ICTs for the Empowerment of Rural Women: A Review

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Abstract

Information and Communication Technology (ICT) is a wonderful tool which benefits all spectrums of people in the world and reach millions of people every day. It is the communally and economically marginalized, predominantly women in those countries, who do not bring in the benefit of it. Recent developments in the fields of information and communication technology are undeniably revolutionary in nature. Information has become the principal determinant of the progress of nations, communities and individual. There is a potential for ICTs to purge gender discrimination and to empower women in society. But with science, technological innovations and socio-economic changes, women, even rural women, are progressively starting to utilize various kinds of technological instruments. ICTs perform as an agent to empower women, allowing them into the main torrent of society.

Amongst the various kinds of ICTs the cell/ mobile phone and television have reached a significant place. These two technologies are providing knowledge, economic independence, social security, social networks and self confidence to rural women, mainly young girls seeking employment opportunities and working in small and medium level towns. An attempt has been made in this paper to explore women's empowerment through ICTs in rural areas by IT sector and blockade to the usage of ICTs.

Keywords

ICT, Rural Women, Rural Areas, IT Sector, Employment Opportunities.

I. Introduction

A few decades ago, the post, newspapers and radio were the major communication sources in rural areas and rural people depended on these for their information needs. In the present decade, through the invention and penetration of ICTs, the situation has changed considerably. India particularly has reached a better position in ICT usage especially in rural areas. ICTs comprise a complex and heterogeneous.

set of goods, applications and services used to produce, process, distribute and transform information. ICT consists of segments as diverse as telecommunications, television and radio broadcasting, computer hardware, software and services and electronic media.

Television and mobile phones/cell phones and to some extent the internet have reached a remarkable position. India particularly has reached a better position in ICT usage especially in rural areas.

II. IT sector and ICT in India

A. The highlights of Indian IT Industries

According to NASSCOM Industry Ranking Report, 2013:

1. IT industry has generated aggregate revenue of USD 3.9 billion in Fiscal Year 1998 to more than USD 100 billion in Fiscal Year 2012.
2. IT has rapidly become one of the most economically significant industries in India in terms of share of total exports and export revenue (USD 69.1 billion and growing by more than 16%).
3. Its contribution to GDP is estimated to have grown from 1.2% in FY 1998 to 7.5% in FY 2012.
4. IT services alone account for more than half of the software and services exports in the industry, and is the fastest growing segment of the sector at 18%.

The Telecom Sector witnessed substantial growth in the number of subscribers during the year 2014-15 in India. Below Table 1 shows how ICT services are upgraded in the year 2014-15 in rural areas.

Table 1: Overall Subscriber base and Teledensity

Particulars	Wireless	Wireline	Total Wireless + Wireline
Total Subscribers (Million)	969.89	26.59	996.49
Urban Subscribers (Million)	555.71	21.47	577.18
Rural Subscribers (Million)	414.18	5.12	419.31
Overall Teledensity	77.27	2.12	79.38
Urban Teledensity	143.08	5.53	148.61
Rural Teledensity	47.78	0.59	48.37
Share of Urban Subscribers	57.30%	80.73%	57.92%
Share of Rural Subscribers	42.70%	19.27%	42.08%
No. of Broadband Subscribers(Million)	83.68	15.52	99.20

ICT services and service providers; teledensity, the establishment of the ICT related companies and employment opportunities show how ICT has grown.

II. Rural Women and Digital Carve up

In India, rural people, especially lower castes, women and socially marginalized communities, are facing problems of trouble-free communication and accessing information technologies. They are not able to communicate freely and use the technologies, because of the social control and economic factors. The digital divide between rich and poor, rural and urban, men and women, lower caste and upper caste has created a huge gap in the accessibility of the technology. The digital divide is often characterized by poverty, illiteracy, lack of computer literacy and language barriers. To overcome these constraints, some initiatives have been taken by world forums.

The United Nations Commission on Science and Technology for Development (UNCSTD) (1995) identified significant gender differences in levels of accessibility of ICTs. The information revolution appears to be by-passing women. Fewer women are accessing and using ICT compared with men, even though ICTs are powerful catalysts for political and socio- economic empowerment. Technology-based social empowerment especially for rural women is a new emerging concern in the present information world.

The Millennium Declaration adopted in 2000, underscored the urgency of ensuring that the benefits of new technologies, especially ICT, are available to all. In the year 2000, the Economic and Social Council of India adopted a ministerial declaration on the role of information technology in the context of a knowledge-based economy.

In 2001, the Secretary-General of the Council established a high-level Information and Communication Technologies Task Force to provide overall leadership to the United Nations on the formulation of strategies to put ICT at the service of development. To achieve this goal, a United Nations World Summit on the Information Society (WSIS) was planned in two phases. The first phase was the Geneva Summit in December 2003; it aimed to develop political will and to establish the foundations for an Information Society for all.

III. Literature Review

A UNESCO report on "Gender Issues in the Information Society" stated that the capability of women to use information through ICT is dependent on many social factors, including literacy and education, geographic location, mobility and social class. Social development movements, various kinds of development activities, programmes, welfare schemes and constitutional facilities have helped women to reach the main stream of society. In the process of women empowerment, the ICTs are also playing a major role especially through technologies like cell phones and the internet. The cell phone is an extremely efficient ICT for the empowerment of women. It has been accessed by the majority of the people, rural and urban, rich and poor, educated and uneducated, because of its features.

There are number of projects implemented in developing countries by UN, World Bank, government, corporate and private sectors, through the millennium development goals and local and international programmes.

African Women's Network of the Association for Progressive Communications [APC] has conducted training and workshops to support electronic networking among women's groups.

In Kenya, women and men weavers were trained in using the internet to learn new weaving techniques and access more realistic prices for their products.

The UNDP telecentre project in the Ukraine applies ICTs for agriculture and farm management to support women farmers, to create a network to improve their entrepreneurial skills in the new market economy.

The India Shop, an e-commerce website in Tamil Nadu, sells products made by rural women's co-operatives and NGOs. The DHAN Foundation and Swayam Krishi Sangam are using ICTs, such as handheld devices and smart cards, to improve micro-finance projects to empower poor women.

The Self-Employed Women's Association [SEWA] has several ICT projects for women, including community learning centers, a school of science and technology for self-employed women, and the Theliphone project, which provides mobile phones to women in the informal sector.

The M S Swaminathan Research Foundation (MSSRF) is setting up its rural tele-centres called Village Knowledge Centres (VKC) in many part of Tamilnadu, Kerala, Odisha and Maharashtra. The Chennai based rural development ICT initiative called TeNeT has set up village information centres in many parts of Tamil Nadu and other states in India.

Many of social and technical authors emphasized the need and use of ICT for the development of women in their literature. Some of the samples are below.

Roman Kumar and Rajesh Kochher (2011) have illustrated the effective usage of technology for small-scale industries, which are promoted by women under self-employment scheme. The authors have found that the IT based micro-enterprises by the self-help groups of poor women have helped the demystification of the common man that a few elite ones in the society are the only beneficiaries of the powerful IT. The author have concluded that the economic empowerment of women via IT enables them to challenge discrimination and overcome gender barriers.

Padmini Chattu (2013) have highlighted that the role of Mobile Technology in the field of women empowerment. The author have stated that not only for communication, women are also using the mobile for different ways: to be safe in times of difficulty, as a media connector with current updates in day to day and as an e-learning device to become literate. The scaling of women-centered mobile programs and applications can only be achieved with improved financial, commercial, and marketing incentives and of course, cooperation.

Arivanandan (2013) has analyzed the socio-economic inclusions of rural women through the two kinds of information and communication technologies i.e. cell phones and internet in rural areas. Most women now search for jobs by using cell phones and personal contacts.

IV. Study on Rural Women and Their Empowerment

A. Objectives of Study

This study has the following objectives:
1. To investigate women's empowerment through ICTs in rural areas.
2. To analyze the socio and economic inclusion of rural women by ICTs.
3. To identify the barriers of usage of ICTs by women.
4. To examine the role of the Government and the NGOs in promoting the IT sector for women's development.
5. To suggest strategies to overcome barriers and offer some practical suggestions for policy makers to improve women's access to ICT.

B. Methodology Followed

Data used in this study is collected from various sources such as journals, periodicals, articles, books, reports, websites etc.

C. Application of ICT in Rural Areas

Cell phone penetration in India is much higher than land line. In 2011 cell phone users were around 700 million and the subscription is estimated to reach 120 million by the end of 2013. But the study of GSMA Development Fund and the Cherie Blair Foundation stated that only 28% of Indian women own a cell phone, compared with 40% of men.

Barefoot College, a school in the northwestern state of Rajasthan, provides professional training for rural women to use cell phones and even illiterate women entrepreneurs use it in the marketplace. In Gujarat, the mobile phone is central to an innovative scheme that allows rural health care workers to compile information about pregnant women and then send a text message to the pregnant lady as a reminder for checkups and vaccinations.

In many rural areas majority of young working girls use the cell phone to contact their families or friends. A few use them to search for employment opportunities and bus arrival timings. These girls are going to jobs far away from their homes; they have limited bus services to their villages, so need to confirm bus timings. Apart from that, the girls use the cell phone as torchlight when they are going home in the dark. Most women feel that the cell

phone gives them a sense of security.

Another significant use of the cell phone is for agriculture coolies, small scale industry workers and women working in the MGNREGA programme. The women listen to FM music and other movie songs when they are working in the fields. The age group 15 to 25 years of women is very interested in listening to and watching movie songs and video pictures. Most rural women are first time users of cell phones. However, this has created many ethical and marital issues among both married and young unmarried women.

Another issue is that the excessive usage of cell phones by young unmarried girls calling their relatives and friends is something which most men in rural areas don't like for male supremacy still exists in most rural families.

Another significant modern communication tool is the internet. With help from international organizations like the World Bank, and UNDP's Millennium Development Goals, national and international development agencies and corporate bodies, rural development initiatives are introducing the internet into rural areas through the implementation of telecentres. These centres are also known as village Information centres, information centres, information kiosks. They provide internet and computer based information and training to rural people. They are run by rural women who are associated with village Self-help Groups (SHGs). These information centres help to empower rural women's entrepreneurship and provide computer training to young girls who can then look for clerical jobs near their villages. However, the centres are not used much by women for their information needs. This particular study also revealed that 35% of the respondents used the information centre only to know the SSLC and HSc exam results.

Rural women in developing countries may be able to sell their products directly without going through intermediaries. One of the most powerful applications of ICT is electronic commerce. E-commerce refers not just to selling of products and services online but also to the promotion of a new class of ICT-savvy women entrepreneurs in both rural and urban areas. E-commerce initiatives can link producers and traders directly to markets at national, regional and even global levels, allowing them to restructure their economic activities and by pass intermediaries and the male-dominated and exploitative market structure.

D. Access to Information
ICT can deliver potentially useful information, such as market prices for women in small and micro-enterprises. For example, use of cellular telephones illustrates how technology can be used to benefit women's lives, by saving travelling time between the market and suppliers, by allowing women to call for product prices and by facilitating the constant juggling of paid and unpaid family activities.

Now a days many useful mobile apps are developed so as to provide different sets of information without going to the concerned places or authorities. So these type of apps can help the rural women in many ways according to their livelihood.

E. Employment
Considering, then, how important the IT industry may be for the employment of young female professionals and if it is not now,

it will be soon, the responsibility to create nondiscriminatory and comfortable workplace environments should fall heavily on the largest and most economically significant companies in the software sector.

However, ICT has played an important role in changing the concept of work and workplace. New areas of employment such as teleworking, i.e. working from a distance, are becoming feasible with new technology. As a result, a high proportion of jobs outsourced by big firms are going to women, therefore, work from outside the office, often from their own homes and at any time, thereby raising their incomes to become more financially independent and empowered.

F. Barriers to Usage of ICT's for Women
- Lack of clear National Policy for promoting ICT for women's development.
- Poor ICT infrastructure, inefficient telephone services, lack of electricity in many remote, far-flung areas, and frequent power cuts.
- Lack of computer skills on various areas including hardware and software installation and maintenance, internet and non-internet based skills such as telnet, FTP, mailing etc.
- Limited online information in languages other than English.
- Women's time is at a premium. The barrier to ICT use includes the issues of information overload and the time consumed in searching for useful and practical information.
- Social and cultural barriers

G. Role of IT Sector
Keeping in view the plight of rural women, who are more unaware of new technologies than their urban counterparts, government is providing special packages for them, who are involved in home based or small-scale activities related to handloom, handicraft, sericulture, etc..

Government of India is in the process of establishing Community Information Centres (CIC) at all block levels, which are designed as the prime movers of ICT in the most economically backward and geographically difficult terrains. CICs are supposed to provide multipurpose information on health, education, social welfare and small-scale industry, etc.

SITA (Studies in Information Technology Applications) is a women empowering project that aim to educate low-income women in Information Technology, and trying to change the deeply rooted discriminating attitudes towards women.

The Self Employed Women's Association (SEWA) has been organizing women in the informal sector in India since 1972. It was one of the first organizations globally realized the potential of using IT for the productive growth of the informal sector. SEWA has effectively used ICTs to improve the efficiency and reach of its operations. The SEWA Trade Facilitation Centre (STFC) showcase members' products online, facilitates business-to-consumer sales, builds business-to-business links and empowers members to ride the ICT wave.

Kudumbasree is a poverty eradication project of the Government of Kerala, being implemented in the state through the local bodies since 1998. The project gives importance to women and children from Below Poverty Line (BPL) families and is being implemented through neighborhood groups, which are formed by 15 to 40 members. Kudumbasree encouraged and trained the poor educated women from the neighborhood groups to form enterprise groups

to set up micro-enterprises based on ICT applications.

Under the rural e-Seva centers, initiated by the Government of Andhra Pradesh in West Godavari District, web-enabled rural kiosks were established to provide a large number of citizen services. Initially the project started in all 46 mandal headquarters in the district, with the first women's e-Seva center opening in June 2012. Out of the 46 bigger e-Seva Centers at mandal headquarters, 20 are managed by women. Women from SHGs took loan to set up this initiative and all these centers are running profitably.

H. Suggestions to Improve the Usage of ICT to Avoid the Barriers

1. Equitable access to ICT technology and the autonomy to receive and produce the information relevant to their concerns and perspectives are critical issues for women.

2. There is need to use a rights-based approach to ICT policy development, where everyone has the right to affordable access to ICTs. Only then, can we work toward securing universal access to ICTs and consequently promote and facilitate the use of ICTs for women's empowerment.

3. The question of where and how they can gain access to ICT becomes important. This is an area where intermediary organisations can help bridge the gap by email accounts, bulletin boards, search engines, mailing lists, and other useful functions serve as communication, networking and collaboration channels among women's groups, and between women and the external sphere.

4. Promote the enrollment of girls in ICT programs by providing incentives such as scholarships and awareness raising activities.

5. Government and NGOs need to impart technical education on the use of ICT as a part of both formal and informal education system and to initiate distance learning and vocational courses.

6. Language access must be addressed as a serious barrier to gender equity on the international ICT policy level.

7. The key issue is that the technologies should be adapted to suit women rather that women should be asked to adapt to suit the technologies. Most policymakers are proceeding on the second premise. If they can be encouraged in terms of the first premise then we will ensure that ICTs become more "women friendly" in terms of cost, access, applicability in different fields, etc.

8. When policies and programs are in place to improve access, paucity of funds should not be a hindrance to establishing ICT access points or even implementing telecenter-type programs.

V. Conclusion

It is true that technology is one of the developmental tools. At the same time the new technological inventions have to be properly implemented and people trained to utilize its advancement for their development.

The accessibility of cell phones is creating decision-making capacity and economic liberalization to women in the study area. Working girls can contact family at any time and from anywhere. Both parents and girls then feel safe and secure.

On the other hand, we need to notice the negative impact of cell phone accessibility. It is a very new technological tool and care must be taken not to de-motivate rural women.

Another important ICT penetration in the rural set-up is the internet. It has been mainly introduced in rural areas through the concept of ICT for development. It was given a great hype in the implementation stage, but accessibility to the internet by rural people did not reach the expected level. This was because service providers and policy makers did not understand rural realities or the information needs of rural people. Rural people's needs are very specific; they need more local information rather than global information.

Nevertheless, if the information centers disseminate information on agriculture, domestic developments, local marketing news, government schemes and health care in local languages, this will be very useful for rural people.

The study therefore suggests that technological development is an urgent requirement for the socio and economic empowerment of rural women. The gamut areas in which ICT can put a greater control in the hands of women is wide and continuously expanding. ICT have the potential to reach those women who hitherto have been not reached by any other media, thereby empowering them to participate in economic progress and make informed decision on issues that affect them. In this connection, the role of government, private and corporate sectors and the civil society is vital.

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