Impact of Information and Communication Technologies on Women Empowerment in India Institutions of Social, Economic and Political Education System

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Abstract

The Information and Communication Technology (ICT) revolution has not only opened up new opportunities for economic growth and social development but has also posed problems and challenges. It can shape and enhance wide range of developmental applications in agriculture, industry and social sectors and is influencing all sections of the society. ICT provides unique opportunities for human development. At the same time, ICT has been widening the gaps between and within countries, regions, gender while increasing disparities divide between the rural-urban, rich-poor, elite neglected and also within the different categories of women in various spheres of activity. It is necessary to build up women capacities to involve them in productive activities, institutional building, family and social transformation, decision-making process, political representation, trade and commerce, entrepreneurial development and social leadership. There is a need to enhance opportunities to women to enable them to own, manage and control industries and service enterprises including IT-based units. There is also need to provide more opportunities in related sectors to them in higher managerial, technical positions in government and non-government agencies, research, educational institutions in private and public sectors, without confining their role to only call centers, telecasters, data-entry level and lower levels in the organizations. ICT has to address to all these problems of women as a whole and has to be used to facilitate to build a women empowered society.

Keywords: Information & Communication Technology, Women Empowerment, ICT Tools, Knowledge Network System and Information Economy.

INTRODUCTION

In today's developing environment usage of Information Technology has become a day-to-day activity which has exposed women to the new technologies, and hence are not difficult to be trained on them. It is observed that women in general have good concentration power owing to their nature of work, and hence are easily trained to acquire any new skills. As the women at lower strata are constrained to the homes, if we can get the technology to the women at home we will be sure to succeed in empowering them. NGO's and Government departments have to plan training programs, to provide the required skills and establish groups for the follow up action.

The development and proliferation of electronically communicated information has accelerated economic and social change across all areas of human activity worldwide – and it continues to do so

at a rapid pace. While the use of information and communication technologies (ICTs) remains concentrated largely in the developed world, ICT diffusion is beginning to reach developing countries, including poor rural areas, bringing with it high hopes of positive development outcomes. Socially the majorities of Indian women are still tradition bound and are in a disadvantageous position. The principle of gender equality is enshrined in the Indian Constitution in its Preamble, Fundamental Rights, Fundamental Duties and Directive Principles. The Constitution not only grants equality to women, but also empowers the State to adopt measures of positive discrimination in favor of women. The Government of India had maintained and support of women empowerment in plan and policy documents including Five years plans, the Panchayati raj, Acts and the National Policy for Women.

WOMEN EMPOWERMENT

In India, as elsewhere in the developing world, women play a central role in family, community and social development. However, women often remain invisible and unheard. Women more than men have to balance the complexities of surviving in extreme poverty, yet these women are excluded from discussion because they are often illiterate, they lack confidence and they lack mobility.

Empower is a multidimensional word including social, physical, spiritual, mental, political and psychological dimensions. Empower means personal growth in decision making, analyzing critical situations, coping with all circumstances and facing challenges.

Dimensions and Parameters of Women Empowerment:

The process of empowerment has five dimensions, viz. Cognitive, psychological, economic, political and physical:

   i.   The cognitive dimension refers to women having an understanding of the conditions and causes of their subordination at the micro and macro levels. It involves making choices that may go against cultural expectations and norms;

   ii. The psychological dimension includes the belief that women can act at personal and societal levels to improve their individual realities and the society in which they live;

   iii. The economic component requires that women have access to, and control over, productive resources, thus ensuring some degree of financial autonomy. However she notes that changes in the economic balance of power do not necessarily alter traditional gender roles or norms;

   iv. The political element entails that women have the capability to analyse, organise and mobilize for social change; and

   v.   There is a physical element of gaining control over one's body and sexuality and the ability to protect oneself against sexual violence to the empowerment process. [15]

ROLE OF ICT IN WOMEN EMPOWERMENT

ICT opens up a direct window for women to the outside world. Information now flows to them without distortion or any form of censoring, and they have access to same information as their male

counterpart. ICT are closely linked to power and the ability to affect change. It can create new opportunities by expanding information flows and by making communications more accessible, people living in poverty can make better choices, voice their opinions, demand their rights and have more power over their own lives. Information technology has become a potent force in transforming social, economic, and political life globally. More and more, development strategists see the need for developing countries to embrace information technology both as a way to avoid further economic and social marginalization as well as to offer opportunities for both growth and diversification of their economies. Women within developing countries are in the deepest part of the divide, further removed from the information age than are the men whose poverty they share. The gender gap in the digital divide is of increasing concern; if access to and use of these technologies is directly linked to social and economic development, then it is imperative to ensure that women in developing countries understand the significance of these technologies and use them. If not, lack of access to information and communication technologies becomes a significant factor in the further marginalization of women from the economic, social, and political mainstream of their countries and of the world. Without full participation in the use of information technology, women are left without the key to participation in the global world of the twenty-first century. ICT can be a powerful catalyst for political, social and types of empowerment of women, and the promotion of gender equality.

Internet gives them a platform where people can interact with each other without hesitation as they are unaware of each other's identity. Especially women can show their emotions, views, feelings and opinion more openly. ICT offer the opportunities for direct, interactive communication even by those who lack skills, who are illiterate, lack mobility and have little self-confidence.

Here are some aspects of life which have a direct influence of ICT especially on women:

ICT for Social empowerment

- Gaining access to new and useful knowledge, information and awareness about a range of issues, topics and activities of interest to women. This new information and knowledge often provided mental stimulation and broadened their thinking.
- Participating in various activities with other women and people in positions of influence where you can openly discuss issues, share concerns and experiences, and reflect on issues affecting you.
- Easy-Family communication
- Increase Social awareness

ICT and Political empowerment

- Having a voice for their rights.
- Feel decision making capacity.
- Networking or meeting with people in government and industry and other women to discuss issues affecting women and women communities, and to organize various actions.
- Improved Governance

ICT and Psychological empowerment

- An increase in self-confidence and self esteem.

- Feeling more valued, respected.
- Greater motivation, inspiration, enthusiasm and interest to develop new skills and knowledge.
- Feeling much less isolated from others (particularly other supportive women) and, as a result, experiencing greater wellbeing, happiness and enjoyment of life.

ICT and Educational empowerment

- ICT deliver information about whole world in a language they understand and a medium that they would be comfortable with.
- Wide knowledge of each area, understanding of new concepts.
- ICT help in non formal and adult women education.
- Shrinking Information Asymmetry through ICT.
- Indigenous Knowledge

ICT and Economical empowerment

- ICT helps them to increase their monthly income.
- ICT provide jobs and opportunities to merge with large industries.
- ICT education makes women economically sound that is source of other all types of women empowerment
- Women's increased access to job Market and improve entrepreneurship using ICT
- Increase of average household income in villages

For women the world over, information and communication technologies (ICT) can be leveraged for personal security, better access to education and jobs, financial inclusion or to access basic healthcare information. But benefits such as these rely on women having meaningful access to ICT which can be facilitated or prevented by several factors, including affordability, relevant content, skills and security. ICT can accelerate the process of women empowerment by providing them with education, information, and knowledge, training, occupational opportunities, market information, financial services, information about appropriate government program, information about health agencies and workers, feedback mechanism and support system and networking.

HURDLES AND CHALLENGES IN WOMEN EMPOWERMENT

In Indian context this revolution of ICT has not been passed on to the womenfolk primarily due to the social structure, values and beliefs. The urban India has been enjoying the benefits of this revolution; however the rural India is still to take the benefits. Though efforts are being made to use ICT in the best possible way to empower our womenfolk there is still a long way to go. There are many hurdles for empowering women and girls to use ICT. These are discussed as follows:

Poverty: Most of the people in India are poor. There are rural poor and urban poor and they are mostly busy trying to meet their ends. They are struggling to earn their livelihood and think ICT is only a source of entertainment which they cannot afford. The population of India is more than 1.2 billion as per latest figures with almost fifty percent female population. As per the latest census recommended by Tendulkar committee endorsed by the planning commission of India, the people

living below poverty line in India are 37% which is very alarming. So the priority is to fulfill the basic needs of these people, empowering is a very difficult task for such a huge number.

Literacy: The adult (15 years and above) literacy rate in India is 66%. The literacy rate of females above the age of 7 years is 45% as compared to 75% for boys in the same age group. The drop-out rate of girls studying between Class 1 to Class 8 is nearly 45%. This statistics reveal that almost 55% of females are deprived of basic education and moreover the drop outs are also high by the time they reach high school hence effectively 25% of females take up education till the school level. Rest of the 75% of female population is illiterate or literate till primary or middle school. Moreover most of this education is in vernacular and local language. Though the government is offering free education to the girl child the Indian scenario is pretty grim as far is education to womenfolk is concerned. [14]

Computer literacy: Computer education is generally imparted to students from middle school onwards. The computer education though incorporated in the curriculum otherwise comes with a cost through private coaching. The urban Indian student enjoys the basic computer education but the rural Indian students have to mostly depend on government support. The network of private computer institutes though spreading rapidly in rural community is not affordable by many. Basic computer education is available in English language though slowly the computer education is now coming in different languages. The major hurdle is that most of the education is imparted in vernacular language hence training through English language is difficult. Internet access and education is also a big problem as most of the websites almost 70-80% are in English.

Socio-Cultural aspects: Potential for empowerment is also affected by socio-cultural aspects such as class, age, ethnicity and race. Women from the same social context may not enjoy access to ICT. In India the social structure is such that boys are given preference over girls for everything even education and access to ICT. Boy child is pampered and girl child is often neglected and is involved in household chores. In many parts of the country going out of the house, learning and getting any type of special training is considered as a taboo for womenfolk. Women and girls remain confined to the house and mostly involved in house work. Most of them are cut-off from the outside world so their chance of access to ICT is reduced.

Early marriages: As per latest figures the adolescent girls in India are more than 100 million. More than 50% of these are married before 18 years of age and almost 95% are school dropouts. Early marriages are a big social menace in India.[3] Though the government has imposed a rule of marriages after the age of 18 years for females, still the practice of early marriage is rampant in India. Girls are forced to marry below the age of 18 especially in rural areas. Once the girls are married they have family responsibilities and do not find time for education and to avail the facilities of ICT. Probably television because of its penetration is the only means of entertainment and information.

Language barriers: Language is major constraint in the empowerment process. There are hundreds of languages and thousands of dialect in a big country like India. Imparting knowledge through a few common languages is a big challenge. Most of the Internet learning is through English language

which can be implemented in urban areas only. Communication through different languages is a herculean task.

Ownership: Ownership of communication assets like radios, mobiles and computers is rarity in rural areas for women and girls. This mainly is because of poverty and meager income levels. The social structure is such that men and boys are given preference over women and girls. Only in big cities women and girls have a choice of owning these assets.

MEASURES ADOPTED BY GOVERNMENT FOR EMPOWERMENT THROUGH ICT

In spite of the hurdles discussed above lot of efforts are being made in the whole empowerment process through ICT. There is significant contribution from the government, NGO's, different agencies and business houses. Funds are being raised by various organizations to achieve these objectives. Government of India is also allocating funds for the empowerment and lot of international organization is also funding and facilitating the process.

ICTs have created new jobs in the field of information processing for baking, insurance, printing and publishing especially for women. Further, projections indicate that over 3,50,000 women are expected to be working in remote data processing by 2008 in India as one million jobs are expected to be created in call center alone by 2007. However, it depends on availability of good telecom infrastructure, IT training in and out of school, training in marketing and business development supported by conducive policies of the government. There are numerous 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.

India Portal, National Institute of e-governance, central repository of data, dissemination of Information relating to best practices/innovations in e-governance, awards for best websites and innovative use of IT in the delivery of public services. In addition citizen service centers were set up for one stop and non-stop delivery of services to the public. India Portal is a user- friendly portal of all government web sites for providing information and delivery of services.

In Dhar district of Madhya Pradesh, **Gyandoot** is an intranet project which connects 21 rural cyber cafes called Soochanalayas. Each Soochanalayas provides services to about 10 to 15 Gram Panchayats, 20 to 30 villages, 20 000 to 30 000 in population.[13] Women benefit from such interventions as now they have a greater understanding and control over the local processes. They may file complaints regarding common public grievances through the net and an e-mail reply is assured within seven days. Provision of this basic information to the women communities would imply their greater awareness and interest about governance issues leading to their greater involvement.

There are lots of government initiatives taken by various state governments to impart computer education to girl students at the primary level.

The State of Karnataka has gained world-wide reputation for being in the vanguard of Information Technology.[12] **Karnataka State Women's Development Corporation (KSWDC)** has launched e-

mahila project for women over 11 districts. And each woman is given free laptop, printer, camera and projector for their use. The policy of the Government is to give Computer Education and Computer aided Education free of cost under "Mahiti Sindhu" to VIII, IX and X standard students in 1000 government secondary schools in the state. While selecting schools, importance was given to girl students of rural areas, SC and ST and backward classes and all sections of society throughout the state. ICT at schools project so far 3298 government secondary schools have been covered under computer education program in the state of Karnataka.

Value added service (VAS) is an important medium of the telecom companies to circulate user intended information through mobile phones to the remotest place possible. The Ministry of Women and Child Development, GOI, wishes to extend mobile VAS to Anganwadi workers covered by the Integrated Child Development Scheme.

Measures adopted by various Organizations for Empowerment

There are various measures adopted by organizations, NGO's and business houses to empower women and girls. The IT sector is in the forefront towards this process. All big IT companies have women friendly policies with more and more women folks coming in the workforce in IT sector.

Infosys technologies limited, the best brand known in the country employs almost 33% women in their workforce. They have a special women cell called IWIN (Infosys Women Inclusivity Initiative) that encourages women participation in the business operation and also takes care of the welfare activities of women.

IBM India Pvt. Ltd. is the fourth largest employer in the IT industry has flexible working hours for women, work from home facilities for women, extended maternity leaves and women leadership councils in their organization.

Accenture, another big IT giant has "vahini" for women employees and 24X7 emergency helpline for women. Mind tree consulting has day care facility, special leaves and accompanying spouse on travel facilities for their women employees.

Ernst & young Global shared services have 50% women in their workforce. They also provide escort service to their women employees.

Tel-Nek is an organization based in Ramavaram, Bangalore Rural, and provides computer training to both women and men in the area. Their aim is to reduce rural-to-urban migration and empower disadvantaged groups through "emerging, innovative ICT models". As the area of intervention is surrounded by an industrial belt, the training provided by Tel-Nek centers in locally-adapted software has been extremely useful in ensuring that most women get jobs in administrative and data-entry positions, without having to migrate from their communities.

Akshaya project in Kerala encourages telecenters that are run by women, including the elderly, who come confidently to the telecenters to make use of the services offered there including internet telephony, payment of bills, surfing the net, etc.

Initiatives are taken by some educational societies like Sri Balaji Society, Pune to promote women participation and empowerment. Graduate girls are given preference over boys and as per their policies fifty percent enrolment to post graduate management programs is compulsorily for girls. ICT is part of their curriculum where girls are exposed to all aspects of ICT.

ICT TOOLS-WOMEN EMPOWERMENT

Livelihoods

New ICTs provide opportunities to reorganize economic activities in ways that can bypass the traditional dependence of women producers on male-dominated and exploitative market structures, including "middle-men". In many places, initiatives are being tried that link women artisans directly to global markets through the Internet, as well as support their activities with market and production information. The 'Inter-city Marketing Network of Women Entrepreneurs' project in Chennai, India has set up a communication network among women's **community-based organizations (CBOs)** to market their produce. The CBOs are provided with cellular phones, and women have been trained to maximize the use of telephones for selling not only in their immediate neighbourhoods but also reaching new markets within the city. The impact is that poor women from CBOs constrained by pressures of time and mobility are able to assess and aggregate market demand by trading through their peer CBOs, and evolve cost-effective mechanisms to increase business turnover by making the most of business networking.

Health

The technologies are being successfully used in many places for information dissemination about health. The **Self Employed Women's Association (SEWA)**, a trade union of women workers from the informal sector in India uses video to convey basic health information to its women members. Women themselves have produced video footage on how to address diarrhea through oral rehydration therapy, and they distribute this through their networks. New ICTs can also play a critical role in health delivery. The use of networked information exchange systems, and offline information tools like CD ROMs, databases and mobile ICT devices can enhance public health delivery. They can enable health education and information dissemination, bring communities and health facilities closer to each other through regular and systematic information exchange, and offer simple solutions for collecting and analyzing information about disease and health-seeking behaviour to help health interventions become more locally relevant. ICTs are being used in response to the crisis posed by HIV/AIDS. ICTs to promote better access to AIDS advice, counseling, and test results without fear of being stigmatized.

e-Education

ICTs like satellite, radio and TV offer many possibilities for non-formal and continued education, which can have important gender implications. They can deliver education content to the doorstep, which, for women with constraints on mobility and access to public places, can be a significant starting point. Technologies are being used the world over for open and distance learning. Azim Premji Foundation in India is among the few NGOs that work with the government to strengthen the public education system. The organization produces CD ROMs of creative content based on the

primary school curriculum, which is gender-sensitive, uses local dialects and is designed to appeal to rural students. In India, computers are being introduced in schools, as a tool to support the learning process and ICT interventions is a precondition to ensure equal access and effective use by girl students of computers in the classroom environment. In the formal education at the graduation level the educational system should introduce Job Oriented Certificate courses as an add-on course and should be made mandatory for a student to get trained at least in one of them. Apart from direct employment, ICT has benefited women in a number of ways. It is a viable tool of information and communication which goes a long way in empowerment of women. Immense amount of information is obtained through the internet. Effective and efficient use of information technology like internet can help in assimilating information about variety, range and quality of products, publicity and marketing of products and services. Apart from being used as a tool of information and communication and employment, application of ICT has created avenues for women empowerment. Noteworthy examples are that of Gyandoot, Embalam, SEWA, Datamation and Smile. [12]

SEWA: (Self Employed Women's Association), uses ICT for women empowerment. The main goal of SEWA is to promote local income generating opportunities among women. The SelfEmployed Women's Association SEWA, with 200,000 membership is spread over 800 villages in Gujarat.[11] It uses an interactive satellite communication and Internet-based training programme to develop a cadre of barefoot managers among the poor women workers, focusing on women in panchayats, forests, water conservation and so on. Through ICT, training is provided on issues as disaster management, leadership building, health and education, child development etc.

Gyandoot: It is a project started in Madhya Pradesh to fund rural networked cyber kiosks through panchayats.[13] The project was started in Dhar district, to offer villages multiple services through internet based project. Through this project, information is available about rural life and agricultural projects. The internet gives information which was earlier available through middlemen. Information is available about education and employment opportunities. Complaints can be lodged on the internet which is of great help to men and women.

M.S. Swaminathan: research project in Pondicherry in Embalam district has led to creation of information villages. Ten villages are connected by a hybrid wired and wireless network, consisting of PCs, telephones, VHF duplex radio devices, and email connectivity through dial-up telephone lines that facilitates both voice and data transfer. This has enabled villagers to obtain the information that they need and use this information to make improvements. Local volunteers gather the information, feed it into an Intranet, and provide access through nodes in different villages. There is Value addition to raw information, use of the local language (Tamil), multimedia (to facilitate illiterate users), and participation by local people. Most of the operators and volunteers, providing primary information, are women more than 50%, thus giving them status and influence.

 Smile: (Savitri Marketing Institution for Ladies Empowerment) is a voluntary organisation in Pune. [12] This project has increased literacy level of underprivileged women through the usage of ICT. Internet has also helped them market their various products like soft toys, candles, bags, utility items, etc. Through Internet, there is greater awareness and exposure and market reach for the products. It organizes various IT seminars for women in collaboration with IT companies like NIIT

organizes a seminar named Swift Jyoti. It was 18 hour program designed for women from 6 to 60 years. The motive was to literate women about computer and its benefits.

Datamation Foundation: started a project in 2003 in Seelampur area of Delhi for Muslim women. The project localised appropriate communication and information networks by setting up an ICT centre at a Madarsa. This helped link resource-poor women to the information and tools for knowledge management. It also helped establish buyer-seller linkages towards eradication of absolute poverty. It has established its standing in the community and became a big attraction for the women of Seelampur. People drop in to consult on matters other than computer training. The ICT centre has created self confidence in women and creating awareness about their interest and helped them take collective decisions.

Dairy Information Services Kiosk: (DISK) is a project which uses Information and Communication Technology (ICT) in the dairy sector in Gujarat. ICT enables the creation of cost effective solutions that strengthen the exchange of useful information between farmers and the union. ICT facilitates dairy farmers with timely messages and education to manage their milch cattle and enhance the production of quality milk. It is also assisting dairy unions in effectively scheduling and organizing the veterinary, artificial insemination, cattle feed and other related services. Usage of ICT goes a long way in empowering men and women. [10]

Aamagaon Soochna Kendra: (My village's information centre) is a project started by Government of Orissa by setting up 73 Information and Communication Technology (ICT) kiosks in the rural areas of 12 districts of Orissa.[11] These kiosks are run by Women SHGs/ Panchayats/ NGOs / CBOs / Youth Clubs and managed by the Community IT volunteers paid through user charges collected and managed by the local hosts. Under a partnership with Mission Shakti, women SHG members are being trained on computer fundamentals and Internet basics at the IT Kiosks on payment of an affordable fee. Access to IT training goes a long way in empowerment of women
The usage of ICT is prevalent in several villages in Maharashtra. In **Warana Project**, in a VSAT-and-RF-based computer-communication network, a highly user-friendly information system in Marathi was developed. This was used for marketing of agriculture produce with a number of online features for selling the produce of the 70 villages to wholesale outlets in Pune and other cities and towns in Maharashtra. Information is updated daily with the help of the villagers themselves. Internet thus provides suitable opportunities to men and women.
Capacity building of Women
Several organizations are building the capacities of girls and women to make ICTs accessible and useful to them. At one level, girls and women are being provided general training in ICTs for ICT-related jobs; at another, women in business, women entrepreneurs and women in the professions, are systematically being supported for skill enhancement, career growth and greater work efficiency. In the Deccan Development Society, in South India, socially disadvantaged women have used radio and video to document and disseminate traditional farming practices, to reach policy-makers, and to archive their community-based development work. Such development activities in fact have deeper meanings; they reflect the recording by women of their own history and reclamation of their knowledge.

Safety Apps That Empower Women

Women's safety has always been a cause of concern in India and with the rising amount of the crimes against women, it is the woman's freedom that is often curtailed.

Every woman loves to be free and independent, even Cinderella wanted to go to the ball; having said that the last thing you want to be in is danger. Whether you are working late or on vacation, safety is always a concern. With constant and imminent threat hanging over her head, it is best to stay equipped with knowledge and perhaps some local assistance.[17]

Safetypin : A map based app that shows the safety of an area, city, locality. The idea is to address safety of women and build a community sensitive to such issues. The app lets users know what areas of the city are safe, moderately safe and unsafe. The factors that determine the threshold of safety are the gender balance, lights, transport, people, security and visibility based on crowdsourcing. The 'Track me' feature in the app also doubles up as a GPS tracker and helps your close contacts track you.

Safe Sawaari: This app lets you track a taxi, car, or private modes of transport. Claiming to be an app ahead of many other security apps, it features live video streaming, fingerprint scans of the driver and 'Call me' – a feature that lets your family call you on the driver's phone in case your phone battery is running out.

Himmat: An initiative of Delhi police, this app is made for working women who travel alone. This android based app is designed to be used when there's threat to life or limb. The user has to register with the Delhi Police website using an OTP code for configuration. Apart from features like SOS messages and GPS tracking, the Police Control Room calls the user in time of potential emergency. What makes this app a power packed one is that once you send an SOS, the video and audio footage goes to the Police control room and they send the nearest police unit to rescue the victim.

CONCLUSION

The majority of women in the developing world do not have access to ICTs due to variety of barriers as such the infrastructural, social, cultural and linguistic. While it may be necessary for the progressive elite to mediate information dissemination, real democratization of information depends on making ICTs relevant to the majority and accessible to every woman.

Today, print media and radio are used extensively by feminist groups for information dissemination. ICTs can strengthen these media strategies. Community access points such as telecentres can be a simple tool for conveying information to women that supports their social and political empowerment.Telecentres need to be used as strategic spaces where information on the law (e.g. violence, religious law), on worker rights (e.g. minimum wages), and citizenship rights can be obtained. Governments and NGOs have to take a lead in this process of universal access to rights-based information, especially in rural areas.

ICTs can provide spaces for diverse, bottom-up and low-cost communication. They can amplify women's voices, help publicize women's experiences and perspectives and integrate their specific concerns with the mainstream policymaking and development process. Engendering ICTs is not merely about greater use of ICTs by women. It is about transforming both gender politics and the ICT system. It is evident that the ICT system is organized on elitist, patriarchal, techno-centric, non-democratic lines and based on capitalist values. Transformatory gender politics will need to question these values and search for ethical alternatives. This calls for synergy between a new bottom-up culture of ICT production and use and the re-engineering of the global ICT system that will guarantee sustainable changes towards gender equality. Addressing the ICT arena is part of a larger struggle to build an information society based on protecting people's right to communicate, own and use knowledge for their own ends, and resisting curtailments on freedom to use, share and modify information tools and content.

SUGGESTIONS

In order to create an enabling environment and to support women's social and economic empowerment through ICT, actions are necessary by different actors, at local, regional national and international levels. The following recommendations are aimed at promoting such factors:

- Adopt legislative, regulatory and administrative measures to promote gender equality in the ICT area, and in particular, adopt legislation in ICT-specific sectoral areas to address gender equality, and create monitoring frameworks and capacity to ensure implementation.
- All educational institutes by law should be made to offer ICT based Job Oriented courses to the down trodden women in the society for free as their societal obligation.
- Develop gender-sensitive technical and regulatory instruments when addressing such ICT policy issues as universal access, regulatory frameworks, licensing, tariffing, spectrum allocation, infrastructure, ICT industry development and labour policies; attention is drawn to the detailed list of ICT policy issues and the gender aspects related to them.
- Develop reporting mechanisms to monitor progress towards gender equality in the ICT area.
- Collaborate with national machineries for the advancement of women to promote gender equality in ICT.
- Strengthen their own capacity, through increased financial resources and technical expertise, to lead advocacy in gender equality and ICT.
- Encourage and facilitate collaborative action among government bodies with responsibilities for the ICT area and for gender equality.

REFERENCES

[1]   Lal B. Suresh, B. Rama & Hussain SK Ahmed, (2004) *Information Technology for Rural Development: An Overview, The Economic Challenger*. No.-6, pp.34-37.

[2]   Dr. Bimal Anjum; Rajesh Tiwari,(2012) "*Role of Information Technology in Women Empowerment*", International Journal of Multidisciplinary Management Studies, Vol.2 Issue , ISSN 2249 8834, PP 226-223

[3]   B. Gupta, S. Dasgupta, and A. Gupta,(2008) "*Adoption of ICT in a government organization in a developing country : An empirical study*," vol. 17, pp. 140–154.

[4]   Acharya, K., Flaws in Bhoomi (2003) *India's Model eGovernance Project, Pune, India: Infochange India*. http://www.infochangeindia.org/features120.jsp.

[5]   Chandrasekhar, C.P. (2003), *Promoting ICT for Human Development in Asia: Realizing the Millennium Development Goals*, India Country Paper', for Regional Bureau for Asia and the Pacific, UNDP.

[6]   International Telecommunication Union (ITU), *World Telecommunication Development Report: Access Indicators for the Information Society*, Geneva, ITU, 2003. http://www.itu.int/ITUD/ict/publications/wtdr_03/material/WTDR2003Sum_e.pdf (executive summary, accessed 14 Dec 2018)

[7]   International Telecommunication Union (ITU), (2010) *World Telecommunication/ICT Development Report :* http://www.itu.int/ITU-D/ict/publications/wtdr_10/pdf

[8]   International Telecommunication Union (ITU), *The World in 2009: ICT Facts and Figures*, http://www.itu.int/ITUD/ict/material/Telecom09/pdf

[9]   International Labour Organization (ILO), (2000) *World Employment Report : Life at Work in the New Economy*', Geneva: International Labour Office, 2001. http://www.ilo.org/public/english/support/publ/wer/index2.htm (accessed 28 Dec 2018).

[10]   Gurumurthy A., (2004) *Bridging the Digital Gender Divide: Issues and Insights on ICT for Women's Economic Empowerment*, New Delhi: UNIFEM. http://www.itforchange.net/resources/Pat.htm

[11]   Aamagaon Soochna Kendra, *Rural Upliftment through Web Services: a Case of W. Godavri* www.westgodavri.org/ICT/ rajiv.doc.

[12]   Vikas Nath, (2001) *Empowerment and Governance: Women's Perspective*. http://www.cddc.vt.edu/digitalgov/gov-menu.html.

[13]   *Digital Empowerment*, http://gyandoot.nic.in/gyandoot/outlook.html.

[14]   Rathi Sarita, (2015)) *Role of ICT in Women Empowerment,* ResearchGate. https://www.researchgate.net/publication/303332186_Role_of_ICT_in_Women_Empowerment

[15]   Mamta Mokta, (2018) *Empowerment Of Women In India: A Critical Analysis*, The Tribune.

[16]   Mini Amit Arrawatia, Pankaj Meel, (2012) *Information and Communication Technologies & Woman Empowerment in India,* International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 1, Issue 8,

[17]   5 Safety Apps that Empower Women - Networked India http://www.networkedindia.com/2016/02/09/5-safety-apps-that-empower-women/

[18]   Doyle A. (2019). https://www.thebalancecareers.com/. Retrieved from Information and Communications Technology (ICT) Skills. https://www.thebalancecareers.com/information-and-communicationstechnology-skills-4580324
     https://trainingindustry.com/magazine/nov-dec-2016/key-trends-for2017-innovation- in-educational-technology/