

# INTERNATIONAL JOURNAL FOR ENGINEERING APPLICATIONS AND TECHNOLOGY

## INFORMATION & COMMUNICATION TECHNOLOGY FOR RURAL DEVELOPMENT IN INDIAN CONTEXT

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### Abstract

The growth of any country is dependent on progress of rural area. In India numbers of villages as compared to urban areas are in huge. So for progress of India development of villages are necessary. Information Communication Technology contributes a lot in rural development. The paper deals with how effectively we can use ICT in rural education, Agriculture and rural health. Literacy is important for rural improvements if peoples are educated then they are able to read or understand the information. The teaching process can be implemented by using ICT tools as a facilitator allowing student to construct their own learning. Thus the paper spotlights that ICT is beneficial for rural education. The condition of every country is identified from their health. Thus the paper also tells how we can use ICT for improvement of rural health as well as awareness about the medicines and medical system. As we know that agriculture is a primary occupation in India especially in rural area. The economic condition of villages are totally depends on agriculture, thus by using ICT farmers can collect correct information about the crops, pesticides etc. In this way ICT can be used in education, health and in agriculture. The paper also gives the information about how can people use ICT to improve or change their life style.

**Index Terms:** *ICT, Education, Agriculture, Health, India*

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## 1. INTRODUCTION

“Information Communication Technology” concentrates on these three words: Information, Communication and Technology; to promote information via communication with the help of technology. [1] Technology plays an important role for developing rural areas. We can say that the economic growth totally depends upon the information and communication technology. [2] ICTs have a potential for economic growth and social empowerment. In developing countries like India the concept of development linked up with the rural development.[3] Application of ICT has the potential to improve living standards of people in remote and rural areas by providing important commercial, social and educational benefits.[4] Proper training and implementation of ICT programs in simple way and language which is easily understandable by the rural people can surely bring about revolution in rural development.[5] ICT is about the new ways in which people can communicate, inquire, make decisions and solve problems. [6] Most of the countries across the globe

address the issues such as education, healthcare, economic, and technological development as these are driving forces for national development of a country.[7] The paper discusses the role information technology in term of three factor .These are

- 1.1) Education
- 1.2) Agriculture
- 1.3) Health

### 1.1 Education

Among the developing countries India reached a significant position in development of ICTs. Particularly in the field of education its development is tremendous. [8] Technology in education is defined as an array of tools and technologies that help in better understanding of the teaching-learning process. [9] ICT increases the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere.[10] ICT is not related with only item like the internet, computers, or telecommunications but it is a convergence of different electronic tools that facilitate the

functions of information processing and communication.[11] In the distance education ICT can be used for better management of records by making a complete database of all the students in various courses.[12] a large section of the population comprises of rural inhabitants, it is necessary to provide education to them if literacy is to be increased. [13] ICT acts in speeding up the flow of information and knowledge between government and citizen and transforming the way in which government and citizen interact.[14] The nation can progress if the people are educated, especially in the rural areas because large population lives in these areas.[15]In the area of education administration, ICT can provide support for data management and decision support.[16]ICT has become the most exciting set of technologies today, thanks to developments like Internet growth. The Internet has become the most efficient means for transferring of information.[17] ICT is not just the bloom of the educational activities, but also it will be the secondary option to improve the effective and meaningful educational process. [18].

Fig-1:

- 1) It can be seen that, by using conventional way of teaching, it was very difficult to teach students and also difficult to clear their concepts.
- 2) For better understanding of students, teacher had to take more efforts to teach students.
- 3) In conventional education student had to refer number of books to get solution.

Fig-2:

- 1) Now a days as facility of internet is available in rural areas students can get information about any topic.
- 2) By using ICT in teaching learning process the teacher are able to give pictorial view to their students.
- 3) By using ICT students can directly get information about any topic on single click .

## 1.2 Agriculture

Agriculture is the prime occupation in rural India. ICT can bring revolution in Indian farming sector and can benefit all farmers, including small land holders, marginalized and poor farmers.[19] Farmers can now use ICTs to judge buying offers from traditional intermediaries more effectively, and even eliminate unnecessary intermediation.[20] The techniques of remote sensing using satellite technologies, geographical information systems, agronomy and soil sciences are used to increase the agricultural output.[21] As the agriculture scenario has become more complex, farmers' access to a reliable, timely, and relevant information source has become increasingly important.[22] ICTs have a key role in agri-food sectors to provide a fast information and knowledge about agriculture through all over the world.[23] E-Agriculture is an emerging field focusing on the enhancement of agricultural and rural development through improved information and communication processes.[24] IT 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. [25] ICT has many potential applications

in agricultural extension. It can bring new information services to rural areas where farmers, as users.[26] Agriculture Network Information Centre has to be formed for providing internet access to quality, authoritative agriculture information, and specialized reference services.[27] The ICTs increase productivity, access to markets and adaptability to weather conditions in agriculture. [28]

Fig-3:

- 1) It is seen that in old technology water supply is done through the pumps.
- 2) Due to fix pumps the water is not spread throughout the farm.
- 3) It causes water wastage too.

Fig-4:

- 1) It is seen that sprinkler are free to move thus every plant get sufficient water.
- 2) Due to moving sprinkler water spread throughout the farm.
- 3) Due to moving sprinkler there is no wastage of water.

## 1.3 Health

As the population is ageing, the demand for health services will increase, to provide good quality health services to the citizens, the productivity needs to increase and it is widely believed that ICT will be playing a major role. [29]According to the World Health Organization (WHO), technology has always been at the backbone of improving medical services to prevent, diagnose, and treat illness and disease. [30] The effect of ICTs on health differs from its impact on other sectors in crucial ways. It can work directly by improving health care provision and disease prevention. [31] The awareness of alternate medicine and nonallopathic medical systems is expanding rapidly due to IT. [32] Health can provide access to medical services in emergency situations on board of a ship or a plane, where it may be impossible to get a medical care.[33] There will be many challenges in achieving the successful transition to an IT-enabled healthcare system. These challenges include funding the investment, effective process re-engineering, and systems implementation. [34] Government of India believes that technology development projects and their field deployments would demonstrate the role of ICT in addressing the primary healthcare in a sustainable manner to improve awareness.[35] ICTs can help expand access to health care from the urban to rural areas, connecting people to advice and information. [36] ICT in the health sector is rooted in health informatics. Based on the theories of various disciplines, informatics makes right information available to the right people, within and without an organization, at the right time. [37]



**Fig-1: Conventional Education [38]**



**Fig-4: Agriculture using ICT [41]**

## 2. CONCLUSION

From above paper the following conclusion can be drawn.

- 1) For the progress of country the development of rural area is necessary. By using ICT, it can be possible to develop a rural area.
- 2) Education is must for every people. By using ICT people or students can get lots of information.
- 3) Using ICT The teaching learning process has been improved and it has been useful to get knowledge.
- 4) Another most important factor is health. People must have a good health for development of country. By using ICT people can get correct information about every medicine and improve their health.
- 5) Through ICT awareness about the various technology in medical fields can be created among peoples
- 5) As we know agriculture is primary occupation in India. So to improve productivity ICT can be help.
- 6) ICT is helpful in any fields. By using ICT we can get any kind of information.



**Fig-2: Education using ICT [39]**



**Fig-3: Agriculture without ICT [40]**

## ACKNOWLEDGEMENT

We must acknowledge our thanks to our mentor Dr. Rajeshkumar U Sambhe, Professor and Head, Jawaharlal Darda Institute of Engineering and Technology, Yavatmal.

Also we thankful to our mentor, Professor M.K.Popat sir for their guidance.

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ISSN: .....-.....