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### Gender and Technology: Empowering the Women for Sustainable Development

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Abstract—Technology is imbedded in every aspect of life. It has been observed that gender is seldom caste, class, race or gender neutral. The development and use of technology somehow influence its evolution and use. Integration of gender in technology is a great concern of the world. For a rapid growth it is important to educate and induct half of the world as technologically able citizens to make them financially capable and self dependent. Today with different gadgets making their way in social and familial sphere only technologically skilled people will be part of the developmental phase of high connectivity and progress. The paper focuses on the requirement of facilitation of technological education and adaptation of technology for valuable contribution at the levels of individual, family, society, nation and world. Introduction of technological innovation in the life of women along with facing the issues of opportunities, training, financial support and sustainability are the major concerns of the discussion. Feminist technology studies generally include the digital divide, digital technologies, social media, home technologies, reproductive technologies, and surveillance and entertainment technologies. Once they are inducted to be trained the financial aspect plays an important role in sustaining this developmental evolution.

Keywords—Gender, feminist, marginalized, technology, digital

#### I. Introduction

Gender has evolved as a tool of criticism that looks at identity as more than heterosexual relations. Feminist Technology Studies(FTS) has encouraged the social scientists to work upon a profound school of gender and technology studies. Gender became an umbrella term which takes care of the marginalized people belonging to a sexual preference group which do not consent to the heterosexual norms of the society like LGBT community i.e. lesbian, gay, bisexual and transgender. If social space is divided in-disproportionately between the mainstream and marginalized the technological sphere reflects the same in the technological sphere. In *Gender, Ethics and Information Technology* by Alison Adam in the very first chapter emphasizes that information and communication technology are not for girls. [1] When we are talking about gender it is largely about heterosexual binary of male and female but there are other marginalized groups of LGBT who almost find themselves suffocated on any social web page because they are not represented. Judith Butler in *Gender Trouble* for the first time used 'heterosexual matrix' to refer to a framework through which gender norms and value system justify the heterosexual behavior exhibited through our body, actions and desires. Heterosexuality matrix used by Judith Butler refers 'to designate that grid of cultural intelligibility through which bodies, genders, and desires are naturalized' [2] . Teresa de Laumodern's concept of 'technologies of gender' is based on sexuality, "sexuality, commonly thought to be a natural as well as a private matter, is in fact completely constructed in culture according to the political aims of the society's dominant class." [3]

Technology becomes the application of scientific knowledge for day today uses. It means the use of machinery and equipments for application in day-to-day activities. The politics of technological evolution is largely phalocentric i.e. things have developed in the male hegemonic line. So it becomes very important to think first about how science and technology is being developed? If we look at the first few inventions like fire and wheel they were to make the life easier for men. No invention was made in the very beginning of civilization for the convenience of women. Though they have enjoyed the benefits of fire and wheel there was no technology for them. History of technology almost establishes that men were in focus when technology was developed or accidentally developed. Definition of technology has got male bias. Engineering becomes a profession in 19<sup>th</sup> century which was initially male dominated field of study. Needle work and other hand work done by women became no-technology after the advent of machines. Technology became synonymous to men. Machine became the signifier of men where as fabric became the signifier of women. Now- a-days in technology museums showcasing of needle work of women, handicraft and work by women mark the recognition of feminine set up.

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Technology enforces gender disparity and division. As technology is dominated by men, masculinity is embedded in it but there are less or no efforts on the front of making it inclusive in any way. It has also been observed that how technology is used and how gender is constituted or is redefined. In post-modern times the role reversal is leading to gender equality in a large way. But it was not always like this. In mid seventies technology became a contested political space where people tried to establish their own view of good society. It is obvious that there is politics in technology as we are living in a society which is marked by social hierarchies. The kind of technology we are going to have is to be marked by gender and other socio-cultural relations. The whole politics of technological development was to exclude women and the marginalized. Politics has fallen far behind technology as the ground of discrimination as technology has become part and parcel of our life.

Technology is also promoting gendered design and innovations. Those who were involved in menial work belonged to the marginalized gendered groups, so, technology appropriated their work while designing the robots without retaining any of the markers of the real work force. The real workers were ravished of skill set that was their heritage. Robert's designs targeted at the service class people generally women performing menial tasks by adopting their roles and responsibilities without symbolically signifying them while appropriating them in designing the robots. The gendered sensitivity seems to be at work behind designing the robots. Women and their concerns are always absent from most of the designs. When the development of technology is closely observed the points of exclusion are evident. Gender technology is not the same in seventies and eighties as male and female are entering into new form of relations with new technological breakthrough and innovations. Changing gender identities have changed from the perspective of women.

Technology is enforcing the social divide that has existed since long. They do not only enforce but also re-embed the divide once again and the marginalized become the easy victim. In the last 20 years, positive ideas have highlighted the importance of technology as a tool to part the gap between people. When computers came men were the only adopters and there was insecurity because of immerging digital divide. The use of mobile phones and internet the digital divide seems ceasing. "New digital technologies, it is said, are shaping (and being shaped by) our everyday lives, splicing home/work spaces, enabling emotional labour everyday lives, splicing home/work spaces, enabling emotional labour and domestic obligations from remote spaces and reassembling modes of sociality and connectedness. It is notable that some characteristics of the digital era overlap with those of The Information Age, in particular around the fluidity and flexibility of time and space and reflexivity and individualisation of social and personal relationships. Perhaps a major defining characteristic of the new era relates to 'digital sociality' and the novel forms of connectedness and belonging that have emerged. Yet, crucially, it is across these key arenas – time/space, personal relationships, sociality – that a gender lens is vital." [4] Though young ones are enjoy technology around and it seems that the sphere of technology has been equally shared by the marginalized gender groups but looking closely at the scenario the neutrality of the space vanishes but it raises our hope of a better share of the technological sphere in future. This characterization of the digital age as fluid and flexible resonates in some ways with post/late modern notions of social relations as fleeting, transient and fragmented and gender as mutable and elected.

The focus remains on the commitment to spread and explore emerging forms of power in the techno savvy world which simply implies that one technologically more advanced will be more powerful. The superiority of Eurocentric technology today tells or reflects about the power vectors that run the politics of the world. Technology has become one of the most important parameters of inclusion and exclusion. So to know certain technology in the contemporary world is confirming to the clan of upgrades and civilized. A person who has no skill of handling smart phones and laptops or desktops or tabs cannot sustain in most of the workplace atmospheres. So, to be a part of the educated and skilled people needs to show their expertise and acquaintance with options otherwise they will lag behind in the process of development. Mostly men, having access to most of the resources have an edge over women. This lacuna is becoming a major factor in unequal development of men and women in the society. As technology is treated as power women are expected to remain less powerful in case they are not trained, educated or skilled to adapt and learn new technologies to keep pace with the developlopment of the world. In the developing country like India women get the next privileged opposition as minimal resources are to be consumed by the male of the family who are to support the family later on. The socio-cultural structure also creates a kind of technological divide because mostly people belonging to majority are still struggling to survive. In spite of disparity based on class the society is also further devided on the gender of the individual. The disparity or discrimination has resulted into great technological devide in the society. In order to deal with it the government is making the efforts to help female candidates get subsidized education so a large number of girls could get technical education or could participate in skill development programs. Cheaper loans and fee waiver are the few initiatives which have been taken up. The need of the day is that there should be more discussions on gender and technology and mainstream cultural anthropology.

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Every year the MHRD report on higher education indicate towards increasing female students in the universities and colleges but it is never more or equal to the male. "Total enrolment in higher education has been estimated to be 35.7 million with 19.0 million boys and 16.7 million girls. Girls constitute 46.8% of the total enrolment." [5] If we look at the MHRD report of 2016-17 on higher education, out of "488 General, 114 Technical, 67 Agriculture & Allied, 52 Medical, 19 Law, 13 Sanskrit and 9 Language Universities and rest 63 Universities are other Categories" [5]. Out of all the universities of India, 15 Universities are exclusively for women, 4 in Rajasthan, 2 in Tamil Nadu & 1 each in Andhra Pradesh, Assam, Delhi, Haryana, Karnataka, Maharashtra, Odisha, Uttarakhand and West Bengal. This should not only be discussed but should lead to some action plans for desired result. [5] Another interesting fact about Indian colleges is "9.3% Colleges are exclusively for Women." [5]

### II. CONCLUSIONS

Technology is imbedded in every aspect of life. It has been observed that gender is seldom caste, class, race or gender neutral. The development and use of technology somehow influence its evolution and use. Integration of gender in technology is a great concern of the world as for a rapid growth it is important to educate and induct half of the world as technologically aware citizens to make them financially able and self dependent. Today with different gadgets making their way in social and familial sphere only technologically included people will be part of the developmental phase of high connectivity and progress. There is requirement of facilitation of technological education and adaptation of technology for valuable contribution at the levels of individual, family, society, nation and world. Introduction of technological innovation in the life of women along with facing the issues of opportunities, training, financial hurdles and sustainability are the major concerns of discussion. The recent concerns of gender and technology study still is the digital divide, digital technologies, social media, home technologies, reproductive technologies, and surveillance and entertainment technologies. Once they are inducted to be trained the financial aspect plays an important role in sustaining this developmental evolution. Through training, education and more inclusive approach of technological breakthrough there are possibilities of establishing sustainable gender equality.

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