

# Information Technology Implementation for Comprehensive Development of Rural India – A Review

Vaishnavi J. Deshpande<sup>1</sup>, Dr. Rajeshkumar U. Sambhe<sup>2</sup>

<sup>1</sup>Student (Computer Science & Engineering), Jawaharlal Darda Institute of Engineering and Technology, Yavatmal, India

<sup>2</sup>Associate Professor (Mechanical Engineering), Jawaharlal Darda Institute of Engineering and Technology, Yavatmal, India

**Abstract:** For any nation to achieve the position as a developed country, it is necessary that its rural area should not be deprived from any kind of progress because it not only develops the talent and skills but also it contributes to the economy of that nation. Exploring information and communication technology is one of the factors of the progress. In India, the study shows that approximately 70% of the population lives in village. Also, the people are advancing as there is introduction of new technology in the rural areas. The impact of 'Information Technology' has an outstanding effect on rural economy and life of rural India. Today's farmers are known to the technology like mobile, internet. It is even seen that farmers or as a whole we can say, villagers are not new to the IT. Also while approaching to the progress; we cannot neglect the position of rural poor. Thus, to overcome these pitfalls, information technology can prove beneficial as we can implement various projects to solve these problems. Government of India has started implementing programs like e-mitra (in Rajasthan), community information centers in the northeast states like Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura. Thus it can be said that the IT can serve as a path to progress in all means. This paper concerns with the impact and development of IT in rural areas.

**Keywords:** Information Technology, rural sector, benefits

## 1. Introduction

India is a country where the primary occupation of the people is agriculture. But in these 10-20 years it is observed that the conditions like natural or climatic disasters make the farmers helpless to carry on agriculture and to sustain life. There are various aspects in which it is possible to study on this topic.

The role of Information Technology to develop agricultural research, education and extension to improve quality of life in rural area is well established. 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 [1].

The following points are to be discussed in the paper with reference to "IT in the rural":

- 1) Role of social media in introducing the IT technology
- 2) Response given by the people in utilizing the IT infrastructure
- 3) Development observed in rural areas:
  - a) Educational aspect and employment
  - b) Business Sector
  - c) Women Empowerment
  - d) Banking Sector
  - e) Medical approach
  - f) Agricultural progress
  - g) Increase in the use of technologies like mobiles, laptops, internet etc.
  - h) Various projects undertaken by the government of India

This progress seen in various aspects is a proof that India has 100% ability to stand in as an emerging super-power nation in the world. Initiatives of the government and the private sector to adopt standards develop interconnection and accounting systems and to deploy infrastructures, due to liberalization policies, have seen the growth of satellite systems and regional WANs (Wide Area Networks) in India [2].

## 2. Role of Social Media

New Technologies have also been put to serious use for development communication. New technologies like mobile, website and internet are interactive in nature [3].

**Mobile Technology:** This technology plays an important role in connecting people or even it may not seem wrong to say that introduction of mobile technology has lion's share in bringing the nation to an outstanding level of progress.

**Mobile Banking:** The main transaction, i.e., banking transaction has partly changed from paper to mobile banking or internet banking. It also benefits the environment in saving the trees. The most noticeable thing is that the users using this facility of technology are also increasing. The user can not only view his balance, he can create his own account, apply for loan, etc. that is he can do all banking transactions with the help of mobile banking. Also now there is facility of ATM in the villages. So, there is development in banking sector also. Mobile Banking has two advantages over the traditional forms of banking. First, it is available 24 hours a day and therefore meets clients' banking needs at any time. Second, it is possible wherever mobile internet is available and thus saves clients trips to banks [4].

**Agriculture:** Also in agricultural field, the farmers are given proper guidance about the use of fertilizers, the amount in which the fertilizer should be added, etc. to the nature of the soil, for which crop the soil is more beneficial. The technology is too beneficial in the increment of yield of crops due to which farmers will be in profit. Developers are increasingly making use of new technology trends (Bughin et al. 2011) to develop and deliver such m-services, complementing existing mobile technologies such as SMS and voice calls [5].

**Latest change: "KISAN TV" channel introduction**

### 3. Educational Aspect

Education is the only media through which we can implement the progress of rural areas. Also in the 21<sup>st</sup> century, computer literacy or also we can say technology literacy is more important. It is important to explain the people benefits of technology and also it is also important to explain the crimes committed in the technology.

The changing scenarios have been demanding professionals at various levels to adapt new ways of education and training to update their skills and knowledge for making their identity in this competitive world [6].

The nation can progress if the people are educated, especially in the rural areas because large population lives in these areas and in these areas there is scope for the development and large firms can be developed in these regions. Rural India is largely illiterate with the literacy rate 49.4 percent compared to the urban populace, where the literacy rate is 70 percent [7].

### 4. Employment

For example, using the IT technology, people can be educated and motivated to have their business like in Vidarbha, there is large yield of cotton. So the application of IT works here. Let us see. Through the medium of internet, we can acquaint the farmers or villagers to the machines used in textile industry. Also our cultural education is beneficial. Handloom industry, dairy for milk products can be developed. These products can be transported to various cities, various states and even to the foreign countries.

The success of Indian firms and professionals in the information technology (IT) arena during the last decade has been spectacular [8]. Recent trend in employment, however, seems to have dispelled much of the fears about jobless growth. Notwithstanding high growth in the number of employed persons and also employment days, concerns have been expressed with regard to low growth in productivity and dearth of "decent employment" [9].

### 5. Women Empowerment

Women in any society play an important role in any progress. This aspects contributes to the improve the status of information technology in rural areas. Let us see how.

**Participation:** The role of women brings a revolution in bringing any progress in a quick manner. At the start she was bounded to her house only. But now they are managing their education along with their household responsibilities. In Indian social set up, the participation of women in the development process has to be ensured through tangible measures taken at various levels for their overall development [10]. Special Shiksha abhiyan is also implemented for the girls and boys to educate them. Technical education is also provided with the moral education.

### Increasing productivity and contributing to business sector:

In rural unorganized sector, women care for cattle, sowing, transplanting, harvesting, weaving, working in the hand-looms and producing handicrafts mostly as low paid earners or unpaid family workers [11]. From the childhood, there is general education provided to the women in rural areas i.e. handlooms and handicrafts. So it also improves the position in their living standards. Empowerment of women involves many things such as economic opportunity, property rights, political representation, social equality, personal rights and so on [12].

Thus, ICT can play a major role in women empowerment if they are provided employment opportunities at the village level after providing them suitable training [13].

### 6. Study of Projects Undertaken by Government of India

a. **E-Mitra:** This scheme is introduced by the Government of Rajasthan. The e-Mitra framework is based on integration of LokMitra and JanMitra models in to a unified platform aimed at bringing Government closer to citizens in a "multiservice"- "single-window" mode [14]. The main motive of this project is to bring transparent working to project development in the people via this IT interface. The significant change to be noted: Online bill payment, people were known to the various Government departments, etc. Though there were some pitfalls observed:

- 1) There were no login entries available to the server.
- 2) It provided no disaster management services.
- 3) The Government extended undue benefits to the private players by not imposing the penalties for violation of provisions of the agreement [15].

b. **Community Information Centers:** This program basically works in seven northeast states of India, viz., Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura. Main motto: To make this region of India a developing by the introduction of technology like TV, computers, laptops, mobiles, etc. India has a large number of youths. So we can make them acquainted to these technologies so that they can put forth their own research thereby progressing the nation. For this purpose, there are community information centers which are working through various schools, colleges, etc.

c. **Wi-Fi Projects:** Internet is the ultimate approach of almost every person whether to deal with any problem. The customized network for accessing internet is Wi-Fi, a

local area wireless technology. The DGP project was initiated in 2002 at the Indian Institute of Technology, Kanpur (IITK), and Uttar Pradesh, to explore the technical feasibility of establishing long-distance 802.11 links [16].

- d. **Drishtee:** It is a private company, which was previously named as Cyber Edge, which has the main work of developing the modules [17]. It works on the model village of India. The main focus is on increasing the progress of rural areas. It encourages the rural entrepreneurs also so that the GDP is also increased.
- e. **Gyandoot:** Gyandoot is a government-to-citizen intranet-based service portal, implemented in the Dhar district of the state of Madhya Pradesh [18].

## 7. Conclusion

India is most popularly known as the agro-based country. But during the era of the last 50 years, there is a change or even we can say that this is a positive change to implement new technology for the development of rural areas. Various 'abhiyans' are being working towards this step. The most significant changes that can be noted are:

- The use of technology is increasing. Rural people accepted and learnt the technology in appreciating manner.
- The role of Indian government is very significant. Indian government encouraged the people in the rural areas to educate providing the computer institutes.
- The role of women is also appreciating. They are provided the agricultural education, education which invoked their own rights and duties. The standard of living also increased to a certain height.
- There is a broad range of services that can be provided to a cross-section of rural households, even at relatively low levels of income. This creates challenges for implementation by posing choices for organizations, but also opportunities for creating niches [19].
- The projects like e-mitra, gyandoot, etc brought a new importance to computer literacy or technology literacy.

ICT is said to foster the process of accountability by ensuring political, economic and social accountability [20].

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## Author Profile



**Vaishnavi J. Deshpande** is student of Department of Computer Science and Engineering, Jawaharlal Darda Institute of Engineering and Technology, Yavatmal, Maharashtra, India-445001.



**Dr. Rajeshkumar U. Sambhe** is Associate Professor (Mechanical Engineering) in Jawaharlal Darda Institute of Engineering and Technology, Yavatmal, India. He has completed his Doctoral studies from Government College of Engineering Amravati and awarded Ph.D. from Sant Gadge Baba Amravati University, Amravati. He holds his Bachelor Degree in Mechanical Engineering with University Merit and Master Degree in Production Technology with total 17 years experience. He has published 15 papers in international journals and conferences including paper International Journal of Productivity and Quality Management and International Journal of Business Excellence.