan Mantri Gram Sadak Yojana (PMGSY): This is a scheme launched and fully sponsored by the Central Government of India. The main objective of the scheme is to connect all the habitations with more than 500 individuals residing there, in the rural areas by the means of weatherproof cover roads.

Swarnjayanti Gram Swarozgar Yojana (SGSY): This was implemented as a total package with all the characteristics of self employment such as proper training, development of infrastructure, planning of activities, financial aid, credit from banks, organizing self help groups, and subsidies.

Sampoorna Gramin Rozgar Yojana (SGRY): This scheme aims at increasing the food protection by the means of wage employment in the rural areas which are affected by the calamities after the appraisal of the state government and the appraisal is accepted by the Ministry of Agriculture.

Indira Awaas Yojana (Rural Housing): This scheme puts emphasis on providing housing benefits all over the rural areas in the country.

Skill India: To create jobs for youth of the country, Skill development in youth, Making skill available to all youth of India

6. Major Applications of ICT to Agricultural and Rural Development

Given the fact that ICTs are a generic technology, their applications to agriculture and to rural development are very extensive and enveloping. *Agricultural information systems* have attracted much attention because of the importance of facilitating access to information and to Knowledge. The information systems themselves are in a process of profound transformation with the spectacular development of the Internet, and the possibility of evolving towards *web based information systems,* even in developing countries. But beyond databases and Information systems, the applications of ICT to agricultural and rural development are appearing everywhere.

Since this is potentially a very extensive field, ICT applications to agricultural and rural development can be analyzed from three different perspectives or points of view:

1. The agricultural and/or rural development activity they influence.
2. The nature of the service provided by the ICT.
3. The technological and operational components that constitute a given ICT application, and the requirements this generates in terms of human resources(training), infrastructural requirements, and others.

1) Sectors of Application of ICT in Agricultural and Rural Development

ICT applications can be analyzed in terms of the agricultural and/or rural activity they

There are five main areas of impact of the new technologies influence:

a) Research and extension activities
b) Production and processing (primary and secondary)
c) Marketing and trade (commerce)
d) Natural resources management and monitoring
e) Rural development and community action

Since the purpose of this paper is to provide an overview of ICT applications and their impact on development, not a detailed review of each one.

2) ICT in agriculture: Information and communication technology in agriculture (**ICT in agriculture**), also known as e-agriculture, is developing and applying innovative ways to use ICTs in the rural domain, with a primary focus on agriculture.

i. Global Positioning System(GPS)-In agriculture, the use of the Global Positioning System provides benefits in geo- fencing, map-making and surveying.
ii. Geographic information Systems-GIS ,are extensively used in agriculture, especially in precision farming .Land is mapped digitally and pertinent geodetic data such as topography and contours are combined with other statistical data for easier analysis of the soil,GIS is used in decision making such as what to plant and where to plant using historical data and sampling.
iii. Computer-controlled devices(automated systems):Automatic milking systems are computer controlled stand alone systems that milk the dairy cattle without human labor. The complete automation of the milking process is controlled by an agricultural robot, a complex herd(group) management software and specialized computers.
iv. Smartphone mobile apps in agriculture: The use of mobile technologies as a tool of intervention in agriculture is becoming increasingly popular. The reach of Smartphone even in rural areas extended the ICT services beyond simple voice or text messages. Several smart phone apps are available for agriculture, horticulture,animal husbandry and farm machinery.
v. RFID:Each cattle is tagged with the use of RFID technology for easier identification,providing access to relevant data such as:bearer's location, name of breeder, origin of livestock,sex,and dates of movement.
vi. AND many more.

7. Conclusion

There is ample potential for effective use of ICT in agriculture and initiatives are promising. However, much still remains to be done. Several future trends of great importance are-

- Converging of media and tools for communication
- Increased web-based storage of agricultural information
- Cheaper and improved connectivity for rural communities
- Increased recognition by governments of the importance of the use of ICT in rural development
- Increased tailor-made, quality agricultural information services.

Based on experiences and trends, the implementation of these following recommendations can help realize the full potential of ICT in agriculture and improve rural livelihoods. ICT should be integrated into agricultural sector policies and lead to supportive programmes.

References

1. Shaik N.Meera; Technology and e-Governance initiatives in Agriculture & Rural Development.
2. Ashrafi, M., Karbasy A. (2003), "The role of information and communication technologies in improving rural management function."
3. Tauffiqu Ahamad, Jitendra Kumar Pandery A study on
4. application and Role of ICT in Rural Development"A Journal of Emerging Technologies and Innovative Research (JETIR).
5. Jac Stienen, Wietse Bruinsma and Frans Neuman; how can ICT can make a difference in agricultural livelihoods.
6. A chapter, Fernando Chaparro NARS Secretariat of GFAR ICT, Networking and knowledge Systems in Agricultural and Rural Development.