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Review Article

# Role of ICT in Sustainable growth, development and uplifting the Livelihoods of Rural people of India

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## Abstract
The growth and development in Rural part of India plays an important role for the Government. However, the application of ICT (Information and Communication Technology) inside the Rural Development region has been especially gradual. The major reasons for this are poor ICT infrastructure in rural areas, poor ICT recognition among enterprise officers working in rural areas and nearby language problems. The growing demands for agricultural products, but, also offers opportunities for manufacturers to maintain and improve their livelihoods. Information and conversation technology (ICT) plays a crucial role in addressing those challenges and uplifting the livelihoods of the rural poor. ICT gives a possibility to introduce new sports, new services and programs into rural regions or to enhance present offerings. ICTs can play an extensive role in combating rural and urban poverty and fostering sustainable improvement through growing records rich societies and assisting livelihoods. If ICTs are accurately deployed and realize the differential desires of urban and rural human beings, they are able to come to be effective tools of economic, social and political empowerment. In this paper, we discuss about the Role of Information and Communication Technology in sustainable growth, development and uplifting the Livelihoods of rural people of India.

**Keywords:** ICT, Sustainable growth, development, Rural India

# INTRODUCTION

According to the definition of UNESCO, ICT can be defined as diverse set of technological tools and resources used to transmit, store, create, share or exchange information. These technological tools and resources include computers, the Internet (websites, blogs and emails), live broadcasting technologies (radio, television and webcasting), recorded broadcasting technologies (podcasting, audio and video players and storage devices) and telephony (fixed or mobile, satellite, vision/video-conferencing, etc.)

ICT is the innovative tool for rural upliftment. Information and Communication Technology can be deployed effectively for the betterment at grass root levels. On the other hand so many constraints are associated at implementation stage to attract rural masses where as it is difficult to grab attention of illiterate population, to motivate them for adoption of the new technology.

Recent trends in Information and Communication Technology (ICT) have introduced a paradigm shift of development in every arena. ICT has crossed all limits of price, distance and time. The perfect blend of computing and communications specifically through internet has minimised the gap worldwide and converted to global village by strengthening easy assessment.

The major factor responsible for development in rural areas is proper communication. Traditionally it includes print and electronic media, human communication and recently information technology (IT). ICT plays a pivotal role in

bridging the gap in community in general and rural area specifically. Proper dissemination of information is desired to avail various opportunities and get benefit out of that. Timely and accurate availability of information can strengthen rural areas and it can add these areas in mainstream of development. Improper knowledge about each and every sphere of rural India can be addressed and the backbone of remote areas can be strengthened.

## Application of ICT in Sustainable Agricultural growth and Development

ICT in Agriculture focus on the enhancement of agricultural and rural development through improved information and communication processes. Information & Communication Technology Consisting of Devices, Networks, Mobiles, Smartphones, different application & Services.

Agriculture is an important sector with the majority of peoples from rural areas in various countries (mostly in developing countries) depends on Agriculture for their livelihoods. In recent times. Due to various erratic climatic conditions, the agriculture sector faces major challenges in enhancing the production. ICT plays a crucial role in addressing these challenges and uplifting the living standards & Socio-economic status of rural people. ICT in Agriculture and allied sectors offers a diverse range of solutions to the newly emerging issues & challenges in farm management practices. It is seen as emerging field focusing on the enhancement of growth on agricultural and rural development through improved techniques & Processes.

ICT plays a vital role in Agriculture extension & Advisory services and it bridges the gap between the agricultural students, Researchers & academicians. It also supports and promotes the eco-friendly and Sustainable farming practices. ICT also plays a vital role in climate smart agriculture, Disaster Management & Providing real time early warning systems. It also provides actionable and important information to the farming communities and other communities for disaster preventions and other natural hazards. ICT enabled device also facilitate the market access and provide the market information of various market yards. ICT also plays a vital role in food security and traceability. By using the ICT enabled device rural communities get the access for financial services, secure savings procedure and getting affordable insurance policy. It also plays a greater role in capacity building and improvement of rural communities and helps them to provide training, newer business, entrepreneurial opportunities and enhancing their livelihoods. Information and Communication Technology also assists with implementing regulatory and policy frameworks. ICT also helps to increasing the efficiency, productivity & sustainability of the small scale farms; provide information about pest and disease control, new varieties, early warning systems, regulations in quality controls. It also provides up to date market information on prices of various good and commodities.

## Role of ICT in growth and development of Rural India

ICT encouraging the Social transformations by facilitating the flow of information and knowledge, it intensifies efforts towards implementation of rural development initiatives through demand-driven information & Communication services, it also helps in strengthening the rural governance by improving transparency, accountability and administrative efficiencies of rural institutions. Various application of ICT also plays a vital role to improve the living standards of rural people. ICT tools emerged as a key element for economic growth and development. It is also helpful in digitalizing the Indian Economy, which can help the sustainable development of the rural economy of India by increasing the Production, Productivity & impacting operation & expansion of markets.

## ICT in Rural Education

Application of ICT has the potential to improve the living standards of people in rural areas and by providing important educational benefits, providing adequate infrastructure, technical support, to promote technology literacy. ICT also plays an important role in Provide necessary training facilities to rural people. By using the ICT technologies, people living in rural areas getting information and awareness about various schemes. Although ICT plays an important role in rural education but there is so many challenges including illiteracy, poverty, lack of knowledge for government Schemes, lack of suitable telecommunications, lack of computer knowledge's & awareness.

## ICT initiatives in Agriculture

Different agencies like Government Sector, NGOs. Private Sectors are always focusing on enhancing the agricultural Productivity, which also plays vital role in uplifting of livelihoods in rural areas. Different ICT enabled device and smartphone apps also helps farmer for agricultural information dissemination & agro-advisory services. Different examples are given below-

**E-Sagu-** e-Sagu provides the agricultural scientists and expert advice in a timely manner. The experts can observe the farm situations by means of digital photography and after analysing the issues the information is delivered to the concerned farmer.

**Digital Green-** This is a global development organisation that empowers small holder farmers to lift themselves out of poverty by harnessing the collective power of technology. It is an independent Non-governmental organization that

focuses on training farmers to make and show short videos, where they record their problems, share solutions & highlight the success stories. Digital green works across seven states India, part of Ethiopia, Ghana & Afghanistan.

## Role of ICT in Capacity building and Empowerment of Rural Women

Women play a vital role in diversified fields sectors as economic, agriculture, political, social, sports, educational, enterprising etc. Women are very crucial part of Indian economy. The new era of women empowerment started with the concept of Self Help Groups, which is now catching the attention of policy makers. IT enabled services are acting as a helping hand for rural women to gather more productive information and to utilize in various dimensions of our services. E-Commerce is the trend of new generation which can be effectively utilised by women. All the ICT tools can be helpful for gender sensitisation so that the untouched segments can be effectively performing their duties. There is potential for ICTs to eliminate gender inequality and to empower women in society. There is growing body of evidence on the benefits of ICT for women's empowerment, through increasing their access to health, nutrition, education and other human development opportunities, such as political participation.

## Schemes for Women Empowerment

Several schemes have been launched for mainstreaming gender issues and sensitising women in several aspects. ICT deployed in the field of women empowerment effectively.

### ❖ Mahila E-haat

It was launched in 7$^{th}$ March 2016; it was a direct marketing platform where women entrepreneurs are connected in that online platform for trading aspects. SHGs and NGOs are included in this scheme. This platform was promoted by the Ministry of Women and Child Development. This is also part of the 'Digital India' initiative.

### ❖ One Stop Centre Scheme

This scheme is well known as 'Sakhi'. It was implemented on April 1, 2015. One-Stop Centres are located at various places nationwide to provide shelter, police desk, legal, medical and counselling services to victims of violence under one roof, it is an umbrella approach.

### ❖ STEP

The Support to Training and Employment Programme for Women (STEP) implemented to impart skills that can provide employment opportunities to women and to educate them so that they can be self-sufficient and can became sufficient women entrepreneurs. Under this scheme diversified activities are undertaken in this programme. It includes Agriculture, Horticulture, Food Processing, Handlooms, Tailoring, Stitching, Embroidery, Zari etc, Handicrafts, Computer & IT-enabled services. It also imparts training for skill enhancement.

### ❖ SGSY

Swarnajayanti Gram Swarojgar Yojana (SGSY) was implemented from 1-APR-1999.It was an umbrella scheme which consists of integration of Integrated Rural Development Programme (IRDP) ,Training of Rural Youth for Self Employment (TRYSEM),Development of Women & Children in Rural Areas (DWCRA),Supply of Improved Toolkits to Rural Artisans (SITRA),Ganga Kalyan Yojana (GKY), Million Wells Scheme (MWS). It is a holistic scheme which emphasises on poverty alleviation, capacity building of SHGs, helping the physically challenged and BLP holders by providing loan on subsidised basis. Major objectives of SGSY is to promote techno-economic support to landless labour, unemployed youths, rural artisans

### ❖ Ujjawala

It involves local communities to prevent trafficking of women and children; it provides protection to the deprived segments for women in remote as well as in urban areas. Various awareness programmes are being conducted for sensitising rural women and children. Apart from trafficking prevention it also act as rehabilitation centre for victims and provide all basic amenities for upgrading their mental and physical health. Vocational training programmes are conducted for capacity development of women.

### ❖ Nirbhaya

This scheme is implemented by Ministry of Women and Child Development; it ensures safety and privacy of women. This scheme encourages women to walk freely and safely in roads by helping them and safeguarding form any mishappenings. Several technologies are integrated and deployed for tracking purpose and reduces crime against women.

## Importance of ICT in Upliftment of Livelihoods of Rural People

India being dominated by villages it requires optimum attention for all round socio-economic development of villages to witness a major development nationwide. It can be successfully achieved effectively utilising the powerful tool i.e. ICT, which can act as a helping hand by adding betterment in diversified fields of rural areas as follows.

- It can strengthen Agricultural production and productivity as farming in the dominant occupation in rural India. ICT enabled tools can serve enhancing the profit.
- Basic infrastructure facilities can be developed.
- Social issues related to health, education, hygiene, sanitation can be addressed.
- Benefits of various government sponsored schemes can be availed
- Capacity building programmes can be fostered, rural youths and women can get immense benefit out of ICT.

## Challenges faced in Application of ICT for Rural Development

Though ICT is having immense potential for bridging the gap worldwide and to transform to a global village till then it is also associated with several challenges which hampers in penetration of this process in rural areas.

- Lack of awareness among rural people related to various applications and benefits of ICT.
- Education plays a vital role in effective dissemination of ICT, which is a major loophole in rural areas, so ICT should be supported by proper education.
- Lack of connectivity and internet unavailability is a major hindrance related penetration of ICT in rural areas.
- Cyber-crime is an emerging bottleneck in the field of ICT which requires thorough attention.
- Lack of experts in rural areas as they prefer to work in urban areas, so lack of proper guidance is also a major challenge for application of ICT in rural areas.

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