Information and Communication Technologies: An Agent of Social Change for Rural Women in Odisha

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Abstract Information and Communication Technologies (ICTs) have ushered in the new era and possess the prospective to generate educational and job opportunities, awareness on the basic available health care facilities, legal provisions, government programmes and welfare schemes etc. The benefits amassed from the combination of knowledge and ICT should not be confined to the upper strata of the society but need to liberally flow to all the sections of the female population. The extent of areas in which ICT can put a larger control in the hands of women is extensive and constantly increasing, from managing water distribution at the village-level to standing for local elections and having admittance to enduring learning opportunities. With such an unmatched prowess, ICTs definitely can bring a social change in the rural hinterlands of Odisha, a state in India. A large portion of rural women in the state are reeling under poverty and lack awareness. They are absorbed in the farm sector (which doesn't promise a hefty return, always) and are unskilled manual laborers. The socio cultural barriers discourage their public participation and decision making ventures. Socially, majority of women in rural Odisha are tied up by age-old traditions. Disparity in women's access to and participation in all communication systems as well as lack of mobilization proves to be a roadblock in their emancipation. It is in this context that this paper wants to examine the underpinning dynamism of culture and technology and if the former fosters or hinders ICT penetration in rural areas of Odisha.

Keywords ICTs, Knowledge, Awareness, Women, Social Change, Cultural Barriers, Emancipation

I, Subrata S Satapathy, am a post graduate in Sociology from JNU, New Delhi and currently a Phd scholar at Utkal University work both in the academic as well as in the non-governmental sector. I have been teaching Sociology, Gender Studies, Social Work and Rural Development since last 4 years and also have been working as a consultant in various social issue based projects. My basic thrust is to constantly apply her theoretical knowledge into practice, formulate reports based on empirical research that would provide a clear picture of the ground reality and advocate for policy level changes. I extend my gratitude to my esteemed professors both at JNU and Utkal University for instilling in me a profound theoretical insights and conceptual clarity.

1. Introduction

The modern day civilization is characterized by the powerful and prolific force of the Information and Communication Technology (ICT). The expansion and proliferation of ICTs have picked up the swiftness for economic and social change, across all areas of human activity worldwide. ICTs facilitate in interactive communication unimpeded by space and time, volume and medium as well as are pocket friendly as they lessen the cost of communication and information processing. Knowing the mammoth power that the ICTs possess and the instantaneous potential to transform the society, it's best not to remain aloof. In many instances, poor people have experienced benefits in the form of income hike, advanced health facilities, better education and training, access to job opportunities, engagement with government services, contacts with family and friends, enterprise development opportunities, increased agricultural productivity etc.

However, in the recent years, the concept of *'digital divide'* has been extensively researched, and has caused a swirl among the debaters and the civil society organizations for its economic, social and political consequences. There have been quite many studies that divulge, the gap that subsists between two categories of people i.e. those who have access to ICTs and those who do not. Such kind of compartmentalization causes exclusion, endangering social integration and hampering economic growth. The digital divide has many dimensions and can be categorized as global, regional and national. At national level, there is no single divide, but multiple divides: for instance; within countries, between men and women, young and elderly, rich and poor and most importantly rural and urban.

Among the named minorities, the most significant section is comprised of women. The prevalent societal ('patriarchal' to be precise) norms, power relations and predominance of English as the medium of information broadcasting generate roadblocks for women, who tend to be illiterate, lack the required skills and are often criticized for any endeavor that men feel women must not attempt to. In addition, women

also bear the impact of blockades like restrictions on mobility, irrelevant content etc. The fact that there is a socio-cultural relationship between gender and technology, provides an implication that male and female in the identical social set up may not enjoy equal access to ICTs. Women's rights groups working in rural areas point to how access to household assets is affected by gender. If the household has one radio, it is most likely to be used by men. Women may not have the leisure to listen to the radio, nor may be allowed to join the men sitting outside the house listening to the radio. ICTs and policies to encourage their development can have profound implications for women and men in terms of employment, education, health, environmental sustainability and community development.

Policy is needed to ensure that investment in ICTs contributes to more equitable and sustainable development as these technologies are neither gender-neutral nor irrelevant to the lives of resource-poor women. Women want information and to get engaged in communication that will improve their livelihoods and help them to achieve their human rights. Hence, in spite of success stories of ICTs amongst the poorer sections of the society, it remains a challenge for the government and other agencies to successfully permeate the impact of such technologies in all the nook and corners. Existing literature from many quarters have revealed that excepting the influential lot and also chunks of middle class, ICTs have remained out of access to most of the rural, poor and marginalized communities.

Domestic responsibilities, cultural restrictions on mobility, lesser economic power as well as lack of relevance of content to their lives, further marginalize them from the information sector. Drawing implications from the above, the present paper focuses on key questions and concerns of the use and accessibility of the ICTs and the potential that it possesses to transform the position of women in the Indian society, more specifically in Odisha. The questions range from who are the 'real' beneficiaries of the ICTs? Who is monopolizing the course of ICTs? Is there an opportunity (or possibility) to bind ICTs to dole out bigger and definitely significant goals of equality and justice? More importantly, the prime concern that this paper raises is the issue of gender and women's equal right to access, use and shape ICTs.

2. Theoretical Background

Analysts like Modoux (2002) agree with the fact that there is a digital divide and it is a 'cyber ghetto' where ever increasing growth rates in the adoption of ICTs is characterized by higher costs and often lower quality equipment and service. The 'digital divide' is widening if one also considers the increasing concentration and homogenization of the media (Pendakur and Harris 2002). Moreover, even in the community of practice committed to 'digital opportunities' there is a risk that the gender gap remains. According to Hafkin and Taggart (2001) , a digital impartiality is prominent and surfaces in three ways: (1) few women are rarely involved in the needs assessment of ICTs for development; (2) attitudes were that high-end information technology 'is not for women' who are still

being treated as passive recipients of information and not as active information users and communicators; and (3) there is considerable delay in addressing the limitations faced by women in accessing supposedly 'public' information spaces, or even private sector initiatives such as cyber-cafes. These biases are often toughened in bigger arenas such as national and international policymaking and investment planning because women's organizations have had quite insignificant opportunity to take part in an active role in developing the ICT sector and eradicating the related gender concerns (biases). This means that it is an utterly grave scenario and that the information society must have a gender-responsive policy and funding structure. In the prevalent discourse on gender and information technology, two prevailing theoretical viewpoints are essentialism and social construction (Trauth, 2002). Essentialism is the assertion of fixed, unified and opposed female and male natures (Wajcman, 1991, p. 9). The existence of biological difference between the sexes has led to a tendency to assume that other observed differences between men and women are due to biological determinates as well (Marini, 1990). While theorizing information technology with gender IT, the essentialist theory assumes the existence of pertinent intrinsic distinctions between women and men with respect to information technology. Essentialism underlies research on gender and IT that views gender as a fixed variable that is manipulated within a positivist epistemology. The other leading theoretical perspective stresses on the social construction of information technology as a male sphere. The theory furthers that there is an essential incompatibility between the social construction of female identity and the social construction of information technology. This explanation for women's relationship to information technology looks to societal rather than biological forces. Thus, the causes of gender underrepresentation can be found in both the information technology sector and in the wider society.

The paper also draws noteworthy attention to the conventional view that such technologies have only technical rather than social implications. As it is already known that the striking changes have remained untouched by majority of the mankind. Existing power relations in society decide the enjoyment of benefits from ICTs; hindering the gender neutrality from these technologies. Access to new ICTs is still a faraway reality for the vast majority of women.

3. ICTs: Meaning and Role

ICTs are the entire assortment or the expanding assembly of technologies that hand out information and communication requirements in the society. The range of what is known as the ICTs includes 'a complex and heterogeneous set of goods, applications and services used to produce, distribute, process and transform information' (Marcelle 2000). The ICT arena consists of a diverse spectrum that consists of both 'old' and 'new' technologies. These include hardware, software, media for collection, storage, processing, transmission and presentation of information in any format (i.e., voice, data, text and image),

computers, the Internet, CD-ROMs, email, telephone, radio, television, video, digital cameras etc. While radio, television and print media were primarily used to perform these tasks earlier, with the advent of the new ICTs, these have now been considered as traditional ICTs. However, many of these traditional ICTs are effective than web-based solution, as they can resolve issues such as language, literacy or access to the Internet (UNDAW, 2002).

The new-fangled ICTs generally refer to the budding applications or technologies that depend on the Internet, mobile or cellular phones, computers, telecommunication networks and websites or databases as well. Such technologies are capable enough in providing timely and the accurate information to rural and remote hinterlands and are economic, cost beneficial and interactive in manner.

In spite of possessing immense potential for transforming the lives of the people, there have been notions that these technologies have conventionally doled out 'vested interests' – television, for instance, has been blatantly used as a tool of "cultural imperialism" by the developed world to push its version of globalization. But ICTs also carry strong possibilities for empowerment of the excluded. The written word broke the power of the few who possessed knowledge in oral traditions. The invention of paper, and later printing, opened the floodgates of knowledge dissemination. Apart from the aforementioned roles that the ICTs played, a quite significant component that cannot be omitted is the role played by the TV. The latter not only enriched the communication, by broadcasting every piece of news from all over the world, but also made the family sit together to watch any favoured programme. In addition, telephone has also facilitated significantly in smooth and free flow of communication amongst people and even in many cases has solidified their interpersonal interrelations. Such technologies facilitate flawless interactive communication on the one hand, and economical as well as high on efficiency quotient. These technological possibilities allow for interesting social opportunities, of bottom-up and peer communication and easy creation, storage, low-cost reproduction, manipulation and distribution of information (Gurumurthy, 2006).

A critical evaluation of the evolution and genesis of the dialogue on gender issues in connection with new ICTs have certain connections with the previous earlier analysis about women with the technology as well as the media. During the 1990s, gender issues in communication and media focused on three broad issues: the equitable access of women and women's organizations to the means of public expression; women's access to professional careers and decision-making positions that have traditionally been male preserves; and the portrayals of women reinforcing or changing stereotypes.

4. Women in Odisha: A Socio-Economic Profile

In general terms, the status of Indian women from all walks of life, has witnessed quite many changes since previous years. Though they were honoured and enjoyed an

(somewhat) equal status with men, there position suffered severe setbacks during the medieval age. Odisha is not far behind where women are at risk of being ignored and left out from the benefits of the governmental welfare policy schemes and programmes. Illiteracy and poverty being major issues, women in the state suffer from being the marginalized lot. Even though Odisha had a favorable sex-ratio compared to the national average as per the 1996-2001 estimates, a disturbing trend has also been recorded since then, regarding falling female to male sex-ratios. Life expectancy of women in Odisha stands at 62.4%. The decline in female to male ratios(FMR) is majorly prevalent in the age group of 0-6 years, and also in the neo-natal age group where we find a higher female child mortality rate. The female to male ratio for the 0-6 age group for the state as a whole declined by 17 points; from 967 in 1991 to 950 in 2001. Interestingly, the decline in FMR in urban areas is more than in the rural areas-from 949 in 1991 to 927 in 2001, while the rural segment showed a decline from 969 in 1991 to 954 in 2001. These statistics make it clear that sex-selective abortions are on the rise in the urban areas as well, making it a cause for concern.[1]

5. Health

Similarly, the infant mortality rates [IMR- 87/1000-Total; rural-90; urban-56] continue to be dismal. Studies show a higher female IMR than the male IMR in the urban and tribal populations, in the post neo-natal and in the 1-4 age groups [boys-29.9 & girls-37.8]. This indicates a strong discrimination between boys and girls in post weaning periods and access to medical care. This discrimination eventually results in poor nutritional status of girls and women in the state. About 48% women have a BMI below 18.5 while 63% suffer from anemia. And this is most marked in the rural, illiterate and SC/ST women. Maternal mortality rate is around 258 in the State against national average of 212 in one lakh births. Though the situation in Odisha is comparatively better than many other States so far as protection and development for girl child is concerned, the declining sex ratio in the State, high infant mortality rate, low nutritional level for girl children, health and well being of women in age group of 19-59 years, care and protection of elderly women above 60 years are the areas of concern. Primary reasons for this are a lack of communication facilities- health services are hampered as there are no roads to many villages; lack of coordination between different agencies, lack of information about services and also, in tribal areas, a lack of communication skills and hesitation of tribals to approach a doctor.[2]

With the advent of ICTs in the rural areas, ASHA workers[3] are equipped with 'Mobile Kunji' (a tool designed as an audio-visual aid for health workers). For instance, the BBC Media Action reported that each card – designed to look like a mobile phone and held together on a ring –

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1 http://thpindia.org/status-of-women-in-odisha
2 Ibid.
3 Accredited social health activists (ASHAs) are community health workers instituted by the government of India's Ministry of Health and Family Welfare. ASHAs are local women trained to act as health educators and promoters in their communities.

illustrates a key health lesson and also has a unique mobile phone short code printed on it. When a health worker dials the number on their mobile phone, they can play a health message to the family they are visiting, voiced by a friendly but persuasive character called Dr Anita. As many women are difficult to be persuaded and convinced a tool like *Mobile Kunji,* has brought considerable change. It has not only built the health workers' skills and confidence but also plays a pivotal role in engaging and convincing the family. As a result of which many rural women are getting befitted out of a technology that helps in creation of a knowledge base related to health especially reproductive health. Odisha is the second state in India to introduce *Mobile Kunji*. Plans to make this tool available to 55,000 health workers across 33 districts are being supported whole-heartedly by the Odisha Government. There is also a favoured health related programme among women that is broadcast in the villages (also in urban areas) known as '*Kalyani'* that showcases various health related issues, chiefly focusing on pre and post natal health and other diseases that plagues women's health. They also have a helpline number wherein women can call and put forth their health related concerns in front of the doctors panel. This helps the women as earlier they use to feel shy and reluctant in face-to-face discussion of health issues (especially gynecological health) with the male doctors.

6. Literacy and Education

A critical glance at the literacy rate, as per the 2001 census, depicts that while the total literacy rate was 63.61%, the same stood for male and female literacy rates at 75.95% and 50.97% respectively. The prevalent figures clearly indicate that there exists an ample breach between male and female literacy rates in the state that leads to the consensus of a gender in case of literacy. There is also evidence that the tribal women also have a lower literacy rate that furthers their marginalization in the society. However, girls in rural Odisha have been benefited by the initiatives taken by an organization called Azim Premji Foundation that has been developing teaching and learning material and disseminating them via CD-ROMs. Usually, in closed and conservative societies (like in rural Odisha), girls are debarred from attending schools after they attain a certain age. In absence of higher grade schools in the vicinity, they are also not allowed to travel to the distant village to pursue studies. In such a scenario, making education reach their doorstep has been a welcome change. Girls are now able to study and also help their family in household chores. However, such initiatives need to be scaled up so as to reach a wider target group. Also, as mentioned, families based in rural Odisha are quite skeptical and conservative to educate their daughters beyond matriculation. But to change their stereotypical mindset, UNICEF had taken an initiative of introducing a fictional character 'Meena' through comic books, animated films, posters etc.

Meena is a fictional character who stars in the South Asian children's television show Meena. The lead character, Meena educates the children of South Asia on issues of gender, health, and social inequality through her stories in comic books, animated films, and radio series (affiliated with the BBC)[4].

In India, apart from other South Asian countries, the Meena series has attained national recognition and has been integrated as a communication tool within ongoing nationwide education and communication programmes. State-owned radio and television channels are airing spots promoting girls' education featuring Meena. In Uttar Pradesh, India's most populous state, the State Education Department has taken the lead in establishing more than 19,000 girls' groups called "Meena Manch" throughout the state. The process was initiated in 2002. Under the guidance of one facilitator/teacher, the Manch helps ensure age-appropriate enrolment, regular attendance and completion of primary education up to class five by all girls in the area. Meena Cabinets are being set up in primary schools with two children from each class (i.e., classes 3, 4 and 5).[5] In Odisha too, Meena has helped in propelling a shift in the mindset of the people who now want their daughters to study and not remain under the shadows of ignorance. What verbal persuasions could not do, was done by the audio-visuals that kept the rural masses hooked and educated them in favor of girl child education. A study conducted by UNICEF showed that majority of the girls in Odisha (76 out of 291) has learnt about Meena from television. The study also found that Meena Clubs in Odisha using Meena in various programmes such as tobacco awareness programmes, organizing events for World Disability Day and public sanitation projects. [6]

6.1. Workforce Participation

The work done by majority of the women, in the state, go unnoticed and unaccounted for. As per the 2001 census, the state has a female population of 180.94 lakh (49.3% of the total population). Women work participation rate in Odisha as per 2011 census is 41 per cent against national average of 39 per cent. This major segment of the state's resources, however, is absorbed in the unorganized sector that is plagued with poor or irregular wages, no structured work environment, no labour union to voice the issues of the women workers etc. As most of them are engaged in work that falls in the unpaid category, hence, the work goes unrecognized. These poor women have no alternative than to resort to poor wages and simultaneous exploitation and marginalization. Adding to their woes, lack of basic and proper education and inadequate skills and training prove to be roadblocks for the poor women who are not able to cope with the new work environment that is predominantly machine based. The latter also proves detrimental to the old-age livelihoods of the poverty stricken women (especially tribal women) as it erodes the entire livelihood base as machines (that requires skills for being operated) take over manual labour. This deprivation leads to mass

4 http://en.wikipedia.org/wiki/Meena_(character)
5 http://www.unicef.org/rosa/media_2479.htm
6
http://www.unicef.org/evaldatabase/files/ROSA_2004_800_Meena_Comm _Initiative.pdf

unemployment followed by socio-economic insecurity. Women engaged in agriculture and related activities also suffer owing to erratic monsoon, lack of cultivable land and inadequate training mechanisms.

However, ICTs have helped in delegating information to rural women on alternative types of farming that has helped them in getting desirable returns. For instance, in hilly and tribal dominated terrains of Odisha, 'Community Farming' has helped the rural tribal women in reaping rich benefits. The NGOs in the respective areas have used audio-visuals to train the women on community farming and also make them understand its significance. They also use the visuals of the success stories and the best practices elsewhere that could be replicated in the areas requiring urgent attention. The state government has also set up Kisan Call Centres (Agriculture related phone helpline centres for farmers) wherein the information is provided in local language that has also helped the women farmers. However, not many women farmers access the helpline as they feel constrained to do so. They, hence, need to be trained and motivated to use the available technology and move out from drudgery.

6.2. Violence against Women

There has been an ever increasing trend of crime against women in the state that occurs not only in the public domain but within the four walls of the home. Alarming and disturbing data implicates that since the late seventies and early eighties there has been an ever increasing cases of rapes, dowry torture and other violent incidents against women. Amongst all the aforementioned case, the frequently occurring is the case of domestic violence which goes unnoticed and unrecorded as women. The reason for such incidents might be many, but the battered woman either doesn't have sufficient strength to report the same in the police station or is herself not aware of the legal proceedings that would follow suit. The woman, in many instance, doesn't feel safe within the family as well outside the i.e. in the society. Such kinds of insecurities showcase the familial and societal environment that the woman lives in. To combat the frequent occurrences of such incidents there is inadequate police force as well as feeble administration. While the nature of crime against women might have different dimensions in both rural and urban Odisha, but irrespective of the fact, there is an evidence of perpetual violence against women that devalues the status of women in the society. Crimes against women in Orissa have recorded an increasing trend. The concern is also on the increasing percentage that these crimes constitute in the overall crime scenario. The number of rape cases registered has increased from 207 in 1989 to 816 in 1999 and then subsequently decreasing. Dowry cases, which include dowry, related murders, suicides and torture cases, have shown an exponential growth over 500% and in 2002 the cases totaled to 1503. Large shares of the dowry cases relate to dowry torture cases. Non-dowry torture is a separate category of cases being registered, which also has a phenomenal increase with 177 cases in 1989 to 524 in

2002. [7] Due to impactful role played by the media, the rural women are gaining, although slowly, courage and motivation to report the matters in the *Mahila Thana* (Women-centered Police Stations). By watching various crime based programmes in the television and the portrayal of success stories women in few parts of rural Odisha are getting inspired to lodge complains in the nearby police stations (even against their family members who inflict domestic violence on them). Thus, ICTs have helped in somewhat improving the status of rural women by boosting their self-confidence and morale.

6.3. Political Representation

The post 73rd and 74th Constitutional amendment (1993) era witness an eventual evolving of women from the cocoon and actively take part in the electoral process. The introduction of the local self-governance especially the three tier system has helped in the increment of women's political participation. However, the bigger question that surrounds the same is political emancipation or empowerment. In spite of many elections after the significant amendment, many women still are in reeling under the challenges of decision making process, actively indulging in the political sphere, contesting in more numbers etc. Given the low status of women in Odisha, in almost all domains, be it education, health, employment and in decision making positions, they are reluctant and in many instance absolutely not ready to take part in the entire election procedure. Those in elected positions have had to face great obstacles from even their own families, apart from others in the society. No kind of a support system or a favorable environment has been provided to them to take advantage of the benefits granted to them by our Constitution. Incidents of violence and manipulation by their political opponents and other vested interests continue to hamper women's political empowerment in Odisha[8].

It is quite visible that grave issues still exist in Odisha where women are under constant threat of being exploited or sidelined from the reform measures. Rural women, in general, are under more threat as they lack awareness levels, necessary education, access to the governmental agencies, administration and police force and more importantly the courage and power to raise the voice against injustice and unfairness. Apart from inequalities in the health, education and employment sectors, inequality in the political arena is a new challenge for rural women. Even though these women representatives are provide and trained with the essential leadership and management skills for effective participation in the Panchayati Raj system, there is a bigger challenge of sensitizing other stake holders from the government to the media to the society at large, on the magnitude and requirement of eradicating discrimination against women at all levels.

7. Conclusions

[7] http://ncw.nic.in/pdfreports/Gender%20Profile-Orissa.pdf P.27
[8] http://thpindia.org/status-of-women-in-odisha

As has already been mentioned, ICTs do play an immensely important role in smooth flow of information and communication and at the same time they ensure that the information reaches on time and is adequate to mitigate the immediate demands. Women in Odisha, still considered as a backward state, suffer from serious setbacks when it comes to the aforementioned empowerment issues. There has been lot many factors that have debarred the women of the state to address their concerns and sufferings. As gender inequality is embedded in a series of systemic inequalities, there is a need to employ different types of empowerment. Economic, social and political empowerments are all inter-related and all these are critical for women empowerment, though the importance vary during diverse phases in the entire process of empowerment.

The World Summit on the Information Society (WSIS), held in 2003 in Geneva, saw ICTs as vital tools for women's empowerment: "We are committed to ensuring that the Information Society enables women's empowerment and their full participation on the basis of equality in all spheres of society and in all decision-making processes. To this end, we should mainstream a gender equality perspective and use ICTs as a tool to that end" (WSIS, 2003).

There have been many success stories in, globally, that depict the swift propagation of ICTs is contributing positively to women's socio-economic empowerment (Aitkin, 1998). A range of ICT models have been used to support the empowerment of women all over the world and there is substantiation to show that ICTs have enhanced women's access to information, provided new employment, created new class of women entrepreneurs and improved their access to government (FAO, IFAD and World Bank 2008). While there is recognition of the potential of ICT as a tool for the promotion of gender equality and the empowerment of women, a "gender divide" has also been identified, reflected in the lower numbers of women accessing and using ICT compared with men (UNDAW, 2005). Though ICTs offer considerable potential for reaching women with relevant information and services, women's ownership and access to ICTs is low, as in most other sectors in rural Odisha. Their use continues to be governed by existing power relations whereby women frequently experience relative disadvantage.

Rural women in Odisha face significant disadvantages in information, communication, transactions, access to services, access to skills and education, access to earning and employment opportunities and "voice". Despite much support for the diffusion of ICTs in rural areas, gender disparity in access to ICT services continues, much to women's participation (FAO, IFAD and World Bank 2008). There is an emergent concord that the impact of ICTs in developing countries is *not gender neutral*, demanding an engendered approach (affirmative direction to include gender concerns and realities) to ICT based projects .There is lack of comprehensive sex disaggregated ICT data in the state. However, the data on access to and use of ICTs that are available indicate that women's participation in the information society lags behind that of men. Even when women and men have equal access to the internet either through home, work or school, women may not have the opportunity to access the Internet (Tracey, 2003). In many districts of the state, men use mobile phones more frequently than women. Men also used public kiosks more frequently than women and they also travelled to access phones more often.

In the context of Odisha, the socio-cultural attitudes differentiate against women's access to technology and technology oriented education. Questions are raised as to what importance or significance does a computer hold for a rural female farmer? There also have been evidences that women in rural hinterlands of the state are less likely to own communication assets, such as a radio or mobile phone. Rural women are less likely to allot their earnings to use in public communication facilities, except when they need to communicate with family or to arrange for income transfers. They are often unwilling to visit "cyber cafes" or public internet centres, which are often owned by men and visited by men. The café culture often excludes girls and women from frequenting them. Rural women's multiple roles and heavy domestic responsibilities limit the time they can allocate to learning and using ICTs until and unless they realize the potential information benefits and time-saving elements of using these technologies.(Source: FAO, IFAD, World Bank, 2008)

ICT Initiatives in Odisha have been undertaken and the state also has an ICT Policy implemented since 2004. But to utter disappointment, there are still hundreds of rural women who are untouched, un-served and devoid from the utilities and benefits of ICT. What is progressively evident is the reality of a gender digital divide, which can only be addressed through enacting and enforcing gender sensitive ICT policies. However it is also relevant to mention here that ICT is not the only solution to all the restraints and restrictions being faced by women. It is imperative to identify the existing barriers that hinder the use, access, ownership and control of ICTs for the rural women in state. They could be related to 'gender-socialization' and cultural patterns or information availability and adequacy of content.

Nevertheless, the aforementioned examples of ICTs and their benefits to the rural women in the state highlight the fact that such technologies have pioneered in alleviating issues centering around women based on parameters like education, health, livelihood, violence etc. ICTs are well potent of bringing about a change in a state like Odisha, which is still considered as poverty ridden and backward and where gender inequality prevails. Though there have been success stories, but they are still sporadic in comparison to the low status of women in the state. Therefore, it becomes utterly important to employ ICTs effectively, efficiently and equitably so as to make ICTs accessible to all the rural women and also disseminate the success stories that would motivate them for a better life. ICTs, no doubt, have brought a sea of change in rural Odisha, but women are still far behind in getting the fruits of such technologies (barring exception though).

REFERENCES

[1]   Bhuyan, Dasarathi. (2005). 'Empowerment of Indian Women: A Challenge of 21st Century', Orissa Review.

[2]   Burch, S. and Leon, I. (2000), 'Directions for Women's Advocacy on ICT: Putting New Technologies on the Gender Agenda', in P. Villaneuva (ed.), Networking for Change, The APCWNSP's First 8 Years,Philippines: APC Women's Networking Support Programme,

[3]   http://www.apcwomen.org/netsupport/sync/toolkit2.pdf

[4]   FAO, IFAD and World Bank, "Gender Source Book", 2008.

[5]   Gurumurthy, Anita. (2004). 'Gender and ICTs': Overview Report, Institute of Development Studies.

[6]   Hafkin, N. and N. Taggart. (2001). 'Gender, information technology, and developing countries: an analytic study'. Washington, DC. Academy for Educational Development,

[7]   Hans Asha and Amrita Patel. (2012). 'Women of Odisha: Status and Challenges", Odisha Review.

[8]   Heeks, Arun and Morgan. (2005). "Researching Women's ICT-Based Enterprise for Development: Methods, Tools and Lessons from Fieldwork"-Women's ICT-Based Enterprise for Development project.

[9]   Huyer, Sophia and T. Sikoska. (2003).'Overcoming the Gender Digital Divide: Understanding ICTs and their Potential for the Empowerment of Women', INSTRAW Research Paper Series.

[10]   Marcelle, G.M. (2000). 'Transforming information and communications technologies for gender equality', Gender in Development Monograph series #9, New York: UNDP,http://www.undp.org/gender/resources/mono9.pdf

[11]   Marini, M. M. (1990). Sex and gender: What do we know? Sociological Forum, 5(1), 95-120.

[12]   Modoux, A. (2002). 'The 'digital divide' could lead to a gigantic 'cyber ghetto' in developing countries'. Geneva

[13]   http://www.itu.int/wsis/docs/background/themes/digital_divide/modoux.pdf

[14]   Pade, Mallinson and John Lannon. (2005)." The Use of Information and Communication Technologies for Rural Development and Poverty Alleviation in Developing Countries: An Investigation of Gender Specific Agricultural Development", in The Southern African Journal of Information and Communication, Issue 6.

[15]   Pendakur, M. and R. Harris (eds). (2002). 'Citizenship and participation in the information age'. London, Garamond Press, 2002.

[16]   Souter D., N. Scott, C.Garforth, R. Jain, O.Mascarenhas and K.McKemey. (2005). "The Economic Impact of Telecommunications on Rural Livelihoods and Poverty Reduction: a study of rural communities in India (Gujarat), Mozambique and Tanzania" Commonwealth Telecommunications Organisation for UK Department for International Development.

[17]   Sulaiman V Rasheed, N.J Kalaivani, Nimisha Mittal and P. Ramasundaram. (2011). 'ICTs and Empowerment of Indian Rural Women: What Can We Learn From Ongoing Initiatives?' Working Paper 2001-001, Centre for Research Innovation and Science Policy.

[18]   Tracy, Kennedy; Barry, Wellman and Kristine, Klement. (2003). "Gendering the Digital Divide", IT & Society, Vol. 1, No. 5, pp 72-96.

[19]   Trauth, E. M. (2002). Odd girl out: An individual differences perspective on women in the IT profession [Special Issue on Gender and Information Systems]. Information Technology and People, 15(2),98-118

[20]   United Nations Division for the Advancement of Women, (2005), "Gender Equality and Empowerment of Women through ICT", Women 2000 and Beyond, Department of Economic and Social Affairs.

[21]   United Nations Population Information Network (UNPOPIN). (2010). "Guidelines on Women's Empowerment".

[22]   Wajcman, J. (1991). "Feminism confronts technology". University Park, PA: The Pennsylvania University Press.

[23]   World Summit on the Information Society. (2003). "Declaration of Principles: Building the Information Society: a Global Challenge in the New Millennium." Document WSIS-03/GENEVA/DOC/4-E.

[24]   Zainudeen, Tahani Iqbal and Rohan Samarajiva. (2010). "Who's got the phone? Gender and the use of the telephone at the bottom of the pyramid".