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# Information Communication in Rural Development

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**ABSTRACT**

In the modish world, information and knowledge have been playing a vital role in ensuring sustainable development. Rural development has been termed to be one of the most important factors of growth for the Indian economy since a large part of farming and food source is the rural areas. Also, a greater part of the population of developing countries consists of the rural population. They often lack access to basic needs such as water, food, education, health care, sanitation and security which leads to low life expectancy and high infant mortality. The current structure for rural development focuses mainly on bringing down poverty, providing for better livelihood, provisions for basic amenities and infrastructure facilities.
Information communication is an innovative tool for increasing awareness and providing the information needs for rural development. Broadband internet access has become crucial in development and social progress in recent years. One of the reasons people are enthusiastic about broadband is that they expect it to bring some of the more urban amenities to their town, therefore fulfilling the education and entertainment needs of young people and making their community more attractive. ICT program has been kicked off to bridge the information gap for rural development but being the new tool it has many challenges. One of them includes the administration to capture the needs of the rural people, mostly illiterate, to make them accustomed to the new technology which is completely alien to them. This paper discusses the scope of contribution of communication technology on the road to India's rural development and the challenges that come along.

**KEYWORDS** Rural Development, Internet, Communication Technology, Challenges, Recommendations.

## INTRODUCTION

There has been a debate for a long time as to the development in rural areas with the use of information and communication technology. There have been two different views on this issue. Some thought that the products, services, strategies that are successful in urban areas, could be transplanted with little or no modification in rural areas. It perceived rural areas as a poor extension of urban India. On the other hand, others saw a clear distinction between urban and rural India and said that a different approach, skill, tools and strategies need to be adopted for rural India.

However, the rural markets are a totally different proposition and not just a poor extension of the urban market as evidenced by the recent successes and failures of the corporate world in the rural market. The difference is not just income, but a host of other infrastructural and socio-cultural factors. Thus, the rural development cannot be tapped successfully with an urban mindset.

Over the past few years, the Government of India, has invested heavily in strengthening the ICT infrastructure and has taken several policy initiatives to attract private sector investments in ICT infrastructure and service delivery. In response to this, access to ICTs has been growing at a higher rate. At present the priority for extension is to use ICTs to serve agricultural development goals but with increasing recognition of the importance of the rural nonfarm economy and the potential for livelihood diversification it is clear that even in this role ICTs could be used for broader rural development goals. While agricultural extension programmes will take time to integrate ICTs to address the specific challenges of raising agricultural production, many of the lessons of extension experience could usefully be applied in support of broader rural development goals.

As part of the National eGovernance Plan (NeGP), "a massive country wide e-infrastructure reaching down to the remotest villages is evolving and a large-scale computerization of back-end is taking place to enable easy and reliable access of public services over the Internet" (Government of India, 2009).The mid-term assessment of the Eleventh Five Year Plan accepts the existence of a digital divide in terms of the Internet and broadband connectivity between the urban and rural India and the need for policies to address this issue (Planning Commission, 2010).

## RURAL INDIA— A PROMISING MARKETPLACE

The rural economy was perceived to be a slow growth subsistence agriculture economy, dependent on traditional technology. This perception began to change during the glorious years of green revolution, the white revolution and the blue revolution that followed. And finally the economic liberalization has transformed the rural economy into a vibrant and growing economy, with rapidly rising incomes. On the marketing front, there was the arrival of many well-known MNC's, which are household brands in the international markets.

Indian agriculture at the macro level has shown a marked improvement over the last couple of years in its ability to withstand the impact of climatic vagaries. This is evidenced in the three main yardsticks— area covered, crop production, and yield— which are up by nearly 50 per cent since the drought in 1987-88. Inputs including fertilizers, quality seeds and use of electricity for agriculture have also gone up significantly. The agricultural sector is therefore in a far more comfortable position than before.

Growth in agriculture has resulted in the rapid rise of rural incomes. Another fact is that the consuming class household with annual income between Rs. 45,001 and Rs. 215,000 in rural India equals the number in urban India. Also, for the same level of income, the disposable surplus (purchasing power) in rural areas is much higher because food, shelter, primary education and health are virtually free, whereas in urban areas 60 to 70 per cent of the income is spent on these necessities.

## GOVERNMENT POLICIES AND THE RURAL FACE OF REFORMS

Several issue-based programmes aimed at rural development have been designed and implemented by the Government of India. The developmental activities under the Ministry of Rural Development cover infrastructural development and reforms in the agricultural sector, non-farm sector and the social sector. Issues related to production, productivity, skills, access to institutional credit, education, health, social restructuring, empow-

erment of women and other socially deprived sections, marketing of produce or service, etc. have been the areas of focus for the policies within these sectors.

1. **Changing Rural Infrastructure:** Under the PradhanMantriGramodayaYojana (Prime Minister's Village Development Programme), announced in 2001-02 budget, a fund of Rs. 5,000 crore was earmarked for infrastructural development in villages, primarily village roads for which 50 per cent of the fund was reserved. The remainder was planned for rural housing, drinking water and sanitation. The Central Government has achieved considerable success in meeting the drinking water needs of 91 per cent of rural habitations, with an investment of more than Rs. 40,000 crore on the rural drinking water supply.

2. **Employment opportunities:** With the objective of promoting self- employment among the educated unemployed rural youth, government programmes such as PradhanMantriRojgarYojana (PMRY) and the Integrated Rural Development Project, were developed. These programmes, implemented at the grass- root level under the system of Panchayati Raj Institutions, aim to provide skill- based training and link to access to bank credit.

3. **SampoornaGrameenRojgarYojana:** The Employment Assurance Scheme (EAS) and the Jawahar GramSamridhiYojana (JGSY) are two schemes under the programme. The EAS is meant to create additional employment opportunities during periods of actual shortage of wage employment through manual work for the rural poor living below the poverty line. The JGSY aims at the creation of need- based rural infrastructure at the village level. These programmes have contributed to alleviating rural poverty.

4. **Rural housing:** The Central Government announced a National Housing and Habitat Policy in 1998 aiming to provide 'Housing for All' by facilitating the construction of 20 lakh additional housing units annually. The emphasis is on extending benefits to the poor and the deprived.

5. **Swarnajayanti Gram SwarozgarYojana:**Swarnajayanti Gram SwarozgarYojana (SGSY), an ongoing programme for the self- employment of the rural poor, has been in effect since 1999 after the restructuring of the erstwhile Integrated Rural Development Programme (IRDP) and allied programmes like Training of Rural Youth for Self Employment (TRYSEM), Development of Women and Children in Rural Areas (DWCRA), Supply of Toolkits in Rural Areas (SITRA) and Ganga KalyanYojana (GKY), besides the Million Wells Scheme (MWS). With the launching of the SGSY, the earlier programmes are no longer in operation. The programme has been able to provide access to institutional finance to about 1.7 crore women, i.e. 1.7 crore households, across the country. It has enhanced opportunities for initiating small- scale income- generating activities, thereby increasing household income and has also contributed to the empowerment of women.

6. **District Rural Development Agency:** DRDA has been the principal organ over the years at the district level for overseeing the implementation of various anti- poverty programmes. The DRDA must emerge as a specialized agency capable of managing the anti- poverty programmes of the Ministry, on the one hand and of effectively relating these to the overall efforts of poverty eradication in the district.

7. **Providing Institutional Finance in Rural India:** NABARD has been the primary government institution dedicated to developing systems and delivering institutional finance in rural for both the farm sector and the non- farm sector. It refinances the loans extended by grameen banks and cooperative banks under various government schemes:

- **Farm sector:** NABARD refinances assistance for financing farm mechanization, i.e., purchase of tractors, power tillers and also the accessories. It also provides agricultural credit through the Kisan Credit Card. As a pioneering credit delivery innovation, the Kisan Credit Card Scheme aims at the provision of adequate and timely support from the banking system to the farmers for their cultivation needs, including the purchase of inputs in a flexible and cost- effective manner.

8. **Land Reforms:** Land reforms aim at redistributing ownership holding from the view point of social justice and reorganizing operational holdings as a method to optimize land utilization. The reform measures were as follows:

- Distribute land among the landless by taking possession of surplus land from large landholders.
- Provide security to sharecroppers or tenants on tenure and ownership rights by regulating rent payable by them to the landlords.
- Protect the interests of tribals in land ownership against encroachment by non- tribals.
- Induce improvement in productivity through the consolidation of landholdings.
- Development of public land for the rural poor to give them access to fuelwood and fodder.
- Make land and other productive assets accessible to women.
- Protect the homestead rights of the rural poor on lands owned by them and provide them with house sites to enable them to construct their own houses.

**ICT AND RURAL DEVELOPMENT: INDIAN EXPERIENCE**

India has been a major hub for rural ICT experiments for more than two decades. Many of these initiatives have clearly revealed the huge potential of new ICTs in improving efficiency, effectiveness and reach of rural (as well as urban) service delivery. They also highlight the scope in ensuring the much needed transparency in both government and business.

**Traditional ICTs**

- **Radio**

India's post-independence experiments with ICT in agricultural development started with radio (Ghosh, 2008). The government established a network of All India Radio (AIR) stations across the country to broadcast programmes in regional languages. "Farm and Home" units were established in AIR in 1965 to communicate specifically on agriculture and related technical information. Some of the stations also started a programme 'Farm School on AIR' that teaches farmers a complete course on a subject of relevance in different episodes. AIR (now PrasarBharati) today has 231 stations in its network which virtually covers the entire country in terms of both population and geographical area. Radio is widely used for distance education in India. GyanVani is an educational FM Radio Channel, operating though FM stations from various places in the country. It is a joint venture of Ministry of Human Resource Development and Ministry of information & Broadcasting, PrasarBharti and IGNOU (the nodal agency). Currently there are 27 such FM radio stations, devoted exclusively to education and development through regional production and broadcasting across the country (MoHRD, 2010). An evaluation study found that 40% of the students listen to IGNOU programmes broadcasted through GyanVani (CSDS, 2008).

- **Television**

"Doordarshan," the government television has been playing an important role in communicating rural and agricultural news and information to rural communities. Doordarshan currently reaches 92 percent of the Indian population through a network of 1,414 terrestrial transmitters. It telecasts programmes on agriculture, rural development, women, children, family welfare, adult education, youth, civic sense and public awareness, science & technology and also telecasts special programmes during natural calamities such as flood, earth quake, epidemics etc.

Television is also used to support distance education. Gyandarshan is an exclusive educational television channel of India set up by IGNOU, MoHRD and PrasarBharti. It provides a blend of

core curriculum based programmes in the area of primary, secondary, higher, distance, technical and distance education.

- **Print Media**

Organised attempts to use print media for extension work started with the initiation of Farm Information Bureaus/Information Units in the state DoAs. Almost all state line departments, especially the DoAs, bring out farm magazines, in respective state languages. The Indian Council of Agricultural Research (ICAR) state agricultural universities (SAUs) and Farm Information Bureaus of state DoAs are also bringing out farm magazines. While circulation of many of these public sector farm magazines is poor, several farm magazines from private media houses have successfully improved their circulation during the past few years.

Newspapers (especially local language dailies) are one of the important sources of information for farmers. India has more than 62,000 newspapers, with a staggering 90% of them in local languages. Most of the regional language dailies devote at least one page every week for news and articles on different aspects of agriculture. However, India has one daily on agriculture, Agrowon, in Marathi published from Maharashtra. Agrowon has a circulation of 100,000 copies and the readership is estimated as 15,00,000.

**ICT AND E-GOVERNANCE FOR RURAL DEVELOPMENT**

Several states have initiated the creation of State Wide Area Networks (SWAN) to facilitate electronic access of the state and district administration services to the citizens in villages. The Information and Communication Technologies (ICT) are being increasingly used by the governments to deliver its services at the locations convenient to the citizens. The rural ICT applications attempt to offer the services of central agencies (like district administration, cooperative union, and state and central government departments) to the citizens at their village door steps. These applications utilize the ICT in offering improved and affordable connectivity and processing solutions.

Computerization of land records have been a great success in application of ICT in rural development. Land records are great importance to contemporary socio economic imperatives and their revision and updation are necessary for capturing the changes in rural social dynamics. Land records are an important part of rural development.

The farmers were largely benefited CoLR. The farmers can get all necessary records when they need it, these records are free from human arbitrations, the updating becomes easy, free from harassment and the farmers had direct access to information regarding their property.

The governmentof India started the centrally sponsored scheme of Computerization of Land Records (CoLR) in 1988-89 with main objectives of:

- Creating database of basic records
- Facilitating the issues of copies of records
- Reducing work load by elimination of drudgery of paper work
- Minimizing the possibilities manipulation of land records, and
- Creating a land management information system

**CHALLENGES IN THE ROAD TO DEVELOPMENT**

Rural India is faced with multiple developmental challenges. The critical ones include:

- **Population**: Increasing population, causing severe pressure on natural resources and the environment;
- **Natural resources**: Depleting natural resources, resulting in insecurity of food and employment, compelling over 35-40% of the rural population to live in poverty;
- **Education:** Poor access to education, resulting in low literacy and unemployment of the youth; Low literacy rate, particularly among women having adverse effect on their skills development, employment productivity, family welfare and education of their children;
- **Health:** Poor health status due to lack of clean drinking water, hygiene, sanitation and drainage facilities; inadequate health care facilities, leading to high child mortality and morbidity; loss of labour productivity, economic loss, indebtedness and poor quality of life;
- **Pollution:** Pollution of the environment and climate change, causing shortage of clean drinking water and adverse impact on agricultural production;
- **Employment:** Lack of employment in non-farm sector, forcing the landless and small farmers to migrate to urban areas;
- **Infrastructure:** Poor infrastructure for receiving timely information on development opportunities, market demand and prices are agricultural commodities, new technologies, forward and backward linkages, credit facilities and development policies of the government; and
- **People's organizations**: Lack of people's organisations for supporting various socio- economic development activities and governing themselves .With about 70% of India's population, i.e. approximately 700 million people, 'Rural India' can well be termed as the 'Real India'. To make India's growth story a truly inclusive one, it becomes imperative that the development challenges facing rural India are overcome. India's challenge of rural development has many dimensions.

**CONCLUSION**

Technology transfer has been a longstanding issue in rural development. The key concerns relate to efficiency and effectiveness, how to translate the technology developed in one context into usable solutions in another. The process of technology transfer falters not at the micro-level pilot study or test plot but at the point when the technology is expected to be adopted and used both efficiently and effectively on a larger scale. Tapping the potential of these new technologies will depend on adaptations to the conditions in developing countries, especially for poor users. Much will depend on innovations (technological, institutional, and entrepreneurial) to create low-cost, easy to use devices and to set up access through public or market centres with affordable products. What lessons can be learned from agricultural extension, and efforts to extend the use of agricultural technology in developing countries? It is worth remembering that ICTs are information technologies and not agricultural technologies. Agricultural extension systems have all too frequently underestimated the importance of free and open information flows relating to the introduction of new agricultural technologies. The main problem has been one of providing top-down information of limited local relevance to farmers who are also unable to ask questions or provide feedback to the extension services and research centres. These constraints have led extension services to focus on the importance of two-way information flows, together with a shift towards more participatory approaches in development more generally.

The contribution of information and knowledge in bringing about social and economic development has been well recognized globally. However, communicating this relevant knowledge and information to rural communities continues to remain as a major challenge even today, though the world has been better connected than ever before. The advent of new age Information and Communication Technologies (ICTs), especially, personal computers, the Internet and mobile telephone during the last two decades has provided a much wider choice in collection, storage, processing, transmission and presentation of information in multiple formats to meet the diverse requirement and skills of people. Many of them have also experimented with its new and varied applications in promoting development and this includes areas such as health, agriculture, governance, financial services, employment and education.

The focus of attention on failing extension services in devel-

oping countries is occurring at a time when there is recognition that globalisation and trade liberalisation is coinciding with the ICT revolution to create a peculiar climate of increased risks and opportunities for many developing countries. 'Knowledge and capital are at the centre of success within this new economic system. Yet some countries have yet to consider the value of making knowledge available through revived extension services'.

Rural development strategies are predominantly developed at the national or sub-national level and implemented by more geographically decentralized institutions although not necessarily politically decentralised. Where broader regional rural development strategies are used, it may be for a specific sector such as agriculture or a resource that requires strategic management planning such as fisheries, forests and other natural resources. Poverty is increasingly accepted to be multi-dimensional and therefore strategies at every level need to be more flexible to incorporate the heterogeneous contexts and livelihoods of the poor. In this context agricultural extension and rural development strategies need to avoid standardised, 'one-size fits all' approaches. The need, therefore, to develop differentiated rural development strategies has put greater emphasis on understanding the diversity of livelihood strategies especially among small scale family farms and the importance of non-farm income. ICTs should not only be seen as a means of understanding the complexities of rural livelihood strategies better through improved data collection but also as a means of facilitating increasingly differentiated approaches to achieving rural development goals.

The fact that ICTs are so flexible, and as convergence between them continues they become more so, could be used to benefit future rural development strategies if decentralisation of control over the ICTs and autonomy of the information system are permitted down to the local level. One area where ICTs offer great potential is in increasing the flow of public good type information. Information can be defined as a public good when it is difficult to restrict, having 'low excludability', and when it keeps its value to individuals regardless of whether others also acquire it because it has 'low extractability'. In the context of agricultural extension public good type information includes weather forecasts, basic information on soils and cropping techniques, market prices and food safety etc., all of which ought to be available without restrictions or restrictive institutional controls. Many of the financial problems faced by public sector extension services could be greatly alleviated by ICTs because their services rely on improving information transfer. The costs associated with verifying the quality of information and developing appropriate training packages remain, but in many cases these are being passed to the private sector. The costs relating to increasing the quantity and speed of information exchange are falling rapidly.

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