New readings of the tea cup - revisiting gender justice in the information society

A backgrounder on the critical issues, priorities and actions

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Abbreviations

DFID	Department for International Development, U.K.
DNA	Deoxyribonucleic acid
GDP	Gross Domestic Product
GIS	Geographic Information System
GSMA	Groupe Spécial Mobile Association (Association of global mobile operators)
ICT	Information and Communication Technologies
IDRC	International Development Research Centre
ISP	Internet Service Provider
ITU	International Telecommunication Union
IVR	Interactive Voice Response System
Kbps	Kilobits per second
LGBTIQ	Lesbian, Gay, Bisexual, Transgender, Intersex, and Questioning individuals
Mbps	Megabits per second
NGO	Non-governmental organisation
NORAD	Norwegian Agency for Development Cooperation
NSA	National Security Agency, United States
SDGs	Sustainable Development Goals
SEWA	Self Employed Women's Association
SME	Small and Medium Enterprises
SMS	Short Messaging Service
SPIDER	(The) Swedish Program for ICT in Developing Regions
UAS	Universal Access/Service
UNESCO	United Nations Educational Scientific and Cultural organisation
VAW	Violence Against Women
WOUGNET	Women of Uganda Network

Glossary

Attention Economy: With the abundant reserve of content available at the average Internet user's fingertips, attention becomes a major limiting factor in the consumption of information. The 'attention economy' is hence built on the central premise of generating value from the scarcity of human attention, especially in cyber-space.

Big Data: A catch-phrase, used to describe the explosion of digital data – the massive, ever-expanding volume of data about how individuals and communities utilise digital technologies, difficult to process using traditional database and software techniques. Big data offers tremendous scope for generating real-time insights about community behaviour.

Communication Capacity: *"The capacity to receive or send information, while being transmitted over a considerable distance outside the local area", a*ccording to Hilbert and Lopez (2012).

Communications Meta-data: Data about individual behaviour on the emerging communication networks of the digital age – phone records, email, social media and blog posts and so on.

Community Media: Forms of media characterized by their accountability to the communities they serve. They are independent alternatives to public and commercial media that strive to operate free from commercial interference, in order to reclaim the democratic vision of media as "voice of the people".

Digital Literacy: The ability to use digital technology, communication tools or networks to locate, evaluate, use and create information, in contextually meaningful ways.

Digital Story Telling: A methodology widely used in social science research and development practice to enable community members to document their life-stories, or perspectives and reflections on specific issues, in a video-format that uses a combination of still photographs and a voice-over, to 'tell a story'.

E-Governance: The use of electronic channels to facilitate efficient and transparent governance processes; including ICT systems for information dissemination, service delivery, administration, and enabling citizen participation.

Filter Bubble: The sociological effects produced by website algorithms that attempt to personalise information delivery to users, based on location, and previous Internet activity such as search history – thereby cocooning users in the comfort zones of their socio-cultural and political biases.

Force-multiplier: A military term that refers to an attribute or a combination of attributes that makes a given force, more powerful than it otherwise would be. In the information society literature, this term has been adopted to refer to the impact of mobile phone technologies on existing communicational networks.

Horizontal Integration: In the context of the digital arena, business mergers and deals in which Internet companies acquire platforms/services similar to the ones they already own, enabling them to establish monopolistic control over certain kind of services. For example, to extend its domination over the social network business in mobile space, Facebook has acquired Whatsapp.

Information Society : A society where the level of reproduction and evolution of information leads to qualitative transformations in social organisation, structure, and arrangements, be they technological, economic, social or cultural.

Intermediary Liability: The liability or accountability of Internet intermediaries – Internet Service Providers and Internet companies that own social media and other web platforms – for illegal activities of users of their services, in online spaces.

Internet Platforms: Online spaces that allow users to programme, customise and share software or content in ways that facilitate further development and the emergence of new uses. Examples include Flickr and Facebook.

Knowledge Commons : A term used to describe all freely-available knowledge (especially in the online public sphere) that is accessible to the public in the information age. An important distinction from the previous forms of commons is that the knowledge commons does not depreciate with use, as information and knowledge are non-rivalrous goods.

Micro-work: The breaking down of large business processes into micro-tasks that are distributed to workers across geographic boundaries via software that aggregates a specific type of information from multiple online sources, using the Internet or mobile phones.

Platform Neutrality: As defined by the French Digital Council, platform neutrality may be defined as the idea that powerful Internet platforms (social media, social networking sites and search engines) must follow the principle of transparency and neutrality in their operations. This idea has gained traction in recent times, as there is increasing evidence of Internet platforms algorithmically manipulating user behaviour, and engaging in unfair data collection about users, to further their business interests, bypasssing requirements of obtaining informed consent.

Public Sphere: The arenas in modern society where public opinion is formed; the social spaces where individuals and groups can come together to dialogue, deliberate, and in this process, influence political action. Derived directly from the German word '*Öffentlichkeit*' (that translates as 'public' in English') the term was popularised by the renowned theorist Jürgen Habermas' in his book '*The Structural Transformation of the Public Sphere – An Inquiry into a Category of Bourgeois Society'.*

Net neutrality:The end-to-end principle that the Internet will not discriminate between different types of content, either on basis of type (text, video) or on the basis of their origin. Recent net neutrality debates have centred on whether Internet Service Providers can tier, limit, block or otherwise affect Internet performance.

Network-effect: The positive externality that accrues to a product or service, as a result of its increasing user-base. As digitisation enables businesses to widen their market reach, there is a resultant network-effect.

Open Data : Content, information or data that people are free to use, re-use and redistribute — without any legal, technological or social restriction.

Techno-social/digital eco-system: new social avenues that are co-constituted by new technologies, representing an intermediate form between the 'technical' and the 'social', enabling the emergence of new forms of socialities.

Vertical Integration: In the context of the digital arena, business mergers and deals that leave the control of multiple levels of the Internet architecture – the infrastructural layer such as the optic fibre cables and Internet provisioning services and the content layer of online platforms and search engines – in the same hands. Needless to say, such vertical integration results in the rise of oligopolistic business models .

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1. Introduction

Information and Communication Technologies (ICTs) are the *constitutive technologies* of our times – *they have transformed, enriched, and become an integral part of almost everything we do*[i]. The intertwining of ICTs in all spheres of daily life has changed the way we live, love, play and work - creating a digitally re-constituted life-world with a new sociological syntax and demanding a new ethics[ii]. The past few years have thus seen intense deliberation towards the refurbishment of existing legal and juridical frameworks at global, regional and national levels.

Developing effective guarantees for human rights and freedoms in an Internet-mediated world is one critical area of concern. For example, Frank La Rue, the United Nations Special Rapporteur on the right to freedom of opinion and expression, in his May 2011 report, strongly urged nation-states to take policy action to make the Internet, an indispensable tool for accelerating human development and progress,*"widely available, accessible, and affordable"* to their citizenry[iii]. In July 2012, the United Nations Human Rights Council adopted a resolution affirming that *"the same rights that people have offline must also be protected online*[iv]". The Sakhalin Declaration (2013) emerging from the Conference on Internet and Socio-cultural Transformations, convened by UNESCO's Information for All Inter-governmental Programme, highlighted the need for major re-appraisal of existing copyright laws, to enable individuals across linguistic, cultural and social groups, to effectively participate in the emerging digitalised networks of information and knowledge[v]. More recently, in June 2014, the Office of the United Nations High Commissioner for Human Rights highlighted the threats to individuals' fundamental freedoms, posed by the emergent surveillance regimes of the digital age, which sanction the collection and storage of communications meta-data by telephone companies and ISPs, in ways that appear *"neither necessary nor proportionate"*[vi]. These pronouncements are not references to small changes; they signify a paradigm shift that implicate gender justice in foundational ways.

The movement towards developing appropriate legislative frameworks elucidating the interconnections between social justice, equity, human rights and technology is gathering force at the national level as well. For instance, Finland made access to broadband a legal right in 2009; Brazil passed the famed *Marco Civil de Internet,* a piece of legislation guaranteeing civil liberties with respect to use of the Internet, in April 2014. A few countries like Chile and Netherlands have passed net neutrality legislations. More recently, the French Digital Council has argued forcefully the need for a platform-neutral Internet[vii]. The right to privacy has been re-articulated in recent debates in Europe, Argentina, and the United States in discussions on the *'right to be forgotten' "*[viii].

In these global and national level debates, feminist groups have slowly but steadily seen points of intersecting relevance. However, much of the 'gendering' of issues in the digital domain has not gone past an assertion of women's disadvantage, and a lot remains to be done on unpacking specific assumptions guiding current policy and programming approaches[ix].

This policy brief attempts to outline an agenda for gender justice that takes a critical feminist approach to the current digital ecosystem, building on feminist development wisdom, and situating it in relation to contemporary issues.

2. Critical issues for gender equality in the information society

(2a) Women's access to ICTs and their benefits: let's not miss the woods for the trees

Today, access to ICTs and their benefits is a pre-condition for women's empowerment. Data sets on sex-disaggregated statistics of access and use to the Internet and ICTs, even if imperfect, demonstrate unmistakable evidence of a global gender gap. The ITU forecasts that by end 2013, there will be a global gender gap of 200 million, in access to the Internet. There is another gap – that between women in countries of the global North, and in the global South: 16% fewer women than men access the Internet in developing countries, compared with only 2% fewer women than men in the developed world[x]. Further, studies have demonstrated that patterns of use of the Internet differ by gender, with quantifiable gaps between men and women increasing for more sophisticated uses[xi]. In policy and practice circles, expanding women's access to mobile phones is considered to be the most important strategy for closing the global Internet gender gap, with mobile networks doubling in size every two years, since 2011[xii]. Undoubtedly, the value of the mobile phone in expanding women's social linkages, and enabling their participation in the economic and public spheres, through its multifarious functionalities (calls, texting, apps that leverage the Internet) cannot be discounted. However, reducing the information society opportunity for empowerment to mobile phone access would be a grave mistake, as this would mean missing the woods for the trees. The ubiquity of the mobile phone is bound to make it 'the' access device of the immediate future, but nurturing the potentialities of the larger digital eco-system – comprising much more than device-based functionalities - is the priority for a sustainable digital future. This would include access to high speed broadband and mobile Internet, as well as to applications and platforms, and indeed, new institutional innovations in public services and conditions that promote bottom-up collaborative innovations.

The digital divide is not just about connectivity; it is about access to and control over information flows. The '*communication capacity*' gap[xiii] is a useful indicator – akin to the commonsense thumb rule feminists have used to show how formal knowledge networks excluded women. Consider this – 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! What this suggests is that the majority of Internet users in developing countries only have access to low bandwidth Internet infrastructure, which significantly restricts the type and quality of applications and services they can access. The implications of the communication capacity gap for women's access to the Internet become fully clear, when read against the fact that, for many women in developing country contexts, *"the costs of devices and connections, poor quality of broadband connections, and the limited availability of ICT services outside major urban areas, continue to be major hindrances to their effective use of the Internet"*[xiv]. In this situation, rural, textually non-literate, women in developing country contexts are unable to access relevant content requiring high bandwidth, video and audio services and applications, even if they have some kind of access. As differentially located users engender very different kinds of relationships with the Internet, we see serious new divides and hegemonies, including along gender, class and geopolitical lines.

Nation-states in the global South have not been able to adequately address the complex nature of the digital divide. Consider this: In 2010, two-thirds of the developing countries had a universal access/service (UAS) clause in their communications policy framework, but only 36 included broadband in this definition of UAS[xv]. Most National

Broadband Plans in the global South remain in silos, with no co-ordination between other policies for rural development, women's empowerment and social inclusion. Clearly, considerable opportunity for harnessing fixed broadband possibilities for vital public services, such as those related to education and health, which often provide a life-line for women, is getting lost. Similarly, as far as wireless broadband is concerned, opportunities for public information outreach through mobiles to rural, marginalised communities have largely been left to the hand of the market, to initiatives such as Facebook's recent internet.org app for creating a women's information network at the local level, in Zambia[xvi]. While such initiatives do bring the Internet to women who were previously unconnected, the nature of access they facilitate is questionable: they create information oligopolies –a collusion of businesses that provide preferential access to certain telcos, certain platforms and content provided by certain companies[xvii]. The resultant stunting of a truly open and public information ecology and discrediting of alternative discourses arguing public investment is bound to end up privileging info-cultures that will subsume women into the information society as passive consumers, rather than as fully participating citizens - active agents who can co-create the Internet eco-system.

(2b) Freedom of expression and the right to safety and bodily integrity in the digitally mediated public sphere: a tight-rope walk for women's rights

ICTs and the Internet have opened up numerous opportunities for women's public-political participation, furthering their free expression and gender-based solidarity. Across the world, there is growing evidence of women using the online space to challenge and subvert dominant sexual mores. Consider the widely circulated parody – “Defined Lines” – of the infamous Robin Thicke video ' Blurred Lines' that condoned rape, created by students from New Zealand; or the use of blogging as an effective strategy by young religious women bloggers in Iran to defend their use of the hijab[xviii]. The digital comics 'Priceless' and 'Qahera' about woman superheroes that challenge the masculinized, white male superhero archetype, were created by feminist activists, as a semiotic strategy for tackling the politics of gender and race[xix]. In contexts where cultural intolerance represses freedoms of women and persons of non-normative genders, the Internet offers safe spaces[xx] to discuss issues that have been stigmatised and/or silenced in everyday debates., For example, research has revealed how the Internet has opened up opportunities for transgender individuals to forge communities of solidarity, and further the rights struggles of LGBTIQ groups[xxi]; and create support networks where women can discuss topics that are 'taboo' in their immediate communities such as abortion rights[xxii].

Further, the online public sphere has enabled women's rights activists to forge communities for political action, that are otherwise difficult to mobilise. For example, the Feminists in Resistance movement created a trans-national support network for civil society organisations fighting the military take-over of a democratically elected government in Honduras, by effectively utilising the Youtube platform to share their stories, censored by officially controlled media channels[xxiii]. Several writings have demonstrated that cyber-activism and social media platforms played a key role in enabling young women participate in the Arab Spring Uprisings, by breaking down the binaries between the 'public' and the 'private'[xxiv]. Women have also used the Internet and ICTs effectively, in furthering struggles as citizens asserting claims. In Manila, blogs have been successfully utilised by citizen reporters to further the struggle for a progressive reproductive rights legislation[xxv]. Mobile based networking has been a key strategy for the political mobilisation of migrant domestic workers in Hong Kong and Taiwan[xxvi]; the Women and Media collective has successfully utilised a SMS news network to involve Tamil women in post-war reconstruction dialogue in Sri Lanka[xxvii].

However, the picture is not entirely rosy. Initial hopes about the gender-bending prowess of the web have given way to pessimism. The online public sphere is not a free speech utopia. It is increasingly clear that in the online environment, the surveillance machinery of the state can easily undermine individual freedoms. Also, user anonymity and privacy concerns are compromised with impunity by social media and social networking platforms for ad revenues and algorithmic manipulation of user behaviour.

The limitless possibilities for propagation of messages and the opportunities for collective action that the Internet and ICTs offer, have also heralded new forms of digitally-mediated gender-based violence[xxviii]. From phone-based harassment, to online stalking on social media platforms, websites and bulletin boards that enable communication between perpetrators of sexual exploitation, the rise of international human trafficking rings[xxix] and child pornography networks[xxx], the misogyny of online gaming and geek cultures [xxxi] and trolling of feminist sites, the online agora recasts violence against women, in a new avatar. Needless to say, online sexual harassment, and intimidation through threats of sexual violence and bodily harm, is also oftentimes a tactic to silence women and individuals of non-normative genders, when they use the Internet for self-expression and creating counter-discourses. As Laurie Penny, English journalist and commentator quipped recently, “a woman's opinion is the mini-skirt of the Internet”[xxxii].

Feminists and women's rights organisations recognise that 'silence and retreat are not options'[xxxiii], and that the online public sphere has to be reclaimed. This has been the effort of campaigns such as 'One Billion Rising'[xxxiv],'Take Back the Tech'[xxxv], and initiatives such as the Watetezi-Haki platform which documents abuses of sex workers and LGBTIQ persons in public places in Kenya[xxxvi].

However, in order to effectively guarantee women's right to safety and bodily integrity, and women's right to free expression, it becomes imperative to work towards overhauling existing legislative frameworks This is a tricky area, for the following reasons. First, protectionist legislation, in the garb of fighting technology-enabled VAW, is often a guise for covertly censoring women's conduct, and containing their efforts towards challenging existing social norms around gender and sexuality – consider the recent legislations around online violence promulgated by the governments of Jordan[xxxvii] and Malaysia[xxxviii], for example. Second, the question of developing effective intermediary accountability frameworks – the extent of responsibility of ISPs and Internet companies for online VAW – is not being adequately addressed through existing national laws.

Broadly, legislations on countering online VAW, fall under two approaches: 'generalist' and 'safe-harbour'. Generalist frameworks hold the Internet intermediary liable for online content. Here, illegal user activities on platforms may lead to civil and/or criminal penalties for ISPs and the companies owning these platforms. Some countries in South America such as Argentina and Peru, and many in Africa follow this model[xxxix]. In fact, Uganda has enacted an anti-pornography legislation that punishes ISPs through whose services pornography is uploaded/ downloaded, with imprisonment[xl]! Needless to say, generalist regimes encourage Internet filtering and blocking of content by Internet intermediaries, creating default censorship around contentious issues of gender and sexuality. Safe harbour regimes grant immunity to Internet intermediaries for users' actions, provided they operate within certain requirements – usually expedient action for removing or disabling illegal content when it is brought to their notice[xli]. This is the preferred model in the United States and European Union. Further, safe harbour regimes also encourage intermediaries to find 'technical' solutions to dealing with the management of contentious content that may offend user sensibilities[xlii] – usually through 'terms of service', 'best practice codes' etc. However, this move towards corporate self-regulation has led to an undermining of freedom of expression, and protection of user rights to safety and bodily integrity – especially considering the lack of transparency obligations in this arrangement[xliii].

To put this simply, it is because of such immunities that Facebook can avoid explanations about why it censors breastfeeding photographs but allows pictures on one of its pages titled 'Boobs, breasts and boys who love them' to flourish[xliv]! A 2014 research study carried out by the Association for Progressive Communications has revealed that Facebook, Youtube and Twitter – the intermediaries that currently control the lion's share of online platforms – have failed to adequately engage with the issue of technology-mediated violance against women, unless it becomes a public relations issue[xlv]. Under the circumstances, the conceptual frameworks underpinning 'rights' need rethinking, as digital technologies bring new actors and equations, into the public sphere.

(2c) Network architectures and women's access to information and knowledge: old hegemonies or new breakthroughs?

The decentralised information and communication flows facilitated by the Internet heralded the hope that a new, open knowledge architecture could be created. Women's organisations have attempted to realise this promise by linking low-cost, community media experiments to the world-wide web – giving marginalised women unprecedented opportunities to tell their stories. For example, Women's Net and the Sonke Gender Justice Network have utililised Digital Story Telling to document the intersections between gender discrimination and HIV status; and the Pathways of Empowerment project utilised the same strategy to bring in the priorities of tribal women from the Chittagong hill tracts in Bangladesh, before policy-makers[xlvi]. Further, the Internet and ICTs offer numerous opportunities for the documentation of traditional knowledge of communities, such as women artisans, healers and artists. However, the commercialised nature of the Internet today has compromised the equalising potential of knowledge flows on it. Firstly, user experience today is driven by algorithms that arrange content to maximise page views for ads. Secondly, the scramble to retain monopoly positions has seen an increasing consolidation and entrenchment of dominant platforms – as illustrated by Facebook's recent acquisition of WhatsAPP and Instagram[xlvii] as well as vertical integration – for instance, the combining of video producer (NBC) and video distributor (Comcast). As powerful actors in online markets acquire exclusive control over products – like Amazon's control over the online books market, access becomes an engineered experience. These developments have adverse consequences for the plurality of the online public sphere. The personalisation of the web creates 'filter bubbles'[xlviii]; the algorithm gives you the content that it deems fit for you, thus delimiting the diversity of perspectives. Another challenge to the digital knowledge commons is posed by the existing threats to net neutrality. World over, telecommunications corporations are increasingly lobbying for a share in the revenue pie of content companies, arguing for a tiered Internet – that will mean a fast-track super highway for content providers who can pay more for the pipe, and a slow Internet for those who cannot. Mobile data plans come with access to free content and applications, violating the end-to-end principle which holds that Internet Service Providers should treat all traffic on the net equally, without discriminating between different types of content and applications - the net neutrality principle.

Openness and *collaboration* - building blocks of the digital commons - have become mere buzzwords that mask the extraction of rent from the digital commons by the structures of capitalism in the network age. Social media platforms like FaceBook use this model, expropriating the labour of users, for their profit. We see copyright regimes in the digital arena criminalise peer exchanges, impeding the democratising potential of online knowledge flows. The elite are thus able to entrench their position in the given context, as hegemonies recast themselves. Wikipedia Foundation recently announced Wiki Zero Service – a partnership with telecom companies, to provide Wikipedia free of charge on mobiles. It is likely that Zero Services, coming from Wikipedia's first mover advantage

in the 'open' knowledge domain, will become the go-to place for information on the Internet for resource-poor users from the global South, *"effectively salting the earth of low-cost net-neutral alternatives in the future"*[xlix]. The non-profit, collaborative nature of Wikipedia notwithstanding, the fact remains that this space is even now dominated by contributions from Northern men! Existing pockets of collaborative knowledge cultures on the net do not always serve the gender equality agenda – very often, their members reproduce regressive gender ideologies in their workings, and in the content they generate[l].

(2d) ICTs and women's economic empowerment: no escape from structural barriers

ICTs represent an important economic opportunity for developing countries. At the macro-level, economic gains accrue when connectivity and broadband expansion lead to greater digitisation and network-effect based efficiencies, which in turn lead to GDP growth. At the micro-level, ICTs bring firm-level efficiencies, that lead to productivity gains. Though ICTs are opening up a number of specialist jobs in areas such as bio-engineering, data informatics and tele-centres, women's share of employment in formal ICT sector jobs is very low. As a recent study reveals, at the global level, women 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"*[li] in the ICT sector. A significant proportion of women in the ICT labor-force appear to be taking up informal sector employment: specifically, micro-work opportunities arising from the restructuring of the labour chain in the digital age. While such micro-work has ushered in opportunities for flexible work, it has also led to increasing informalisation, income insecurities and a roll-back of workers' benefits.

ICTs also offer considerable scope to strengthen women's traditional livelihoods and to promote women-run enterprises. There are numerous examples from the global South: mobile-learning networks for women farmers such as the Life-long Learning Network initiated by the CommonWealth of Learning in Sri Lanka[lii], mobile-based financial advice services for women entrepreneurs such as 'Text to Change' in Peru[liii], initiatives which leverage mobile-phone based networking possibilities for supply chain management of women-run retail businesses such as Soko-text in Kenya[liv] and SEWA in India, and women's ICT enterprises such as D-Net's *infoladies*[lv] and the innumerable women-run telecentre projects in developing country contexts. Existing research provides the following insights. First, ICTs may have a greater impact on businesses that are more downstream in the value chain, than on those in the primary sector, where a bulk of women-run enterprises exist[lvi]. Second, ICT SMEs require long-term public support to address market failures, a step that policies and programmes for women often ignore[lvii]. Third, women entrepreneurs seem to find it more difficult to capitalise upon the empowering potential of ICTs when compared to men. Women, lack the traditional networks that men have and as a pan-African study shows, are also far less likely than their male counterparts to see be able to leverage the force multiplier effect of ICTs for their business[lviii].

(2e) Gender and Development in the information society: more than old wine in a new bottle

Digital technologies offer numerous opportunities for strengthening gender and development efforts – in particular, women's access to health, education and public service delivery.

Women's access to public services: ICT-enabled restructuring of public service delivery architectures to further equity and social inclusion is an area that has not been adequately explored by governments of developing countries. As the Broadband Commission recently observed, e-governance systems have largely been techno-managerial and supply driven in most developing countries, marked by pervasive gender blindness[lix]. Though many countries have invested in 'one stop shop programmes' to reach citizens especially in remote, rural areas, there has not been adequate emphasis on engendering such programmes. In this context, it is civil society organisations that have attempted to leverage ICTs for bottom-up networking of women, to help them effectively demand their entitlements from state structures. Some examples include, the WOUGNET initiative[lx] in Uganda that has trained women in using community media in their struggle for government accountability, the efforts of SPIDER in Bolivia[lxi] in enabling indigenous women utilise Internet spaces for lobbying with state structures, and the IDRC-supported Women-gov[lxii] project's efforts in India and Brazil to set up women-run community info-centres for strengthening marginalised women's active citizenship.

Health: There are a number of large scale non-governmental initiatives that have attempted to leverage the power of mobiles for the capacity-building of front-line health workers, tracking of ante-natal and post-natal care service delivery to women, and setting up IVR-based local health information services – such as the Pan African mHealth initiative led by GSMA, DFID and NORAD; and Dimagi in South Asia. Multi-sector partnerships with telecom companies and civil society organisations have been explored as the main model for harnessing the m-health opportunity by global South nations. However, in the current context, where public health systems of developing countries are facing systematic cut-backs and are increasingly resource-starved, this has led to a situation where there are a plethora of pilots, especially in the area of maternal and child health care services, but limited possibilities for scale-up. Another area that has received extension attention from governments in the global South is the creation of health information data-bases that leverage mobile data gathering possibilities, to improve health planning and service delivery – utilising Open Source Platforms such as CommCare and the MoTech Suite[lxiii]. Needless to say, this enthusiasm should not overshadow the important questions for policy and law with regard to the security and confidentiality of the data-bases thus being generated.

Education: In the current scenario where the majority of the world's women are textually non-literate, and most girls in the global South do not complete formal schooling due to socio-cultural barriers, the potential of the Internet and ICTs, especially mobiles for life-long learning has often been celebrated. In fact, numerous mobile learning projects have been implemented in Africa and Asia over the past 5 years, led by telecom companies and their non-profit counterparts – such as Nokia and Vodafone. While these initiatives do indicate some evidence of benefits, making them sustainable requires much more than mobile access. 'Education for empowerment' needs a wider techno-social ecosystem that generates cultures of use that are empowering in contextual ways. High speed broadband, mobile networks, public access points, libraries and school labs, audio-visual educational and citizenship oriented resources, collaborative knowledge platforms, are all part of the mix. However, for a paradigm shift, each ingredient must be grasped for its gendered content, so that women's and girls' engagement with digital technologies can bring them greater autonomy, self-esteem, voice and power.

(2f) Leveraging data regimes for gender equality: does big data really empower the last woman?

The entanglement of digital technologies in all spheres of everyday life has led to a situation where there is literally

an explosion of digital data – *"an ever expanding archive of information about what we say and do with digital technologies every day"*[lxiv]. This *"imperfect, complex, unstructured data"*[lxv] – popularly termed 'big data' – offers tremendous scope for gleaning valuable insights into the collective behavior of communities, in real-time. It is not too difficult to understand the fascination that big data holds for development planners and policy-makers – when we consider the historically unprecedented opportunity for carrying out real-time, thin-slice analysis of community behavior to detect current needs and priorities. However, before we can proceed to explore specific ways of leveraging big data for the gender equality agenda, it is important to first understand its three main paradoxes[lxvi].

i The transparency paradox

The existing big data regime renders individuals increasingly visible to governments and large corporations, even as it makes the workings of their massive private data collection drives increasingly opaque. Existing legislative frameworks that justify the untargeted, continuous surveillance of individual communications as essential for national security, and also leave users unprotected against the excesses of data-mining by large corporations, exacerbate this imbalance. Needless to say, this has created a situation in which the individual right to privacy becomes extremely precarious. The risks of such privacy violations for women and people of non-normative sexual orientations are huge. In the digital age, instead of the state becoming more transparent to the citizen, citizen is becoming increasingly transparent to the state.

ii The identity paradox

The question of representation and statistical bias in sampling is a vexatious one in big data analytics. First, there is the ever present risk that big data may obscure the intricacies of localised socio-cultural factors that have huge implications for development programming[lxvii]. Secondly, it is well known that individuals without access to digital artefacts are usually from marginalised socio-structural locations, and their voices may not be captured at all through big data analysis. In a situation where there is a huge global gender gap in access to digital technologies, especially in the global South, big data decision making mechanisms may end up excluding women from particular social contexts.

iii The Power paradox

The existing big data regime strengthens entrenched power imbalances: between powerful corporations and individuals, between states and the citizens at the margins, and between the global North and the global South. For example, reverse-redlining by the powerful banking companies in the United States has led to a disproportionate targeting of single mothers for sub-prime mortgage lending, especially those who are African-American or Latina, as their economic vulnerability and limited bargaining power to negotiate loan terms makes them attractive customers[lxviii]. Most importantly, big data has created an invaluable business opportunity in the global South for intermediaries from the global North in the area of creating firm and small enterprise-level customer and retail data sets, a valued resource for most transnational corporations looking to extend their market-reach in the developing world. Not to forget, the tremendous differences between the global North and the South in computing capacities of governments and civil society organisations! The former are light years ahead[lxix].

Clearly, a paradigmatic shift is required if we are to leverage the potential of big data for development and gender justice. Big data gives big control to few actors, and so, distributing such control would mean different architectures of big data than is the dominant norm today. First and foremost this calls for creating an 'active' big data analytics culture to overturn the representational inequities in existing big data regimes. Such an active culture would include:

- *Building civic capacity of community based organisations in leveraging digital technologies for creating community data-sets that can enable marginalised women's groups contest official records to make their claims*. Community-Based Organisations such as *Mahila Milan* from Cuttack, India, have trained women from urban-poor communities to effectively utilise GIS technology to bring in their priorities and needs into official slum upgradation programmes. Mobile-based apps for local level data collection can enable women to generate new representations, to powerfully stake their claims in the local public sphere.

- *Enabling small producers in the global economy to actively leverage big data possibilities for strengthening their bargaining power*. The Fair Tracing Project[lxx] has demonstrated the empowering potential that digital tracing technology offers, for small producers to understand market dynamics and price structures in the global value chain. Needless to say, such possibilities if explored systematically, hold enormous potential for furthering the sustainability of women-run enterprises.

- *Developing the capacities of public institutions in the global South for real-time data modelling, for effective and responsive development planning*. Nations in the South should not be dependent on the institutions/experts of the North for analytics. Existing legislative frameworks that protect individual privacy and confidentiality, with respect to the multiple data traces that they leave behind on digital spaces, must be made more robust – so that the power imbalance that exists in the current big data regime, between powerful institutions and individual citizens, especially those at the margins, is kept in check. Such safe-guards are especially important for women, as states have been known to utilise existing technologies to police women's behaviour to uphold existing gender norms – whether it be Saudi Arabia's electronic tracking initiative that sends text alerts to the male guardians of women who leave the country[lxxi]; or Brazil's announcement of compulsory pregnancy registration to create a maternal health data-base for effective service-delivery, that covertly enabled the restriction of women's right to abortion[lxxii].

3. Priority actions

The sections above have laid out the nuances of digitally-mediated social systems – the information society context that disrupts older patterns and presents new scenarios for mapping women's rights and gender justice. Policies and laws – and indeed, feminist advocacy - needs to respond to what constitutes DNA level mutations to social organisation, pushing for new ethical and institutional frameworks. Multi-sectoral and overarching changes are needed, and key priority actions are discussed below.

- Mobile phones are an important part of the solution in ensuring women's inclusion in the information society, but they are only a part. ICT policies need a digital eco-system framework that can build locally relevant information, communication and institutional ecologies centred on women's needs, rights and priorities. Universal and affordable access to the internet, and a proactive digital inclusion approach that puts women's rights at the centre, is needed. Individualist approaches may tend to undermine the collective gains of marginalised women, a maxim that ICT programmes for women's empowerment must follow.

- National Broadband Plans need to account for gender-based realities[lxxiii]. Some part of Universal Service

Obligation funds can be earmarked to subsidise women-run digitally-enabled community information centres and libraries, using both broadband and mobiles-based affordances. Such information centres and libraries are critical for information outreach services, skill development and citizenship education activities, that benefit women at the community level.

- Legal interventions to address women's rights online must begin from the premise that the Internet is instrumental in the enjoyment of freedoms. Legal remedies to tackle gender-based violence online are imperative, but they cannot become an excuse to undermine women's and girls' Internet freedoms. New approaches are needed to balance the right to privacy with the right to information and knowledge, in the emerging techno-social context.

- Corporate 'terms of service' and policies to mitigate gender-based violence may be ineffectual given the non-transparency and ad-hocism of corporate decisions, corporate locus standii in adjudicating conflicting user rights (right to communicate versus right to freedom from violence, for instance) and the sticky issue of jurisdiction in Internet related cases. In the borderless social arena of the Internet, global and national institutional frameworks and provisions are needed urgently to address gender based violence, to pin down state excesses as well as to fix corporate accountability.

- The responsibilities of ISPs, telecom providers and web hosts when faced with user complaints about phone/Internet-based harassment and VAW, must be clearly spelt out. While some countries have opted to emphasise legal and juridical approaches that involve reinterpretation of existing laws, others like New Zealand have passed new legislation to respond to what is seen as 'new' challenges in addressing VAW.

- With a tiered Internet, small content and application providers, such as women's organisations, have to be worried about being squeezed out of the primary information flows of the 'attention economy'. Net neutrality and platform neutrality are thus non-negotiable for a participatory digital future, in which women and marginalised groups can have equitable access to and benefit equally from Internet infrastructure, its informational power and knowledge ecologies.

- The neutrality of Internet platforms must be maintained by: (1) mandating platform interoperability, data-portability and open standards, and (2) restricting horizontal and vertical integrations. Selective provision of free content/ services on the Internet (including on mobile Internet), as being promoted a lot in developing countries, must be recognised as a violation of the net neutrality principle.

- Intimately linked to the question of women's knowledge are the issues of public domain and knowledge commons. Existing copyright regimes require re-appraisal for removing restrictions on non-commercial sharing and re-use of information and knowledge resources online. Techno-architectures should in fact promote by default, rather than criminalise, sharing of knowledge and content on the Internet. Peremptory policing of content by private actors, often done through algorithms, must stop.

- Policy and programming efforts 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 equip women with little or no social capital to effectively participate in the network economy. Funding support to enable women's producer and cooperative organisations benefit from efficiencies of digitisation through networking and

work flow reorganisation is important. Such intermediary organisations provide long standing and wide-ranging support to women's enterprises and they need to be strengthened.

- Localisation of ICT systems could be linked to projects for skill enhancement of women. National skill development programmes in fact need to provide avenues to build specialised skills crucial in broadening employment prospects in the digital economy.

- As policies encourage women to take to online work, older laws implicating labour rights need revisiting. Crowd-sourced micro-work platforms online informalise work, and undermine hard-won labour rights. Regulatory and governance regimes for the online economy are urgently needed to safe-guard worker rights in the digital age.

- E-governance plans, policies and programmes need robust gender based audits and analysis. E-governance must be designed to women's participation in local planning and community monitoring of service delivery, contributing to gender responsive public administration. E-governance schemes could also partner with women's groups at the local level, for inclusive service delivery. At the same time, new policy directions and legislative protections for addressing data security and privacy concerns of vulnerable populations, becomes important.

- An e-health blueprint can claim new frontiers in health awareness, health-seeking behaviour and health outcomes for women and girls, only with concomitant attention to basic health infrastructure and human resources[lxxiv]. Developing country governments must draw up comprehensive health plans to which e-health and m-health programming is tied, in a systematic rather than an ad-hoc manner.

- National policies must move towards a sophisticated understanding of 'digital literacy'. The need of the hour is a holistic plan for developing information and knowledge processes at the community level, in formal and informal learning contexts. Adequate investment in creating public access points that leverage the multitudinous affordances of the emerging digital eco-system, designed specially for women and girls, is needed.

- In the age of big data, women's groups are still struggling to come to terms with the possibilities for using community level data for grassroots change. There is a need for new data governance frameworks that recognise access to data, information and knowledge as rights with implications for women's civic-political, and socio-economic life. Such frameworks would also need to vest public interest actors/ institutions with control over local data.

- Open data of a public nature must work for women's citizenship and claims, and not become an instrument of exploitation of the poor for social surveillance and profiling. The Lyon declaration has asked governments to develop targets and indicators around citizens' access to information and data, and present a 'Development and Access to Information' report every year, highlighting progress made[lxxv].

- It is also required to develop appropriate democratic and progressive global Internet governance frameworks that prevent powerful countries and their corporations from controlling and exploiting global information/ knowledge flows through their command over new digital techno-structures .

Meaningful access to ICTs must include individual, public and institutional dimensions of access

As goals, targets and indicators are finalised – we need to see a standalone goal in the SDGs on 'equal access for all to ICTs'. Digital capabilities encompass a range of access scenarios – individual; social and public/ institutional. Systematic effort to capture data disaggregated by gender is necessary for indicators that cover all these aspects.

1. On the individual-household access dimension, targets must include -
a. Access to broadband
b. Access to mobile networks
c. Cost / tariffs

Possible indicators would cover, inter alia:
- Proportion of households (with percentage of women-headed households) with broadband Internet access
- Mobile cellular telephone subscriptions per 100 inhabitants, disaggregated by gender
- Fixed broadband Internet access tariffs per month as a percentage of income, for men and women.

2. On the public-institutional aspect, targets must include -
a. ICT-enablement of local public agencies and authorities
b. Public access points / Internet kiosk availability and accessibility

Indicators, inter alia, would include:
- Percentage of public agencies (including agencies of the department of women) at the district and sub-district levels with web presence
- Percentage of public agencies (including agencies of the department of women) at the district and sub-district levels with web presence in local language
- Free, women-only, public access points per 1000 inhabitants
- Paid women-only, public access points per 1000 inhabitants
- Free, women-only, digitally enabled libraries per 1000 inhabitants
- Average number of individual access points and users (disaggregated by gender), per public school at district and sub-district level

3. On the community-social aspect, targets must include -
a. Use of ICTs for peer interaction/ social networking and higher functionalities
b. Depth of ICT penetration

Indicators, inter alia, would include:
- Percentage of Internet users, men and women, using peer-to-peer functionalities beyond browsing and email
- Percentage of small enterprises (including women-owned enterprises), with web presence at the district and sub-district levels
- Percentage of NGOs ((including women's NGOs) with web presence at the district and sub-district levels

Excerpted from Gurumurthy, Anita (2012), A New Goal to Ensure Equal Participation of All in the Network Society – Beyond the horizon of MDGs, http://www.itforchange.net/sites/default/files/ITfC/A%20New%20Goal%20to%20Ensure%20Equal%20Participation%20of%20All%20in%20the%20Network%20Society%20%E2%80%93%20Beyond%20the%20horizon%20of%20MDGs.pdf , Retrieved 29 August 2014.

4. The SDGs debate – zooming in on the silences!

The right to the Internet and its benefits comprise a basic condition for just and democratic societies. In framing the SDGs , the focus on ICTs has been minimalist, side-stepping their significance for transformative change across public political spheres. The relegation of ICTs as mere tools of implementation of development goals therefore evades the role of ICTs as systemic technologies redefining our social structures and hence the core proposition that ICTs are global public goods, to be provisioned and regulated as such[lxxvi].

ICTs are constituent elements of society and must be seen as public goods

The disclosures relating to the NSA have shown us the far reaching implications of techno- and data- regimes for human rights, the right to development and international cooperation. They also signal an urgency, and indeed a crisis of ethics, demanding immediate international public policy action to reclaim the public interest and public goods elements in the global digital architecture. In fact, serious realignment is needed to re-visualise the role of ICTs in relation to SDGs, and for North-South cooperation to shift in the direction that acknowledges the political economy of the information society. As global ICT networks, especially the Internet, becomes a major force for economic, social, cultural and political change, democratic mechanisms for governance of these networks to safeguard the interests of less developed regions and countries, and of marginalised communities, becomes an urgent priority. Paradoxically, what we see is the usurpation of the ICTs and Development agenda by the World Economic Forum[lxxvii]! Efforts of women's groups to claim their space in the information society cannot be sustained unless publicness of the techno- and data- architectures is asserted and guaranteed.

Partnerships in the sector need stock-taking and evaluated on the basis of a choice framework

Both - from the standpoint of fundamental freedoms and of the right to development - women's equal access to digital technologies, particularly the Internet, is non negotiable. 'Empowerment' projects in the ICTs arena oftentimes push for women's assimilation into the dominant structures of the information society. This is contrary to what real choice means in terms of self-determination of societies and peoples. Partnerships to construct digital futures are critical of course, but cannot reduce ICT access to an issue of just 'bridging the gender gap'. Because ICTs can potentially restructure social power, the 'gap' that they can and must bridge is the autonomy and choice gap. Equal access to the Internet implies a gender just and platform-neutral Internet wherein information, communication, knowledge and data flows challenge existing power relations and bring the promise of transformation, to the 'edges'. Partnerships in the ICT domain must therefore be assessed and evaluated for the shift in autonomy thresholds - if and how individual men and women, and communities have been facilitated in expanding their choices. Recent years have seen scholarly work on the 'capabilities framework' and the importance of Indicators to measure access within such a framework that emphasises expansion of choice[lxxviii].

Access to data is a 'people's right'

Data constitutes the basic brick and mortar of new institutional architectures today. Control over data determines social power, - entrenching the geo-political advantage of powerful nations, vesting in markets the runaway

smartness that violates consumer and human rights, and giving the state extreme authoritarian power to erode civic resilience. Old frameworks like 'technology transfer' are inadequate in the new era where technology itself is the platform used by dominant global political and economic powers for systematic economic, political, social and cultural domination.

The idea that big data can help development cannot be divorced from the question of where the control of such data lies. This is the key issue for the long term autonomy of nations and peoples, and sustainability of development benefits.

Information and data constitute an important resource for the poor and marginalised to renegotiate their social status. From computational capabilities at the community level that bring greater transparency and accountability in public institutional systems, to the ability of civic organisations to create and mash-up their own data and legal safeguards to protect vulnerable citizens from abuse of data in the public domain by corporate and state actors, the big data agenda, must encompass a multi-dimensional strategy to serve 'small' people and protect the sovereignty of less powerful countries.

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