Digital Technologies and Gender Justice in India

- An analysis of key policy and programming concerns

Input to the High Level Committee on the Status of Women in India

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April 2014

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Select Abbreviations

BPO	Business Process Outsourcing
ICTs	Information and Communication Technologies
IPR	Intellectual Property Regimes
ISP	Internet Service Providers
IT	Information Technology
ITU	International Telecommunication Union
IVRS	Interactive Voice Response System
MMP	Mission Mode Project
NeGP	National E-governance Plan
SME	Small and Medium Enterprises
UID	Unique Identification Number
VAW	Violence Against Women
WSIS	World Summit on the Information Society

Executive summary

1. The Information Society context

Two decades after the Fourth World Conference on Women and the Beijing Platform for Action, the question of gender justice remains as urgent as ever, to the women's movement. While revisiting the question of gender justice at the current conjuncture, on the eve of the Beijing +20 review, one important axis of societal transformation that cannot be ignored is the emergence of a new, ICT-mediated social order. It is evident that the Internet and ICTs are not merely the harbingers of a new communications architecture, but technologies of production and social organisation, re-configuring the social, economic and public-political spheres. Therefore, this brief firmly locates itself in the analytical tradition using an 'information society' framework that identifies the question of digital technologies and gender justice not as an instrumental one pertaining to particular choices for development programming, but as a foundational question about social realignment in an emerging social order.

2. Access to Internet and ICTs in India : A gendered analysis

The International Telecommunications Union, in its 'Measuring the Information Society' Report of 2013, places India in the category of the World's 'Least Connected Countries' based on a composite measure of ICT access, ICT use and ICT skills. Further, there is clearly a gender gap in access to ICTs. For example: The Intel Women and the Web Study 2013 found that while 8.4% of Indian women, and 11.6% of Indian men are online, there is a weighted gender gap of 27% – meaning that a woman in India is 27% less likely to have Internet access than a man. Similarly, studies by the GSMA Development Fund and the Cherie Blair Foundation have revealed that “only 28% of Indian women own a mobile phone, compared with 40% of men”.

It is important to interpret the gender gap in access as symptomatic of underlying structural inequalities – especially in education and income – between women and men; and refrain from naive digital divide analyses that will result in ineffectual 'give-access-get-empowerment' solutions. Further, the gender gap in Internet access is also illustrative of a new divide that is emerging between the developed world, and developing countries – the 'communications capacity' gap, or the gap in the capacity to transmit information online, arising from the tendency of developing countries to use low bandwidth, mobile broadband as a replacement for high bandwidth, fixed broadband. In fact, in many of these countries (including India) many development interventions end up being fixated in “mobiles for women's empowerment”, simply ignoring the issue of how innovations for inclusion and women's empowerment for longer term gains will need more than 'voice' or telephony based interconnectivity.

3. The information society opportunity for promoting the gender justice agenda in the Indian context

Harnessing the information society opportunity for gender justice is much more than reducing the gender gap in access. It involves unpacking the implications of the key transformations ICTs have

facilitated in the public-political, economic and social sphere.

a. Transformations in the public-political sphere

The Internet has opened up new possibilities for horizontal networking, transforming the DNA of contemporary politics. Politics today is increasingly more *'diffuse, decentralised and adaptive'*. However, even as women's organisations have been trying to claim digital technology for honing women's political voice, digital spaces have fallen prey to misogyny and sexism. In this context, the regulation of online spaces becomes an important factor to consider. The Indian state has adopted a paternalistic approach to the question of regulating online spaces, rather than one that carefully balances the tensions between rights to privacy and freedom of expression. This is especially true of the state's view of online pornography, where existing legislation curbs alternative sexual expression, rather than protecting individuals from online gender-based violence.

b. ICTs and women's economic empowerment

ICTs bring about a qualitative, structural transformation in the economy effecting changes in the global supply chain of services. This opens up new opportunities for flexible work, self-employment, and entrepreneurship, described below:

i. The IT-BPO sector in India has emerged as one of the largest employment generators in the country, witnessing a steady increase of female employees. However, most of the female workforce in the sector is concentrated in lower level jobs, with women's representation at the senior level restricted to a mere 5%. A variety of reasons are attributed to this, such as the workings of the proverbial glass ceiling, women's double burden in balancing work with family responsibilities and even mid-career guilt. Also, research has found that the absolute number of women entering science, technology and innovation careers is alarmingly low in India – a trend that is worrying when read against the fact that by 2015, 90% of formal employment across all sectors will require ICT skills.

ii. ICTs offer numerous possibilities for re-structuring the production chain, and breaking down large business processes into small and simple tasks that can be outsourced. This propensity of ICTs has also fuelled the imagination of the proponents of the 'bottom of the pyramid' approach, to advocate the hiring, training and employment of marginalised sections of society. The entry of new service provider companies for 'impact outsourcing' has been touted as a 'win-win' strategy that would benefit both the company and individuals involved. India has seen a proliferation of actors in the impact sourcing arena in recent years, all of whom have a specific focus on women's inclusion, in their efforts. While the benefits of these initiatives for the outsourcing service providers are fairly well understood, their success in meeting social development objectives is questionable. Research has pointed to the propensity of impact outsourcing to exacerbate income inequality, by the exploitation of wage-labour of poor women and other marginalised groups.

iii. The potential that ICTs offer for strengthening women-run enterprises is another area that has received much attention in India, in recent years. In a context where women own only 8% of the medium, small and micro enterprises in the country, ICT-enablement of such enterprises as a strategy for women's empowerment is effective only as part of a broader sustained public policy effort that

focuses on creating a supportive macro-environment for women's entrepreneurship. Also, research has demonstrated that ICT-enablement results in greater benefits for SMEs located downstream in the value chain, whereas the majority of women-run SMEs are upstream.

iv. Another strategy that has been extensively explored in India is to help women set up ICT businesses, such as ICT kiosks in rural areas with intermediation by private sector companies and civil society organisations. However, the success of most of these initiatives can be traced to their successful cooptation of rural elite, rather than their ability to challenge any structural power inequalities, including household gender relations. Another issue here in terms of immediate policy action is whether or not the surplus generated through such networks of enterprises accrues to women. The mediating corporation – the new middleman, so to speak – seems to be taking away the gains.

v. Since the mid 2000s, mobile money transfers have been touted as a pathway to financial inclusion, especially to bring in the 'poor and unbanked sections' of a country's population, especially women, into the benefits of the global economy. India has also joined the fray – with announcements of the launch of mobile money service M-PESA by Vodafone and ICICI Bank in Bihar, Jharkhand and Maharashtra, all over the media, in October 2013. However, attention to the regulatory frameworks in the ICTs for financial inclusion arena is paramount – the micro-finance industry's exploitation has left an indelible mark in the form of extreme consequences for women and their lives; a precursor that mobile money enthusiasm cannot ignore.

c. The question of women's rights in the knowledge society

The Internet opens up hitherto unprecedented possibilities for the democratisation of information and communication,and the creation of collaborative knowledge cultures – due to the affordances its distributed technical architecture offers. In particular, the Internet offers numerous opportunities for putting low-cost media technologies within the reach of women's organisations and grassroots initiatives, helping them construct counter-narratives to hegemonic, mainstream discourses. At the same time, the Internet can be used by private interests for building commercial models that exploit traditional knowledge, especially in developing country contexts without sufficient guarantees to protect indigenous knowledge systems. Women's knowledges are doubly under threat, as they traditionally lack 'cognitive authority', in patriarchal, casteist societies such as India. New avenues in the digital economy thus makes it easy for commercial interests to capture and re-package the traditional knowledges of women and other marginalised groups such as small farmers, artisans etc. In this context, it becomes crucial to have a supporting legal and policy environment, if the vision of a digitally enabled 'Knowledge Commons' rooted in the values of collaborative innovation and community ownership of information, data and content, is to be realised. However, on the whole, Indian law and policy have focussed on addressing industry concerns pertaining to copyright in the emerging knowledge architecture of the Internet, rather than promoting collaborative knowledge creation utilising new digital opportunities.

d. E-governance and public services delivery- implications for gender equality and women's empowerment

In the absence of a national e-governance policy, there is no document that provides a holistic vision of e-governance programming in India. On the whole, the broad agenda of 'social inclusion', identified by the Working Group on the Information Technology Sector in the Twelfth Plan seems to have informed the design of e-governance programmes. It is important to point out though the Working Group has identified e-learning and ICT skill development, development of rural connectivity infrastructure, development of local language content, ICT-enabled health services and financial inclusion through ICT technology as key elements for utilising the ICT potential for social inclusion, it falls short of concrete suggestions on engendering these priority areas.

E-governance programming in India has mainly focussed on the areas of building shared public access infrastructure in rural areas, and ICT-enablement of public service delivery. In the area of promoting public access to the Internet and ICTs, existing governmental programmes are gender-neutral. This is severely limiting in a context where there is an extensive degree of social control on women's access to, and use of ICTs – ranging from diktats by informal *panchayats* and household level controls on women's use of mobile phones to discouragement of girls' supposedly 'corrupting' use of the Internet.

In the area of ICT-enabled public service delivery, though there have been a few initiatives addressing women's marginalisation. But they have mostly remained in silos. An integrated approach to the question of developing ICT-enabled models for engendering the public service delivery framework as a whole, is largely absent.

Two critical areas within public service delivery, that have been experimental domains for developing ICT interventions are that of: health and education.

i. E-health initiatives

In India, maternal and child health care has emerged as a key priority area for state-led e-health and m-health interventions. Three major initiatives of the state, in this area, are:

- The Mother and Child Health Tracking System, a country wide initiative launched under the National Rural Health Mission, which has enabled the creation of a web-enabled system that will enable effective tracking of ante-natal care, post-natal care and immunisation of pregnant women and nursing mothers.
- The National Health Management Information System which aims at tracking various health indicators across the country, to facilitate better planning of health care delivery.
- Mobile-based applications for proving health information services to front-line health extension workers and the community, developed in partnership with civil society and the private sector.

Firstly, state e-health interventions have continued to remain within the 'Woman and Child Welfare' framework of programming, rather than adopting a reproductive rights-oriented approach. Secondly, governmental e-health interventions have focussed on creating a bureaucratic apparatus that enables centralised tracking of health spending rather than strengthening decentralised community-centred accountability mechanisms and the effectiveness of front-line health extension workers, the majority of

whom are women. Thirdly, the multiplicity of actors involved in leading 'ICTs in health' pilots has resulted in a number of challenges for co-ordination, standardization and interoperability, which hinder upscaling of existing efforts. Finally, the e-health 'revolution' poses important questions for policy and law with regard to the security and confidentiality of health information data sets being created, especially through web-based technology platforms.

ii. ICT-enabled education and learning

The Indian state has been cognisant of the need to integrate ICTs in school education systems, in its policy and programming. However, a misplaced faith in giving technology vendors and technological companies the lead role in such efforts, prevails in governmental circles, in spite of strong evidence about the limitations of vendor-driver educational programmes for learners; and experiences where the 'public interest' agenda has been subverted when technological companies have informed educational policy-making processes. In fact, ensuring that ICT initiatives in the public education system are not subverted to promote the commercial interests of a few technological companies, is a key social justice concern, in the Indian context. There are also some specific concerns for the empowerment of women and girls that need to be addressed: such as minimising the gender gap in science and technology education through such 'ICTs in public schooling' initiatives; and investigating the pathways through which ICTs lead to gender-equitable learning outcomes for informed programming of ICT initiatives in the formal education system.

At the same time, considering that a significant number of girls drop out of formal schooling post-puberty, exploring the potential of ICTs for educating out-of-school adolescent girls and supporting the learning-action processes of adult women who may not be textually literate, is equally important. However, in spite of overwhelming evidence on the usefulness of investing in gender sensitive public access infrastructure that can anchor non-formal learning processes of women and girls and serve as vibrant citizenship education centres in communities, the state has chosen to invest in subsidising mobile value-added services. The limitations of mobile broadband to open up learning possibilities, when used as a replacement rather than a re-inforcement for fixed broadband, are now well recognised. Also, the state has only recently started to invest in digital literacy initiatives for women and girls. This gap has paved the way for the usurping of the Internet commons by the private sector, in the guise of 'ICT and information literacy' initiatives for women, which neither allows for the collaborative construction of the digital commons nor permits women to step beyond acquiring ICT skills to probematise the politics of digital space.

e. The 'corporatisation' of governance and the recasting of the state-citizen relationship through 'ICTs in governance' initiatives

The *mantras* of New Public Management – that foreground transparency, cost-effectiveness and minimising leakages in service delivery – are becoming increasingly influential in the design of e-governance schemes in India. Many e-governance initiatives are being developed through partnerships with private companies, including the ambitious country-wide Common Service Centre (CSC) scheme. ICT-enabled single window service delivery centres are proposed to be set up in every *Gram Panchayat* of the country through a public-private partnership model involving various kinds of partnership agreements between village level entrepreneurs, private companies and government

agencies. This infrastructure is being imagined as a profit-making centralised country-wide 'pipe' which can be used to carry public services as well as deliver business-to-consumer services on the basis of partnerships with private companies.

One area of concern which social justice advocates and women's rights organisation must take cognisance of, is discerning what this corporatised CSC architecture portends, in the era where big data is increasingly becoming lucrative business. There is the high likelihood of the seemingly 'neutral' pipes of India's Common Service Centre network being co-opted for the creation of a centralised data architecture, that can support data generation for private companies, especially as India lacks a strong legislation that places adequate safeguards on data collection from individual subjects – including time limitation and purpose limitation; and informed consent. In a context where government-corporate partnerships, especially in health care, have been known to adversely impact women (just think of the recent cases of unnecessary hysterectomies commissioned by participating hospitals in the RSBY programme and cervix cancer vaccine trials that were conducted without the consent of the participating adolescent girls in tribal areas), there is no such thing as being too anxious, about the implications of the emerging corporatised, data-driven e-governance model, for women's rights.

4. The response of women's organisations to gender justice concerns in the information society

Though women's organisations in India have moved a long way from their initial dismissal of the ICTs arena, they still have a lot of ground to cover in terms of evolving a critical perspective on the mechanics of the emergent, hybridised social order. Firstly, most practitioners working at the intersections of ICTs and women's rights still adopt only an 'ICTs-as-tools' approach, disregarding the systemic underpinnings of digital technologies. Secondly, the traditional fault lines dividing women's rights activists – the tensions between 'the politics of recognition' versus 'redistributive justice' – seems to have been carried over, into feminist engagement with the question of ICTs. Finally, grassroots experimentation is heavily circumscribed by very slow infrastructural development - with the result that only a handful of urban NGOs, and a few pilot projects in rural areas are able to leverage the power of these technologies. In fact, it is donors who have largely pushed the 'ICTs-in-the hands-of-women' agenda. But donor money tends to promote simplistic 'apps' based solutions to deeper problems, relies on high profile 'campaign mode' and one off initiatives and / or creates dependencies on specific hardware/ software.

5. Recommendations for policy and programming

- Access to ICTs is to be understood as access to the gains of the information society. This interpretation of access presupposes a range of interventions in different policy domains a) to promote approaches to enhance women's meaningful use of ICTs, accounting for power relations, and b) to restrain incursions by market and state forces on individual and collective freedoms. Also, digital literacy goes hand in hand with meaningful access; it is a moving target that entails the opportunity not only to learn technical skills as users but to become active agents who can engage with, shape and subvert mainstream techno-social processes.
- Access to affordable broadband is an important citizen right. It is important to remember that mobile broadband can only be a reinforcement, and not a replacement for fixed broadband –

therefore, increasing mobile phone usage can only be a partial solution to enable women to meaningfully access the Internet.

- There can be no Internet exceptionalism to the right to free speech, the right to information and the right to assembly and association. There is an urgent imperative for the development of a robust, legal framework that adequately addresses the inter-linkages between the right to privacy and freedom of expression, in the information society context.
- To tackle gender-based violence in the context of ICTs, it is vital that gender equality advocates work with existing national women's machineries to a) initiate deliberations with women's groups for reviewing existing ICT laws and policies, from a gendered perspective b) initiate debates on the need for a comprehensive regulatory framework that addresses VAW as a national priority, without sinking into 'paternalism' and 'moralism' as existing approaches tend to do, and c) influence digital literacy agenda for girls and women, to develop the capacity to understand and address VAW at the individual level.
- Policy and programming effort to enable women to take advantage of the new opportunities of the digital economy must recognise that ICT skills training, in and of itself, does not radically alter employment prospects. There are multiple barriers to workforce participation low skill workers face. Domain expertise and other differentiating characteristics that enable specialisation are crucial in broadening employment prospects. Also, public policies to promote women's ICT-enabled enterprise must be backed by efforts which aim at enabling a supportive macro-economic environment for SMEs, as well as interventions at the micro-level to support an entrepreneurial culture among women owners of SMEs.
- E-governance efforts need to promote women's participation in local planning and community monitoring of service delivery, contributing to gender responsive public administration and service delivery, in a systematic and integrated manner – and not in silos.
- There needs to be a gendered analysis of the National e-governance Plan and e-governance schemes under implementation, so that the limitations of current 'gender-neutral', 'corporatist', e-governance approaches can be fully understood, and overcome.

1. Introduction: a framework for digital technologies and gender justice

Two decades after the Fourth World Conference on Women and the Beijing Platform for Action, the question of gender justice remains as urgent as ever, to the women's movement. While there has been a lot of progress in the area of institutionalising the debate on gender justice in the corridors of policy spaces, at the national level, and globally, the hope and optimism of the 1990's seems to have faded. There is a growing disillusionment with 'gender mainstreaming' as a strategy of change, in its current avatar, with scholars critiquing its reduction of gender equality to an "*ahistorical, apolitical, de-contextualised and technical project*" that ignores prevailing power relations[1]. Similarly, there has been an increasing awareness of the relatively higher degree of impatience to gender equality concerns, in the current political and economic environment, when compared to the first decade after Beijing[2].

While revisiting the question of gender justice at the current conjuncture, on the eve of the Beijing +20 review, one important axis of societal transformation that cannot be ignored is the emergence of a new, ICT-mediated social order. It is evident that the Internet and ICTs are not merely the harbingers of a new communications architecture, but technologies of production and social organisation, transforming all dimensions of the social world we inhabit, through their oppositional tendencies to democratise, as well as to centralise power[3]. Some of the critical shifts that ICTs have enabled, are highlighted below[4].

(a) A networked economic paradigm: ICTs have facilitated the creation of a new economic paradigm that rests upon the control of decentralised digitally-enabled production networks bridging time and space barriers – one where the logic of the 'space of flows' has subsumed the 'space of places'. In this new economic order, power increasingly lies in the ability to control the key nodes of these global networks.
(b) The networked public sphere: The new spaces of the Internet, especially social media and social networking platforms, have recast the public sphere, by opening up numerous opportunities for hitherto marginalised groups to assert their political voice, and to build transnational linkages that by-pass the control of nation states.
(c) Development system-builders : As 'system integrators', ICTs offer the opportunities for furthering the goal of decentralised development, and re-designing public systems to promote accountability.
(d) A new knowledge architecture: Through the opportunities they open up for by-passing the 'text' barrier, collaborative production of content, and peer to peer networking, the Internet and ICTs offer immense promise for the creation of a new knowledge architecture.
Certainly, there has been a lot of forward movement in mainstream thinking around

1 Mukhopadhyay, M. (2009), Mainstreaming Gender or "Streaming" Gender Away: Feminists Marooned in the Development Business, IDS Bulletin, DOI:10.1111/j.1759-5436.2004.tb00161.x
2 Mukhopadhyay, M. and Navsharan Singh (2007), Gender Justice, Citizenship and Development, New Delhi: Zubaan
3 Gurumurthy, A.; Parminder Singh and Anja Kovacs (2009), Recasting the Beijing Platform for Action Through the Information Society Lens, Retrieved: http://www.itforchange.net/sites/default/files/ITfC/The_Information_Society_Context-Paper_for_UNESCAP%20.pdf , 13 April 2014
4 Schema inspired from Gurumurthy, A., Parminder Singh and Anja Kovacs (2009),*op.cit.*

digital technologies and the gender justice agenda, since the Section J exhortation of the Beijing Declaration on the need to *'increase the participation and access of women to expression and decision-making in and through the media and new technologies of communication.'* An examination of the Geneva Declaration of the World Summit on the Information Society 2003, held eight years after the Beijing Conference, reveals the semantic shifts which had occurred by then, in understanding the societal transformations wrought by the Internet and ICTs. Para A12 of the Geneva Declaration sheds further light on this, indicating that the 'information society' lens can be a useful framework in grasping changing social processes:

"We affirm that development of ICTs provides enormous opportunities for women, who should be an integral part of, and key actors, in the Information Society. 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: A12)

Clearly, the movement from recognising the emancipatory potential of the new media and communication architectures opened up by digital technologies, to the introduction of the 'information society' framework[5] indicates a paradigmatic shift in thinking through the question of gender justice and digital technologies. Rather than viewing digital technologies as limited communicational artefacts, the WSIS Declaration 2003 implicitly acknowledges the core structural transformations they have enabled.

At present, the importance of the emerging ICT architecture to the poverty reduction and development agenda; and its role as a key 'enabler' of human rights, has been acknowledged in the Millennium Development Goals, as well as in reports of UN Special Rapporteurs, and declarations and policy documents from groups such as the OECD, G8 and the European Council[6].

One extremely significant development in this regard, has been the adoption of Resolution L13 by the Human Rights Council in July 2012. 'The Promotion, Protection and Enjoyment of Human Rights on the Internet' Resolution recognises the global nature of the Internet as a key force for driving development in all its forms; and hence, calls upon all states to promote and facilitate access to the Internet. **Very importantly, Resolution L13 affirms that the same rights that people have offline, must be protected in online spaces, in accordance with the Universal Declaration of Human Rights. Reading between the lines of Resolution L13 draws our attention to the**

5 The 'information society' framework is one of the analytical traditions that have attempted to capture the paradigmatic transformations in the socio-economic and public-political spheres of life, enabled by the re-constitution of social relationship architectures through the techno-social processes facilitated by ICTs. The information society framework identifies the increasing significance of the 'creation, distribution, manipulation and use' of information in all domains of life, and the centrality of information to the global economy, as key shifts facilitated by new technologies – and argues for the critical analytical imperative to inquire into these changes.

6 Refer Gurumurthy, Anita; C.Nandini and Emma Salaronta(2012), Through the Information Society Prism: Scoping Gender Equality for the post-2015 Agenda, IT for Change, Retrieved:http://www.itforchange.net/sites/default/files/ITfC/Through%20the%20information%20society%20prism%20-%20Scoping%20gender%20equality%20for%20the%20post-2015%20agenda.pdf 13 April 2014

emergence of a new form of social exclusion in the current context– the exclusion of individuals and groups who are unable to access the Internet and new ICTs; and those who are unable to effectively harness the 'information society' opportunity opened up by the new technologies, for political, economic and social empowerment.

This brief locates itself firmly within this emergent normative framework rooted in the 'information society' analytical tradition, that identifies the question of digital technologies and gender justice, as not just an instrumental one pertaining to particular choices of development programming; but as a foundational question about a shifting global social order.

2. Access to Internet and ICTs in India: A gendered analysis

2.1 Access to Internet and ICTs: What the data says

The International Telecommunication Union in its 'Measuring the Information Society' Report of 2013 places India in the category of the World's 'Least Connected Countries' based on a composite measure of ICT access, ICT use and ICT skills. Least Connected Countries are defined as those where, *" … ICT access and use is limited to basic voice and low-speed data services.(While there may be) relatively high levels of mobile-cellullar penetration, more advanced services, including broadband Internet access remain very limited.*[7]*"* The ITU analysis also highlights that the Least Connected Countries could potentially derive maximum benefits from improved access and use of ICTs (especially the gains opened up in health, education and employment), as the very same countries are also the ones lagging behind in the achievement of the Millennium Development Goals[8].

The ITU's analysis is corroborated by the Affordability Report 2013[9], which reveals that the large middle-income countries – India, Brazil and China – are home to the majority of those who find broadband Internet unaffordable. These countries*"tend to serve high-end broadband customers in urban areas quite well, while poorer communities in urban and rural areas remain under-served."*

Though current forecasts estimate that by 2015 India will be home to 12-13% of the world's Internet base, Internet access in India is expected to largely develop through mobile phones [10]. Nearly 75% of all new Internet users and over half of India's 2015 user base will likely comprise of users who access the Internet only through a mobile phone or a tablet[11].

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7 International Telecommunication Union (2013), Measuring the Information Society, Retrieved: http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2013/MIS2013_without_Annex_4.pdf 13 April 2014

8 ibid

9 Alliance for Affordable Internet (2013), The Affordability Report, Retrieved: http://a4ai.org/wp-content/uploads/2013/12/Affordability-Report-2013-FINAL.pdf 13 April 2014

10 Gnanasambandam ,C. et.al. (2012), Online and Upcoming: The Internet's impact on India, Retrieved: http://www.mckinsey.com/Global_Locations/Asia/India 13 April 2014

11 Gnanasambandam, C. et. al. (2012), *op.cit.*

The household-level communications data from the Census of India 2011 re-affirms these assessments and forecasts. The current household level penetration of mobile phones is 59%, and that of landline phones, 10%. Less than 1 out of 10 households have a computer/ laptop with only 3% having an Internet facility[12].

Further, there is clearly a gender gap in access to ICTs, as other studies have revealed. The Intel Women and the Web Study 2013 found that while 8.4% of Indian women, and 11.6% of Indian men are online, there is a weighted gender gap of 27% – meaning that a woman in India is 27% less likely to have Internet access than a man[13]. Similarly, studies by the GSMA Development Fund and the Cherie Blair Foundation have revealed that "only 28% of Indian women own a mobile phone, compared with 40% of men"[14].

2.2 Making sense of the gender gap in ICT Access: Unpacking underlying structural constraints

Firstly, it is important to avoid interpreting data on gendered patterns of access to ICTs, through naive 'digital divide' frameworks. For, such analysis will inevitably lead to pitfalls that scholars have long cautioned against , as *' input access, output empowerment'* formulas[15]. On the other hand, as other scholarship in the Global South[16] has demonstrated, the gender gap in access is often symptomatic of underlying structural inequalities – especially in education and income – between women and men. A quick examination of key gender data sets validates the extension of this analysis into the Indian context. The Global Gender Gap Report 2013, prepared by the World Economic Forum, ranks India 101 out of 136 countries in Gender Equality, on the basis of a composite measure that takes into account economic participation and opportunity, educational attainment, health and survival and political empowerment. The Census of India 2011 reveals a clear gender gap in literacy – only 66% of women are literate, as against 82% of men. Similarly, a study of current trends in work participation data reveals an increasing feminisation of agriculture, and the concentration of women in an increasingly smaller portion of the economy[17].

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12 Ministry of Home Affairs (2012), 'Final Figures of Houselisting & Housing Census, 2011 Released', Retrieved: http://pib.nic.in/newsite/erelease.aspx?relid=80811, 13 April 2014

13 Intel (2013) Women and the Web: Bridging the Internet Gap and Creating New Global Opportunities in Low and Middle-income Countries, Retrieved: http://www.intel.in/content/dam/www/public/us/en/documents/pdf/women-and-the-web.pdf , 13 April 2014

14 GSMA (2010) Women & Mobile: A Global Opportunity – A Study on the Mobile Phone Gender Gap in Low- and Middle-income Countries, http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2013/01/GSMA_Women_and_Mobile-A_Global_Opportunity.pdf 13 April 2014

15 Vaughan, D. (2006) 'ICT4D – Linking Policy to Community Outcomes', *Partners in Micro Development Inc,* Retrieved: www.microdevpartners.org/documents/ICT4DLinkingPolicytoCommunityOutcomesPDF.pdf, 13 April 2014.

16 See the work of Deen-Swarray,M.; Gilwald,A. and Morrell, A. (2013) 'Lifting the Veil on ICT gender Indicators in Africa', Research ICT Africa, Retrieved: **http://www.researchictafrica.net/publications/Evidence_for_ICT_Policy_Action/Policy_Paper_13_-_Lifting_the_veil_on_ICT_gender_indicators_in_Africa.pdf** , 13 April 2014

17 Desai, Sonalde (2014), Declining Sex Ratios Seen in Gender Scorecard, Retrieved: http://www.thehindu.com/opinion/op-ed/declining-sex-ratios-seen-in-gender-scorecard/article5801673.ece?homepage=true 13 April 2014

Secondly, it is important to understand the gender gap in Internet access in India in the context of a new divide that is emerging between the developed world, and developing countries – the 'communications capacity' gap, or the gap in the capacity to transmit information online. Scholars have found that there is a significant difference between the capacity of users in the developed world to transmit information over the Internet, when compared to their counterparts in the developing world. In fact, while the average inhabitant of the developed world counted with some 40 Kbps more than the average member of the information society in developing countries in 2001, this gap grew to over 3 Mbps per capita in 2010[18].

At one level, this 'communication capacity' gap may be merely reflective of a trend observed by the International Telecommunication Union in 2013 – across the developing world, low bandwidth, mobile broadband is becoming a replacement for high bandwidth, fixed broadband (a pattern that also holds true in the Indian context, as the earlier Section explicates). Most development interventions end up being fixated in "mobiles for women's empowerment", simply ignoring the issue of how innovations for inclusion and women's empowerment for longer term gains will need more than a 'voice' or telephony based interconnectivity.

As the following excerpt from the Report of the International Telecommunication Union in 2012 highlights, **there is a clear loss of benefits to users when mobile broadband is used to replace, rather than reinforce, fixed broadband infrastructure:**

" *...mobile broadband effectively restricts the type and quality of applications and services that users can access over the Internet. It is also important to note that while mobile-broadband technology helps to increase coverage and offer mobility, the mobile networks and services currently in place usually only allow limited data access, at lower speeds, which often makes mobile-broadband subscriptions unsuitable for intensive users, such as businesses and institutions. High-speed, reliable broadband access is particularly important for the delivery of vital public services, such as those related to education, health and government. (Thus) The potential and benefit of mobile-broadband services is therefore constrained when mobile broadband is used to replace, rather than complement, fixed (wired)-broadband access.*[19]"

Secondly, **the communication capacity gap is a powerful reminder about the issue of Internet affordability.** Lower levels of information transmission in the developing world may simply be an indicator of very high access costs that limit people's access to, and use of the Internet. For example, in India, Internet data download costs amount to 700 INR per Mbps[20]; in a context where over 60% of rural households live on 35 INR per day. Given the relative lack of control that a

18 Hilbert, M. (2011) 'Mapping the Dimensions and Characteristics of the World's Technological Communication Capacity During the Period of Digitization (1986–2007/2010)', ITU Working Paper Presented at the 9th World Telecommunication/ICT Indicators Meeting Mauritius, 7–9 December 2011, Retrieved: http://www.itu.int/itu-d/ict/wtim11/documents/inf/015inf-e.pdf 13 April 2014

19 International Telecommunication Union (2012), Measuring the Information Society, Retrieved: http://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-ICTOI-2012-SUM-PDF-E.pdf 13 April 2014

20 Majumdar, Anujeet (2013), India Ranked Lowly 130 in Ooklay's Average Internet Download Speed Index, *FirstPost*, Retrieved: http://m.tech.firstpost.com/news-analysis/india-ranked-lowly-130-in-ookla-039-s-average-internet-download-speed-index-108676.html, 13 April 2014

majority of women have over household resources, Internet access simply ends up being a luxury that few women can afford, even if availability is not a barrier!

The creation of an affordable public infrastructure that ensures meaningful access to the broadband Internet is central to any strategy that aims at addressing the structural constraints underlying the gender gap in Internet access. Needless to say, to be effective, such a public access infrastructure cannot be gender neutral – in a context where there is an extensive degree of social control on women's access to, and use of ICTs; ranging from diktats by informal panchayats[21], to household level controls on women's use of mobile phones[22], to discouragement of girls' use of shared Internet infrastructure (public access points)[23]. A discussion of the Indian state's performance in this area is taken up in a later section of this Report, which provides a gendered analysis of e-governance initiatives in India.

3. The information society opportunity for promoting the gender justice agenda in the Indian context

Clearly, harnessing the information society opportunity for gender justice is much more than reducing the gender gap in access. It involves unpacking the implications of the key transformations ICTs have facilitated in the public-political, economic and social sphere. This is the task attempted in this Section, which attempts to capture the opportunities and challenges for the women's empowerment and gender equality agenda, arising out of the structural transformations wrought by digital technologies in all aspects of the social world we inhabit.

3.1 The transformations in the public-political sphere

The Internet has opened up new possibilities for horizontal networking, transforming the DNA of contemporary politics. **Politics today is increasingly more diffuse, decentralised and adaptive[24].** However, this does not mean that the new avatar of politics and the digitally mediated public sphere always guarantees transformatory outcomes. Just as the new dialogic spaces of the digital age can "*inform, break through isolation, and unite*", they can also "*misinform, divide and put individual and collective rights in direct conflict with one another*" [25].

In India, with only 45 million of its one billion citizens[26] utilising social media and social networking

21 Indian Express (2010) 'Now, Khap Panchayats Ban Cell Phones for Unmarried Girls', *Indian Express,* Retrieved: http://archive.indianexpress.com/news/now-khap-panchayats-ban-cell-phones-for-unmarried-girls/714850/ , 13 April 2014

22 Saxena, A.(2010) Rural e-governance in India: For whom?, Retrieved: http://www.genderevaluation.net/mygem/?q=es/node/119 , 13 April 2014

23 In Tamil Nadu, research has found that women are discouraged from using public Internet access points, as the Internet is considered a corrupting influence. See Intel (2013), *op.cit.*

24 Harcourt, W. (2012) 'The Challenge of Civic Engagement for Development', *Development 55(2)*, DOI:10.1057/dev.2012.1

25 Sandler, J. (2013) 'The Online Terrain for Women's Rights', *Global Information Society Watch*, http://www.giswatch.org/en/report-introduction/online-terrain-women-s-rights, 13 April 2014.

26 See Simplify360 (2013), '23 Interesting Social Media Statistics and Facts About India' , Retrieved:

platforms, an enquiry into the implications of Internet-age politics for women's rights may seem futile, at first glance. However, further investigation reveals the disproportionate impact of the Internet, especially social media, in shaping the contemporary political scenario. For example, consider this simple statistic – in the forthcoming general election, social media is expected to influence a voter swing of 3-4 percent in about 24 states[27]; in 160 of the 543 constituencies, social media is expected to play a key role in influencing electoral outcomes[28]. **Undoubtedly, social media and other virtual platforms constitute a key dimension of the contemporary public sphere in India, a fact that progressive women's organisations and groups, cannot afford to ignore.**

3.1.1 The shadow of online violence

However, sadly, there seems to be an extension of the misogyny and sexism of offline public spaces into these newly emerging digital spaces. There are numerous instances where women political activists have been at the receiving end of vicious online attacks, on account of the political views and opinions they expressed in online forums. To cite some examples[29]: Meena Kandaswamy, dalit activist and poet, who expressed her support for a beef-eating festival at Osmania University received violent abuse and hate mail attacks on her Twitter account. Kavita Krishnan, secretary of the All India Progressive Women's Association, was abused and threatened with rape at a web chat, organised by a web portal, to discuss anti-rape protests. In another well-known instance, Sagarika Ghose, leading journalist with CNN-IBN, stopped giving her views on Twitter when she found herself at the receiving end of foul-mouthed abuse from right-wing activists for her political views – including threats of gang-rape and stripping. In fact, violence against women in online spaces is increasingly becoming routinised and we see many manifestations of the same - cyber-stalking, hacking into social media accounts, MMS and SMS stalking, circulation of images and videos without the subjects' consent and ICT-aided trafficking[30].

Across the globe, women have been trying to reclaim technology in their fight against violence. A Chennai based NGO, Prajnya (http://www.prajnya.in/16days.htm) , has been an active participant in this global campaign. There are other Internet based initiatives such as the GotStaredAt (http://www.gotstared.at/what-is-gs-a/)campaign that utilises memes, online messages and digital posters to build a counter-narrative to mainstream narratives of sexual harassment and violence; Internet-facilitated initiatives such as the Blank Noise (http://blog.blanknoise.org/) project that uses a combination of online and offline strategies to help women reclaim public space; and the numerous attempts by individual women bloggers to reclaim their voice by talking about their life experiences,

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http://simplify360.com/blog/23-interesting-social-media-statistics-and-facts-about-india/, 13 April 2014 . (Also, only 40% of these 45 million users are women.)

27 IMAI and IMRB Study 2013 cited in Chand, Paarul (2013), 'Can Social Media Influence Elections in India', Retrieved: http://www.prmoment.in/1379/can-social-media-influence-elections-in-india.aspx , 13 April 2014

28 Indian Express (2013), 'Social Media to Influence 160 Lok Sabha Seats in Next Elections, Says Study', Retrieved: http://archive.indianexpress.com/news/social-media-to-influence-160-lok-sabha-seats-in-next-elections-says-study/1101056/ , 13 April 2014

29 Examples are taken from Srivastava, Ritu and Manzar,Osama (2013), 'The Internet as a pathway for women's empowerment in India', *Global Information Society Watch*, http://www.giswatch.org/en/country-report/womens-rights-gender/india , 13 April 2014

30 Prajnya (2010), 'Gender Violence in India', Retrieved: http://www.prajnya.in/gvr10.pdf , 13 April 2014

political views and challenging contentious issues such as domestic violence in online space[31]. **Online violence does not seem to have silenced women – about one fourth of the bloggers in India are women[32]; a significant number when we consider the high degree of the Internet gender gap.** In fact, despite the increasing normalisation of online violence, there is certainly some scope for exploring an alternate political idiom – as explicated in the section below.

3.1.2 Digital spaces: Opportunities for exploring an emancipatory politics

Feminists and LGBT activists have certainly found in the Internet, some scope for furthering a creative politics of 're-signification'[33] and destabilising rigid categories of 'identity' and 'sexuality'.

Research has revealed the critical role played by the Internet in enabling young women to overcome social controls, in order to assert their sexuality and identity, in a highly repressed socio-cultural context[34]. The Internet's potential to create safe harbours for alternate sexualities is also well-known, and such spaces have been created and claimed by the LGBT Community in India as well. For example: Gaysifamily (http://gaysifamily.com/about/%20), intended as a safe and intimate space for peer sharing of members of the LGBTQ community residing in South Asia; Orinam (http://orinam.net/about/orinam-net/) , a bi-lingual Tamil and English website created as a virtual space by a Tamil Nadu based support group for alternate sexualities and gender identities, to provide a platform for commentary and self-expression for LGBT individuals; and QueerInk (http://www.womensweb.in/articles/queer-ink-interview/) , an initiative which started out as an online platform for India-based individuals who deviate from what is considered 'sexually normal' and which has now branched into publishing queer literature. Sexual minorities are also utilising a combination of old and new technologies in their efforts to create solidarities – such as Qradio (https://www.facebook.com/qradiowalla/info), India's first radio programme for the LGBT community that utilises the FM and an online radio platform in its advocacy efforts. Additionally, the Internet has proved a critical site for alternate sexualities to fight state repression – the most recent example being the critical role of social media in the protests against the Supreme Court order overturning the High Court repeal of Section 377 of the Indian Penal Code, which criminalises homo-sexuality.

The Internet also enables individuals and groups to challenge phallic sexuality, through creation of alternatives such as Feminist Porn. However, at the same time, the Internet increases the threat to privacy arising out of the publication of sexually explicit consent created without consent – such as 'Revenge Porn' and the sharing of sexual content that involves minors. Feminist groups in India have documented cases where a government job was denied to an applicant, when her background check revealed MMS 'Revenge Porn' clips about her; and the widespread proliferation of amateur porn on the

31 Bhattacharjya, M. and Indira Ganesh, M. (2009) 'Negotiating Intimacy and Harm: Female Internet Users in Mumbai', *GenderIT*, Retrieved: http://www.genderit.org/sites/default/upload/erotics_finalresearch_apcwnsp.pdf#india , 13 April 2014

32 Bhattacharjya, M. and Indira Ganesh, M. (2009)*, op.cit*

33 Referring to the detachment of a concept from its original context and then subverting it through re-contextualisation, such as the successful reclamation of the word 'queer'.

34 Bhattacharjya, M. and Indira Ganesh, M. (2009)*, op.cit*

Internet – even though in most of these videos and photographs, the consent of those featured is suspect[35].

3.1.3 The regulation of online spaces and the Indian state

The discussion above has shed light on the ethical issues involved in the regulation of online spaces – particularly, the delicate balancing act involved in protecting individuals from the threat of violence, and infringements to their privacy, on one hand; while guaranteeing the right to free expression, on the other. In fact, as the UN Special Rapporteur on Freedom of Expression, Frank La Rue, observed: "Privacy and freedom of expression are interlinked and mutually dependent; an infringement upon one can be both the cause and consequence of an infringement upon the other"[36].

The Indian state's approach to the regulation of online spaces mainly stems from a paternalistic approach to the question of protecting individuals from online violence, rather than a careful consideration of the ethical balancing acts involved. The legal provisions which are presently available to challenge acts of violence are "strongly influenced by existing laws on indecency and obscenity, ill defined as they are"[37]. This includes the Indecent Representation of Women (Prohibition) Act, and Section 67 and Section 67 B of the Information Technology Act that deals with cyber-pornography and child pornography respectively. Additionally, Section 66 A of the Information Technology Act provides for punishment for communication made via computer or other devices which may be "grossly offensive," have a "menacing character," or even cause "annoyance or inconvenience". There are a number of inadequacies in this blanket, moralistic approach to the question of online regulation.

Firstly, **as women's rights activists have pointed out, the current legal discourse on content regulation more often than not curbs women's freedoms, rather than helping them challenge violence and threats to bodily integrity**. For example, the draconian nature of Section 66 A has often been used to silence the purveyors of unpopular opinion in the public discourse – whether it be comments made against people in power or the political elite. In fact, Section 66 A has proved more handy in repressing women's speech and expression, than fighting cyber-abuse[38].

Secondly, **the state's response to the question of regulating pornography has been rather arbitrary**. In addition to making the publication and transmission of pornography in online spaces an offence under the Information Technology Act, the state has periodically tried to 'clean' the Internet of pornography by directing ISPs to remove pornographic website, file hosts and online sharing content;

35 Lakshane, R. (2013), Peeping Tom Porn and Privacy, Retrieved: http://eroticsindia.org/censorship/amateur-porn-privacy-censorship-consent/ , 13 April 2014

36 Patry, M. (2013), India: Digital Freedom under Threat? Surveillance, Privacy and Government's Access to Individuals' Online Data, Retrieved: http://www.indexoncensorship.org/2013/11/india-online-report-freedom-expression-digital-freedom-3/#footnote30 , 13 April 2014

37 Bhattacharjya,M. and Indira Ganesh, M. (2009),*op.cit.*

38 Raza (2012), Dear Sibal, Here is Why Section 66A Does Not 'Protect' Women, Retrieved: http://tech.firstpost.com/news-analysis/dear-sibal-here-is-why-section-66a-does-not-protect-women-212326.html , 13 April 2014

and using keyword filtering (without providing any reasons). Such efforts have been largely ineffectual[39]. For example, in June 2013, 39 websites were blocked for sharing pornographic content (without providing any reasons). Some websites, such as a blog that monetises user submitted content, has evaded scrutiny by stashing its archives behind a paywall[40]. Currently, there are two petitions – in the Rajya Sabha and Supreme Court – that are seeking an extension of the pornography ban to its consumption online. Meanwhile, women's rights advocates have been pointing to the repercussions of enacting such a law, on sexual freedoms of women and LGBT communities [41].

Thirdly, **existing legal provisions do not adequately address another important threat to online freedoms: the spectre of arbitrary corporate censorship.** Corporations that own social media and social networking platforms, have been known to delete content or block pages when they find an online dialogic space or a campaign as inimical to their interests. For example, the women activists who initiated the *Pink Chaddi* campaign against the moral policing by the Sri Ram Sena in Mangalore, found to their chagrin, that Facebook arbitrarily blocked the group administrators' access to the online page of the campaign, when in fact, the group was desperately trying to seek help from the Facebook when their Facebook page was hacked, and they started receiving slurs and hate-mail.

Finally, and most alarmingly, the Indian state itself has infringed with impunity on citizens' rights to privacy and freedom of expression, in the current context, by embarking on systematic attempts to extend its control over the communication architecture and the hybrid public sphere of the digital age. **In the absence of a strong legal framework on privacy, the Indian government has managed to force telecommunications companies to agree to interceptions of data; and is proceeding to build an indigenous version of PRISM – through the move to create a Centralised Monitoring System (CMS).**

3.2 ICTs and Women's economic empowerment

The ICT sector's contribution to India's GDP has been steadily increasing: from 3.4 percent in 2000–2001 to 5.9 percent in 2007–2008[42]; and to 7.5% in 2012[43]. India's Internet Economy(the bulk of which consists of IT services exports[44]), growing at 23% annually, is the second-fastest growing one in G20 countries[45]. Additionally, **the emerging Internet and mobile ecosystem are becoming key contributors to the GDP**: by 2016, India's 'Internet Economy' is expected to contribute 10.8 trillion

39 Lakshane, R. (2014), Decoding India's Proposed Online Porn Ban-II, Retrieved: http://www.genderit.org/feminist-talk/decoding-india-s-proposed-online-porn-ban-ii , 13 April 2014

40 Lakshane, R.(2013), *op.cit.*

41 Lakshane, R. (2014), *op.cit.*

42 Malhotra, A., Kanesathasan, A. and Patel,P. (2012), Connectivity: How Mobile Phones, Computers and the Internet can Catalyse Women's Entrepreneurship- India: A Case Study, *ICRW ,* Retrieved: http://www.icrw.org/files/publications/Connectivity-how-mobile-phones-computers-and-the-internet-can-catalyze-womens-entrepreneurship.pdf 13 April 2014

43 NASSCOM (2014),India IT-BPM Revenues: USD 118 Billion in FY2014, Retrieved: http://www.nasscom.in/indian-itbpo-industry 13 April 2014

44 The economic contribution from Internet consumption is the other component of the Internet economy.

45 ISPAI (2012) India Internet Industry Worth $4.2 Trillion, Retrieved: http://www.ispai.in/newsView.php?newsId=114 13 April 2014

INR to the GDP[46]; and the mobile economy , 216 lakh crore INR by 2020[47]. Further, the value-added services market, such as m-commerce and mobile banking, is poised to expand significantly, with projected sales of $12.25 billion in 2015[48]. The economic power of the transformations wrought by ICTs is indeed immense.

It is important to recognise that ICTs also bring about a qualitative, structural transformation in the economy effecting changes in the global supply chain of services[49]. This opens up new opportunities for flexible work, self-employment, and entrepreneurship[50]. We will now proceed to examine the implications of these trends for the women's economic empowerment agenda, in the Indian context.

3.2.1. ICT- Sector jobs and women

The IT-BPO Sector in India has emerged as one of the largest employment generators in the country. In 2012, the Sector was expected to be providing direct employment to about 2.8 million people, and indirect employment to about 8.9 million people[51]. Over the years, there has been a steady increase in the percentage of female employees in the sector. For instance,in 2008, the percentage of female employees at the junior level in the IT-BPO sector was a moderate 36%[52]. Studies have pointed out a number of reasons for why women opt for IT-BPO sector employment: comparatively high salaries, a flexible work routine, international mobility and physically less demanding jobs[53].

However, it is important to note that most of the female workforce is concentrated in lower level jobs in the IT-BPO sector, with women's representation at the senior level restricted to a mere 5%[54]. A variety of reasons are attributed to this, such as the workings of the proverbial glass ceiling, women's double burden in balancing work with family responsibilities and even mid-career guilt[55]. These limited employment gains at the entry level may not have advanced the

46 ibid

47 IANS (2013), Mobile Economy to Add $400 Billion to India GDP:GSMA,Retrieved: http://www.bgr.in/news/mobile-economy-to-add-400-billion-to-india-gdp-gsma/ 13 April 2014

48 Malhotra, A., Kanesathasan, A. and Patel,P. (2012), *op.cit.*

49 Rossotto, C.; Kiouk, S.C. and Paradi-Guilford, C. (2012) 'New Frontiers and Opportunities in Work – ICT is Dramatically Reshaping the Global Market', *World Bank*,Retrieved: **http://siteresources.worldbank.org/INFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/1221302_NewFrontier_PolicyNote_LowRes.pdf** 13 April 2014

50 ibid

51 NASSCOM (2014),India IT-BPM Revenues: USD 118 Billion in FY2014, Retrieved: http://www.nasscom.in/indian-itbpo-industry 13 April 2014

52 NASSCOM- Mencher (2009), Gender Inclusivity in India: Building empowered organisations,Retrieved: http://survey.nasscom.in/sites/default/files/upload/61812/NASSCOM_Mercer_Gender_Inclusivity_Report.pdf 13 April 2014

53 Shanker 2008, Upadhaya 2006,Kumar 2001, cited in Bhattacharyya,A and Ghosh, B.N. (2012),Women in Indian Information Technology (IT) sector: a Sociological Analysis, IOSR Journal Of Humanities And Social Science (JHSS), ISSN: 2279-0837, ISBN: 2279-0845. Volume 3, Issue 6 (Nov. - Dec. 2012), pp 45-52

54 Bhattacharyya,A and Ghosh, B.N. (2012), *op.cit.*

55 NASSCOM-Mencher (2009), *op.cit.* and Kannan, G. (2014), Environment that Values Diversity and Fosters Performance is a must for True Prosperity, Retrieved: http://sheroes.in/women-at-work-report/geetha-kannan ,13 April 2014

women's empowerment agenda much. Studies have revealed that for women entrants to the IT-BPO sector, while there have been some gains in economic and symbolic capital due to their 'prestigious' jobs; they may not have acquired the capacity to challenge structured gender inequality on the home-front[56].

Further, research has found that the absolute number of women entering science, technology and innovation careers is alarmingly low in India[57] – a trend that is worrying when read against the fact that by 2015, 90% of formal employment across all sectors will require ICT skills[58]. The situation of women in ICT-sector employment in India mirrors the trends at the global level, where women have been found to account for, "30 per cent of operations technicians, only 15 per cent of managers and a mere 11 per cent of strategy and planning professionals"[59]. Future policy and programming must focus on enabling women to break through the glass ceiling, and maximising their gains from the new opportunities in STEM careers that the digital revolution has opened up.

3.2.2 ICT Sector Jobs and the 'bottom of the pyramid' approach : 'Impact Sourcing'

ICTs offer numerous possibilities for re-structuring the production chain, and breaking down large business processes into small and simple tasks that can be outsourced – it is this opportunity that has fuelled the growth of the IT/BPO sector in the Global South, as First-World businesses can now retain core processes while outsourcing the rest, at a fraction of the cost, to a cheap labour force located elsewhere. **This propensity of ICTs has also fuelled the imagination of the proponents of the 'bottom of the pyramid' approach, to advocate the hiring, training and employment of members of marginalised communities in an emerging area called 'impact outsourcing' or 'impact sourcing'. The entry of new service provider companies for 'impact sourcing' has been touted as a 'win-win' strategy that would benefit both the company and individuals involved'**[60]. Such a strategy is considered beneficial to companies as they can effectively deal with the problem of high attrition and high cost – individuals from marginalised communities (especially in rural areas) are less likely to leave once trained, considering that they have very few employment options; and they cost less than the labour force in metropolitan centres. For the participating individuals, it appears to be a sure-shot pathway out of poverty.

India has seen a proliferation of actors in the impact sourcing arena in recent years, all of whom have a specific focus on women's inclusion, in their efforts. These include global operators such as Samasource (http://samasource.org/), registered under a non-profit model and

56 Shanker 2008, cited in Bhattacharyya,A and Ghosh, B.N. (2012), *op.cit.*

57 Kannan, G. (2014), *op.cit.*

58 Broadband Commission Working Group on Broadband and Gender (2013) *Doubling Digital Opportunities: Enhancing the Inclusion of Women and Girls in the Information Society,* Retrieved: http://www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf, 13 April 2014

59 Tandon, N. (2012) *'A Bright Future in ICTs: Opportunities for a New Generation of Women'. Information Telecommunication Union Girls in ICT,* Retrieved: http://girlsinict.org/sites/default/files/pages/itu_bright_future_for_women_in_ict-english.pdf 13 April 2014

60 Malik, F. and Nicholson, B. (2013), Towards a Taxonomy and Critique of Impact Sourcing, Retrieved: https://www.escholar.manchester.ac.uk/api/datastream?publicationPid=uk-ac-man-scw:199523&datastreamId=FULL-TEXT.PDF 13 April 2014

working towards enabling women and youth from maginalised communities across the world, to benefit from digital work outsourcing opportunities. It also includes state-led initiatives such as the *Kudumbashree* programme of the Kerala State Government, that supports women from lower socio-economic classes in setting up, and operating, IT-enabled micro-enterprises. It also involves initiatives that attempt to combine profit-making with social goals, such as the pan-Indian 'social commercial' enterprise RuralShores (http://www.ruralshores.com/about.html) that recruits and trains rural youth in the Indian hinterland in business processing services; currently, 50% of its employees are women.

While the benefits of these initiatives for the outsourcing service providers are fairly well understood, their success in meeting social development objectives is questionable. **Some scholars have drawn attention to the propensity of 'impact outsourcing' to exacerbate income inequality, by the exploitation of wage-labour of poor women and other marginalised groups**[61]. In-depth case studies of specific initiatives are few; and the conclusions of those available, rather mixed. For example, Heeks' and Arun's 2010 assessment of *Kudumbashree* revealed that though the initiative had certainly played a key role in lifting individual women out of poverty, there were still many issues to be ironed out before questions of sustainability could be addressed satisfactorily: continued dependencies of the women running the IT enterprises on the state, for securing work assignments; and additional vulnerabilities stemming from loans women had to take, to tide over payment fluctuations [62]. There is certainly a need for further research in this area, in order to comprehensively evaluate the impact of ICT-enabled 'bottom of the pyramid' approaches on poor and marginalised women.

3.2.3 ICTs for small and medium enterprises

The new possibilities opened up by ICTs for strengthening SMEs in general, and the potential of ICT SMEs for furthering women's economic empowerment and social inclusion, is an oft explored thematic area in the mainstream ICTD space.

Firstly, emerging evidence clearly reveals that **while ICTs do hold the potential for opening up new economic avenues, their impact is much higher on enterprises that are located downstream in the value chain than enterprises that grow produce or manufacture artefacts**[63] – a point of some significance for the women's economic empowerment agenda, as the bulk of women-run enterprises are located upstream in the value chain. However, this has not stopped state or civil society actors from experimenting with ICT possibilities for promoting women's enterprise in different parts of the world, especially in the Global South. India is no exception.

Secondly, **India has witnessed a number of initiatives that have sought to promote the women's empowerment agenda by setting up ICT-enabled kiosks managed and operated by women, in semi-urban and rural areas, under various models.** To name a few: there are

61 Parayil, G (2005), cited in Malik, F. and Nicholson, B. (2013), *op.cit.*

62 Heeks, Richard and Arun, Shoba (2010) Social Outsourcing as a Development Tool: The Impact of Outsourcing IT Services to Women's Social Enterprises in Kerala, Journal of International Development, 22, pp.441-454

63 UNCTAD (2010), Information Economy Report 2010: ICTs, Enterprises and Poverty Alleviation, Retrieved: http://unctad.org/en/Docs/ier2010_en.pdf , 13 April 2014

initiatives that aim at encouraging women entrepreneurs, which are operated under the corporate franchisee model, such as the IT kiosks set up by the All India Society for Electronics and Computer Technology[64]. Others, such as the TARA Kendras initiative of the NGO, Development Alternatives[65], operate under a social enterprise model that focuses on an extensive gendered outreach strategy to enable women and girls in rural areas to acquire digital literacy and the wherewithal necessary to participate in the new information networks opened up by the Internet. Yet other initiatives, have been established as civil society-private sector partnerships: consider the Citizens' Center Enterprises (CCEs) of the NGO Hand-in-Hand, where women are equipped by the NGO to run ICT-enabled kiosks that sell services of the partnering mobile service providers[66]. (Women entrepreneurs are also encouraged by some state governments, in taking up the role of village level franchisees under India's flagship one stop shop programme for ICT-enabled information and service delivery in rural areas – the 'Common Service Centre' scheme of the Government of India. This initiative of the state,and its gendered impacts, are discussed in a subsequent section of this paper.)

Initial investigation belies the claims made by most ICT kiosk initiatives with respect to furthering the women's empowerment and the social inclusion agenda. Firstly, scholarship reveals that the success of most of these initiatives can be traced to their successful cooptation of the rural elite, rather than their ability to challenge any structural power inequalities, including household gender relations. Ethnographic research investigating such ICT kiosk models in India , has revealed that the focus is on establishing the appropriateness and safety of these initiatives for women and girls to local community elders, rather than work towards enabling women acquire a hold over the emancipatory possibilities of the new technologies[67]. This is of course, not to completely deny the possibility of gains in social status and income, for individual women participants. **The issue here in terms of immediate policy action is whether or not the surplus generated through such networks of enterprises accrues to women.** The mediating corporation – the new middleman, so to speak – seems to be taking away the gains. Feminist economists have cautioned activists against the expropriation of women's labour by state and non-state actors in the development project.

Thirdly, the promise that ICTs offer for promoting women's enterprises in general, has to be read against the larger context of women's opportunities for entrepreneurship in the Indian context. Women own about 2.1 million, or approximately 8% of the 26.1 million micro, small and medium enterprises in the country[68]. Many women's businesses are concentrated in the informal sector. Scholars have also pointed out that many women entrepreneurs may merely be a 'front' for other family members to run businesses.

In this scenario, **ICT possibilities to strengthen women's enterprises can be successful only as part of a sustained public policy effort that focuses on creating a supportive macro-environment for women's enterprises as well as micro-level interventions for promoting**

64 Malhotra, A., Kanesathasan, A. and Patel,P. (2012), *op.cit.*
65 Sreekumar,T.T. (2011), ICTs and Development in India: Perspectives on the Rural Network Society, London:Anthem Press
66 Malhotra, A., Kanesathasan, A. and Patel,P. (2012), *op.cit.*
67 Sreekumar,T.T. (2011), *op.cit.*
68 Malhotra, A., Kanesathasan, A. and Patel,P. (2012), *op.cit.*

an entrepreneurial culture among women. Additionally, they require concerted efforts from state and civil society organisations in the areas of: *"strong initial and continued training, access to necessary resources, help in expanding the market, government and societal support,... (and building) good networks in the community"*[69].

In the area of utilising ICT possibilities for strengthening women's enterprises, mobile value-added services for financial literacy and business planning are mushrooming. Such services are usually being offered by micro-finance institutions to their Self Help Groups, in partnership with telecommunications companies[70]. However, studies have pointed out that the extent to which such initiatives support women entrepreneurs in effectively managing their businesses, is questionable, as they usually end up becoming mere channels for telecommunications companies to reach out to a rural market segment[71].

However, there are some welcome exceptions – initiatives that attempt to integrate systemic concerns into their design, such as the mobile phone communication platform built by the membership organisation SEWA, in Western India, in order to facilitate effective communication between its vast network of female producers,to effectively process orders and manage its value chain[72]. In fact, SEWA has embedded this mobile-based platform, within its overall efforts to create a strong, institutionalised model for networking women entrepreneurs – an approach worthy of replication.

3.2.4 Mobile Money as a Route to Economic Empowerment

Since the mid 2000s, mobile money transfers have been touted as a pathway to financial inclusion, especially to bring in the 'poor and unbanked sections' of a country's population into the benefits of the global economy. At present, there are over 150 mobile money deployment services in existence, many of which are located in developing country contexts. Mobile money services essentially operate by utilising a retail nework of agents/shops as cash-in/cash-out points, with text messaging as the dominant mode of facilitating transanctions.

India, too has joined the fray – with announcements of the launch of mobile money service M-PESA by Vodafone and ICICI Bank in Bihar, Jharkhand and Maharashtra, all over the media, in October 2013[73].

These are still early days for mobile money services in India. However, going by the experiences of such initiatives in other developing country contexts (especially Africa),their consequences for women's empowerment seems mixed. For instance, research in Africa on the impact of M-PESA has revealed that the service has certainly enabled women to make some gains, such as increased control

69 Maier, S. and Nair-Reichert, U. (2007) 'Empowerment of Women through ICT-based Business Initiatives – An Overview of Best Practices in e-Commerce/e-Retailing Projects', *Information Technologies and International Development*, Retrieved: **http://itidjournal.org/index.php/itid/article/view/255/125**, 13 April 2014

70 Examples include: Madhura Micro-Finance's partnership with Vodafone; and SKS Micro-Finance's tie-up with Nokia. See Malhotra, A., Kanesathasan, A. and Patel,P. (2012), *op.cit.*

71 Malhotra, A., Kanesathasan, A. and Patel,P. (2012), *op.cit.*

72 Joshi, A. (2012) 'Self Employed Women's Association, Gujarat: A Case Study', Bangaluru: IT for Change, Retrieved: http://itforchange.net/sites/default/files/ITfC/SEWA_fieldnotes.pdf , 13 April 2014 and Malhotra, A., Kanesathasan, A. and Patel,P. (2012), *op.cit.*

73 See http://egov.eletsonline.com/2013/10/vodafone-icici-bank-launches-m-pesa-to-maharashtra/ and http://egov.eletsonline.com/2013/08/vodafone-and-icici-launches-m-pesa-money-transfer-in-bihar-and-jharkhand/

over their savings and household expenditure[74]. At the same time, M-PESA appears to have weakened family ties between migrant workers and their families back home, with rural wives of urban migrant workers expressing their concern over the decreasing frequency of visits from their migrant husbands, who perforce had to come home to deliver money physically, at regular intervals, in the days before M-PESA[75]. The long term impacts of women being in the position of 'rural recipients' and men being in the position of 'urban senders' in M-PESA services, has been pointed out as something that needs further scholarly investigation.

Also, **mobile money services open up a number of new regulatory challenges due to the new partnerships they facilitate between commercial banks, telecommunications companies, and small scale retailers**, including: *"'ring-fencing' of mobile money depositor cash by mobile network operators engaged in other businesses, 'cash-float' of the retailer network of agents in the rural areas, data protection concerns around mobile money trails, and prevention of market manipulation and investor fraud in m-money markets, are areas where existing regulatory frameworks need an overhaul"*[76].

Attention to the regulatory frameworks in the ICTs for financial inclusion arena is paramount – the micro-finance industry's exploitation has left an indelible mark in the form of extreme consequences for women and their lives; a precursor that mobile money enthusiasm cannot ignore!

3.3 The question of women's rights in the knowledge society

The Internet opens up hitherto unprecedented possibilities for the democratisation of information and communication,and the creation of collaborative knowledge cultures – due to the affordances its distributed technical architecture offers.

In particular, the Internet offers numerous opportunities for putting low-cost media technologies within the reach of women's organisations and grassroots initiatives, helping them construct counter-narratives to hegemonic news media[77]. This opportunity has been capitalised upon by a number of women's groups and feminist organisations in the country. To cite a few examples: Nirantar's Khabar Lahariya (http://khabarlahariya.in/) initiative in the Bundlekhand region that attempts to enable community women reporters produce their own video stories and effectively utilise social media spaces to ensure that their stories are picked up by mainstream media; the Deccan Development Society's efforts to utilise community radio for enabling dalit women farmers develop a counter-public sphere; and the CG Net Swara (http://cgnetswara.org/) initiative in Chattisagrh which has effectively utilised IVRS

74 Ndaiye, O.K. (2013) 'Is the Success of M-Pesa Empowering Kenyan Rural Women?', *Feminist Africa 18. 2013: e-spaces : e-politics,* Retrived*:* http://agi.ac.za/sites/agi.ac.za/files/standpoints_is_the_success_of_m-pesa_empowering_kenyan_rural_women_.pdf *,* 13 April 2014

75 Morawczynski, O. and Pickens, M. (2009) Poor People Using Mobile Financial Services: Observations on Customer Usage and Impact from M-PESA, Retrieved: **http://www.cgap.org/sites/default/files/CGAP-Brief-Poor-People-Using-Mobile-Financial-Services-Observations-on-Customer-Usage-and-Impact-from-M-PESA-Aug-2009.pdf** 13 April 2014

76 UNCTAD 2012 cited in Gurumurthy, A. and Chami, N. (forthcoming), Gender Equality in the Information Society: A state of the art review for policy and practice

77 It is important to recognise the impact of the new ICTs on older technologies such as radio and video while discussing the question of the transformations in media and communication architectures. Digitisation and the evolution of editing software have helped in bringing down the costs of producing radio and video programmes; as well as making the technical processes of recording, filming and editing more accessible to amateurs)

technology to create a culture of inclusive community reportage in the tribal pockets of central India, by training citizen reporters to call in and record their stories (including experiences of accessing public services, local news and acts of state and extremist violence) via their mobile phones.

Secondly, **it is increasingly possible for previously marginalised local knowledge cultures to connect on their own terms to the global public through the open spaces of the Internet**[78], at least hypothetically. However, this opportunity can be capitalised upon only by a concerted effort to build a digitally enabled 'Knowledge Commons' rooted in the values of collaborative innovation and community ownership of information, data and content, which is produced and shared over the Internet – that attempts to ensure that the Openness of the Internet is used to develop knowledge that will remain in the public domain. This becomes difficult, when the workings of 'informational capitalism' are constantly geared towards enclosing these commons, through intellectual property legislation, and attempts such as pushing software patents, restricting peer-to-peer file sharing, restricting the digitalization of books etc[79]. **At the same time, the Internet can be used by private interests for building commercial models that exploit traditional knowledge,especially in developing country contexts without sufficient guarantees to protect indigenous knowledge systems**. For example, women artisans and artists, without the social capital to access the 'knowledge economy' and use it for their own productive capacities, are not only at a disadvantage, but also at risk of exploitation by commercial interests who use the Internet as a platform for consolidating their market power.

Let us proceed to examine how Indian law and policy respond to this situation.

The Information Technology Act 2000 and related guidelines clearly provide for a duty that can be thrust on Internet Service Providers to disable access to copyright works, that are being illegally shared digitally. However, commentators have noted that courts have often used this evidence in excess of norms of proportionality, by directing ISPs to take down entire websites and not just the part limited to copyrighted material, in their rulings pertaining to copyright infringement[80]. Similarly, the Indian Law's approach to the question of copyright legislation in the realm of software has also been influenced extensively by industrial lobbying. In 2004, pressurized to comply with the TRIPS deadline for bringing in a product patent regime, the Indian government brought in an ordinance that provided for software patents – which essentially differs from copyright, in that, it allows for the idea behind a software programme to be patented[81]. The repercussions of this for innovations by small time enterprises (managed usually by women) and for the creation of affordable Software Applications and Platforms are fairly easy to discern. This move was overturned by the Indian Parliament in 2005; however, the Draft Patents Manual prepared by the Patent Office in 2008 seemingly goes against the provisions of the Patents Act as it partially allows for software patents (patents over a computer programme per se). This has led to occasional incorrect grants of Software Patents by the Patents Office, even if seemingly prohibited in law[82].

78 Gurumurthy, A. and Chami, N.(forthcoming), *op.cit*

79 Gurumurthy, A. and Chami, N.(forthcoming), *op.cit*

80 Padmanabhan, A. (2014), Can Judges Order ISPs to Block Websites for Copyright Infringement? (Part 3), Retrieved: http://cis-india.org/a2k/blog/john-doe-orders-isp-blocking-websites-copyright-3, 13 April 2014

81 Purkayastha, P. (2014), Software Patenting: A huge blow to Indian History, *Delhi Science Forum,* Retrieved: www.delhiscienceforum.net/telecommunications/197-software-patenting-a-huge-blow-to-indian-history-by-prabir-purkayastha-.html , 13 April 2014

82 ibid

On the whole, Indian law and policy have focussed on addressing industry concerns pertaining to copyright in the emerging knowledge architecture of the Internet, rather than promoting collaborative knowledge creation utilising new digital opportunities. This is where the Government of Kerala stands in stark contrast. Through its '*Ente Gramam'* initiative launched in 2008, with funding from UNESCO, the Kerala Government created a community web portal with localised content in Malayalam for panchayats in Kannur district, which was then extended to a few select districts. The portal showcased information about local resources, government and public services, historical information about the area, local geography and local news – all created with the involvement of local communities. The participatory content creation processes of the portal were steered by the Village Level Entrepreneurs of the Akshaya centres. Though the initiative has not been very active after the UNESCO funding came to an end, the *Ente Gramam* experience provides valuable learnings on how the state can play a lead role in utilising the potential of ICTs for strengthening community knowledge processes.

On another note, the Kerala State government has also taken a key step in protecting indigenous knowledge through its 2008 IPR policy that has directed all 'indigenous knowledge' as belonging to the domain of knowledge commons – and prohibits patenting of any additional development to this knowledge by individuals/ agencies. Such additions will have to be provided back to the knowledge commons, preserving which is a precondition for women to have control over and claim credibility for, their own knowledge.

3.4 The transformations in the State-Citizen Relationship in the Digital Age: Emerging gender justice concerns

The digital revolution has certainly transformed the face of the Indian State. Firstly, 'ICTs in governance systems' have become a pathway for relaying the 'idea of corporate efficiency' into long-standing discourses on social development through effective public service delivery[83]. The ascendancy of the 'e-governance' discourse in the late 1990s and the early 2000s, and the pride of place it occupies in the imaginations of policy makers today testifies to this fact. Secondly, ensuring the continued expansion and growth of the digital economy is becoming a crucial driver of State policy. Thirdly, the unbounded spaces of the online public sphere have become the new site for the construction of a statist discourse on security – pertaining to both the political integrity of the nation and its economic security.

All these priorities are reflected in the 12th Five Year Plan (2012-17), which has provided an outlay of 81,378 crore INR to the Department of Information Technology for the development of: e-government, e-learning, e-security, e-innovation, research and development (of the IT sector) and e-inclusion (to ensure the benefits of the digital economy trickle down to the most marginalised sections of India's population)[84].

We will now proceed to analyse the implications of this multi-sided transformation of the state in the

83 Mazzarella, William (2010), Beautiful Balloon : The Digital Divide and the Charisma of New Media in India, American Ethnologist, 37 (4), pp.783-804

84 DNIS News Network (2012), Only 160 Crore for E-Inclusion in the 12th Plan, *Disability News and Information Service for India,* 9 (7) http://www.dnis.org/news.php?issue_id=7&volume_id=9&news_id=1259&i=6

digital age, for **the social justice and gender justice agenda, which are two sides of the same coin**[85].

3.4.1 The Indian e-governance scenario: An overview

The United Nations E-government survey 2012 ranked India 124 , relatively low on the world e-government index. However it also acknowledged the enormity of the challenge that India faced, in bringing connectivity, ICT-enabled service delivery and the opportunities opened up by digital spaces for citizen participation, to its huge population, especially women and socially marginalised groups in rural areas. The Survey Report observed that India was extensively investing in these areas for e-government development, even though it did not rank among the E-government Leaders in the Asia Region. The historical evolution of the e-governance agenda in state policy and the key efforts of the Indian government in the area of e-governance are described below.

The late nineties to the mid 2000s can be considered the first phase in the history of e-governance in India. In this phase, which can fairly be described as 'bottom-up', the idea was to create a set of ICT-enabled front-end centres in the community, that would be linked to back-ends housed in the district collectorate – the emphasis being the development of sufficient pressure at the community-end to exert pressure on the official system for efficient and effective public service delivery[86]. Even though a number of these experiments, such as the well-known DRISHTI and *Gyan Ganga* initiatives folded up after a few years, the idea of ICT-enabled strategies for promoting efficient and transparency in governance had made a lasting impression on policy-makers[87]. This provided the impetus for the launch of the ambitious National e-governance Plan in 2006, with an outlay of 3300 crore INR[88].

The National E-governance Plan (NeGP), through its 31 Mission Mode Projects, aims at developing a country-wide infrastructure reaching to the remotest village, for facilitating single-window, one-stop, public service delivery to all citizens and the large scale digitisation of records, to enable easy interaction between citizens and government, over the Internet.

The connectivity infrastructure envisioned by the NeGP consists of a country-wide network of ICT-enabled kiosks called the 'Common Service Centres' under which ICT-enabled single window service delivery centres are proposed to be set up in every *Gram Panchayat* of the country through a public-private partnership model involving various kinds of partnership agreements between village level entrepreneurs, private companies and government agencies; as well as Electronic Service Delivery

85 Horn, Jessica (2012), Gender and Social Movements: Overview Report, Retrieved: http://www.bridge.ids.ac.uk/vfile/upload/4/document/1310/FULL%20REPORT.pdf , 13 April 2014
86 Singh, P. (2012), E-governance in India: Existing context and possible scope for UNDP programing over 2013-18
87 ibid
88 Gov interperability article downloaded from JSTOR

Gateways[89] and State-Wide Area Networks[90]. This connectivity infrastructure is envisioned as a platform for digitised public service delivery, the back-end for which is expected to be a readied by a range of Central, State-Led and Integrated Mission Mode Projects[91].

Mission Mode Projects address a range of issues in the area of developing the supporting infrastructure for digital state-citizen interactions: including the digitisation of various governmental departments, Muncipalities, Panchayats, and judicial systems; the development of a digitised, integrated electronic application with the accompanying digitised back ends at the district collectorate, for digitised public service delivery; and the flagship *Aadhar/* Unique Identification Project.

Out of the 31 MMPS, as of 2013, 14 were fully delivering their range of services to citizens while 9 were partially delivering services[92]. Also, the Report of the Working Group on Information Technology for the Twelfth Five Year Plan (2012-17) has recommended the expansion of Mission Mode Projects to areas such as Health, Education, PDS, Posts, Skill up-gradation, integrated system of crime to adjudication to jail, safety and security against crime, Right to Information etc – some of which is underway, at present.

The proposal for the creation of a robust, democratic information system developed by the Office of the Adviser to the Prime Minister on Public Information Infrastructure (PII) in 2010 has been another key influence in the evolution of e-governance in India. The main elements of the proposal included: *".. a core backbone consisting of the National Knowledge Network,connecting 1,500 institutions across the country with gigabit capabilities; data centres, including 35 state and four national centres,.. and (the creation of) applications and platforms enabling people to access information as well as analyse and innovate upon it"*[93]. The proposal highlighted the inter-linking of these possibilities with the Common Service Centres and the *Aadhar* scheme, where appropriate. Additionally, it envisioned the creation of a Rural Broadband Network connecting Panchayats, enabling them to be a part of "*new highways for connecting ideas and disseminating knowledge"* [94].

Recent efforts by the Department of Information Technology (between 2012-13) to take forward the programmatic directions for digitised service delivery envisioned in the National E-governance Plan, and the recommendations of the Office of the Adviser to the Prime Minister on Public Information Infrastructure, are detailed below[95]:

89 This may be defined as a "standardized interfacing, messaging and routing switch through which various players such as departments, front-end service access providers and back-end service providers can make their applications and data inter-operable". See https://nsdg.gov.in/administration/aboutus.jsp for details.

90 The converged backbone network for data, voice and video communications throughout a State/UT. See http://deity.gov.in/content/state-wide-area-network-swan

91 http://deity.gov.in/content/mission-mode-projects ; Kuriyan, R. and Isha Ray (2009), Outsourcing the State: Public-Private Partnership and Information Technologies in India, doi:10.1016/j.worlddev.2009.03.005

92 Prime Minister's Office (2013),PM Reviews National e-governance Plan, Retrieved: http://pib.nic.in/newsite/erelease.aspx?relid=96938 13 April 2014

93 Pitroda, S. (2013), Democratisation of Information, *Yojana*, Vol 57.

94 ibid

95 Prime Minister's Office (2013),PM Reviews National e-governance Plan, Retrieved: http://pib.nic.in/newsite/erelease.aspx?relid=96938 13 April 2014 ;and http://ogpl.gov.in/; http://www.futuregov.asia/articles/2014/feb/20/india-launches-improved-open-government-platform/

(a) The Launch of Mobile *Seva:* An Unique Country-wide initiative to provide public services to citizens through mobile phones and hand-held devices, through which 200 different services of 444 departments have been offered.
(b) Initiating a pilot project covering 59 panchayats in three blocks in three states on using the hi-speed connectivity of National Optical Fibre Network (NOFN) for delivery of public services ; with the aim of using learnings from the pilot to extend NOFN to the entire country (envisioned as part of creating a Rural Broadband Network in the PII proposal).
(c) The launch of the 'Open Government Platform' developed in collaboration with the United States, intended to enhance access and use of government data for innovation; and the promotion of government transparency, accountability and public participation.
(d) The launch of 'Data Portal India' that is intended to function as a single access point for open government data sets across the country pertaining to *"agriculture, commerce and industry, defence, finance, health, information and broadcasting, energy, transport,water resources, and other areas"*.

3.4.2 Gender in 'e-governance' policy and programming

In this extensive ICT-enabled information and public service delivery architecture that is being planned, where is the women's rights and gender justice agenda located? **Firstly, it is important to understand that there is no National e-governance policy in India.** The discussion on national e-governance priorities is restricted to a small section of the National Information Technology Policy 2012, whose central focus is on the question of developing India as a Global IT hub[96].

However, a perusal of a combination of policy and programmatic documents, can help us arrive at a picture of where women stand in this overall scheme of things. Most important to this analysis is the Twelfth Five Year Plan (2012-17) that lays out the overall policy and programmatic vision for the country in the immediate future. **In the Twelfth Plan, there is certainly a continuation of the movement away from programming for the 'Woman and Child' to looking at women as "growth agents across all sectors of the political economy" that was begun in the Eleventh Plan**. Thus, there is a continued emphasis on the social inclusion agenda[97]. **However, as commentators have pointed out, the inclusion agenda is inadequately spelled out, with pathways not being detailed[98]. This trend is reflected even in the case of e-governance, with the Working Group on Information Technology Sector for the twelfth five year plan identifying e-learning and ICT skill development, development of rural connectivity infrastructure, development of local language content, ICT-enabled health services and financial inclusion through ICT technology as key elements for utilising the ICT potential for social inclusion but falling short of concrete suggestions on engendering these priority areas.**

Needless to say, such incomplete attention to the gender question in e-governance policy and

96 National IT Policy 2012
97 Eapen, M. and Mehta, A.K. (2012), Gendering the Twelfth Plan : A Feminist Perspective, Economic and Political Weekly, Vol XLVII (No. 17)
98 ibid

programming is problematic in a context where there a number of barriers to women's mobility and participation in the public-political sphere – which adversely impacts their ability to capitalise on the transformatory possibilities opened up by ICTs. In fact, as discussed in an earlier section of this brief, there is an extensive degree of social control on women's access to, and use of ICTs. In this context, **gender neutral strategies for promoting public access and ICT-enabled service delivery can only cover a certain distance[99].** We now proceed to examine the impacts of existing e-governance interventions, even if limited, on furthering the goal of social inclusion; and other questions they pose w.r.t the women's rights agenda.

3.4.3 Inclusive public service delivery for women: A mixed bag

The Mission Mode Projects do not explicitly address the question of overcoming gender barriers in access to public service delivery, except articulating a broad commitment to 'weaving a basket of services for the common man' (and by extension, women) and bringing government closer to the people through the Common Service Centres Scheme[100].

Studies have shown that the Common Service Centres have not been really able to address the issue of equity in public service delivery, as the bulk of their benefits seem to be enjoyed by the local elite[101]. Some states such as Kerala have modified the design of the Common Service Centre scheme, by specially focussing on including women as Village Level Entrepreneurs to run the single window service delivery centres (locally known as *'Akshaya' centres*). However, even in Kerala, there has been no attempt to engender the overall service delivery framework[102]. Though studies of the *Akshaya* centre have revealed status gains for individual women who participate in the scheme as entrepreneurs, the scheme has not managed to transform dominant policy assumptions about the 'gender-neutrality' of public service delivery functions[103].

There are some programmes, though, which have foregrounded the issue of improving women's access to public service delivery. For example, the Mission Convergence initiative[104], developed under an innovative government-NGO-community partnership model between the State Government of Delhi, local NGOs with grassroots presence and urban slum communities focusses on targeted service delivery through a network of pre-existing gender resource centres managed by the NGOs on the ground. The rationale guiding the project was that the NGOs operating the Gender Resource Centres were already sensitive to the local context and invested in addressing community needs – therefore, their involvement in service delivery would ensure smooth processing of information requests and entitlement claims. To ensure that the NGOs running the centres do not become alternate power structures in the communities intermediating the state- citizen relationship, a monitoring

99 Srivastava, R. and Manzar, O.(2013), *op.cit.*
100 http://csc.gov.in/
101 Kuriyan, R. and Ray, I. (2009), *op.cit.*
102 Mukhopadhyay and Nandi 2006 cited in Swamy, M and Gurumurthy, A. eds., (2008), Locating Gender in ICTD Projects: Five Cases from India, Retrieved: http://www.itforchange.net/sites/default/files/images/locating.pdf , 13 April 2014
103 Ibid
104 See Gurumurthy, A; C.Nandini and Salaronta, E.(2012), *op.cit.*

mechanism with representation from the government as well as civil society organisations, has been instituted. Studies have revealed that this model has largely been successful in attaining its goal of gender-inclusive service delivery[105].

Another recent initiative in this realm is the *Poorna Shakti Kendra* scheme launched by the National Mission for the Empowerment of Women[106], which aims at setting up village level focal points that will provide information about government programmes/schemes/ services to women, and act as ICT-enabled single window centres for convergent delivery of all governmental schemes targeted at women.

Largely, these efforts remain in silos. **On the whole, mainstream policy and programming lacks an integrated approach to the question of developing ICT-enabled models for engendering the public service delivery framework as a whole.**

However, two critical areas within public service delivery, that have been particular focal points for developing ICT interventions are that of: health and education. The impact of such interventions on women and girls are detailed below.

(a) ICT interventions in public health systems and Women's Health

Despite a five decade old Family Health programme, India still accounts for over a quarter of the world's maternal morbidity and mortality rates. **Since 2005, there have been a slew of initiatives undertaken as part of India's flagship National Rural Health Mission[107] that aim at reducing maternal and neo-natal mortality** – such as the oft-acclaimed *Janani Suraksha Yojana* that seeks to integrate cash assistance to promote institutionalised delivery, with post-natal health care. However, such programmes do not seem to be qualitatively improving health outcomes for women.

For example, post-2005, even though institutional delivery rates have increased, postnatal care continues to be a neglected area with only 42% of women accessing such services after delivery. One reason for this could be that even though public health expenditure by the state has increased in recent years, it may still not be adequate to match the needs of India's burgeoning population – as a 2014 study points out, **India is among the five countries ranked at the bottom of the global list on public health spending[108]. Such low levels of public health expenditure are reflected in the lack of adequate public health infrastructure, as well as staff shortage of trained medical personnel in the public health system[109].** Hospital bed density has stagnated at 0.9 per 1000 population since 2005; WHO guidelines recommend 3.511 per 1000 population[110]. Nearly three-fourths of qualified doctors practice in urban areas, resulting in a severe medical personnel shortage in rural

105 See IT for Change's case study on Mission Convergence in Singh, P; Gurumurthy, A and C.Nandini (2011), Exploring an Institutional Model for Community Knowledge Centres: A Case Study, Retrieved: http://www.itforchange.net/node/969 , 13 April 2014

106 Ministry of Women and Child Development (2013), Empowerment of women through NMEW, Retrieved: http://pib.nic.in/newsite/PrintRelease.aspx?relid=101679 , 13 April 2014

107 See http://nrhm.gov.in/

108 Domain-b.com (2014), India Among Bottom Five Countries in Healthcare Spending, Retrieved: http://www.domain-b.com/economy/general/20140201_healthcare_spending.html , 13 April 2014

109 https://www.aspeninstitute.org/sites/default/files/content/docs/pubs/2010%20India%20Text%20FINAL.pdf

110 Varma, Nilaya (2014), Delivering E-Health in India- Analysis and Recommendations, Accenture.

areas where the bulk of India's population continues to reside[111]. This situation manifests itself as ineffective health outcomes for men and women.

When this scenario is juxtaposed against the fact that India has a telecommunications backbone that covers about 85% of its 600000 villages, and is one of the fastest growing mobile telephony markets in the world, the potential offered by e-health and m-heath strategies for improving health care delivery in the country, becomes extremely clear. There is indeed, tremendous scope for 'ICT-enabled' initiatives to cost-effectively improve health services in the areas of: providing health information to the public, empowering front line health workers with up to date information on diagnostic and treatment protocols, facilitating remote consultations, systematising the management of patient records, monitoring disease outbreaks and improving drug supply chains through real time updation and tracking[112].

However, India does not have a concerted e-health strategy[113]; and there is not much governmental spending in the area of 'ICTs in health' interventions – an unsurprising fact considering the paucity of public funds for health expenditure. In spite of these limitations, **maternal and child health care has emerged as a key priority area for the limited state-led e-health and m-health interventions that exist.**

Currently, three significant initiatives of the Indian government in this area are:

(a) The Mother and Child Health Tracking System, a country wide initiative launched under the National Rural Health Mission, which has enabled the creation of a web-enabled system that will enable effective tracking of Ante-Natal Care, Post-Natal Care and immunisation of pregnant women and nursing mothers. The system registers pregnant women, using customized mobile phone-based applications updated by ASHAS, to help strengthen accountability for eligible clients to receive all scheduled health services.
(b) The National Health Management Information System which aims at tracking various health indicators across the country, to facilitate better planning of healthcare delivery – it has a specific facility based reporting component pertaining to maternal and child health indicators, that tracks data from Primary Health Centres and sub-centres across the country.
(c) More recently, the state has launched a series of mobile-based applications for proving health information services to front-line health extension workers – ASHAS, as well as for monitoring their functioning, especially in the area of providing effective ante-natal and post-natal care at the community level.

Most of these mobile-based applications have been developed under civil society and private sector

111 Ibid.
112 Aspen Institute (2011), e-Health for India: Reaching the Unreached, Retrieved: https://www.aspeninstitute.org/sites/default/files/content/docs/pubs/2010%20India%20Text%20FINAL.pdf , 13 April 2014
113 Qiang, C.Z. (2011), Mobile Applications for the Health Sector, World Bank, Retrieved: http://siteresources.worldbank.org/INFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/mHealth_report.pdf , 13 April 2014

partnerships, such as: the *m-Sakhi* mobile application being piloted by the Uttar Pradesh government in collaboration with the non-profit 'Intra-health' that functions as an interactive tutorial on health information for ASHAS, in the local language Hindi[114]; the Bill and Melinda Gates Foundation's partnership with the Bihar government in a pilot project that aims at developing a digital day planner for ASHAS and helping departmental officials monitor the number of families they are covering through their outreach activities[115]; BBC Media Action's 'Mobile Academy' – a subsidised IVR service for ASHAS in Bihar that provides informational services to assist them in their family counselling duties about life-saving health behaviours [116]; and Commcare, a mobile-based multi-lingual application that allows health workers to store and access patient information for effective follow-up in a web repository, while at the same time allowing health officials to monitor health workers' performance through the generation of online reports[117]. In specific, Commcare's 'ReMIND' application *"supports prenatal and postnatal care by collecting data about each pre- and post-natal visit with a health worker, and enables health workers to receive training alerts, monitor pregnant women's health, and share interactive counselling messages"*[118].

The impacts of such existing ICTs in health interventions on women's access to health services, and their implications for the gender justice agenda, are discussed below.

Firstly, **state e-health interventions have continued to remain within the 'Woman and Child Welfare' framework of programming, rather than adopting a reproductive rights-oriented approach. This means that the focus of such interventions continues to be on ante-natal and post-natal care, even as other areas such as contraception and safe abortions remain unaddressed**[119]. For example, though the problem of deaths from unsafe abortions remains acute in India despite its liberal abortion laws, there has not been much focus on utilising the potential of e-health or m-health interventions for setting up information services in this area. This gap has been left to be addressed by the market, through paid information services not accessible to most women, such as Tata Docomo's subscription-based sexual health IVR service - *Sparsh*[120].

Secondly, **governmental e-health interventions have focused on creating a bureaucratic apparatus that enables centralised tracking of health spending rather than strengthening**

114 IntraHealth (2012), Mobile Application Reinforces Frontline Health Workers' Knowledge, Confidence, and Credibility, Retrieved: http://www.intrahealth.org/page/mobile-application-reinforces-frontline-health-workers-knowledge-confidence-and-credibility- , 13 April 2014

115 De, Hemchhaye (2012), Dial D for Doctor, Retrieved: http://www.telegraphindia.com/1140112/jsp/7days/17779024.jsp , 13 April 2014

116 BBC (2014), Empowering Community Health Workers in Bihar: Mobile Academy and Mobile Kunji, Retrieved: http://www.bbc.co.uk/mediaaction/where_we_work/asia/india/india_sdp_empowering_chw_ma_mk.html , 13 April 2014

117 Dimagi (2014), Boosting Access to Health Care through Technology, Business Call to Action, http://www.businesscalltoaction.org/wp-content/files_mf/bctacasestudydimagi_0213201442.pdf

118 Ibid

119 Trivedi, A.(2013), Every Two Hours in India, a Woman Dies From an Unsafe Abortion, Retrieved: http://world.time.com/2013/07/19/world-population-focus-on-india-part-2-unsafe-abortions/ , 13 April 2014

120 The Mobile Indian Network (2011), Tata Docomo Launches India's First M-Health Awareness Service, http://www.themobileindian.com/new-launches/162_Tata-Docomo-launches-Indias-first-M-health-awareness-service-

decentralised community-centred accountability mechanisms[121]. In the same vein, despite sound evidence that demonstrates how e-health initiatives that focus on empowering rather than monitoring frontline workers lead to more effective outcomes[122], the Indian state has chosen to foreground the tracking objective.

Thirdly, **considering that 'ICTs in health interventions', especially in the area of m-health, are being led by a variety of actors under a host of public-private and public sector-civil society partnerships, co-ordination, standardization and interoperability remain significant challenges to be overcome**[123], in order to proceed to the next stage of up-scaling existing pilots.

Finally, the e-health 'revolution' poses important questions for policy and law with regard to the security and confidentiality of health information data sets being created, especially through web-based technology platforms such as CommCare. **There are important questions that emerge in this context, regarding issues such as protecting the security of the data collected and regulating the ownership of the data [124] – which continue to remain unaddressable due to the lack of policy and regulation pertaining to e-health and m-health, in the Indian context.**

(b) ICT-enabled education and learning: Implications for the empowerment of women and girls

The information society opportunity for women's empowerment can be realised only through adequately investing in the education and learning of girls and women, at multiple levels. **Firstly, formal education systems need to be restructured so that they can effectively enable girls and boys to acquire the ICT and information literacy, and digital skills for collaborative work, that are becoming increasingly important in the emergent knowledge economy[125]. Secondly, for the significant number of girls who are out of school, and the young women who have emerged from the formal schooling system with inadequate literacy skills[126], the potential of digital technologies for promoting non-formal education and lifelong-learning, needs to be explored.** Both these dimensions are crucial in the Indian context where in

121 Madon, Shirin et. al. (2010) Health Information Systems, Decentralisation and Democratic Accountability, Public Administration and Development, 30(4), pp. 247-260.

122 Chib, A. (2010) 'The Aceh Besar Midwives with Mobile Phones Project: Design and Evaluation Perspectives Using the Information and Communication Technologies for Healthcare Development Model', *Journal of Computer-Mediated Communication*, DOI:10.1111/j.1083-6101.2010.01515.x (accessed 28 February 2014)

123 Qiang, C.Z. (2011),

124 ITU (2013) 'ICT for Improving Information and Accountability for Women's and Children's Health', International Telecommunication Union, Retrieved: http://www.itu.int/en/ITU-D/ICT-Applications/Documents/CoIA%20Background%20ICT4RMNCH.pdf , 13 April 2014

125 Broadband Commission Working Group on Education (2013) 'Technology, Broadband and Education: Advancing the Education for all Agenda', Broadband Commission, http://www.broadbandcommission.org/work/working-groups/education/BD_bbcomm-education_2013.pdf

126 WorldBank (2011), The State of Girls' Education, Retrieved: http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTEDUCATION/0,,contentMDK:22980046~menuPK:282391~pagePK:64020865~piPK:149114~theSitePK:282386,00.html 13 April 2014

spite of the decreasing gender gap in primary school enrollment due to concerted efforts under the District Primary Education Programme, Mahila Samakhya and the National Literacy Mission, as many as 23% of girls drop out of school when they reach puberty[127].

ICTs in formal education systems

Indian education policy and programming has been cognisant of the need to integrate 'ICTs in school education' systems. However, a misplaced faith in giving technology vendors and technological companies the lead role in such efforts, prevails in governmental circles, in spite of evidence to the contrary. For instance, consider the 'ICT in School' scheme, launched by the Government of India in 2004. The scheme aimed at bringing ICTs into secondary education, building the technological skills of teachers, and developing e-content, across the country. In most states, government officials have adopted a BOOT model that places technological vendors at the heart of curriculum development and teaching-learning processes, despite research which clearly reveals the limitations of vendor driven models in enabling the systemic integration of ICTs in school systems[128].

Also, **there are a number of small scale pilot projects that have been initiated by private sector and civil society actors, that explore the potential of computers and the mobile phone, for improving learning outcomes – many of which decenter the teacher and focus exclusively on the technology**[129]. The transformatory potential of such efforts is limited, as research in other contexts in the Global South has clearly revealed that ICTs cannot act as a one-stop solution to circumvent the institutional inadequacies such as poor support systems for teachers, and inadequate public investment in educational infrastructure[130]. Also, mobile learning has become a new market opportunity for many telecom companies[131]. Scholars have pointed to how a market-driven model of m-learning, driven by commercial pressures, is driven by a different vision of sustainability than education community-designed models – which can lead to sub-optimal outcomes for learners[132].

Similarly, when the National Policy on ICTs in School Education was being initially planned, the state included five technology companies who were already involved in the implementation of the 'ICT in schools' scheme,in the policy drafting group that was constituted in 2008, despite evident conflict of interest. The five nominees were:"*Intel and Microsoft, who have near monopolies in hardware and office application software; Educomp and 24x7guru.com, who are large education content producers;*

127 Sell, Susie (2013), The Unsanitary Truth About Gender Inequality in India, Retrieved: http://www.theguardian.com/global-development-professionals-network/2013/jun/06/unsanitary-truth-gender-india , 13 April 2014

128 Kasinathan,G.(2009), ICTs in School Education – Outsourced versus Integrated Approach, Retrieved: https://www.itschool.gov.in/pdf/Study_by_IT4Change_Bangalore1307.10.pdf 13 April 2014

129 See details of the Hole in the Wall Project http://www.hole-in-the-wall.com/ and Berkeley Unsupervised Mobile Learning Rural India Experiment http://bid.berkeley.edu/files/papers/CHI2010a.pdf

130 Niall, Winters (2013), How Teachers in Africa are Failed by Mobile Learning, http://www.scidev.net/global/education/opinion/how-teachers-in-africa-are-failed-by-mobile-learning.html

131 Patil, P.S. (2012), M-Education-Emerging Market Opportunity in India, International Conference on Business Management & Information Systems.

132 Winters, N. (2013). Mobile learning in the majority world: a critique of the GSMA's position. In S. Price, C. Jewitt, & B. Brown (Eds.), *The SAGE handbook of digital technology research.* (pp. 402-411). London: Sage Publications.

and NIIT, the largest IT training company in the world"[133]. Unsurprisingly, this move invited criticism from educationists and civil society organisations, whose protests and advocacy efforts resulted in the reconstitution of the committee. The final version of the 'National Policy on ICTs in school education' adopted by the reconstituted committee in 2012 included many concerns that had been originally ignored by the vendor lobby:such as the adoption of Free and Open Source Software, rather than proprietary software, in school systems; re-centering the teacher in ICT-based teaching-learning processes, and a constructivist approach to the question of ICT integration in education[134]. However, the new policy does not seem to have deterred the enthusiasm for BOOT partnerships in state-led 'ICTs in education' initiatives[135].

Certainly, ensuring that ICT initiatives in the public education system are not subverted to promote the commercial interests of a few technological companies, is a key social justice concern. However, it is also important to reflect on more specific concerns for the empowerment of women and girls, that arise in this context.

Firstly, considering that women constitute the majority of teachers in India[136], **'ICT in education' initiatives where teachers play a central role in managing technological infrastructure in schools, and bringing ICTs into the classroom, offer a unique opportunity to challenge many prevailing stereotypes about women and technology.** For example, Kerala's *IT@ schools* project[137] has trained teachers across public schools in the state in integrating ICTs into their classroom teaching, and ensured that teachers played a key role in managing the IT infrastructure in their respective schools. Women constitute a majority of teachers in the state, and therefore, the programme introduced many of them to the world of digital technologies, and also helped them overcome many of the prevailing stereotypes on women's difficulties in operating technologies. Gender evaluation of this programme[138] has found that for participating women teachers, especially those who have taken on the additional responsibility of managing ICT architecture at the school level, there are significant gains in technological skills, self-confidence and self-esteem. However, when such new roles impinge upon their time, and they are required to spend more time at work, there are many familial pressures that they encounter – as teaching continues to be seen as a suitable 'feminine vocation' that does not affect women's care-giving and house-work responsibilities by most male household members. Thus, the broader learning that the Kerala experience provides is that if women teachers are to fully take

133 Kasinathan, Gurumurthy (2008), ICT in School Education: A Flawed Policymaking Process, Retrieved: http://infochangeindia.org/technology/analysis/ict-in-school-education-a-flawed-policymaking-process.html , 13 April 2014

134 IT for Change (2008), Advocacy Campaigns for a National Policy on ICT in School Education- 2008-2012, http://www.itforchange.net/edu-ict/74-edu-and-icts/281-npise.html

135 For example, as recently as April 2013,the Government of Maharashtra entered into an agreement with the technological vendor IL& FS for its 'ICTs in school education' programming. See http://www.ilfsets.com/news/2013/Apr/ilfs_education_ict@school_project_maharashtra_govt/ . Currently, IL& FS is also working with government schools in Bihar, Gujarat and Himachal Pradesh. Similarly, Intel has entered into an agreement with the Government of Tamil Nadu for the adoption of its Intel Teach programme in governmental schemes.

136 As on 2012, about 45% of Indian teachers are women. Retrieved: http://timesofindia.indiatimes.com/city/mumbai/Teachers-Day-45-of-teachers-in-schools-are-women/articleshow/16257946.cms , 13 April 2014

137 Raji, P.R. And Arun, M. (2010), Gender Experience in IT@School, AN ICT Enabled Education Project of Kerala, India,Retrieved http://ci-journal.net/index.php/ciej/article/view/534/514 13 April 2014

138 ibid

advantage of the ICT opportunity, ICT-enabled education initiatives that attempt to centre teachers, cannot be gender-blind in their design. They need to move beyond merely providing technological literacy to challenging gender norms and existing social architectures that limit women's leadership and growth in professional settings. This however is a long haul.

This learning can be extended even to the question of addressing the gender gap in science and technology education – where there is significant ground to be covered, in spite of rapid improvement in gender parity in the decade between 2000-01 to 2010-11[139]. The number of women enrolled in humanities courses at the start of the 2009-10 session was over 10 times the number enrolled in engineering[140] – clearly indicating a continued preference for subjects considered traditionally to be more 'feminine'.

Secondly, the question of how ICTs in education imperatives promote gender-equity in learning outcomes, becomes crucial. At present, global evidence about gender effects on learner motivation arising out of subject-related use of ICTs in classrooms is rather mixed – for, existing studies, "both confirm and refute a gender effect on attitudes when the use of ICT is related to particular subjects," especially science and mathematics[141]. In the Indian context, there has not been adequate investigation of this question, and the associated one of mapping the crucial design elements in 'ICTs in education' initiatives for prodcuing effective learning outcomes. Existing research is largely limited to self-evaluations of industry led programmes[142] , and small-scale pilots.

Finally, **considering that a significant number of girls drop out of formal schooling post-puberty, exploring the potential of ICTs for educating out-of-school adolescent girls and supporting the learning-action processes of adult women who may not be textually literate is equally, if not more, important**.

ICTs in non-formal education and life-long learning

The Indian state has a well-established history of utilising media technologies for development communication – especially through programming on AIR and Doordarshan. From the 'Farm and Home' programmes of the early 1960s to the more recent moves to introduce *Kisan-vani* and 'Ask the Expert' programmes on AIR networks in different regions, and launching the *Gyan Vani* educational channel, the state machinery has made numerous attempts to utilise radio for education on agriculture and socio-economic development – though many of these efforts except those focussing on behaviourial change, have not been explicitly gendered[143]. Similarly, there have been long-standing efforts to utilise Doordarshan for educational efforts on health, education, family welfare, public

139 Kasturi, Charu Sudan (2011), Number of Women Choosing Engineering Doubled Since 2000-01, http://www.hindustantimes.com/india-news/newdelhi/number-of-women-choosing-engineering-doubled-since-2000-01/article1-648700.aspx

140 Kasturi, Charu Sudan (2011), *op.cit.*

141 Tomte, C. (2008) 'Return to Gender: Gender, ICT and Education', OECD Expert meeting hosted by the Norwegian Ministry of Education and Research Oslo, Norway 23 June 2008, **http://www.oecd.org/edu/ceri/40834253.pdf** (accessed 28 February 2014)

142 Such as evaluation reports by Intel on the gendered outcomes of their Intel Learn and Intel Teach programmes

143 CRISP (2011), ICTs and Empowerment of Indian Rural Women: What can we learn from on-going intiatives?, Retrieved: http://www.crispindia.org/docs/4%20CRISP%20Working%20Paper-ICTs%20and%20Empowerment%20of%20Women.pdf 13 April 2014

awareness and so on – some of which are aimed at women. Some programming efforts such as the health communication effort – 'Kalyani', have been very successful in reaching out to rural women[144].

However, on the whole, the lack of vertical integration in development communication and information outreach initiatives of the state, and the inadequacies of top-down programming in addressing grassroots realities has been constantly re-iterated by practitioners[145].

The advent of digital technologies, through the new possibilities for horizontal communication, and peer to peer networking that they facilitate, offer tremendous possibilities for creating a state-led community information and knowledge architecture in partnership with CBOs, that is decentralised,contextually relevant and which builds upon the technological affordances of both traditional media technologies and new ICTs, for catalysing information, learning and knowledge processes on the ground, especially for textually illiterate, socially and economically marginalised groups including women[146].

Firstly, let us examine the efforts of the Indian state in this regard. The Indian state has taken to the idea of setting up ICT-enabled kiosks across all *panchayats* in the country, for enhancing information and service delivery at the grassroots through a public-private partnership model,under the Common Service Centre scheme described above. As a more detailed analysis of this scheme reveals (Refer Section 3.4.4), it is a business logic that drives this effort and not a 'education for empowerment' logic. However, recently, in 2013, the state attempted to leverage this country-wide infrastructure for enskilling and building the ICT capacities of women and girls in rural areas, through its one-year long e-vidya programme launched in six state. This programme, which has been launched under a three-way partnership between CSC e-governance Services India Ltd[147] (the private company at the helm of the Common Service Centre scheme), the National Mission for the Empowerment of Women[148] and National Institute of Electronics and Information Technology[149], is due for evaluation, at present[150]. A detailed evaluation of the programme may yield valuable lessons in meaningfully designing information and ICT literacy initiatives for women and girls with limited levels of exposure to formal education. Practitioners have long urged for the need to push mainstream digital literacy models for women and girls, beyond a limited focus on skill-development, towards the broader objective of equipping participants with an understanding of the politics of technology, and analysising technology through a gender lens[151]. Insights from the evaluation of the e-vidya programme may enable progress along these lines.

Another initiative of the Indian state, in the area of utilising ICTs for catalysing learning-action processes that can lead to empowering outcomes for women and girls, is its *Sanchar Shakti* scheme. Under this scheme, the government enters into partnerships with mobile companies for subsidising value-added m-learning and financial literacy services for women's self help groups, by utilising

144 CRISP (2011), *op.cit.*

145 Singh, P.; Gurumurthy, A. and Nandini.C(2011), *op.cit.*

146 A detailed account of the roadmap for creating such an alternative informational and community knowledge architecture is available at Singh, P.; Gurumurthy, A. and Nandini.C(2011), *op.cit.*

147 http://deity.gov.in/content/csc-e-governance-services-india-limited-invited-application-post-chief-operation-officer-coo

148 http://www.nmew.gov.in/

149 http://www.nielit.in/

150 http://nmew.gov.in/WriteReadData/t82c7/9922662895coverin%20letter_bidding.pdf

151 Interview with Gayatri Burgohain, feminist scholar-practitioner, affiliated with Feminist Appropriation of Technology, http://www.fat-net.org/

Universal Service Obligation Funds[152]. The state had chosen the route of utilising USO Funds for subsidising market-driven models of m-learning, despite overwhelming evidence about the inadequacies of such models in serving the interests of marginalised women and other groups with limited purchasing power, in the long run[153].

Further, **the Indian state has not invested in the development of gendered public access infrastructure such as supporting pilots of ICT-enabled citizenship education centres for girls and women, at the community level, despite overwhelming evidence on the enormous benefits of providing 'facilitated access' to the Internet and ICTs through public access infrastructure points** such as libraries, in developing country contexts, with high degrees of female illiteracy[154].

Civil society organisations and the private sector have attempted to occupy this vaccum created by the lack of state-led programming in utilising the ICT opportunity for building bottom-up, context-specific 'education for empowerment' models – as detailed below.

Civil society organisations, especially traditional community organisations with a grassroots experience, have really capitalised on the cost-effectiveness and efficiency gains in producing and editing audio and video content that digital technologies have enabled, because of their long-standing experience in utilising community radio[155] to build a counter-discourse at the local level. The advent of digital technologies has simplified the processes of recording and editing audio and video content, and also reduced production costs[156] – thus providing impetus to existing community media initiatives, and facilitating the development of new models that interlink the possibilties of older media technologies with Internet spaces[157].

Further, civil society organisations have experimented with the new possibilities that ICTs offer for supporting the critical learning-action processes of women's collectives, such as *Prakriye*'s[158] *Mahiti Manthana* initiative that has utilised a three-pronged strategy of community radio, community video and women-run information centres to support the 'education for empowerment' processes of *Mahila Samakhya* collectives *(sangha)* in H.D. Kote and Hunsur blocks of Mysore district in Karnataka. The community radio strategy consists of a weekly radio broadcast that is the *sangha* women's own voice in the local public sphere, called *Kelu Sakhi* (Listen, my friend). The community video strategy comprises

152 http://pib.nic.in/newsite/erelease.aspx?relid=70578

153 Shuler, C; Winters, N. and West,M. (2013), The Future of Mobile Learning: Implications for Policy Makers and Planners, UNESCO, Retrieved, http://unesdoc.unesco.org/images/0021/002196/219637e.pdf , 13 April 2014

154 Sey, A., Coward, C., Bar, F., Sciadas, G., Rothschild, C., & Koepke, L. (2013). Connecting people for development: Why public access ICTs matter. Seattle: Technology & Social Change Group, University of Washington Information School.

155 Historically, civil society organisations in India have been very succesful in utilising community radio and community video for promoting women's empowerment processes on the ground. Long before the dawn of the digital era, organisations such as Himalaya Trust, Deccan Development Society, and *Kutch Mahila Vikas Sanghathan* had been experimenting with local level broadcasting and narrowcasting of audio content. Similarly, there have been many initiatives that have explored the empowering potential of community video strategies – such as Video-SEWA.

156 Gurumurthy, A. (2008) 'Gender Equality through ICT Access and Appropriation: Taking a Rights-Based Approach', *IT for Change*, http://www.itforchange.net/sites/default/files/images/Gender_Equality.pdf

157 See http://edaa.in/about-us "a web based free and open audio content and resource exchange platform for community radio broadcasters, aims to facilitate the meaningful utilisation of resources while breaking the geographical boundaries", for example.

158 *Prakriye* is the field centre of IT for Change.

an on-demand as well as push-based video system: for information that women seek, to share inspirational biographies of *sangha* women, as well as to open up debates on gender and patriarchy. The information centre strategy is centred around a village based telecentre model for public information access called the *Namma Mahiti Kendra* (Our Information Centre). It is run by *sangha* women in select villages through a young information intermediary, *sakhi* (friend), trained by the women and the *Prakriye* team. The *sakhi* addresses the information needs of the village community and engages with local institutions through a continued dialogue with government departments at the block level to push for transparency and responsiveness. The information centre further acts as a citizenship education centre for women's collectives, as it becomes a space for audio and video-based learning processes around gender and governance issues, for the women's collectives. As an internal evaluation of the project carried out by *Prakriye* in 2010-11 reveals, the contextually meaningful appropriation of ICTs seems to lead to a greater sense of empowerment. Non-literate *sangha* women who participated in the project, reported that their experiences of handling ICTs, using digital learning resources to conduct meetings, and innovating around peer learning processes, without the presence of external facilitators, led to enhanced confidence and self-esteem.

Similarly, there have been a few initiatives which have attempted to utilise the potential of ICTs for supporting critical learning-action processes of out-of-school adolescent girls: such as the Chennai-based Centre for Women's Development and Research's experiment in utilising digital literacy trainings as a platform for educating adoloscent girls on life skills and sexual and reproductive health and rights[159]; and Prakriye's '*Kishori Chitrapata*'[160] project that utilised videography and digital photography for the empowerment education of adoloscent girls, to enable them to critically examine their lives, and negotiate gender norms at the household level (such as postponement of marriage).

However, such progressive experiments are few and far between. The dominant trend that we observe, is the usurping of the Internet Commons by the private sector in the guise of "ICT and information literacy" initiatives such as 'Google's "Helping Women Get Online" (HWGO) programme (http://www.hwgo.com/index.html). HWGO brazenly presents itself as a women's empowerment initiative, even as it introduces women to "household tips" for cooking, cleaning, balancing the monthly accounts and childcare. Clearly, in its very design, this initiative fore-closes the emancipatory possibilities that online spaces offer – the Internet merely becomes another space that enables women in developing the necessary skill-sets to successfully perform their assigned gender roles. **The Internet's opportunity for women's empowerment can be realised only through initiatives that open up the public agoras of digital spaces, and allow for the collaborative construction of the Internet as a knowledge commons. Policy makers and women's rights advocates must urgently respond to this issue, if we are to prevent a new 'enclosure of the commons' in the digital age.**

159 Donahue, A. , Adolescent Girls, Cornerstone of Society: Building Evidence and Policies for Inclusive Societies, Retrieved: https://www.childwatch.uio.no/events/conferences/Adolescent%20Girls%20Background%20Paper,%20%20Final%20w%20Logos_Nov09.pdf 13 April 2014

160 http://www.itforchange.net/KC

3.4.4 The 'corporatisation' of governance and the recasting of the state-citizen relationship through 'ICTs in governance' initiatives

(a) Citizens as Raw Material for the new Data Economy

E-governance programming in India is steeped in an ethos that is an "ambiguous blend of activist, entrepreneurial and national-psychological aspirations" and not just informed by the traditional statist idea of uplift and social justice[161] . The *mantras* of New Public Management – that foreground transparency, cost-effectiveness and minimising leakages in service delivery – are becoming increasingly influential in the design of e-governance schemes.

For example, consider the country-wide CSC architecture that is being set up, under a public-private partnership model[162]. At the apex of this system is a private corporation – the CSC e-governance Services India Pvt Ltd – with the bulk of share-holding held by the private companies who own the CSCs. This private company's key objective is to guarantee the profitability of the CSC structure, as well as monitor the performance of the CSC system. Let us put aside the issue of the obvious 'conflict of interest' arising here. More problematically, this company has been increasingly calling for consultations in a variety of policy areas – such as ICT-enabled agricultural services and ICT-enabled learning[163] – traditionally areas that have been core governance functions of government departments.

In a certain sense, e-governance heralds the rise of a new paradigm of governance – the 'corporatisation' of core governance functions. For individual citizens, the key problem here is the push by CSC e-governance Services India Pvt Ltd to transform the CSCs into a profit-making centralised country-wide 'pipe' which can be used to carry public services as well as deliver business-to-consumer services on the basis of partnerships with private companies.

One area of concern which social justice advocates and women's rights organisation must take cognisance of, is discerning what this corporatised CSC architecture portends, in the era where big data is increasingly becoming lucrative business. For example, in the agircultural sector, the data opportunity has been seen as something to quickly cash upon, by companies such as Monsanto and the technology company Oracle – as analysis of big data about the farm sector is seen as enormously helpful to market penetration[164].

It may not be alarmist to point out here that other models that capitalise on Big Data capture in the Global South may soon emerge, in which context, the seemingly 'neutral' pipes of India's Common Service Centre network may be co-opted for the creation of a centralised data architecture, that can support data generation for private companies. Also, as the Group of Experts on Privacy shared by Justice A.P.Shah pointed out in October 2012, India at present lacks a strong legislation that places adequate safeguards on data collection from individual subjects – including time limitation and purpose limitation; and informed consent. Even though at the moment, there is a draft Privacy Bill , being

161 Mazzarella, W. (2010)

162 IT for Change (2013), Workshop on Technology in governance – - An agenda for centralisation, privatisation and depoliticisation?,

163 http://defindia.net/files/2013/06/Press-Release_SPV-Workshop.pdf

164 http://www.bloomberg.com/news/2013-10-02/monsanto-to-buy-climate-corp-profit-forecast-trails-estimates.html and

jointly pushed by a civil society organisation (Centre for Internet Society) and FICCI and DSCI, taking into account some of the Privacy Principles pushed by the A.P.Shah Committee, there are a number of issues which merit careful attention. **What would 'informed consent' mean for marginalised groups? How can rights advocates ensure that data protection laws take into account the everyday realities of non-textually literate, socially marginalised groups, who may often be disadvantaged in such transactions because of their lack of social capital?**

In a context where government-corporate partnerships, especially in health care, have been known to adversely impact women– just think of the recent cases of unnecessary hysterectomies commissioned by participating hospitals in the RSBY programme and cervix cancer vaccine trials that were conducted without the consent of the participating adolescent girls in tribal areas – there is no such thing as being too anxious, about the implications of the emerging corporatised, data-driven e-governance model, for women's rights.

(b) The rise and rise of the consumer-citizen

Another implication of the emergence of the corporatised governance paradigm is the re-casting of the state-citizen relationship into that of a service provider-client. ICTs have been deployed to re-design existing governance systems to facilitate this transformation, best exemplified by the Aadhar/ UID Project, which seeks to enable Direct Benefit Transfers to citizens in lieu of subsidies, in spite of the fact that there is insufficient evidence to support the idea that Direct Beneficiary Transfers can effectively replace the state's public provisioning role. This is illustrative of the deep conviction in the New Public Management philosophy of the infallibility of market solutions, that is at the heart of present-day policy-making and administration in India. **What is problematic here is that this transition in the state-citizen relationship is facilitated without any political debate – by masking this as a 'technical' question of efficiency rather than a fundamental political question on the nature of the political paradigm.** For example, MGNREGA activists have shared experiences where the re-engineering of the technical architecture of the NREGA MIS has been used to achieve certain changes in the implementation architecture of the scheme without public debate – by disabling a 'form' on the portal, the move to making bank payments compulsory, and dismissing the post office payment option for wages was achieved without public debate[165].

Further evidence of how this NPM logic rules the roost in the current scenario, can be seen from the workings of 'ICTs in governance' initiatives for Panchayats. On the one hand, there has been a lot of attention to the issue of exploring ICT possibilities for strengthening local government institutions at the grassroots and the capacity building of elected representatives, in the mainstream discourse on Panchayat Raj[166]. In fact, even the e-Panchayat Mission Mode Project, launched in 2009-10, identified

165 IT for Change (2013), Proceedings of the Workshop on Technology in governance – - An agenda for centralisation, privatisation and depoliticisation?,

166 For example, in his address of June 2004 to the State Ministers of Panchayat Raj, the then Prime Minister urged the gathering: "We now have the potential to combine grassroots power with advances in information technology to radically alter governance and service delivery, an opportunity we must expand and exploit". In a similar vein, the Central Ministry of Panchayat Raj has recently recommended to states that they videotape Gram Sabha proceedings, to ensure compliance

its objective as the "e-enablement of Panchayati Raj Institutions to further strengthen the vision of decentralised governance at the grassroots". With this objective in mind, the e-Panchayat project provides for a suite of Software applications to be developed, for enabling the management of Panchayat level information for planning, sharing Panchayat information in the public domain and even utilising GIS possibilities for data representation to facilitate decentralised planning. The connectivity infrastructure that will support this initiative is expected to be created through the National Optic Fibre Network described earlier. However, the e-panchayat project suffers from the same problem that ails the entire Panchayat Raj System today, described eloquently by the Expert Committee on Leveraging Panchayats for the Efficient Delivery of Public Goods and Services 2013, thus: *"... The shell of Panchayat Raj (and e-panchayat, by association) is in place. Filling that shell has not followed any consistent pattern, either within States or between States. "* Also, the lack of political will in realising the promise of Panchayat Raj has hampered even the ICTs in Panchayat initiatives from fully realising their potential for transparent and accountable governance.

However, there have been a few exceptions: such as the attempts by the State Institute of Rural Development in Chhattisgarh to use community media for awareness-raising about the Gram Sabha, and GIS for introducing the idea of community-centric development planning to panchayat members ; and the recent efforts by the Kutch Nav Nirman Abhiyan to use social media to network Sarpanches across panchayats in Kutch to enable them to build a peer group[167]. There are also a few gendered experiments in this area. The *Gramamukhya* initiative in Kerala[168] has used a blog platform to build a solidarity groups of elected women representatives, in 3 districts of Kerala, cutting across various party lines. Similarly, IT for Change, Kutch Mahila Vikas Sanghathan and ANANDI have entered into a partnership under the UN Women supported 'Making Women's Voices and Votes Count' project that aims at exploring ICT strategies for the capacity-building of elected women representatives from *Panchayati Raj* Institutions, and strengthening the linkages between elected women and women's collectives, for building a vibrant women's political constituency at the grassroots, and gendering local governance structures, processes and agendas. The project utilises a variety of techno-social strategies: such as IVRS for peer networking elected women, a combination of face to face meetings and mobile phone based networking to enhance linkages between elected women and their constituencies, community media for citizenship education and shape an altenative local discourse on gender and governance, setting up women-run ICT-enabled information centres in the communities to enhance women's access to entitlements, and GIS for visual representation of relevant community data sets to trigger gendered analysis of local governance issues among elected women.

The political economy of e-governance manifests itself in a lack of political will to addressing questions of utilising the potential of ICTs for shaping a democratic, decentralised governance architecture. For example, over the tried and tested Chattisgarh state government's e-governance experiment that embeds an ICT intervention for improving the PDS in a

on the ground with the norms for eliciting citizen participation in Panchayat Raj enshrined in the 73rd amendment. Examples are from the Report of the Expert Committee on Leveraging Panchayats for the Efficient Delivery of Public Goods and Services 2013

167 IT for Change's field research and Report of the Expert Committee on Leveraging Panchayats for the Efficient Delivery of Public Goods and Services 2013

168 Thampi, B.V. And Kawlra, A. (2012), The Gramamukhya initiative: Empowering women leaders a the local level in Kerala, Retrieved: http://www.gender-is-citizenship.net/sites/default/files/citigen/uploads/India_pB.pdf 13 April 2014

community accountability framework, the route of developing a UID architecture for facilitating untested cash transfers is preferred.

3.4.5 Critically examining Open Government Data: Does 'Openness' and 'Transparency' in governance systems always lead to equitable outcomes?

The recent steps taken by the Government of India for the proactive disclosure of government data in online spaces is seen by many as a culmination of two forces – the older push for Right to Information as well as the more recent advocacy around 'Open Data' [169]. The notification of the National Data Sharing and Accessibility in 2012 that mandates all central government agencies to publish 'shareable', 'non-sensitive' data information on a common data portal created by NIC on a Open Source Platform, for this purpose has been seen as a welcome move, even as commentators have pointed out shortcomings, such as:
(a) its incomplete integration with the provisions in the RTI Act for proactive disclosure of digital data sets held by government agencies[170],
(b)its insufficient attention to the question of decentralising points of data creation across the governance system, and
(c) the inadequacy to translate the broad principle of 'openness' into a specific imperative for the publication of 'shareable', 'non-sensitive' data under Open Licenses that allow for re-use and re-distribution of the data concerned.

At this juncture, we must pause to carefully address the foundational assumption that informs Open Data initiatives: the idea that such projects always have transformative outcomes that benefit the most marginalised sections. This assumption emerges out of a conflation of the idea of 'open' with 'transparency', ignoring the second meaning of 'open' that is implicit in the idea of 'open data' [171]– the idea that to be open, *"data must be accessible online, published without technical restrictions to re-use, and provided under a license that allows the data to be re-used without limitation, including across different "fields of endeavour" (i.e. commercial and non-commercial alike)"*[172].

169 Chattapadhyay, Sumandro (2013), Towards an Expanded and Integrated Open Government Data Agenda for India, Retrieved: https://github.com/ajantriks/writings/blob/master/sumandro_expanded_and_integrated_ogd_agenda_for_India.md 13 April 2014

170 As Chattapadhyay (2013) writes: "a recent office memo circulated by the Department of Personnel and Training is of great importance. This memo, circulated on 15th April 2013, specifies the guidelines for implementation of suo motu (that is, proactive) disclosure of information under section 4 of the RTI Act [10]. Section 4 of the RTI Act emphasised the need for proactive disclosure of government information, however, it did not specify how it was to be operationalised. The office memo fills up this gap by laying down guidelines for implementation of the section 4 mandate, as well as to ensure its compliance. It is very heartening that the guidelines make it obligatory for all government agencies to declare on the website the detailed list of all datasets managed by the agency concerned, with a mention of which of them are available publicly and which are not, as well as to publicly disclose all RTI requests received by the agency concerned and the respective responses given out. It goes on to mandate disclosure of multi-media information held by agencies (such as, video recordings of meetings and consultation sessions) and adoption of 'open standards' for sharing information and data".

171 Davies, T.G. and Bawa, Z.A (2012), The Promises and Perils of Open Government Data, http://ci-journal.net/index.php/ciej/article/view/929/955 Retrieved 24 October 2013.

172 ibid

If the latter meaning of 'openness' that underlie open data initiatives is paid sufficient attention to, it becomes easy to "recognise the possibilities of the potential risks of opening data in the context of unequal access vis-à-vis the capacity to use that data"[173] – in other words, the risk of the consolidation of existing power structures. For example, the well-known Bhoomi initiative of the Karnataka Government that focused on digitising land records and bringing them into the public domain, actually ended up exacerbating the hounding of small land-holders at the peripheries, by land-sharks[174]. Also, there have been instances where the opening up of spatial records has aided elites to put pressure on the state to evict slum dwellers in the name of law enforcement[175]. Clearly, **the politics of Open Data cannot be ignored by social justice and women's rights advocates !**

4. Discussion: The response of women's organisations to gender justice concerns in the information society

Though women's organisations in India have moved a long way from their initial skepticism towards the ICTs domain, they still have a lot of ground to cover in terms of evolving a critical perspective on the mechanics of the emergent, hybridised, techno-social order.

There is certainly a widespread acknowledgement that digital technologies cannot be wished away. Practitioners have also pointed to the inadequacies of pedantic stances that insist upon the negation of grassroots communities of technology as a strategy to establish claims to 'authenticity' and 'primordialness'[176]. However, what is lacking is a systematic approach that is adequately able to grapple with the new exclusions resulting from the re-configuration of the 'state-citizen' relationship and the global economy, in the current techno-social paradigm.

Firstly, most practitioners working at the intersections of ICTs and women's rights still adopt only an 'ICTs-as-tools' approach, disregarding the systemic underpinnings of digital technologies. Certainly, this approach does yield some results in furthering women's struggles for expressing their identity and sexuality; and honing women's political voice. However, it leaves women's organisations and women's rights advocates totally unprepared to deal with the new challenges in the hybridised public sphere that the Internet and ICTs have shaped. For example: as the leaders of the *Pink Chaddi* campaign (described in an earlier Section) found out, the new digital spaces such as social media and social networking platforms may be accessible by all, but they are not 'open' --- the corporates that own these spaces can clamp down any political activity by arbitrarily exercising their power to choke or block the use of the platform by sepcific groups. This lack of perspective is also the reason why women's groups such as the *Gulaab* Gang are able to partner with corporate-led campaigns such as Google's *How to Get Women Online* initiative (described in an earlier Section), as they are unable to recognise the new enclosure of the commons that is currently happening, through the corporatised fencing-off, of the Internet.

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173 Raman,B (2012), The Rhetoric and Reality of Transparency:Transparent Information,Opaque City Spaces and the Empowerment Question, http://ci-journal.net/index.php/ciej/article/view/866/909 cited in Davies, T.G. and Bawa, Z.A (2012) The Promises and Perils of Open Government Data, http://ci-journal.net/index.php/ciej/article/view/929/955 Retrieved 24 October 2013.

174 Raman, B. (2012), *op.cit.*

175 Ibid

176 See the work of Anja Kovacs for further details. Also refer http://cis-india.org/raw/histories-of-the-internet/blogs/revolution-2.0/digiactivprop

Secondly, the traditional fault lines dividing women's rights activists – the tension between 'the politics of recognition' versus 'redistributive justice' – seems to have been carried over, into feminist engagement with the question of ICTs. In fact, as some practitioners have been pointing out, the issue of 'freedom of expression' has been ably used by big businesses as a distraction[177], to take attention away from questions around the new exclusions ICTs and the Internet have facilitated, in policy dialogues. Feminists groups and women's organisations, too, have not able to adequately deal with this ploy.

Thirdly, grassroots experimentation is heavily circumscribed by very slow infrastructural development - with the result that only a handful of urban NGOs, and a few pilot projects in rural areas, are able to leverage the power of these technologies. In fact, it is donors who have largely pushed the 'ICTs-in-the hands-of-women' agenda. Many of these projects do not necessarily build on progressive interventions of women's movements and women's rights groups. On the other hand, donor money tends to promote simplistic 'apps' based solutions to deeper problems, relies on high profile 'campaign mode' and one-off initiatives and / or creates dependencies on specific hardware/ software.

Finally, existing research efforts at the intersections of ICTs and gender equality are inadequate – in the Indian context, as well as at the global level. In fact, scholars have noted that most existing research efforts in this area, fall under two categories: small-scale studies whose findings cannot be generalised; and private sector-led large-scale efforts whose methodology is questionable. Feminist scholars need to bring their frameworks into the information society arena, most urgently.

5. Conclusion: Recommendations for Policy and Programming

Gender justice in the information society context – where the 'online' and 'offline' become increasingly intermeshed in our everyday lives – is a change project with a potentially *"new syntax and semantic"*. In this context, policy and programming efforts that attempt to open up equal opportunities for women and girls in social, economic, political and cultural spheres can be successful, only if based on a clear mapping of rights and their gendered meanings in the emerging techno-social order. This has been the attempt in this brief – to offer a detailed analytical overview of the current context, which can then be used to guide the framing of specific recommendations in relation to gender mainstreaming, and gender justice related interventions, in ICT policy and programming.

Before proceeding to the specific policy and programmatic recommendations, it may be useful to reflect on some key challenges in this area.

Firstly, the dynamism and flux characteristic of technology diffusion, results in 'failures'. For example, a World Bank evaluation report for the Bank's 2003-2010 ICT project portfolio finds that only "about half of ICT components in projects supporting public sector governance are likely to achieve their intended result"[178]. What we need to discern from this is that the social outcomes of technology projects are determined by contextual factors and intended change may take a long time. Sensitivity to gender

177 http://www.thehindu.com/opinion/lead/hyping-one-threat-to-hide-another/article4140922.ece
178 https://ieg.worldbankgroup.org/Data/reports/chapters/chap5.pdf

dimensions in the design along with enabling policies can contribute to positive impacts. Thus, the contingent nature of outcomes makes systematic and continuous research on contextual factors an important agenda.

Secondly, ICT policy development has to be inter-linked to policies on economic and financial inclusion, broadband and other infrastructure, rural development, community media, education, health, governance, social welfare, social protection, agriculture, science and many other areas, in order to be effective. At present, the integration of the ICT agenda into other policies and plans tends to be rather fragmented, in the Indian context. This not surprising, in the absence of a national e-governance policy clearly laying out ICT principles for the emerging architecture of other related policies. Secondly, most e-governance programming is gender-blind, at present. This existing state of affairs reflects an urgent need for informed perspectives both on the digital ecosystem, as well as on a range of other areas where ICTs are transforming gender outcomes.

Thirdly, rights issues meet the Internet in a multiplicity of ways. The fast-changing norms of connectivity add complexity to this fact. In specific, policy processes have to contend with the complexity of the Internet ecosystem (such as, the absence of a single point for the governance of the Internet, diverse standard-setting systems, the role of Internet intermediaries and platform providers, and so on) and the various connection points of that ecosystem with the human rights ecosystem[179].

We now proceed to lay out recommendations for policy and programming in key areas:

5.1 Access and Affordability

- Access to ICTs is to be understood as access to the gains of the information society. This interpretation of access presupposes a range of interventions in different policy domains a) to promote approaches to enhance women's meaningful use of ICTs, accounting for power relations, and b) to restrain incursions by market and state forces on individual and collective freedoms. Also, digital literacy goes hand in hand with meaningful access; it is a moving target that entails the opportunity not only to learn the technical skills as users but to become active agents who can engage with, shape and subvert mainstream techno-social processes.

- Access to affordable broadband is an important citizen right. It is important to remember that mobile broadband can only be a reinforcement, and not a replacement for fixed broadband – therefore, increasing mobile phone usage can only be a partial solution to enable women to meaningfully access the Internet.

- The need of the hour is policy and programming that re-conceptualises 'public access' infrastructure. Conventionally, public access points have been imagined as shared access points such as cybercafes or Internet kiosks in rural communities. While such points enable community access and basic digital literacy in contexts where home based access is untenable

179 http://www.giswatch.org/en/internet-rights/conceptualising-accountab

economically for the majority, they seem to provide a limited solution to access for women and girls. In the Indian context (as in many other countries in the Global South), such spaces tend to be dominated by men and a culture of masculinity, and therefore 'Public access' as a concept needs new, gendered imaginaries. For example: Community Libraries of the digital variety, present a possible option - where low cost tablets preloaded with content and sim cards can be lent; public schools must have computer labs for girls; citizen information centres can be located in cultural and religious spaces accessed by women; digital literacy, skill development and recreation can be packaged into media centres for urban and rural poor women and girls.

- Research on gender divides in access must explore the qualitative experience of access, positioning women in their roles as users, consumers and producers. In this regard, understanding the 'communication capacity' gap, discussed earlier, in gendered terms would be offer a more incisive reading of inequity in access than devices owned.

5.2 The Internet and women's public-political participation

- There can be no Internet exceptionalism to the right to free speech, the right to information and the right to assembly and association. Legal interventions that aim at addressing women's rights online must begin from the premise that the Internet is instrumental in the enjoyment of freedoms, rather than locate themselves in a framework of protectionalism. In specific, legal remedies in the area of tackling gender-based violence online, should not become an excuse to undermine women's and girls' Internet freedoms.

- There is an urgent imperative for the development of a robust, legal framework that adequately addresses the inter-linkages between the right to privacy and freedom of expression, in the information society context.

5.3 Addressing gender-based violence online

- To tackle gender-based violence in the context of ICTs, it is vital that gender equality advocates work with existing national women's machineries to a) initiate deliberations with women's groups for reviewing existing ICT laws and policies, from a gendered perspective b) initiate debates on the need for a comprehensive regulatory framework that addresses VAW as a national priority, without sinking into 'paternalism' and 'moralism' as existing approaches tend to do, and c) influence digital literacy agenda for girls and women to develop the capacity to understand and address VAW at the individual level.

- Concerted effort is needed to train parliamentarians, law enforcement agencies, judges and the bureaucracy on VAW and ICTs for positive changes to policy and legal processes rooted in women's rights and freedoms. Similarly, strengthening the capacity of women' rights

organisations, activists and users to understand digital environments and contribute towards building evidence on this emerging form of violence is important.

5.4 Women's economic empowerment

- Policy and programming effort to enable women to take advantage of the new opportunities of the digital economy must recognise that ICT skills training, in and of itself, does not radically alter employment prospects. There are multiple barriers to workforce participation that lower wage,lower skill workers face[180]. Domain expertise and other differentiating characteristics that enable specialisation are crucial in broadening employment prospects.

- Innovative efforts – such as initiatives to create social enterprise models for enabling rural populations to capitalise upon micro-work opportunities and impact sourcing – need to be evaluated to fully comprehend the impact of these new economic trends, on women.

- ICT policies in traditional economic sectors must focus on flexible, context-appropriate strategies that create new networking opportunities for women. They must ensure the central involvement of women's producer and cooperative organisations as they provide the greatest potential for sustainability, by enabling women to draw upon the power of the collective, to strengthen their negotiations with local power structures that control and sometimes restrict, their access to markets, and access to resources.

- Research suggests that women's ICT SMEs require long-term public support to address market failures and to be responsive to cultural specificities[181].

- Public policies to promote women's ICT-enabled enterprise must be backed by efforts which aim at enabling a supportive macro-economic environment for SMEs, as well as interventions at the micro-level to support an entrepreneurial culture among women owners of SMEs.

- There is a need to undertake meticulous evaluation of mobile money initiatives for women's empowerment. While it does reflect what can be seen as a creative solution in contexts where the poor are left out of the banking system, the sector is unregulated. Also, given that the largest potential impact of m-money systems is in the area of international money transfers[182], gender

180 Garrido, M., Badshah,A. And Coward,C.(2009), Guest Editorial: Deconstructing ICT Skills and Employability, http://itidjournal.org/index.php/itid/article/view/356/157 ,

181 Duncombe, R. and Heeks, R. (2005) 'Information & Communication Technologies (ICTs), Poverty Reduction and Micro, Small & Medium-scale Enterprises (MSMEs)', *UNIDO*, http://www.unido.org/fileadmin/media/documents/pdf/Services_Modules/ict_brochure_report.pdf

182 The World Bank estimates that officially recorded remittance flows to developing countries reached US$338 billion in 2008, with US$21 billion in transfers to sub-Saharan Africa (World Bank, 2009). See: World Bank. (2009a), *World Development Indicators,* Washington, DC: World Bank. Also see, World Bank. (2009b), *Migration and Remittances Trend 2009 Migration and Development.* Brief 11.

impacts in this area would be useful to examine.

5.5 Open Knowledge architectures and women's knowledge

- Intimately linked to the question of women's knowledge are the issues of public domain and knowledge commons. Mechanisms are needed for protecting local communities' and women's rights to create and share knowledge openly and freely, accessing public information and knowledge that concerns their basic needs and rights, and protecting their practices from being commercially exploited[183]. The ultimate goal for universal access ICTs is to allow citizens, especially marginalised people, to communicate and access information and knowledge. The Creative Commons initiative offers a range of possibilities for legally protecting content in such a way that it becomes open content in the public domain. Women's knowledge can find new avenues for preservation and protection from misuse, through institutional alternatives encouraging a more open approach, that brings public interest to the forefront. Particularly for young women from developing countries such as India, 'open access' resources reduce costs of learning. Thus, the policy environment on the 'commons' is an important issue.

5.6 ICTs, Women's public-political participation, gender-responsive governance

- Public institutional efficiencies are crucial for poor women. E-governance efforts need to promote women's participation in local planning and community monitoring of service delivery, contributing to gender responsive public administration and service delivery, in a systematic and integrated manner – and not in silos.

- In the noise and excitement around big data, the radical possibilities through ICTs for community generated data must not be jettisoned. Citizen information centres can be designed to produce 'community versions' of data on a range of issues, mobilising the voices of the marginalised, particularly women and young girls. Various possibilities exist for integrating media, GIS software, social networking platforms and Interactive Voice Recording Services (IVRS). NGO partnerships would be a credible way to institutionalise these.

- There needs to be a gendered analysis of the National e-governance Plan and e-governance schemes under implementation, so that the limitations of current 'gender-neutral', 'corporatist', e-governance approaches can be fully understood, and overcome.

5.7 Women's health and ICTs

- It is certain that without concomitant attention to basic health infrastructure and human resources, an e-health blueprint cannot claim new frontiers in health awareness, health seeking and health outcomes for women and girls.

183 Gurumurthy,A; Singh, P. and Kovacs, A. (2010), *op.cot.*

- At present, most 'ICTs in health' interventions, especially in the area of m-health, are being led by a variety of actors under a host of public-private and public sector-civil society partnerships,resulting in co-ordination, standardisation and interoperability challenges for the scaling up of such pilots. A concerted e-health strategy at the nation level is therefore, the need of the hour.

- Issues of medical ethics need careful scrutiny in e-health to address data security and individual rights over personal health data as well as in ensuring that digital innovations do not over-extend the role of technology in health care-giving.

5.8 ICT-enabled learning for women and girls

- One area of concern in the public education sector is the increasing involvement of private players in developing interventions that can create dependencies and skew learning processes in inimical ways. The numerous initiatives in digital literacy undertaken through private partnerships with the public education sector need a careful assessment for their pedagogic and educational outcomes. Given that girls are often targeted by such programmes, it would be useful to know how such initiatives ground themselves in national education policies and vision on gender equality and social justice.

- The potential of digital technologies in opening up learning possibilities for out-of-school adolescent girls, and textually non-literate women, needs to be systematically integrated into existing state programmes in these areas: such as SABALA, and the Adult Education Centres of *Saakshar Bharat.*