

## Prospective of Information Technology in Rural Development

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**Abstract:** In recent decades, advances in computer and communication technology have presented a unique opportunity for planners and decision-makers developing specific systems and techniques to rural development. A multi-country study mission on Information Technology (IT) and rural development have been set up as recent developments in information technology and applications for the development of rural areas are assessed. IT doubtlessly contributes much to agriculture and rural development. It can facilitate rural activities and provide more comfortable and safe rural life with equivalent services to those in the urban areas, such as provision of distance education, tele-medicine, remote public services, remote entertainment etc. IT can initiate new agricultural and rural business such as e-commerce, rural tourism, and virtual corporation of small-scale farms. Rural developments have been set up in various forms in many countries, but the number of user farmers of existing information systems is limited. Formidable problems need to be addressed including limited financial resources, lack of IT-trained personnel, inadequate supporting infrastructure facilities and low literacy levels in rural areas leads to slow down the IT applications. IT has to take an important and key role for changing status of farming and farm business enterprises to resolve the above problems and bring positive growth towards agriculture as well as rural development.

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### INTRODUCTION

Rural India has always been associated with misery, poverty, lower status of living and lack of opportunities. As per 2001 census report out of 249 million houses in India, 177.5 million (71.00 Per cent) are in rural areas. India is witnessing a continuous GDP growth rate of around 8%. The contribution of rural area has been depriving. The Information Technology can help in bridging the gap between urban and rural areas by hastening the development of rural areas and by bringing urban amenities in rural areas by encompassing the sector like education, healthcare, agriculture, e-governance, communication, various services accessibility, banking, support to small scale industries etc. In spite of many initiatives from the Government as well as by many private organizations, the development in this area has been only rudimentary.

A public-private joint model to accomplish this task which exploits the efficiency of private companies with the financial strength of Government to make the "Rural India: Future IT village". Information Technology have been vast spreads of India. It ensures an immense support to agriculture in every stage of the crop, from sowing to the final point of sale. Information Technology also ensures a great support to education and computer literacy in rural areas along with employment generation opportunities in agriculture and allied activities.

The connectivity in rural areas through internet, these areas have got a strong upstart towards faster growth and development. In the long run these developments will culminate into rapid growth in other critical areas like Communication, healthcare, banking, agricultural support and e-governance etc.

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## Prospective Contribution of Information Technology to Rural Development

Specially, Information Technology can contribute to rural development through four main types of applications.

### Education and Training

To reduce the gap between training facilities in urban and rural areas, an action on rural development requires deep understanding and coordination with regional, national initiatives in this area. It provides opportunities for influencing the way in which massive development funds are being used to educate rural community through appropriate training programmes on relevant aspects which need to fulfill their desires. The access of such an action requires identifying high value applications for the development and integration of rural areas as well as addressing the key research and technology challenges that are posed by the specific available infrastructure and application requirements.

### Food Safety

The objective is to manage and trace the food chain from the point of production to point of consumption. The Information Technologies offer many possibilities to achieve this objective and provide added value to Indian agrifood stuff.

### New Business Opportunities

To encourage and provide the necessary technology for rural business to link with outside the metropolitan areas, starting from the call centers that have been transferred to remote areas where operating costs are significantly lower, similar business model could be used to promote further transferring of other business process. However, the technologies and applications to support them still need to be further developed.

### e-Business

This includes both applications for improving processes and management practices inside the organizations as well as trading support. These applications are developed to the current kind of business in rural areas in order to increase their competitiveness.

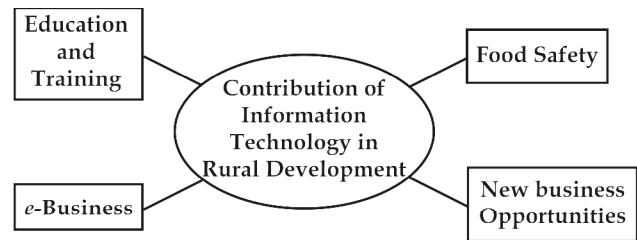


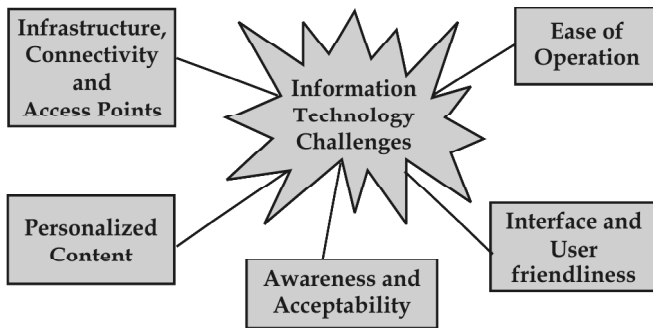
Figure 1: Prospective Contribution of IT in Rural Development

## ICT and Agriculture Development

Now a days information and communication technologies have brought close to communities and empower the sources to poor farmers of different regions and increased their knowledge and information about agriculture technologies and provide information about market, customers choice as well as bargaining with buyers. (Singh, 2006).

In rural areas mobile phones can also play important role in enhance the capacity of rural people especially farmers to contribute their production of agriculture on national level. In the context of rural development it could improve by identifying the strong position of the rural family as the centre of agricultural production in areas of poverty. The remote areas communities are main source of agriculture production in developing countries. Agriculture cultivation and harvesting facilities can encourage the rural communities for more production while lack of infrastructure, financial problems and disaster are big issues of rural communities and many other issues have significant impacts on agricultural production at the household, local and national levels (Richardson, 2005)

The practices of information and communication technologies tools could use for different projects for rural development and could promote the sustainable development in remote areas as well as by use of information communication technologies, the new practices can apply in short time. The using of information communication technologies can introduce new approaches and ideas among rural people. Farmers can use new technologies for agriculture development and for education purpose as well. By information communication technologies rural empowerment and participation atmosphere can be created for rural communities (Pade *et. al.* 2006)



Information and communication technologies cannot be specified only in agricultural development but also for improve the life of rural people and enhance their knowledge there by farmers can increase agricultural production. One of the ICT tool mobile phone play vital role in the poor rural communities to sustain and similarly enhance their knowledge in agricultural production and cultivation activities (Richardson, 2005).

### Challenges in Setting up of Information Technology infrastructure in Rural Areas

To Implement Information Technology in rural areas first it need to take into many bottlenecks.

- Infrastructure, connectivity and access point
- Ease of operation
- Awareness and Acceptability
- Personalized content
- Interfaces and user friendliness

#### *Infrastructure, connectivity and access point*

Out of approximate 6,50,000 Indian villages, only around 59% villages have telephone connectivity. Even that telephone network cannot carry continuous and high speed communication. That is becoming the major hurdle in setting up the connectivity.

#### *Ease of operation*

For successful implementation of Information Technology in rural India, an easily operate and simple system is required as villagers are unfamiliar to pick up complex systems immediately because the villagers mostly have less adaptive nature.

#### *Awareness and Acceptability*

The top most priority should be to make the villagers aware about the usefulness of the technology. How it can help them in their day to day life and their business.

#### *Personalized content*

The content available should be as per the need of the villager for the specific purpose. The content should be as per the geography and requirement of the region.

#### *Interfaces and user friendliness*

As there are many plethora of languages and dialects used across the nation and many of the villagers are not familiar with even national language. So the system should also be available in multilingual format.

### BENEFITS OF INFORMATION TECHNOLOGY IN DEVELOPING THE INDIAN VILLAGES

#### **Short Term Benefits**

1. Support to farmers about crop selection, Accessibility of quality seeds, fertilizers, pesticides etc. at lower cost, access to new technologies and Reliable weather forecast.
2. Support to villagers in profession other than farming to help Small Scale Industries to get better prices for their products.
3. Support in the village's development through increase in the computer literacy and draw the village maps to identification of resources.

#### **Long Term Benefits**

1. Development of better infrastructure opportunities, new business developments and better level of trade in rural areas will accelerate the development. It leads to construction of roads, highways, railways and other means of transportation.
2. Movement of existing business to rural area to make better purchasing power. It will accelerate the movement of existing businesses from urban areas to rural areas and help to provide urban amenities in rural areas.

3. Geographic Information System (GIS) can help in a big way. Use of high resolution satellites and extensive network of associated infrastructure can give impetus to GIS in variety of rural India's development need. With the help of GIS, assessment of ground water level may help the agriculture sector and can ease out the problem of irrigation. Also the transportation infrastructure can also be benefited and road network can be mapped.
4. Implementing the Information Technology in the field of education will rise to new opportunities. The IT can help to encourage the distance education and with this it can penetrate into the village, so that the bright students living in the villages can have access to the quality education. It helps to create a sound interactive medium for expressing and sharing the views of people using the technologies like video conferencing etc.

## CONCLUSION

Information Technology is reducing the poverty by improving poor people's access to education, health, government and financial services. IT can also help small farmers and artisans by connecting them to markets. The coverage of mobile phones is expanding even in developing countries and small number of keys makes it easy to use. Because farmers do not require complicated devices.

Geographical information system (GIS) technology is also promising in agriculture especially as a user interface to integrate several types of data sets, because agricultural information typically extends spatially, and it is often necessary and convenient to handle it at a regional scale.

IT can provide systems and tools to secure food traceability and reliability that has been an emerging issue. To perform these activities systematically, Low-cost access to information infrastructure is a necessary prerequisite for the successful use of IT by the poor, Furthermore, grassroots intermediaries and the involvement of the community are identified as the key factors that foster local ownership and the availability of content and services that respond to the most pressing needs of the poor.

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