Information and Communication Technologies
&
Woman Empowerment in India

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Abstract- **Information and Communication Technologies are diverse set of technical tools and resources to create, disseminate, store, brings value addition and manages information. The ICT sector consists of segments as diverse as telecommunications, television and radio broadcasting, computer hardware, software and services and electronic media, for example, the internet and electronic mail.**

This paper looks at the prospects generated by ICT supported networking processes for women's empowerment. It discusses the foremost challenges and a hindrance confronted by women and recommends strategies to address those challenges and means to revamp the situations giving rise to women's empowerment.

Keywords- **Need of ICT, Status of Women in ICT, Women empowerment, ICT**

It is well unstated that any endeavour to revamp the quality of life of people in developing countries would be unfinished without the empowerment of women. Information and Communication Technologies [ICTs] are technological apparatus and resources to create, circulate, store, bring value-addition and manage information. The ICT sector embraces diverse segments such as telecommunications, television and radio broadcasting, computer hardware, software and services and electronic media etc. ICTs are mounting as a powerful tool for gender empowerment in a developing country like India. According to the 2004 report by Cisco Learning Institute women encompass only 23% of India's internet users. This gender digital divide is characterised by low levels of access to technologies. Poverty, lack of computer literateness and language barricades are among the issues impeding access to ICT infrastructure.

This paper looks at the prospects formed by ICT-enabled networking processes for women's empowerment. It discusses the main challenges and impediments faced by women, recommends strategies to address those challenges and ways to cultivate the conditions leading to women's empowerment.

I INTRODUCTION

Information and communication technologies can be powerful tools for advancing economic and social development through the formation of new sorts of economic activity, employment openings, improvements in health-care delivery and other services, and the augmentation of networking, participation and advocacy within society.

While the potential of ICT for encouraging economic growth, socioeconomic development and effective governance is well recognized, the paybacks of ICT have been unevenly disseminated within and between countries. Poverty, illiteracy, lack of computer literacy and language barriers are among the factors impeding access to ICT infrastructure, especially in developing countries. Another hindrance pertains to ICT is lack of its access to women.

II REVIEW OF LITERATURE

ICTs are constantly hailed as one of the most effective tools for economic progress. An ITU study (2005) describes ICTs as potentially powerful "development enablers:" They are cost-effective with significant transformative power, allow developing countries to leapfrog several stages of the development process and, in furnishing individuals directly with tools for self-empowerment, avoid top-heavy and corrupt bureaucracies (Heeks, 1999; Karake Shalhoub & Al Qasimi, 2006). Specifically, Eggleston, Jensen, and Zeckhauser (2002) argue that ICTs "can enhance the functioning of markets that are critical for the well-being of the poor" because ICTs can foster greater market integration in many ways:
• They allow firms and individuals in developing countries to contribute more competitively and with better ease in the regional, national and global economies and reduce uncertainty in doing business;
• Information concerning prices enables producers to plan their product mix and input purchases in a proficient manner;
• Access to ICTs allows producers to sell their products in the most profitable markets and find out the optimum timing of sale;
• Availability of price information shrinks the informational asymmetry between the rural producers and middlemen;
• ICTs reduce the exploitation of rural producers by e-middlemen;

• Increased information about the availability of jobs could result in better and faster matching between landless labourers and available jobs, ultimately leading to increased productivity;
• ICTs provide greater access to weather-related information and credit opportunities.

The literature on the enormous opportunities ICTs provide for women's empowerment is vibrant and wide ranging. Kelkar and Nathan (2002, p. 433) have argued that ITs have the potential to "redefined traditional gender roles" and that "the spread of IT-enabled services has been immensely beneficial to both women and men, especially those who have limited skills or lack of resources to invest in higher education." Drucker (2001) has called ICTs the "great equalizer" and pioneers in the field of gender empowerment through ICTs, both in academe and advocacy, such as Hafkin & Taggert (2001), Haflan (2002), Huyer (2002, 2005), Mitter (2003), Nath (2001), Sharma (2003), Sharma (2004), and Ng (2005) have convincingly shown that access to and effective use of ICTs contributes to women's empowerment and capacity building in numerous ways, frequently with synergetic effects:
• Training in the use and design of computer applications;
• Marketable skills create alternative possibilities for income formation and the possibility of upward mobility;
• An independent income is the basis for individual autonomy, increased agency and control and, frequently, increased self-esteem and self confidence (Huyer, 2006, p. 30; Garrido & Roman, 2006, p. 170).

A. Position of Woman in India

In Indian society there occurs a great disparity in the matter of economic resourcefulness between a man and a woman. Our society is male subjugated both economically and socially and women are always dispensed with dependant role. A nation that does not esteem its women cannot be designated as a civilised nation at all. Such a nation cannot grow and develop. Thus, the national consensus should focus on betterment of women by befittingly empowering them.

Empowerment is a multi-dimensional social process that aids people gain control over their lives. Women empowerment commonly refers to the process by which women augments their power to take control over decisions that shape their lives, including in relation to access to resources, partaking in decision making and control over distribution of benefits.

Women's empowerment has five components: women's sense of self-worth; their right to have and to decide choices; their right to have access to chances and resources; their right to have the power to control their own lives, both within and outside the home; and their aptitude to influence the direction of social conversion to create a more just social and economic order, nationally and universally. Though empowerment is a central approach taken up by a number of international and national agencies, few of them share shared definitions and most of them have diverse explanations of empowerment.

More women are convoluted in careers in the communications sector, but few have achieved positions at the decision-making level or serve on governing boards and bodies that sway media policy. The lack of gender sensitivity in the media is shown by the failure to eradicate the gender-based stereotyping that can be found in public and private local, national and international media organizations. The unremitting projection of negative and degrading images of women in media communications - electronic, print, visual and audio - must be altered. Print and electronic media in most countries do not offer a balanced picture of women's sundry lives and contributions to society in a varying world. Programming that reinforces women's traditional roles can be similarly limiting. The worldwide drift towards consumerism has created a climate in which advertisements and commercial messages often depict women primarily as consumers and target girls and women of all ages improperly.

Women and girls are exposed to great discrimination in economic, education, health and social services access worldwide. On the other hand the range of women's economic activities in emerging countries is very broad. It embraces formal sector and informal sector employment, as well as self-employment in farming, trading and crafts production etc. There are plentiful possibilities for ICTs to improve women's economic activities in the field of trade, governance, education, health, crafts, employment in formal as well as informal sector. ICT brings lot of openings to women in the work situations and small business. Teleporting, flexi time and work from home arrangements are some of the gender magnitudes of ICT's usages.

Largely speaking, there are three sorts of women empowerment:

• Political empowerment

It is concerned with augmenting the power of voice and collective action by women. Besides, it confirms equitable representation of women in decision-making structures, both formal and informal, and strengthens their voice in the formulation of policies affecting their societies.

• Social empowerment:

This is a process of attaining information, knowledge and skills; and auxiliary participation of women in social organizations without any gender biasness in day-to-day activities. It is also concerned with inculcating a feeling of equivalence instead of subservience among women.

• Economic empowerment:

Women are economically endowed when they are supported to engage in a productive activity that permits them some degree of independence. This type of empowerment is also concerned with the quality of their economic involvement, beyond their presence as poorly paid employees.

B. Communication Technology and Education for Women

"Any technology that is not proper for women is not justly appropriate technology." In the last 30 years, communication technologies have been put into action in a number of educational and developmental applications.

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The national policy on education, 1986, observed that modern communication technologies have the potential to bypass numerous stages and sequences in the process of development, encountered in earlier decades. Both the restraints of time and distance become manageable at once. Further, in the policy document there are directions to endorse the enrolment of girls. The Ministry of Human Resource Development put in considerable attempts to utilise technologies in the primary school sector. These technology schemes envisaged dissemination of audio cassettes and television sets in primary schools. In addition, there were distinct schemes to offer primary teachers' training through video and television. In the last few years there have been distinctive schemes and campaigns to encourage girls to attend school and, thus, elevate their status in the family. Information networks covering the length and breadth of the country offer wide coverage. AIR has over 200 radio stations and 300 transmitters and Doordarshan has 600 transmitters. Both AIR and Doordarshan are influential tools to spread information in the country.

In most of the other ICT initiatives that depend on print media, Internet kiosks, portals, call centres, mobile, video digital photography etc, there is not enough evidence to show its access and use by women. This could be due to the following reasons:

• These tools and their applications are generally deployed for disseminating information for rural communities without any specific attention for women's special needs for information and their constraints in accessing these.
• Men are specifically targeted in these initiatives as they take decisions on inputs, farm operations, marketing, accessing government schemes etc.
• The information provided through these tools are generic and so while it adds to the information base of rural communities including women, its lack of contextualization prevents both men and women from using this information effectively.
• Lack of adequate research on women's access to ICTs and the resultant lack of data constrain any specific action that might be needed to improve women's access.

III STATUS OF WOMEN IN ICT

It is a commonly held view that women are less engaged with Information and Communication Technologies (ICTs) than men. Information and Communication Technologies are for everyone and women have to be an equal beneficiary to the advantages offered by the technology, and the products and processes, which emerge from their use. The paybacks accrued from the synergy of knowledge and ICT need not be restricted to the upper strata of the society but have to freely flow to all parts of the female population. The scope of areas in which ICT can put a greater switch in the hands of women is wide and uninterruptedly expanding, from man - aging water dissemination at the village-level to standing for local elections and having access to lifelong learning prospects. ICT in convergence with other forms of communication have the potential to reach those women who hitherto have not been reached by any other media, thereby empowering them to partake in economic and social progress, and make informed decision on concerns that affect them.

As par all surveys piloted by *BMRB international*:
o The number of women who have used a PC at some time has amplified since 1996 but is below that of men (51% compare to 66%).
o Women are less likely than men to have access to or use a PC.
o Women's use of internet lags behind men.
o Women are less likely to feel that PCs and internet would be beneficial in their daily lives.
o Women seem to be less confident in the computer abilities.
o As it is demarcated in ICT Industry, women are understated in all sectors, accounting for around 30% of employees.
o Women are underrepresented on higher education courses relevant to the ICT sector.
o Evidence from US recommends women entrepreneurs are more likely to adopt internet and new technologies for business growth than men.

A. Need of ICT for Women

Information needs of women in the new globalize environment are as diverse as the socio- economic scenario. Considering women, as a monolithic group will over simplify their information needs. Within women's group itself, globalisation has generated the haves and the have nots i.e those who are in a valuable position due to globalisation and those relegated further into disadvantaged position under the new economic policy. The information needs will also vary accordingly. Within women's group itself, the needs fluctuate accordingly.

Urban women and ICT

a. Urban educated women need information on:
o Educational & research opportunities
o Career advancement facilities
o Employment prospects in India and abroad
o Fashion and market values
o Health and child care facilities
o Art and entertainment
o Social support system for working women
o Legal rights and provisions

b. Urban lower middle class women need information on:
o Educational facilities and opportunities
o Career advancement and job opportunities
o Inexpensive health and childcare
o Inexpensive social support systems
o Legal rights and provisions against social injustice, domestic violence,

c. Poor urban women may need information on:
o Free health services and child care facilities
o Job opportunities in the low paid informal sector including domestic services
o Housing availability specially in slums
o Free educational facilities, information regarding government programmes for poor

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Urban women and ICT

Thus, ICT can play a foremost role in women empowerment. But this cannot occur till the e-governance and ICT strategies and policies become transparent and accountable. To orient ICT projects, ICT project planning and implementation for social development and gender equality must take place in a context which comprises of five main components:

(a) Creating an environment which supports and inspires strategies to indorse women's equal access to and opportunity to benefit from ICT projects, as well as creating a regulation and policy environment which backings women's use of ICTs;
(b) Developing content which speaks to women's concerns and replicates their local knowledge, and which is of value for their daily lives, business enterprises, and family responsibilities;
(c) Backing augmented representation of women and girls in scientific and technical education, and using ICTs to promote their amplified participation in education at all levels;
(d) Promoting amplified employment in the IT sector for women.
(e) Executing e-governance strategies which are accessible to women.

IV WOMEN EMPOWERMENT THROUGH ICT

A nation that wants to progress cannot afford to disregard capacity building and empowerment of women. Gender sensitivity is the precondition that must prevail and be strengthened at all levels. Women's development is now inextricably associated with technology. Thus, technological intervention undertakes a greater and more vital role, especially when viewed globally. It's potential to sweep across political, geographical, economic and social barricades are just the leverage that women need to build for themselves a new distinctiveness and a more honourable place in society.

As has been experienced the world over, women have restricted access to technologies in India. However, there are now enough experiences to show that when women are trained, they show noteworthy understanding and control in using technologies commendably. In India, women comprise a large portion of the rural population and play a significant role in the rural sector. Their involvement in a number of productive actions is commonly overlooked. The experience of women in the field of animal husbandry—principally dairying—is a case in point. Women have stated their helplessness in looking after cows, diagnosing several diseases and providing instantaneous care. The reasons cited were their unawareness of current veterinarian care, on the one hand, and the lapse of outmoded methods of care on the other. A study of the situation in different parts of the country resulted in the proliferation of a complete range of manuals for animal husbandry workers. But technical information was offered in such difficult terms that it mystified even technical workers. It is from the United Nations Fund for Women's Development (UNIFEM), an expert team of veterinarians worked on simplifying the manuals and drawing up pictorial charts. The manuals and charts listed the do's and don'ts for practitioners in the field. Large groups of women in the dairy industry greeted this information as it empowered them with appropriate knowledge, bypassing the otherwise precondition need for schooling and literacy.

"Barriers to engendering knowledge networking processes with the inception of ICT and convergence technologies, it is possible to bring up a significant fraction of women communities in a more symbiotic digital network which focuses on localized information and customized solutions, and works on the theme of Global Technologies for Local Use. Women, however, are still very much in a minority among the beneficiaries of knowledge networking. Women still face huge imbalances in the ownership, control and regulation of these new information technologies, similar to those faced in other areas." *(New York Times, 2000).*

A. Specific Impairments to the ICT

o Cognizance
Governments and civil society organizations have still not entirely absorbed the comprehensive potential of ICT in gender development and therefore are far from the stage of generating enabling frameworks and spaces for the growth of engendered ICT -models.

o Access issues
The new technology comes at a financial cost, which obstructs its infiltration to the individual and community level. The difficulty is compounded by the fact that women in developing countries have little switch over the household income and do not have the decision-making power to capitalize in these technologies. The availability of ICT in these countries is therefore skewed towards the urban areas and women in rustic areas constitute one of the main marginalized groups.

o Capacity and skills
Instigating knowledge networking processes and benefiting from them entails a level of capacity and trained human resource power. Women because of their backward positions are at deprived position than men to fully benefit from knowledge networking.

o Linguistic blocks
Much of the knowledge existing in the global pool is in the English language, which is not understood by the poorest communities. This makes the combination of local knowledge of women with the universal knowledge a difficult task.

ICT strategies and models can succeed in linking the gap only if there is a concerted effort towards designing of enabling policy frameworks and avenues; these create opportunities and incentives for women to partake and profit from the networking processes. The "**Platform for Action of the Fourth World Conference on Women 2000**" states that, "**women should be empowered by enhancing their skills, knowledge and access to information technology.**

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This will strengthen their ability to combat negative portrayals of women internationally and to challenge instances of abuse of power of an increasingly important industry".

B. Formation of Intermediary Organizations

The starting point for any efficacious gender-entrenched knowledge net working approach is the development of relationships that make it easier for women to talk about their needs, share information, and work together. This is where the intercessor organizations can offer a platform for women to get energetically involved within the processes.

The ownership of ICT for the majority of women in emerging countries is not viable for the foreseeable future, which infers that the question of where and how they can gain access to ICT becomes essential to the knowledge networking processes. The intermediary outfits can facilitate in bridging the "last mile'" of connectivity by offering community based technological interface for the networking process. Intermediary organizations can confirm that e-mail accounts, bulletin boards, search engines, mailing lists, list serves and other suitable functions serve as communication, networking and collaboration channels among the women's group, and between women and the external sphere. They could also contribute to building capacities of women by providing offering in basic computer abilities, Internet and access to information via Internet, desktop publishing, and e-commerce.

V SUGGESTIONS

o Women should be empowered by augmenting their skills, understanding and access to information technology.
o Women need to be involved in decision-making concerning the development of new technologies in order to partake totally in their growth and impact.
o To offer accessibility to women in order to derive the paybacks from applications like tele-education etc.
o It is needed that Multifunctional Converged Application Community Centres (MCACs) should facilitate the Telecommunication services, computing services like E-mail and Internet access, information about local data base and generating awareness about governments' programmes.
o NGOs and the government should come together to make paucity alleviation programmes popular through women centric initiatives.
o Community networking may offer many profits to the world. This is predominantly true of rural ICT projects that seek to bring emerging technologies like low cost computing and Internet access to rural areas, social institutions and governments.
o There is no common design for all rural ICT networks as communities vary in social, economic, and political outfit, and therefore information needs, and the design of community networking system, will vary. For fruitful community networking, the design and implementation of projects should be driven by the explicit needs of communities.

o Need of incessant monitoring of women's adoption of the ICT interventions.

V CONCLUSION

Information needs of women as well as their ICT use differ widely. However, there is no ideal ICT that fits all situations. Though women are engaged in numerous roles in agriculture, they are keen to have information on other parts, such as child health, nutrition, prevention and cure of common diseases, employment opportunities etc. Those trying to install ICTs for women empowerment should build their strategies grounded on ICT use pattern and varied information needs of rural women. Emerging a dynamic and relevant content for rural women continues to remain as a major challenge. Adequate resources need to be allocated for this activity, if profits from resources invested in connectivity and hardware have to be copiously realized.

The advent of ICT has altered the global scenario and many unexplored areas are now open for encashment. It is for us to exploit the paybacks to the maximum possible extent. The best part about ICT is that it is capable of several adjustments as per the necessities of the segment using the same. The same can also be adjusted as per the needs and requirement of women in India. This means that even the traditional and traditional families can allow the women to participate and use ICT from their respective homes. In India there is a copiousness of "women entrepreneurs" who are capable of making their mark at the international level. However, the awareness and facilities are missing radically. The national policies and strategies have not yet taken into consideration this unexplored potential pool of intellectual inputs. With meek training and awareness programmes we can make a big transformation. Further, we can also inspire the creation of "Small and Medium Enterprises" (SMEs), Small Scale Industries (SSIs), etc. The need of the hour is to display a positive will to attain that much needed purpose.

REFERENCES

[1] Rathore, Singh and Dubey, *Barriers to Information and Communication, Technologies Encountered by Women Sponsored by The Commonwealth of Learning and the British Council*, November 26 – 28, 1998, India
[2] V. Nath,. *ICT enabled knowledge societies for human development*, *Information Technology in Developing countries*, 2000
[3] Hudson H.E. (2001), "*The potential of ICTs for development: Opportunities and obstacles*," Background paper, in World Employment Report 2001, The contribution of ICTs to development.
[4] Annual Report of Human Resource Development, Government of India, (2010).
[5] Farida Khan , Rehana Ghadially, Journal of International Development Volume 22, Issue 5, "Empowerment through ICT education, access and use: A gender analysis of Muslim youth in India", July 2010
[6] Dossani R. (2005), Enabling ICT for rural India. Retrieved from http://iisdb.stanford.edu/pubs/20972/Dossani_Rural_ICT_2005.pdf, 1st December 2010

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