MAPPING RESEARCH IN GENDER AND DIGITAL TECHNOLOGY

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Between January 2017 and November 2017, APC carried out a mapping study of the research in gender and digital technology taking place in or concerning middle and low-income countries in the last decade (2006-2017). The study focuses on information and communications technologies and the internet in particular but broadly encompasses digital technology and its impact on gender. This publication is the final output of that research project. The objective is to map knowledge production in the field of gender and digital technology and support gender inclusion in the IDRC Networked Economies programme.

To read more on this subject and the project, please visit www.GenderIT.org. Corollary material in the form of an edition of articles mapping gaps in research in gender and digital technology is published online at www.genderit.org/node/5003/

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ACRONYMS AND ABBREVIATIONS

A4AI	Alliance for Affordable Internet
APC	Association for Progressive Communications
APC WNSP	Association for Progressive Communications Women's Networking Support Programme
APC WRP	Association for Progressive Communications Women's Rights Programme
Apps	Applications
Broadband Commission	United Nations Broadband Commission for Sustainable Development
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
DDoS	Distributed Denial of Service
DDoW	Distributed Denial of Women
EROTICS	Exploratory Research on Sexuality and the Internet
ESCR	Economic, social and cultural rights
Fintech	Financial technology i.e. computer programs and other technology used to support or enable banking and financial services
FLOSS	Free/libre and open source software
GBV	Gender-based violence
GEM	Gender evaluation methodology
ICT	Information and communications technology
ICT4D	Information and communications technology for development
IDRC	International Development Research Centre
IDS	Institute of Development Studies, University of Sussex, Brighton
IGF BPF	Internet Governance Forum Best Practice Forum
IGO	Intergovernmental organisation
Isis	Isis International
ITU	International Telecommunication Union
LDC	Least developed country
LGBTI	Lesbian, gay, bisexual, trans and intersex people
MENA	Middle East and North Africa
MOOC	Massive open online course
NCII	Non-consensual sharing of intimate images
NGO	Non-governmental organisation
SDGs	Sustainable Development Goals (UN)
SR	Special Rapporteur
STEM	Science, technology, engineering and mathematics
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDESA	United Nations Department for Economic and Social Affairs
UNESCO	United Nations Educational Scientific and Cultural Organization
UNGA	United Nations General Assembly
UNHRC	United Nations Human Rights Council
USAF	Universal Service and Access Fund
USAID	United States Agency for International Development
VAW	Violence against women
WSIS	World Summit on the Information Society

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economy
help
important
challenges
countries
feminist
support
equality
often
network
still
online
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Introduction, method and limitations

INTRODUCTION

This study maps research and knowledge production in the field of gender and digital technology, with the intention of bringing to the surface trends, gaps, emerging areas and critical questions in the field. The Women's Rights Programme in the Association for Progressive Communication (APC WRP) places itself within the trajectory of the women's movement and of engaging with and within the movement on issues of digital technology and information and communications technologies (ICTs). In particular APC WRP has worked intensely to drive more attention, advocacy and policy reform towards online gender-based violence, but has sought to expand both towards a wider framing of the various issues involved through formulations of the Feminist Principles of the Internet, and research on parallel emerging issues in big data, surveillance, labour and other fields related to gender.

This study is meant to map:

- Trends, issues and changing contexts that emerge through the literature review
- Key issues, challenges, gaps, priorities and emerging areas, while providing a brief overview of the key actors/initiatives contributing to the work in the sub/regions
- The value of research networks in this field, what would contribute to their success or impact, and key challenges faced.

One of the initial objectives of the mapping study was also for the International Development Research Centre (IDRC), Canada, to examine their funding initiatives and programming. IDRC insists on the inclusion of gender analysis in all their funded projects, but this is not the same as ensuring and pushing for a feminist analysis that lays bare power dynamics and addresses gender inequity. For APC WRP the mapping study gives us an opportunity to assess where our work lies in the broader field and what it has achieved in terms of policy reform, changing the discourse and building the field.

CONTEXT OF MAPPING STUDY

The engagement of feminist discourse and practice with ICTs and broadly digital technology is a coming together of different disciplinary approaches and concerns. Feminist media scholarship finds its roots in the early 1970s with work that criticises mainstream media as being deeply implicated in discrimination against women in society, by either ignoring the role of women, condemning them or trivialising their presence. Margaret Gallagher, one of the foremost scholars in feminist media studies, points to how feminist analysts had always to contend with the fact that our work must contribute towards a larger goal, addressing both activism as well as knowledge. This is intrinsic to the feminist analysis that shows that structures of power ensure that women are systemically subordinated and are often objects of study rather than active subjects in the production of knowledge. Gallagher reiterates that feminist media studies has come to encompass "a complex analysis of the structure and process of representation, the cultural and economic formations that support these, the social relations that produce gendered discourse, and the nature of gendered identity."[1]

As she points out, there has also been within this field of feminist engagement with media a questioning and widening of what kinds of methods and methodologies are appropriate, and ethical questions on the relationship of the project of knowledge to the object of study. This in particular has highlighted that women in middle- and low-income countries often referred to as the "global South" (postcolonial contexts in particular) as well as women and persons of colour might find the frameworks and analysis of Western feminism irrelevant to their lives.

1 Gallagher, M. (2003). Feminist Media Perspectives. In A. N. Valdivia (Ed.), *A Companion to Media Studies*. Malden (USA): Blackwell Publishing Ltd.

This mapping study finds itself uniquely positioned to engage with the knowledge, research and feminist analysis being produced in middle and low-income countries, because this global South perspective, along with a feminist approach that emphasises the structural analysis of power, determines the trajectory of the mapping study. It is also important to point out that the study is informed by decades of work by Association for Progressive Communication (APC) in the field of internet rights and policy reform around ICTs.

Articulations around gender and digital technology (early 2000s)

The study of digital technology, including ICTs, has to encompass an understanding of infrastructure, state power and hegemony, technology, society, culture *and gender*, as is evident from the work of projects, organisations, academics and individuals mapped in this report. Nancy Hafkin in her paper on gender issues in ICT policy for developing countries[2] suggests that it was actually in 1998 that the link between gender and ICT was properly explored through a series of papers. Even at that stage it was well articulated that without explicit attention to gender, gender equity in the information age or equal access to ICTs will not be achieved, and considering that most policy at the national level has not mentioned gender or has done so peripherally, the results are evident now.

Anita Gurumurthy[3] looks further back to the 1990s when the following themes were considered relevant to gender and ICTs: "the equitable access of women and women's organisations to the means of public expression; women's access to professional careers and decision-making positions that have traditionally been male preserves; and the portrayals of women reinforcing or changing stereotypes." Since 2000 there has been academic and research work around agency and empowerment, and as said in Gurumurthy's paper, "a shift from an emphasis on women solely as objects of information to a focus on women as controllers of information – in other words not only changing the way women are talked about, but also enabling more women, particularly marginalised women, to create their own information and spread their own messages through the new ICTs."

Moving onwards from the 1990s, Gurumurthy looks at the issues relevant to gender and technology research and projects in 2005, and these were: "integrating gender perspectives into national ICT policies; raising awareness among gender advocates about the importance of national ICT plans for gender equality; promoting gender-responsive e-governance; effective use by women of ICTs and the need for relevant content; promoting women's economic participation in the information economy; promoting democratic media, and combating the use of the Internet to perpetuate violence against women." Most of these concerns are still relevant, such as gender-based violence, and others around inclusivity and diversity in terms of gender expression, caste and race in technology and movement spaces have emerged from a critique of earlier articulations and exclusions in the women's movement. The use of ICTs for movements and political action, discourse as a form of activism, sexism and lack of gender equity in work cultures, the impact of datafication in relation to gender are emerging areas that have been explored in more depth in the last decade.

From the initial conceptualising around gender, ICTs or more broadly digital technology, the underlying critique has been that technology is not gender neutral and is determined by existing power dynamics. Gurumurthy asks, "The important questions are: who benefits from ICTs? Who is dictating the course of ICTs? Is it possible to harness ICTs to serve larger goals of equality and justice? Central to these is the issue of gender and women's equal right to access, use and shape ICTs."

Most technologies, including the ubiquitous television, largely used for entertainment now, were initially given the task of being part of development, specifically education. Helen Hambly Odame's book of case studies of how women and their communities in developing countries

2 Hafkin, N. (2002). *Gender Issues in ICT Policy in Developing Countries: An Overview*. United Nations Expert Group Meeting. EGM/ICT/2002/EP.1.

3 Gurumurthy, A. (2004). *Gender and ICTs: Overview Report* Brighton: BRIDGE. www.bridge.ids.ac.uk/sites/bridge.ids.ac.uk/files/reports/CEP-ICTs-OR.pdf

have been influenced by ICTs[4] identifies that ICTs have profound implications for all in terms of employment, education, health, environmental sustainability and community development. Odame however also places caveats on assuming links between ICTs and development by saying that it is evident that women are less likely to be able to access the advances of ICTs, especially rural women when compared to their relatively elite and urban counterparts. In the broader discourse of ICTs for development (ICT4D) and especially access, women were perceived as passive recipients of information, rather than active information users and communicators. Odame centres a "feminist standpoint that privileges women as active agents of their own development. Women are not 'waiting' for access to ICTs, but rather using ICTs when they are available to get around the constraints they face in politics, society and economy."

These assessments by Gurumurthy, Hafkin and Odame indicate that there has been, since the early 2000s, a questioning of assumptions around ICT4D in many projects. In particular what has been questioned is the idea that people are "mere" beneficiaries of this development, and of the role that ICTs play as a tool in ensuring the right to development. Nancy Hafkin in particular states, "Until the ICT policy arena is itself engendered, it will be difficult to improve access for women and girls to the revolutionary tools of information and communication technology." What has also emerged are the negative impact of ICTs through phenomenon like online gender-based violence and datafication projects of the state and corporations. This mapping study is thus well timed to explore many of these complex questions.

World Summit on the Information Society (2003 and 2005)

An important event in the trajectory of human rights discourse being accepted in relation to ICTs was the World Summit on the Information Society (WSIS) that took place in two phases, in 2003 and 2005. There were some recognition of gender, freedom of expression and civil and political rights. Jac sm Kee (APC WRP) states that there were 11 mentions of gender in the WSIS outcome documents after hard work from the women's movement and civil society working group.[5]

In spite of civil society organising at the WSIS and around the use of ICTs for development, it was felt that progressive language, especially against censorship and around the right to communicate, was lacking, and gender in particular was ignored. Gurumurthy says, "Despite active lobbying by gender advocates, the Summit paid lip service to gender but did not recognise gender as a key political issue in the ICT arena, nor make specific commitments to actively promote women's equal role in the information society." The final WSIS declaration, however, did at least include some mention of support for free and open source software.[6] But WSIS inaugurated the multistakeholder approach that included private sector and civil society in deliberations on internet governance, an approach that was continued through the Internet Governance Forum from 2006 onwards.

Aside from these efforts by non-governmental organisations to push their agenda through the WSIS declarations, there was a third category of organisations and people who were unenthusiastic about the "mainstream" policy agenda of WSIS. Odame refers to feminist organisations and groups setting up their own spaces and groups around gender and ICTs, including conferences. This includes the Knowhow conferences, conferences on archives and information centres, and also includes the role of Association for Progressive Communications Women's Networking Support Programme (APC WNSP) and ISIS as organisations that maintained significant documentation of the processes and research going on, alongside managing email lists.[7] The work of several organisations at the international level who work with

4 Odame, H. H. (2005). *Gender and ICTs for Development: Setting the Context (A Global Sourcebook)*. United Kingdom: Oxfam.

5 APC. (2005, 18 November). Overview of gender-related language in WSIS documents. *APC.* www.apc.org/en/blog/overview-gender-related-language-wsis-documents

6 WSIS outcome documents. www.itu.int/net/wsis

7 Odame, H. H. (2005). Op. cit.

global South countries (APC, ARTICLE 19, Privacy International, OpenNet Initiative, Berkman Klein Center for Internet & Society and others) and those at the national level (Research ICT Africa, the Centre for Internet and Society and others) to intervene in multistakeholder spaces such as the Internet Governance Forum and the United Nations Human Rights Council has since then brought about changes that perhaps were not possible during the WSIS process. APC WRP has also built parallel spaces around making a feminist internet,[8] and in the same decade other important spaces driven by civil society have emerged, like Internet Freedom Festival[9] and RightsCon.[10]

Strengthening voices, movements and critique (2006 – now)

Initially ICTs were a tool for the realisation of women's right to development, through livelihoods, health and information delivery, education, information services, networking and advocacy, e-governance, and the amplifying of women's voices and perspectives. However a far more complicated picture has emerged now in relation to gender – and the social, cultural, economic implications of ICTs for our lives, habits and ways of being.

There is a consensus across the key actors interviewed that *the promise of ICT4D has not been fulfilled*. The spread and adoption of ICTs has not lessened the digital divide, in fact it has made existing inequalities around caste, race and possibly gender even more acute as those who do not have access to technology can still be mapped and made part of datasets, and this has implications on all other aspects of their lives such as wealth, security, employment, and so on. For those working on access, it is particularly worrying that the gender digital divide has also increased by 1% in the last one year.[11] For feminists exploring the potential of a feminist politics of technology, datafication and market economy complicate the notion that ICTs are linked to empowerment and agency. Increasingly, people might be disempowered by ICTs – the systems of hierarchy that they live with are transformed by shifts (rural to urban, indentured labour to migrant or refugee, etc.) but nonetheless they remain within hierarchical formations that are made more controlling through technology.

Another way in which there has been a shift is the emergence of a far stronger position from gender non-conforming, trans and intersex persons, people with disability, Dalit-Bahujan-Adivasi women and groups, indigenous people and groups, black movements like Black Lives Matter, and queer groups. There is a questioning of the assumptions born of the NGO-isation of causes and movements (and of research),[12] and of how certain hegemonies of class, caste, race and ethnicity were not challenged even within civil society organising (in different contexts and countries). Although a teleological trajectory should *not* be assumed, it can be said at least that the internet has amplified, complicated, disseminated, produced and disturbed the voices and static we hear and receive. Most of the voices that now shape politics have used ICTs as a tool, medium, space for building movements and protests.

This would include Primavera Violeta or the "Purple Feminist Spring" in Mexico, Brazil and other parts of Latin America (#NiUnaMenos, etc.), the Nirbhaya movement in India, several movements around gender-based violence in South Africa and Kenya (#MenAreTrash, #RapeMustFall, #BringBackOurGirls). There have also been local and global movements where strong voices of women, trans and queer people are present (Black Lives Matter, #FeesMustFall), global campaigns like Take Back the Tech with women in several countries wanting to own and use technology on their own terms, and countless other such small and

8 feministinternet.org

9 internetfreedomfestival.org

10 www.rightscon.org

11 International Telecommunication Union. (2017). *ICT Facts and Figures 2017.* www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx : ITU

12 Bernal, V., & Grewal, I. (2014). *Theorizing NGOS: State, feminisms, and neoliberalism (anthology)*. Duke University Press.

large mobilisations. But there are still huge divides that intersect with gender along the lines of caste, race, ethnicity, ability – to name just a few.

Human rights framework for digital technology

Another significant factor is human rights, which are integral for meaningful use of ICTs by women, transgender and gender non-conforming people, especially in developing countries,[13] and this includes civil and political rights but also economic, social and cultural rights. There is a need to assume a general rights-based approach to internet policy development.[14] In this study we find that there is a general lack of awareness of women's sexual and human rights online and offline.[15] An obvious instance of this is the inability to perceive or classify online harassment of women as "real", and this is partly because women tend to lack an awareness of the human rights they have – including online ones.[16] Given the relative novelty of online platforms and social networking platforms, online harassment is still not "as well defined as its other counterparts in other spaces."[17] There is therefore a need for foundational work in raising awareness about human rights in general and women's rights in particular, and in ensuring that gender work towards promoting and protecting women's rights also encapsulates ICTs.

The outcome document of the UN General Assembly's high-level meeting reviewing the implementation of the outcomes of the WSIS similarly encouraged stakeholders to ensure "the full participation of women in the information society and women's access to new technologies." The document emphasised the need for measures to achieve gender equality in internet users by 2020.[18] Development challenges as reflected in these two documents (but also many others) are not only of relevance to ensuring access, but also to investigating the impact of big data and ICT4D that ignore all due consideration of privacy and other human rights implications for women. In Gurumurthy's more contemporary work, she reiterates her earlier position, stating that WSIS+10 reflects a general assumption that technology is abstract and apolitical, as opposed to influenced by the societies in which it is produced and used.[19]

A rights-based approach is also important as far as sustainable development in terms of the UN's 2030 Agenda for Sustainable Development[20] and the Sustainable Development Goals (SDGs) are concerned. The significance of access to ICTs for promoting women's rights and development is widely recognised[21] – most recently in the above resolution, which was adopted

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13 Liddicoat, J. (2011). *Internet rights are human rights, freedom of expression, freedom of association and democracy: New issues and threats.* Johannesburg: APC. www.apc.org/en/system/files/APC_IRHR_FOEandFOAissuepaper_2012_web_EN.pdf

14 Ibid.

15 See, for example: Garcia, L. S., & Manikan, F. Y. (2014). *Gender Violence on the Internet: The Philippine Experience.* Johannesburg: APC/FMA/Dutch Ministry of Foreign Affairs. www.genderit.org/resources/gender-violence-internet-philippine-experience

16 Pasricha, J (2016, 1 December). Keeping the internet safe for women and marginalized communities in India. *Access Now*. www.accessnow.org/keeping-internet-safe-women-marginalized-communities-india; Garcia, L. S., & Manikan, F. Y. (2014). Op. cit.

17 Khan, S. (2017, 31 January). Harassment as a Legal Concept in Cyber Law. *Digital Rights Foundation.* www.digitalrightsfoundation.pk/harassment-as-a-legal-concept-in-cyber-law

18 UNGA. (2015). *Outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society* (A70.L33). workspace.unpan.org/sites/Internet/Documents/UNPAN95735.pdf

19 Gurumurthy, A. (2017). *A history of feminist engagement with development and digital technologies*. Johannesburg: APC. www.apc.org/sites/default/files/HistoryOfFeministEngagementWithDevelopmentAndDigitalTechnologies.pdf

20 UNGA. (2015). *Resolution adopted by the General Assembly on 25 September 2015: Transforming our world: the 2030 Agenda for Sustainable Development* (A/Res/70/1). www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1andLang=E

21 See, for example: APC. (2015a). *How technology issues impact women's rights: 10 points on Section J.* Johannesburg: APC. www.genderit.org/sites/default/upload/sectionj_10points_apc.pdf

in 2015. A target for universal and affordable access to ICTs in least developed countries (LDCs) by 2020 is contained in goal 9c of the Agenda, while ICTs are included in goal 17 as an enabling means of implementation. Goal 5 of the Agenda sets targets for gender equality and the empowerment of women and girls, including a target to enhance the use of enabling technology, in particular ICTs, to promote women's empowerment.

Sustainable development as a cross-cutting concern must therefore extend to women's right to participate in and contribute to "economic, social, cultural and political development in the networked global socioeconomic order, in a manner that enables the full realisation of all human rights and fundamental freedoms."[22]

Differences between gender analysis and feminist analysis

The difference between doing research that looks at or incorporates gender and doing feminist analysis comes up as a question repeatedly. What is the difference between incorporating gender or doing gender-based analysis and a feminist praxis of research? And why is this in particular relevant to feminist analyses of gender and digital technology, and to digital humanities and studies, and gender studies?

This question comes up particularly in relation to quantitative studies around ICTs and access, but is also relevant to many concerns related to the impact of datafication on vulnerable populations. While a gendered analysis might point out the differences in impact in relation to men and women (or other gender expressions), what a feminist analysis seeks to show is how power and regulation operate around sex and gender. As per the intention behind APC WRP's work on online gender-based violence (GBV) and on formulating the Feminist Principles of the Internet, feminist research is about a larger politics of change than a project with a gender lens or one that incorporates gender analysis. It is about understanding and examining structures and layers of power and how they work.

Feminism is, simply put, about dismantling patriarchy. Research that is from a feminist standpoint or perspective emphasises that the location of being a woman[23] – a black woman,[24] indigenous woman, lesbian, gender non-conforming person, etc. – gives a distinctive point of view through which to understand marginalisation and power. Questions of how women or those marginalised can be agents of knowledge is central to a feminist approach; can those who are subalterns, obstructed or marginalised access mechanisms that exercise power over them, including those meant for building knowledge?[25] To many who participated in the expert group meeting on research in gender and digital technology, feminist ideology incorporates positions that are anti capitalist, and it also extends to race and caste politics, and decolonisation. Feminist analysis seems to take into account more complex realities, structural power imbalances, the history of inequity, and our collective stake in the future.

In particular, feminist analysis foregrounds questions around methodology that we find important to ask, particularly those that are absent from investigations into digital technology. These are about one's own location or positionality, the reflexivity of the researcher, and ethics in the process of our research. Feminist research practices require thinking of ethics, reflexivity, positionality, methodology, process and outcome of research and the politics of knowledge.

From our experience, what feminist analysis does is to complicate the field, in particular dislodging easy binaries – that of man and woman, but also of research and action, of researcher and those being researched. The researcher must acknowledge that the process and project of research is an intervention in someone else's life and has political implications.

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22 Gurumurthy, A., & Chami., N. (2017). *A feminist action framework on development and digital technologies.* Johannesburg: APC. www.apc.org/en/pubs/feminist-action-framework-development-and-digital-technologies

23 Harding, S. (1987). *Feminism and Methodology: Social Science Issues.* Indiana University Press.

24 Collins, P.H. (1991). *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment.* Routledge.

25 Spivak, G. C. (2010). *Can the Subaltern Speak? Reflections on the History of an Idea.* Columbia University Press.

This mapping study is informed and guided by these implicitly shared understandings around feminist approaches, and speaks broadly from a feminist and global South perspective.

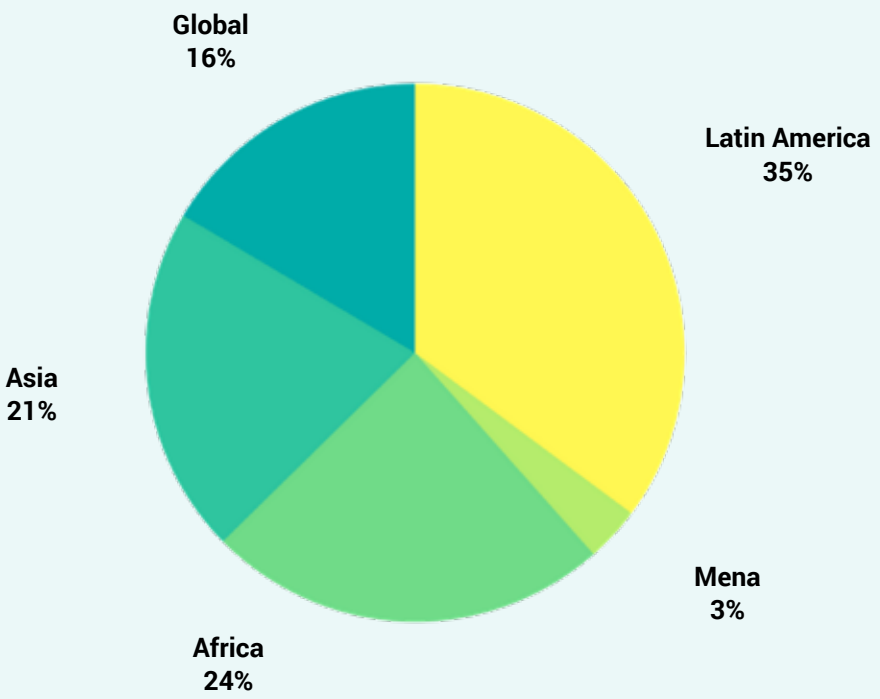
METHODS AND LIMITATIONS

The mapping study for research in gender and digital technology covers the terrain of research that has taken place in the last decade (since 2006) through the literature review, and points to trends, emerging areas, challenges and urgent issues through both the interviews with key actors in middle and low-income countries and the meeting with experts and researchers in this field.

Methodology for survey

We first did a scoping survey on trends, issues and gaps in the research using the snowball technique for circulation within our networks of partners and organisations that we are familiar with, also reaching out to their contacts through social media. The survey was designed with a set of short questions about respondents and their location (country, kind of stakeholder, etc.), and long form questions about their field of research and expertise, their sense of emerging trends and gaps, and projects of research that they would recommend. The survey was shared extensively through email lists of several networks (EROTICS network, APC-Asia and APC-Africa members' lists, Take Back the Tech network) and through private emails to partners and relevant organisations. It was also shared through social media like Twitter.

Figure 1. Regional distribution of survey responses



Total number of respondents: 170 (This includes only complete or usable responses, excluding survey participants from Australia, Europe and USA.)

The survey was preceded by five scoping interviews that took place at various events, including the Internet Freedom Festival 2017, to assess the viability of the questions being asked to interviewees and respondents.

With the scoping survey, certain insights and limitations that emerged were:

- Language was an entry-level barrier; many respondents from Latin America and the Caribbean (LAC) and from the Middle East and North Africa (MENA) entered names and brief details but did not complete the survey.
- Anonymous responses were fewer, limited to those who are currently doing work or not published.
- Responses from those who completed the survey were generous, and so were the recommendations for contacts and research projects.
- Intersectionality: Responses addressing caste, race, gender expression and ableism (because of a direct question on the issue) were well represented – three trans groups and activists replied, at least two groups explicitly mentioned disability-related studies, while most access-related groups mentioned race and ableism repeatedly in their work. One person specifically mentioned a caste-related study on mobile phones and access (anonymous).
- The majority of replies were from civil society organisations that do research, and a relatively lower number of responses came from academics and women in technology fields, though both were well represented.

Methodology of literature review

The overall objective of this exercise, which was primarily based on a review of literature published since the second phase of the WSIS in 2006, was to gather input on the major trends defining gender and related intersectional issues in ICTs,[26] with a focus on access to the internet, labour and skills, women's embodiment and agency, and women's participation in governance and decision making.

Through the scoping survey we gathered literature from partners and their extended networks and in addition APC gathered and reviewed background literature of potential relevance to augment the survey findings. The chapter identifies trends at a broader level rather than trying to collect all available documents.

Methodology of the interviews

We prioritised those organisations or researchers who are actively engaged in feminist analysis and research, particularly those working in middle and low-income countries (or whose research is in such contexts), or those that have a global South perspective that is firmly located in the realities of a postcolonial context and are grappling with existing inequities based on ethnicity, caste and race in Africa, Asia, Latin America and the Middle East. This global South perspective explains why the grounding of several issues begins through the basic issue of accessing digital technology, particularly information and communication technology, but as is unpacked through our study, a range of issues from algorithmic discrimination to online movements are beginning to impact women and gender non-conforming, non-binary and transgender people in these countries.

The interviewees were selected after the survey was done, and in consultation with various people including Jac sm Kee, Anri van der Spuy, Katerina Fialova and Namita Aavriti, others from within APC such as Anriette Esterhuysen, Jan Moolman, Jennifer Radloff, Fungai Machirori, and Ruhiya Seward in IDRC.

The selection criteria are listed here

- Researchers from academic backgrounds as well as those doing research within civil society organisations were the focus of this mapping study. Within each region at least one academic with sufficient experience in the field of gender and digital technology was included.

26 Cho, S., Crenshaw, K. W., & McCall, L. (2013). Toward a Field of Intersectionality Studies: Theory, Applications, and Praxis. *Signs: Journal of Women in Culture and Society, 38*(4), 785-810.

- Preference was given to feminists and those doing feminist analysis to address structural inequality in society from the perspective of gender and other differences.
- The mapping study included middle- and low-income countries and in some regions, especially MENA, it was difficult to find contemporary research that addressed themes of sexuality and gender explicitly. Here we expanded the scope to include initiatives around gathering testimonies or stories and collecting resources for a community.
- The focus of the interviews was to identify trends and surface gaps in the research. Researchers with sufficient experience and key actors in the field of gender and ICTs were prioritised.
- Civil society organisations that explicitly focus on gender or use feminist methodology in their research and practice were prioritised. Solid and consistent research over a period of time was also a critieria.
- The study prioritised groups and people who could inform our research in relation to the efficacy and value of research networks – those who have managed networks of researchers through specific time bound projects as well as those running email lists and informal networks built around shared interests or thematics.

We also commissioned four interviews with organisations and researchers in languages other than English, two in Arabic and two in Spanish, conducted by Yara Sallam and Dafne Sabanes Plou.

GenderIT edition: Interviews and articles mapping gaps in research

As part of the mapping study we aimed at major outputs that could be publicly disseminated, and one of these is the edition on the GenderIT website that maps particularly the gaps in research on gender and information society. The edition includes a collection of interviews as well as opinion pieces and articles that were chosen based on emerging areas and gaps pinpointed through the literature review and interviews. These interviews and articles are also included in this mapping study and referenced in Chapter 3.

This bilingual edition titled "We cannot be what we cannot see: Mapping gaps in research in gender and information society" includes articles that show how the visibility of bodies and stories of women, transgender and gender non-conforming people are the starting point of a different way of being, and of doing research.

In the editorial to the edition, Anri Van Der Spuy and Namita Aavriti lay out the tracks along which research on gender and information society is taking place – access, economy and labour, embodiment (violence, data, etc.) and movement building – and examine what the more pressing gaps are according to them.[27]

The title of the edition – "We cannot be what we cannot see" – is taken from Kerieva McCormick's moving exploration of how young Roma women and girls deal with, understand and talk about violence and harassment faced by Roma people, online and offline. This article examines the double consciousness experienced by those who live with the reality of exclusion and discrimination even now in contemporary societies, and the ways in which younger generations navigate hostility and celebrate themselves and their resilience.[28]

Smita Patil explores the complicated ways in which identities are being formed around new interactive practices, particularly for young Dalit women. This article probes the ways in which caste, gender and ideology/practices of technology are interlinked in India, and how women and

27 Van der Spuy, A., & Aavriti, N. (2017, 10 September). Editorial: Mapping gaps in research in gender and information society. *"We cannot be what we cannot see": Mapping gaps in research in gender and information society. GenderIT edition.* www.genderit.org/node/5001

28 McCormick, K. (2017, 4 September). Observing our observers in the age of social media. *"We cannot be what we cannot see": Mapping gaps in research in gender and information society. GenderIT edition.* www.genderit.org/node/4989

young girls from the Dalit community in South Asia (India in particular) are living, sharing and exploring on the internet, and fashioning news spaces and collectives online.[29]

The edition includes an interview with Neo Musangi (preferred pronouns: they and them), living currently in Kenya. In this interview Neo talks about various things – sexuality and gender-based groups, the women's movement and feminism, the role of visual and performing art, their disgruntlement with academia, and being openly and publicly non binary – both online and offline.[30]

Koliwe Majama interviews Maggie Mapondera, activist and writer from Zimbabwe. Movements are built around shared stories and passions, and ICTs are one aspect of how momentum is built and sustained around a cause. Online movements come from the real and lived experiences of the people on the ground, and here Mapondera shows how women's stories and creativity are powerful and can potentially change the world.[31]

In relation to access, while the rural-urban divide is often a major concern for organisations and researchers, what is often not examined is the particular experience of indigenous people being brought into the mainstream – being "connected". Serene Lim argues that rather than the top-down imposition of connectivity, projects for access should align with their social context and address the right to sustainable development and equal participation.[32]

Ghadeer Ahmed created Girl's Revolution on Twitter and Facebook a year after the revolution on 25 January 2011 in Egypt. In this interview with Yara Sallam she talks about online GBV and traces the difficult and rewarding journey of talking about women's rights, body, sexuality, violence and harassment and sharing this with many other women and girls online.[33]

Carmen Alcazar shows how the invention of an exclusive space for women in an *editatona* (edit-a-thon for women) is changing hegemonic knowledge production online, particularly on Wikipedia. These events are held to deal with the stark lack of representation of women on Wikipedia as compared to men. This is also reflected in the fact that only 10% of Wikipedian editors are women.[34]

In her article on the massive mobilisation of women in Argentina, that spread across Latin America and the world under the banner of Ni Una Menos (Not One Woman Less), María Florencia Alcaraz shows how social media and technology can play a role in movement building – paving the way for a "Feminist Spring". This article traces the origins of this fiery and defiant moment that became a hashtag and a movement.[35]

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29 Patil, S. (2017, 6 September). Debrahminizing Online Sphere: On larger questions of caste, gender and patriarchy. *"We cannot be what we cannot see": Mapping gaps in research in gender and information society. GenderIT edition.* www.genderit.org/node/4998

30 Aavriti, N. (2017, 13 September). Expert on my own experience: Conversations with Neo Musangi. *"We cannot be what we cannot see": Mapping gaps in research in gender and information society. GenderIT edition.* www.genderit.org/node/4999

31 Majama, K. (2017, 7 September) A feminist internet must be grounded offline: Interview with Maggie Mapondera. *"We cannot be what we cannot see": Mapping gaps in research in gender and information society. GenderIT edition.* www.genderit.org/node/4994

32 Lim, S. (2017, 7 September). There is no opting out: Indigenous women in Malaysia and questions of access. *"We cannot be what we cannot see": Mapping gaps in research in gender and information society. GenderIT edition.* .www.genderit.org/node/4995

33 Sallam, Y. (2017, 17 September) Taking the girl's revolution online: Interview with Ghadeer Ahmed *"We cannot be what we cannot see": Mapping gaps in research in gender and information society. GenderIT edition.* www.genderit.org/node/5000

34 Alcazar, C. (2017, 5 September). Editatonas: "I edit, therefore I am". *"We cannot be what we cannot see": Mapping gaps in research in gender and information society. GenderIT edition.* www.genderit.org/node/4993

35 Alcaraz, M. F. (2017, 4 September). #NiUnaMenos: Politicising the use of technologies. *"We cannot be what we cannot see": Mapping gaps in research in gender and information society. GenderIT Edition.* www.genderit.org/node/4990

Methodology of expert group meeting

The third stage of the mapping study was to organise a three-day expert group meeting in Port Dickson, Malaysia, between 29 September and 1 October, 2017 (hereinafter referred to as the expert group meeting), on mapping the research landscape of gender and digital technology, to discuss key trends and emerging priorities in the field of gender and digital technology.

The expert group meeting brought together activist and academic researchers working on gender and digital technology (hereinafter referred to as the participants) – particularly on issues of economy and labour, intersectionality, embodiment and autonomy, access, expression and movement building – to discuss and reflect on the research landscape of the next decade. The meeting aimed at identifying key trends, gaps as well as priority areas that can inform the potential development of a feminist research agenda and network in this field.

The agenda of this meeting was to review the research mapping study undertaken by APC for IDRC. The critical insights of those participating in the workshop, and their knowledge, expertise and engagement with the above-mentioned issues, fed the mapping study.

The expert group meeting was facilitated by Jennifer Radloff (APC WRP) and Kalyani Menon-Sen (Gender at Work, India); Jennifer Radloff's expertise in organising digital security workshops and modules and digital storytelling workshops, combined with Kalyani Menon-Sen's work on movements and feminist ethics, was particularly useful in holding together a workshop with a diversity of participants from different locations and also from both academia and civil society.

The 20 participants invited for this expert group meeting were involved in research networks or initiatives (as convenors, partners or participatns) and their work focused on the area of gender (and related intersectionalities) and ICTs (whether as primary or included focus).

The first day began with an introduction of the facilitation team and of the participants. This also involved agreements for working together – creating a feminist, interactive, safe, peer-learning, self-owned space. This included sharing everybody's expectations of the meeting. This was followed by an in-depth presentation of the mapping study report done by APC WRP along the thematic areas identified around access, economy and labour, embodiment, movement building and expression. This was then opened up to questions, comments, issues and observations, as a way of identifying trends and what is missing, and these threads are included in this report.

The second day largely focused on the work and research of the participants, particularly their interests and excitement around their work and the challenges and opportunities that they see as potentially part of their research. This day also focused on sharing and setting up what could be a feminist research agenda in the field of gender and digital technology, including questions of intersectionality with race, caste, gender expression, ethnicity, ability and other axes of discrimination and exclusion in different parts of the world; methodology and issues of appropriation, exploitation or epistemic violence done through research on communities without regard to the latter's own interests and their expressions, language and modes of resistance; locating research and its impact and objectives in civil society, academia, communities, content generators, community-owned websites, policy work, etc. Some of the difficult questions discussed here were whether gender analysis overlaps or is separate from feminist analysis, and what makes a research agenda feminist.

On the third day, the participants were divided into groups based on thematic areas with an additional area on research methodology. These groups were to look at gaps, emerging questions and specific issues of concern in these thematic areas, and also at broader concerns around the field. This day also included a discussion on the ways in which research networks operate and what value they bring to the work, to research, and to building towards policy advocacy and reform. Specific details of the outcomes of the discussions are included in this report and also in the report on the expert group meeting.

On the question of research networks we also commissioned three profiles of research networks by writers/researchers to share modalities of functioning, how the network came to be (what needs it was addressing) and what they felt the major challenges of holding such networks together were.

Limitations of the mapping study

The scoping survey is a tool to assess the broad limits of the field of research in gender and digital technology, and it has its limitations. As is evident such a survey is limited to the existing networks of APC WRP, and our efforts were to maximise the number of responses and urge our partners to recommend other initiatives and research that they are aware of. We recognise the limitations of this survey in not being able to entirely step beyond interlocutors whose research in gender and digital technology is known to us, and as a mapping of the field this is not an exhaustive attempt. It is likely that the gaps we point out are gaps within our networks rather than gaps in knowledge production or research around a particular issue.

Since the survey forms the basis for the collection of literature, similar constraints apply there. We are constrained by the literature that is available in the public domain and comes to us through our networks of partners, academics and researchers i.e. open access research and civil society research that is publicly available; thus academic research that is taking place largely in Europe and the United States but is not directly linked to realities in middle and low-income countries was not the focus of the mapping study. This emphasis on open access research also influenced our choice of which organisations to prioritise in the mapping study. For instance, we prioritised our engagement with Fembot Collective because of the shared politics around knowledge production, a common interest in the sharing of knowledge outside restricted silos of academic production and recognition that there is differential access to knowledge depending on our location and position.

The exercise is generally restricted to literature published between 2006 and 2017 – i.e. since the second phase of WSIS. Instead of aiming to be exhaustive, the literature review strived to be meaningfully representative of available material. Language was a further limitation for some of the cases, as only English literature was reviewed.

We address some of these limitations through our interviews with academics and researchers and the expert group meeting with researchers whose work has had an influence on civil society research and policy work, particularly in the realm of *feminist analysis of technology*. Here we are limited by the fact that we could engage with only a few key researchers, academics and scholars in each region (Asia, Africa, Middle East, Latin America) in spite of the vast diversity within countries and regions. We were limited by the reach of our networks, and are grateful to the ones who chose to share their valuable time, experiences and opinions with us, both through the interviews and at the expert group meeting. The field of gender and digital technology is relatively nascent in the global South. We took on board the criticism that often such studies foreground only existing partners, campaigners and key actors and an effort was made to connect with and include a few people outside of the "usual circle", and also those who are addressing relatively new areas, such as the impact of datafication in relation to gender and sexuality. At the same time we are aware that we have omitted certain familiar voices from the interviews (though they are present in the literature review) and this was done so as to identify emerging areas, gaps and challenges in this field.

Even as we attempt to maintain consistency across this mapping study, the differences in ideology, location and perceptions of each author will be evident, and rather than paper over these we have allowed for the encounter with different viewpoints. The first and second chapters also differ in methodology (literature review, interviews respectively) and this will be evident. This study holds together the work of many researchers, writers and activists, and here by "hold" we mean – to have as a privilege or position of responsibility, to have and maintain in grasp, to support – rather than to enclose or restrain.[36]

36 www.merriam-webster.com/dictionary/hold

In the first chapter we stick to referring to the authors by their last name as is proposed by a conventional style guide (including the APC style guide) while in the second chapter, which includes interviews, there is an effort to ensure that researchers, activists and academics are referred to using their full name rather than only their last name, which is usually a patrilineal name linking them to their father or husband. Our liberal use of direct quotes in the second chapter is meant to allow the opinions of researchers and academics to be directly available to the reader.

STRUCTURE OF MAPPING STUDY (THEMES)

The structure of the mapping study and the thematic breakdown of the research taking place in the field of gender and digital technology have evolved through the process of carrying out the survey, conducting interviews and finally holding the expert group meeting.

Initially, on the basis of the survey and literature review the division of themes was as follows: access, ICTs and empowerment, and ways in which ICTs hinder or restrict women's rights. But as we delved deeper into the literature, did the interviews and also had discussions amongst ourselves in APC WRP, things changed. The reasons why the earlier structure was more obfuscating than illuminating were:

- Several interesting aspects of the research and initiatives around gender and ICTs, such as movement building, were being buried under a tired and overused language of empowerment that perhaps has been drained of its meaning, especially since its use in several state, corporate and civil society projects and endeavours in the last decade.
- The earlier thematic structure flattened the terrain of difference over time and geography and did not indicate the meta shifts in discourse around ICT for development (ICT4D) or the shifts in language, terminology and discourse around gender and ICTs in academia and research in the last decade.
- Such a thematic structure would reflect the current bias in policy work, projects led by corporate entities and civil society, and to some extent also in digital studies, of viewing access as a more significant issue than economic conditions of women's participation in and use of ICTs or the impact of digital technologies of data collection and datafication on populations, particularly in the global South.

In 2014 when the first meeting on Imagine a Feminist Internet was held, it led to many shared understandings around what is important and relevant for a feminist analysis of gender and technology. The meeting brought together 52 women's rights, sexual rights and internet rights activists from six continents to discuss one question: "As feminists, what kind of internet do we want, and what will it take for us to achieve it?"[37] This was then articulated as 12 principles or key points around what a feminist internet would look like, and these twelve principles were clustered into five key areas of interest and intervention for research, advocacy and activism. It is from the perspective of this structuring that we re-looked at the research taking place around gender and technology.

A feminist internet works towards empowering more women and queer persons – in all our diversities – to fully enjoy our rights, engage in pleasure and play, and dismantle patriarchy. This integrates our different realities, contexts and specificities including age, disabilities, sexualities, gender identities and expressions, socioeconomic locations, political and religious beliefs, ethnic origins, and racial markers.[38]

The key principles are critical to the realisation of a feminist internet, and are clustered around *access, movements and public participation, economy, agency, expression*.

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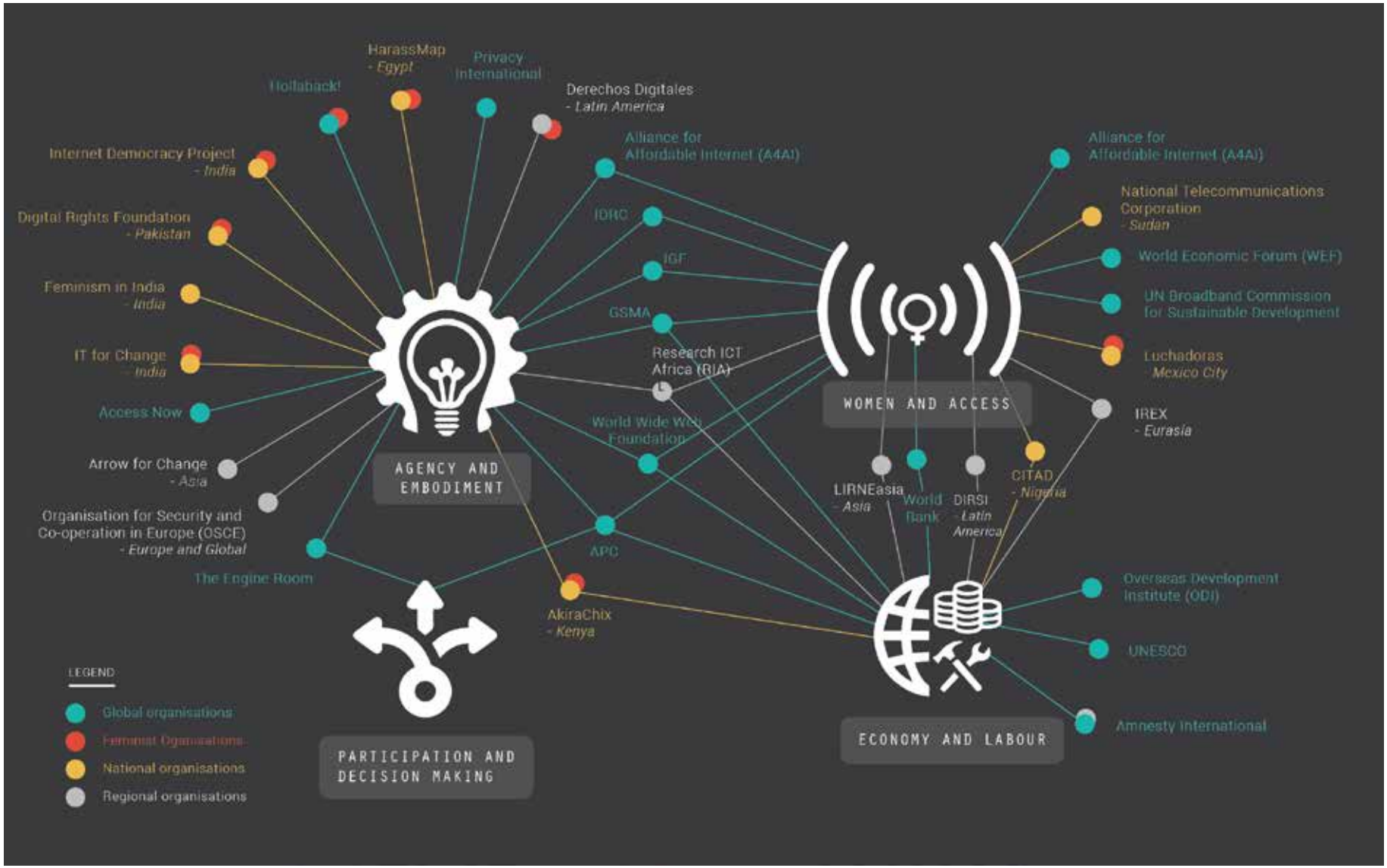
37 Caturani, D. (2016, 23 May). Feminist Principles of the Internet: Two Years Later. *Three key issues for a feminist internet: Access, agency and movements: GenderIT edition.* www.genderit.org/edition/three-key-issues-feminist-internet-access-agency-and-movements

38 feministinternet.net

Feminist analysis, as pointed out by various critical and feminist scholars (Margaret Gallagher, Donna Haraway, Gayatri Chakravorty Spivak and others), is about a structural analysis of power dynamics and begins from the lived experiences of women, and more broadly all people at the intersections of various axes of exclusion and discrimination, compelled to engage with assemblages of power from positions of marginality and/or subordination. It is with this in mind that we let embodied experiences and embodiment guide and locate feminist analysis in our research. Centring our research and knowledge production around embodied and lived experience is what will ensure that our methods remain reflexive, open and accountable and therefore it is included as a thematic area as well, one that is closely related to agency and autonomy.

Another realisation was that prior to 2006 the focus in research was largely on ICTs, as is evident from the analysis of Gurumurthy, Hafkin and Odame. In the context of emerging areas of study, particularly the impact of datafication (national identity cards, biometrics, data collection by companies, etc.) on gender and fintech on economies and new forms of labour, and also the use of digital video and tools in storytelling and expression (around sexuality, violence and sexual assault, experiences of minority communities and people, etc.) the focus was shifted from ICTs to more broadly digital technology.

The thematic areas in the study include access, economy and labour, embodiment, expression and movement building. Doing the mapping study was particularly difficult till we arrived at the above structuring for the report, and even then specific topics fell under several themes rather than any one. For instance, sexuality is about embodiment, expression and movement building, and access is intrinsically linked to questions around movements and how diverse or inclusive they are. Expression is explored as a theme that cuts across embodiment and movement building. Yet we attempt to stick to this thematic breakdown not so much as a neat division of areas but as research *buckets* that we want to explore. In the next chapter we explore all these in detail.


HarassMap
- Egypt
Privacy International
Hollaback!
Derechos Digitales
- Latin America
Internet Democracy Project
- India
Alliance for Affordable Internet (A4AI)
Digital Rights Foundation
- Pakistan
IDRC
IGF
Feminism in India
- India
GSMA
IT for Change
- India
Research ICT Africa (RIA)
Access Now
World Wide Web Foundation
Arrow for Change
- Asia
AGENCY AND EMBODIMENT
Organisation for Security and Co-operation in Europe (OSCE)
- Europe and Global
APC
The Engine Room
AkiraChix
- Kenya
PARTICIPATION AND DECISION MAKING
LEGEND
Global organisations
Feminist Organisations
National organisations
Regional organisations
Alliance for Affordable Internet (A4AI)
National Telecommunications Corporation
- Sudan
World Economic Forum (WEF)
UN Broadband Commission for Sustainable Development
Luchadoras
Mexico City
IREX
- Eurasia
WOMEN AND ACCESS
LIRNEasia
- Asia
World Bank
DIRSI
- Latin America
CITAD
- Nigeria
Overseas Development Institute (ODI)
UNESCO
Amnesty International
ECONOMY AND LABOUR

Mapping trends and issues: Literature review

INTRODUCTION AND OVERVIEW

There is general awareness today of the fact that information and communication technologies (ICTs) are not gender neutral.[39] ICTs are shaped by social contexts where they are used and developed (usually in the global North or, more specifically, the US or China). "We know that technology does not determine society: it is society," explains Manuel Castells.[40] "Technology is shaped by society and by the values, needs, imagination, decisions and interests of those developing it and those with the power to make decisions about technology's governance." The need for better understanding and recognising the gender dimension to society and therefore to ICTs, access to them, and governance of them,[41] underlies the literature review contained in this background chapter.

The literature review was conducted to map the primary shifts in research and initiatives concerned with or relevant to gender and ICTs. The review focuses on primary themes that embrace the performative Feminist Principles of the Internet 2.0,[42] which generally aim to enable more women and queer persons to fully enjoy their rights despite their different realities, context and specific challenges. For each of these themes the available literature is described and potential gaps highlighted, to allow for further research and work.

The first theme investigates the nature of the growing body of literature on women's meaningful access to ICTs and more specifically the internet, including a perfunctory investigation of the literature's findings on the barriers to access and use that women face. In addition to the widely acknowledged need for more gender-disaggregated data to accurately measure so-called "gender digital divides", the section calls for more locally relevant data (as opposed to aggregated data at a global level) to better understand underlying local factors and circumstances that hinder women of specific regions in the global South from accessing and using ICTs, the internet and/or information.

The second theme, which concerns economy and labour, considers how literature pertaining to ICTs for development (ICT4D) has shifted to consider the evolution of women's roles from being located as mere beneficiaries of development to acting as primary agents of development, e.g. by supporting the development of relevant skills and varied capacity building programmes. It investigates women's oft contentious roles in "platformised" and other kinds of labour needed to produce and maintain ICTs. The section points to the need for more research to be done to better understand women's visible and less visible roles in creating and maintaining modern network economies, along with the need for a more holistic understanding of women's fundamental roles in supporting and achieving the UN Sustainable Development Goals (SDGs).

The third theme delves deeper into women's agency and embodiment by considering ways in which the literature on ICTs reflects women's rights, including the infringement of specifically the right to privacy and freedom of expression. The section focuses on certain examples and consequences of online human rights infringements, including online gender-based violence and various forms of surveillance. Among other recommendations, the section highlights the need for more feminist and gendered investigations of the impact of state, social and self-surveillance on women's rights and freedoms; along with the need to promote awareness of theories of harm where online forms of violence and surveillance are concerned.

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39 Adera, E. O., Waema, T. W., May, T., Mascarenhas, O., & Diga, K. (2014) *ICT Pathways to Poverty Reduction: Empirical Evidence from East and Southern Africa*. Warwickshire, Ottawa: Practical Action Publishing, IDRC. www.idrc.ca/en/book/ict-pathways-poverty-reduction-empirical-evidence-east-and-southern-africa; Kee, J. (2005). *Cultivating Violence through Technology? Exploring the Connections between Information Communication Technologies (ICT) and Violence Against Women (VAW).* Johannesburg: APC. www.apc.org/en/system/files/VAW_ICT_EN.pdf; Kuga Thas, A. M. (2005). *Paddling in circles while the waters rise: Gender issues in ICTs and poverty reduction*. Johannesburg: APC. www.apc.org/en/system/files/paddling.pdf

40 Castells, M. (2005). The Network Society: From Knowledge to Policy (Chapter 1). In Castells, M. & Cardoso, G. (Eds.). (2005). *The Network Society: From Knowledge to Policy.* Washington DC: Center for Transatlantic Relations. www.umass.edu/digitalcenter/research/pdfs/JF_NetworkSociety.pdf

41 Doria, A. (2015). *Women's rights, gender and Internet governance*. Johannesburg: APC. www.genderit.org/sites/default/upload/issue_womenrights_digital.pdf

42 www.apc.org/en/pubs/feminist-principles-internet-version-20

The fourth primary theme investigates literature pertaining to the ways in which the internet and other ICTs can facilitate negotiations related to social norms and stereotypes that affect women's agency and rights. It investigates literature on the bolstering of women's agency through the use of ICTs like applications (apps), platforms and automated techniques, and calls for more work to be done to understand the role of newer methods of and for movement building through ICTs.

The fifth theme of expression is cross cutting and is relevant to access, movement building and also to embodiment, particularly in relation to women's expressions around sex and sexuality. ICTs can provide women with "vital spheres where they are able to express themselves".[43]

Now that we have outlined these primary themes, it is important to highlight that the themes are not only interrelated but also highly dependent on other challenges and issues.

ACCESS

It is perhaps unsurprising that since the 1990s there have been an increasing number of reports, initiatives and efforts that are focused on addressing women's ability to enjoy universal, acceptable, affordable, unconditional, open, meaningful and/or equal access to information, the internet and ICTs.[44] These include, but are not limited to, the recent work of civil society organisations (e.g. A4AI, AccessNow, APC, CIPESA, Paradigm Initiative Nigeria); research institutions (e.g. LIRNE*asia*, Research ICT Africa); various private sector organisations (e.g. Facebook, Google, GSMA); and intergovernmental organisations (IGOs –e.g. ITU, IGF Best Practice Forum on Gender, UN Broadband Commission for Sustainable Development, UNCTAD, UNESCO, UN Women, World Bank, World Economic Forum).

Despite such growing attention apparently being paid to the so-called "gender digital divide" over the past few years, the latest statistics from the International Telecommunication Union (ITU) indicate that the gap between men and women's ability to access the internet may be increasing.[45] There is therefore not only a need for a better understanding of why access initiatives thus far have failed, but also for development efforts to extend from "talking" or publishing reports[46] to taking practical steps and tangible "action" grounded in an understanding of women as agents as opposed to beneficiaries.

What is meant by "access"?

The literature indicates a shift to an awareness of the fact that even if women can access ICTs, or if these technologies are available to them, they will not necessarily adopt or enjoy universal, acceptable, affordable, unconditional, open, meaningful or equal access to them.[47] Some refer to this more nuanced understanding of access as "meaningful" access;[48] signifying that the potential of ICT4D depends on how and the extent to which women use ICTs.[49] In

43 Garcia, L. S., & Manikan, F. Y. (2014). Op. cit.; APC. (2011). *Voices from digital spaces: Technology related violence against women.* Johannesburg: APC. www.apc.org/en/system/files/APCWNSP_MDG3_2011_EN pdf.pdf

44 The focus of this section is on access to the internet, although many of the recommendations are applicable to ICTs more generally too.

45 ITU (2016). *Facts and Figures 2016.* Geneva: ITU. www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx. Note that the gender gap estimated by the ITU represents the difference between the internet user penetration rates for males and females relative to the internet user penetration rate for males, expressed as a percentage.

46 Doria, A. (2015). Op. cit.

47 Adera, E. O. *et al* (2014) Op. cit.; Kee, J. (Ed.) (2011). *EROTICS: Sex, rights and the internet.* Johannesburg: APC. www.apc.org/sites/default/files/EROTICS_0.pdf; Kuga Thas, A. M. (2005). Op. cit.

48 IGF. (2016) *Policy Options for Connecting and Enabling the Next Billion(s) – Phase II.* Geneva: IGF. www.intgovforum.org/multilingual/index.php?q=filedepot_download/3416/412

49 Chair, C., & Deen-Swarray, M. (2015). Determining user capabilities to ensure the achievement of ESCRs through internet use. In A. Finlay (Ed.), *Global Information Society Watch 2015.* Johannesburg: APC/IDRC. www.giswatch.org/sites/default/files/gw2016-southafrica.pdf

general terms, the literature indicates an increased awareness that mere access is insufficient: access must be universal and affordable, unconditional and equal, as well as unfettered.[50] In many policy circles "the gender politics of access is often reduced to women's 'inclusion' and political economy considerations have not gained as much attention."[51]

If these and other so-called "analog complements"[52] for access are not met, ICTs will not only fail to deliver the promised "digital dividends"[53] but can even aggravate inequality[54] by affecting those who are unconnected and therefore unable to participate in the "reordering of the global knowledge architecture".[55] Castells, for instance, argues that to use ICTs to the best of their potential to support human development, it is necessary to better understand "the dynamics, constraints and possibilities of the new social structure associated with it: the network society". In other words – "diffusing the internet or putting more computers in the schools does not in itself amount to much social change. It depends where, by whom, for whom, and for what communication and information technologies are used." [56]

How are barriers to access perceived in the literature?

A significant collection of recent literature is dedicated to considering and investigating barriers to access for women. If one disregards superficial differences in terminology most of these initiatives and studies highlight the same or similar barriers, albeit often in a different order of significance.[57] In general, the literature indicates that challenges pertaining to affordability[58] and network rollout, quality and availability[59] were originally considered primary concerns. More recent literature highlights analog complements – the availability of relevant

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50 Gurumurthy, A., & Chami., N. (2017). Op. cit.

51 Ibid.

52 World Bank. (2016). *World Development Report 2016: Digital Dividends.* Washington DC: World Bank. www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/01/13/090224b08405ea05/2_0/Rendered/PDF/World0developm0000digital0dividends.pdf

53 Ibid.

54 Galperin, H., Mariscal, J., & Barrantes, R. (2014). *The Internet and Poverty: Opening the Black Box*. DIRSi. www.dirsi.net/web/files/files/Opening_the_Black_Box.pdf; Castells, M. (2005). Op. cit.

55 Gurumurthy, A., & Chami., N. (2017). Op. cit.

56 Castells, M. (2005). Op. cit.

57 UN Broadband Commission for Sustainable Development, Working Group on the Digital Gender Divide. (2017). *Recommendations for Action: Bridging the gender gap in Internet and broadband access and use.* Geneva: ITU. www.broadbandcommission.org/Documents/publications/WorkingGroupDigitalGenderDivide-report2017.pdf; World Wide Web Foundation. (2016). *Women's Rights Online: Digital Gender Gap Audit*. www.webfoundation.org/about/research/digital-gender-gap-audit; Sylvester, G. (Ed.) (2016). *Use of Mobile Phones by the Rural Poor: Gender perspectives from selected Asian countries.* Bangkok: FAO/ LIRNE*asia*/IDRC. www.idrc.ca/en/book/use-mobile-phones-rural-poor-gender-perspectives-selected-asian-countries; Alliance for Affordable Internet (A4AI). (2015). *Women's Rights Online: Translating Access into Empowerment.* Washington DC: Alliance for Affordable Internet. www.webfoundation.org/docs/2015/10/womens-rights-online21102015.pdf; GSMA. (2015a). *Bridging the gender gap: Mobile access and usage in low- and middle-income countries*. London: GSMA. www.gsma.com/connectedwomen/wp-content/uploads/2015/02/GSM0001_02252015_GSMAReport_FINAL-WEB-spreads.pdf; GSMA/LIRNE*asia*. (2015). *Mobile phones, internet, and gender in Myanmar*. London: GSMA. www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/02/GSMA_Myanmar_Gender_Web_Singles.pdf

58 A4AI. (2015). Op. cit.; GSMA. (2015a). Op. cit.; GSMA/LIRNE*asia* (2015). Op. cit.; Broadband Commission. (2013). *Doubling Digital Opportunities: Enhancing the Inclusion of Women and Girls in the Information Society*. www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf

59 Chair, C. (2017). *Internet use barriers and user strategies: Perspectives from Kenya, Nigeria, South Africa and Rwanda.* www.researchictafrica.net/docs/RIA 2016 Comparative FGD study_Final_Web version.pdf; A4AI. (2016, February). *The 2015-2016 Affordability Report.* www.1e8q3q16vyc81g8l3h3md6q5f5e.wpengine.netdna-cdn.com/wp-content/uploads/2016/04/A4AI-2015-16-Affordability-Report.pdf; APC. (2015b). *Unlocking broadband for all: Broadband infrastructure sharing policies and strategies in emerging markets.* Johannesburg: APC. www.apc.org/en/system/files/Unlocking broadband for all Full report.pdf; A4AI. (2015). Op. cit.; GSMA/LIRNE*asia*, (2015). Op. cit.; Deen-Swarray, M., Gillwald, A., Morrell, A., & Khan, S. (2012). *Lifting the veil on ICT gender indicators in Africa: Evidence for ICT policy action: Policy paper 13.* Cape Town: Research ICT Africa. www.goo.gl/PmMqI5

content,[60] for example – and intersectional challenges that impact all barriers, including the impact of stereotypes, cultures and norms, as integral to promoting universal, acceptable, affordable, unconditional, open, meaningful and equal access to the internet.

As far as intersectional challenges are concerned, the available literature tends to acknowledge, to various degrees, that while men experience barriers similar to the ones women do, women tend to experience all barriers more acutely due to structural inequalities and entrenched prejudices in many societies.[61] Many authors note that stereotypes, gender discrimination and social norms are difficult (if not impossible) to measure and address because they are so deeply ingrained in society, and findings as to whether families are comfortable with women using the internet tend to differ.[62] Besides not being allowed to use the internet, for instance, in certain regions social norms also result in women not wanting to use the internet because they believe content to be inappropriate and even offensive to them. Many women are therefore also fearful of potentially harmful content, or being exposed to other threats. A recent study by Ya'u and Aliyu in northern regions of Nigeria found that patriarchal ideology in the area leads to men from both Islamic and Christian backgrounds believing the internet to be a platform where women will be exposed to practices and values that are negative and damaging (to the men, not necessarily to the women).[63] This is similar to incidents in North India involving mobile and social media use by young people, especially girls, being altogether banned by local village councils consisting largely of dominant caste Hindu men.[64]

Intersectional cultural barriers are difficult to investigate and study. For women who avoid using ICTs because they consider it a dangerous space or for similar cultural reasons it is important to raise awareness of the potential benefits of ICTs for women and their broader communities. Where women are prevented from using ICTs it is important to more fundamentally address gender stereotypes in order to enable more sustainable empowerment through movement building and other bottom-up approaches.

Some authors argue that because findings on the significance of different barriers differ between studies, policy makers should refrain from adopting generalisable action or broadband plans for addressing gender discrepancies in access.[65] Detailed and rigorous data that will enable stakeholders to better understand barriers at local levels in different contexts is therefore required to facilitate evidence-based action and movement building towards sustainable change – as is discussed in the next section.

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60 Chair, C. (2017). Op. cit.; Ya'u, Y. Z, & Aliyu, M. A. (2017). *Internet for Men? Overcoming Gender-based Digital Exclusion in Northern Nigeria: A Strategy Document*. Kano State: Centre for Information Technology and Development. www.citad.org/download/overcoming-gender-based-digital-exclusion-in-northern-nigeria-a-strategy-document; Scott, S., Balasubramanian, S., & Ehrke, A. (2017). *Ending the Gender Digital Divide in Myanmar: A Problem-Driven Political Economy Assessment.* Washington DC: IREX. www.irex.org/sites/default/files/node/resource/gender-digital-divide-myanmar-assessment.pdf; A4AI. (2015). Op. cit.; APC (2016). *Ending digital exclusion: Why the access divide persists and how to close it*. Johannesburg: APC. www.apc.org/en/pubs/ending-digital-exclusion-why-access-divide-persist; APC. (2015a). Op. cit.

61 Sylvester, G. (2016). Op. cit.; GSMA. (2015a). Op. cit.; IGF. (2015). *BPF on Online Abuse and Gender-Based Violence: final outcome document.* Geneva: IGF. www.intgovforum.org/cms/documents/best-practice-forums/623-bpf-online-abuse-and-gbv-against-women/file; UNCTAD. (2015). *Implementing WSIS Outcomes: A Ten-Year Review*. Geneva: UNCTAD. www.unctad.org/en/PublicationsLibrary/dtlstict2015d3_en.pdf; Deen-Swarray, M. *et al.* (2012). Op. cit.

62 Scott, S. *et al.* (2017). Op. cit.; Ya'u, Y. Z, & Aliyu, M. A. (2017). Op. cit.; GSMA. (2015a). Op. cit.; GSMA/LIRNE*asia*. (2015). Op. cit.; A4AI (2015). Op. cit.; Gillwald, A., Milek, A., & and Stork, C. (2010). *Gender Assessment of ICT Access and Usage in Africa 2010*. Research ICT Africa. www.researchictafrica.net/publications/Towards_Evidence-based_ICT_Policy_and_Regulation_-_Volume_1/RIA Policy Paper Vol 1 Paper 5 - Gender Assessment of ICT Access and Usage in Africa 2010.pdf

63 Ya'u, Y. Z, & Aliyu, M. A. (2017). Op. cit.

64 Kovacs, A. (2017a). *Chupke, Chupke': Going Behind the Mobile Phone Bans in North India.* Gendering Surveillance. genderingsurveillance.internetdemocracy.in/phone_ban

65 Sylvester, G. (2016). Op. cit.; Galperin, H. *et al.* (2014). Op. cit.; Techatassanasoontorn, A. A. (2011). *Measuring Broadband Progress: A Quality of Life Approach*. Auckland: CPR South. www.cprsouth.org/wp-content/uploads/2011/08/20_Angsana-T_Policy-breif.pdf

While many reports have recently been published at a global level by intergovernmental organisations and global organisations, and may be interesting in general terms, there are fewer reports and case studies investigating realities at national and local levels. Where these are available, they indicate large differences among cultures, norms and barriers. Avri Doria points out that "one of the missing links" in internet governance is the "near absence of connections" between international (or top-down) and local (or bottom-up) levels and needs.[66] There is therefore a need for more localised investigations of the barriers to access for women, as opposed to primarily global, generalised studies of barriers.

A summary of three barriers to access and related research needs

The availability of relevant infrastructure

Most of the literature reviewed recognises that a significant impediment to women's access is the lack of network rollout, quality and availability. While there are an increasing number of innovative initiatives aimed at promoting broadband rollout, many regions, especially in rural areas, isolated areas, areas that are difficult to reach or areas that are prone to conflict, remain unconnected.[67]A lack of available electricity in many regions further aggravates the challenge.[68]

A challenge often highlighted in the literature relates to the availability of public access facilities that will provide women who cannot easily access private devices with the opportunity to benefit from ICTs. Various authors stress the importance of ensuring that such facilities are safe and designed with women in mind, through methods that include hiring female staff; having separate areas for men and women; having childcare facilities; naming the facility appropriately; and developing relevant content and applications for women at such facilities.[69]

Supporting public facilities is vital, especially because when women borrow devices they are generally prevented from developing their digital skills adequately, as is discussed under the skills barrier below. Many point to the potential use of under-utilised universal service and access funds (USAFs) to support public access facilities.[70] A 2013 study of 69 countries in which USAFs had been established or planned found that only four had funds that make specific provision for the inclusion of women.[71] There is often, however, a strong lobby by telecommunications providers against the establishment of public access facilities and/or the use of USAFs for this purpose. *There is a need to further research the ways in which USAFs can be used to support women-friendly public access facilities, and women's empowerment more generally, by using ICTs in a sustainable manner.*

Cost/affordability as a barrier

Most of the literature reviewed highlights cost and/or affordability as one of the most significant barriers to access for women, who tend to have less disposable income or access to external

66 Doria, A. (2015). Op. cit.

67 Chair, C. (2017). Op. cit.; A4AI. (2016). Op. cit.; APC. (2015b). Op. cit.; A4AI. (2015). Op. cit.; GSMA/LIRNE*asia*. (2015). Op. cit.; Deen-Swarray, M. *et al*. (2012). Op. cit.

68 Ya'u, Y. Z, & Aliyu, M. A. (2017). Op. cit.; APC. (2016). Op. cit.

69 A4AI. (2016). Op. cit.; Cummings, C., & O'Neil, T. (2015). *Do digital information and communication technologies increase the voice and influence of women and girls? A rapid review of the evidence* ODI. www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9622.pdf; A4AI. (2015). Op. cit.; APC. (2016). Op. cit.; GSMA. (2015a). Op. cit.; Adera, E. O. *et al.* (2014). Op. cit.; Galperin, H. *et al.* (2014). Op. cit.; ITU. (2013). *Universal service funds and digital inclusion for all*. Geneva: ITU. www.itu.int/en/ITU-D/Digital-Inclusion/Documents/USF_final-en.pdf; ITU. (2011). *Connect a School, Connect a Community* (toolkit). Geneva: ITU. connectaschool.org.

70 IREX and Beyond Access. (2016). *Why young women need digital skills now to participate in Myanmar new information society*. N/A: IREX. www.myanmarbookfoundation.org/wp-content/uploads/2016/04/IREX-Myanmar-Gender-Study.pdf; A4AI. (2016). Op. cit.

71 ITU. (2013). Op. cit.

sources of finance than men.[72] There is a need to better understand affordability challenges for women, to encourage research into woman-focused innovation to bring down costs and improve the relevance of low-cost devices,[73] and to support the gathering of evidence that will convince governments to help bring down costs by allowing innovative spectrum use, infrastructure sharing, and a reduction in import taxes and royalty stacking.[74]

While sometimes effective in increasing access levels, subsidised data and zero-rated services (e.g. Facebook's Free Basics or Internet.org) have been controversial as a price-control strategy. Some warn that such options are little more than "a wolf in sheep's clothing"[75] because they allow corporations gatekeeping powers that limit competition; restrict privacy safeguards for vulnerable communities;[76] confine women's ability to gain access to potentially controversial information online (depending on context), for instance on sexual rights and reproductive health issues;[77] and can lead to "barely connected" women[78] if it does not enable full and meaningful access. On the other hand, a recent study by Research ICT Africa indicates that women are not highly dependent on such strategies, at least in certain parts of Africa.[79] The literature on the effects of zero-rated services on women's meaningful access remains limited and contradictory, warranting further investigation.

The availability of relevant and "appropriate" content

Literature more recently published tends to grapple more with the reasons why women who do have access to ICTs fail to adopt them, while earlier publications tended to assume that once women had access, they would adopt ICTs. Reasons include not only women's lack of available time[80] and fears of harassment and unsafety, but also the perceived irrelevance or lack of utilitarian value of ICTs in women's lives. Studies show that women are often not using the internet because they struggle to find content in a language they understand or that is relevant to their contexts and specific circumstances.[81]

Few organisations are producing content and applications specifically aimed at and focused on women. While various studies highlight the need for stimulating the development of local digital content relevant to and understandable by women in specific communities,[82] fewer note that women must have the skills to develop local content themselves[83] instead of being regarded as mere passive audiences of content. While this aspect of content creation is sometimes reflected in debates about promoting women in fields related to science, technology, engineering and mathematics (STEM), there is still a need for literature and initiatives aimed at understanding how women can create relevant content by themselves, for themselves.

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72 A4AI. (2015). Op. cit; GSMA. (2015a). Op. cit.; GSMA/LIRNE*asia*. (2015). Op. cit.; Broadband Commission. (2013). Op. cit.

73 Broadband Commission, Working Group on the Digital Gender Divide. (2017). *Recommendations for Action: Bridging the gender gap in Internet and broadband access and use.* Geneva: ITU; A4AI. (2016). Op. cit.; GSMA/LIRNE*asia*. (2015). Op. cit.

74 A4AI. (2016). Op. cit.; GSMA/LIRNE*asia*. (2015). Op. cit.

75 Rahman, Z. (2016). The Potential Impact of Free Basics on SRHR Advocacy in Bangladesh. (Spotlight chapter). In Arrow for Change. (2016). *Sexuality, Sexual and Reproductive Health and Rights, and the Internet.* Asian-Pacific Resource and Research Centre for Women. www.arrow.org.my/wp-content/uploads/2016/08/AFC22.1-2016.pdf

76 Gurumurthy, A., & Chami., N. (2017). Op. cit.

77 Rahman, Z. (2016). Op. cit.

78 APC. (2016). Op. cit.

79 Chair, C. (2017). Op. cit.

80 World Wide Web Foundation. (2016). Op. cit; A4AI. (2015). Op. cit.

81 e.g. Chair, C. (2017). Op. cit.; Ya'u, Y. Z, & Aliyu, M. A. (2017). Op. cit.; Scott, S. *et al.* (2017). Op. cit.

82 World Wide Web Foundation. (2016). Op. cit.; Cummings, C., & O'Neil, T. (2015). Op. cit.; APC. (2016). Op. cit.; Broadband Commission. (2013). Op. cit.

83 Kuga Thas, A. M. (2005). Op. cit.

Furthermore, many women harbour misconceptions of what the internet is and how it can be valuable to them, often equating it to certain social media platforms (and the threats of online abuse and harassment sometimes associated with them).[84] A few studies show that some of the primary reasons why women want to gain access to the internet tend to be for more social than informational, economic or political reasons.[85] On the other hand, while social networking may initially drive internet access, a recent study in South Africa found that women may develop the capacity to also use the internet for purposes that will serve economic, social, and cultural rights (ESCRs) in the future.[86] Gurumurthy and Chami point out that because platform intermediaries concentrated in the global North tend to determine what content users have access to, there is a need to help develop alternative content platforms "owned and operated by women and marginalised groups in the global South" to ensure that women's knowledge is codified and that access is meaningful for women.[87]

Supportive and enabling policy environments

While the technology to provide affordable access might be available already, many policies are so outdated and ill-conceived that they contribute to high costs and hamper initiatives that promote access for women. In the literature, policy-related issues include lack of competition, conservative spectrum allocation policies, poor USAF policies, the inability to use TV white space, onerous licensing requirements, high taxes and royalty stacking.[88] Similarly, authors point out that many broadband and/or development plans fail to acknowledge or prioritise gender equality,[89] just as gender strategies and action plans sometimes neglect the role of ICTs and broadband as enabling tools.[90]

Not only is there a need to advocate for research evidence to support the prioritisation of gender in ICT access plans and initiatives, but a related need to raise awareness among gender equality activists and other stakeholders so that they will take due cognisance of the potential ICTs have for promoting gender equality and empowerment.

Lack of public data available on access

One of the main challenges to overcoming the access discrepancy is that it remains difficult to measure accurately,[91] not least because there is very limited sex-disaggregated data available – especially in low- and middle-income countries and between urban and rural contexts.[92] National statistics offices often lack the resources to collect sex-disaggregated data, and telecommunications operators and network operators generally fail to publish customer data

84 Ya'u, Y. Z, & Aliyu, M. A. (2017). Op. cit.; GSMA/LIRNE*asia*. (2015). Op. cit.; GSMA. (2015b). *Accelerating digital literacy: Empowering women to use the mobile internet*. London: GSMA. www.gsma.com/connectedwomen/wp-content/uploads/2015/06/DigitalLiteracy_v6_WEB_Singles.pdf

85 IREX, & Beyond Access. (2016). *Why young women need digital skills now to participate in Myanmar new information society*. IREX. www.myanmarbookfoundation.org/wp-content/uploads/2016/04/IREX-Myanmar-Gender-Study.pdf; A4AI. 2015. Op. cit.

86 Chair, C., & Deen-Swarray, M. (2015). Op. cit.

87 Gurumurthy, A., & Chami., N. (2017). Op. cit.

88 Broadband Commission. (2017). Op. cit.; A4AI. (2016). Op. cit.; APC. (2015d). Op. cit.; Broadband Commission. (2013). Op. cit.

89 A4AI. (2016). Op. cit.; GSMA. (2015a). Op. cit.; Microsoft, UNESCO, UN Women and ITU. (2014). *Girls in STEM and ICT Careers: The Path toward Gender Equality*. www2.tku.edu.tw/~tfstnet/upload/file/20130704153742d38d9.pdf.

90 Broadband Commission. (2013). Op. cit.

91 Even the disparaging statistics from the ITU are unlikely to be wholly accurate because of both the dearth of available data on which they are based and because the estimation represents the difference between the internet user penetration rates for males and females relative to the internet user penetration rate for males, expressed as a percentage.

92 Sylvester, G. (2016). Op. cit.; Galperin, H. *et al.* (2014). Op. cit.

on grounds of data protection and other regulations.[93] Statistics do not reflect the spectrum of connectivity levels that exist around the world,[94] there is limited data that differentiates between how men and women use the internet, and there is a lack of understanding as to how women in different situations and circumstances (e.g. women refugees, women with disabilities,[95] youth, indigenous women) experience access challenges. Available data therefore tends to reflect a male view.[96] Furthermore, conclusions drawn from data are not always comparable or accurate due to the different measures for gender inequality available, especially considering that the male population overall outnumbers the female and that this skews both absolute and proportionate figures for internet access.[97] As a result, generalisable action plans are impractical and unlikely to be effective.[98]

It is perhaps not surprising that there is often incomplete data around access (both descriptive and quantitative data do not provide an accurate picture), a fact which can mask real reasons and tends to propose "solutions" that deal symptomatically with specious problems rather than with underlying issues.[99] One of the first steps of tangible action should therefore be to gather data (both quantitative and qualitative) to better understand the situation.[100]

Summary of research recommendations

- In addition to the general need to gather more quantitative and qualitative data, there is a need for further research aimed at:
- Understanding the cultural reasons why women who have access to ICTs fail to adopt them.
- Understanding how USAFs can be used to support women-friendly public access facilities.
- Investigating specific affordability challenges for women.
- Understanding that women can become not only consumers but also producers of content relevant to meaningful access.
- Providing policymakers and gender equality activists alike with tangible evidence to support the prioritisation of women's access in broadband plans and of access to ICTs and broadband in gender equality initiatives.
- Understanding the effects of zero-rated services on women.
- Deciphering barriers at local levels in different contexts, using in-depth case studies.

93 A4AI. (2016). Op. cit.; GSMA. (2015a). Op. cit.; Broadband Commission. (2013). Op. cit.

94 APC. (2016). Op. cit.

95 See, for example, the work of Point of View, which investigates the challenges women with disabilities face in using and gaining access to dating apps. Goyal, N. (2016). Is Access Real? Disability, Sexuality, and the Digital Space. *Arrow for Change: Sexuality, Sexual and Reproductive Health and Rights, and the Internet*. Asian-Pacific Resource and Research Centre for Women. www.arrow.org.my/wp-content/uploads/2016/08/AFC22.1-2016.pdf

96 Doria, A. (2015). Op. cit.; APC. (2016). Op. cit.; UNCTAD. (2014). *Empowering Women Entrepreneurs through ICT: A practical guide*. unctad.org/en/PublicationsLibrary/dtlstict2013d2_en.pdf

97 Broadband Commission. (2013). Op. cit.

98 Sylvester, G. (2016). Op. cit.

99 Deen-Swarray, M. *et al* (2012). Op. cit.

100 Broadband Commission. (2017). Op. cit.; A4AI. (2016). Op. cit.; World Wide Web Foundation. (2016). Op. cit.; Cummings, C., & O'Neil, T. (2015). Op. cit.; GSMA. (2015a). Op. cit.; World Wide Web Foundation (2014). *Web Index Report 2014*. Washington DC: World Wide Web Foundation. www.thewebindex.org/report; UNCTAD. (2014). *Measuring ICT and gender*. Geneva: UNCTAD. www.uis.unesco.org/Communication/Documents/measuring-ict-and-gender.pdf

ECONOMY AND LABOUR

The history of the connection between internet technologies, economy, labour and gender lies in the fact that women used to be computers – they did the jobs of calculation and data processing that used to be the primary functions of computers. It was in those days that the scientific world was welcoming of women, including black women, in these positions.[101] One of the earliest lobbies related to gender and ICTs was around the presence of women in science and technology careers. Odame says, "This Gender, Science and Technology platform encompassed university educators, professional groups such as women engineers and agencies like the International Development Research Centre (IDRC) in Canada, the American Academy of Applied Sciences, and the Third World Organization for Women in Science."[102]

Women tend to have lower literacy and education levels than men in many regions of the world.[103] The literature displays growing awareness of the fact that this affects their ability to critically and sustainably use, design, code, adapt, and reclaim ICTs as platforms to challenge discriminatory conditions and promote creativity and expression, "at least until computers can fully support natural-language voice interfaces."[104] Various authors, for instance, agree that gender disparities in education constrain women from using or fully benefiting from the internet, even when accounting for income and age.[105] There are also studies showing that women without digital skills tend to lack the necessary confidence to use the internet.[106] Women are less able to benefit from ICTs for entrepreneurship and business purposes because of this scarcity of skills.[107]

The challenges women face in developing their digital capacities differ between regions[108] and among ages,[109] complicating analysis and action and warranting further study at local levels. Trends from available literature, which tends to focus on generalised global challenges, include the irrelevance of curricula to women; the importance of focusing on adult women; the tendency to prioritise men and boys in ICT resource allocation; varied stereotypes that constrain women from developing their digital skills; and women and girls' inability to gain access to devices or public access facilities safely.[110]

Gendered labour

The questions around gendered disparity in access, skills and education should not however leave the impression that women do not participate in the digital economy. Increasingly

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101 Grier, D. A. (2007). *When Computers were Human*. New Jersey: Princeton University Press.; Margolis, J., & Fisher, A. (2003). *Unlocking the Clubhouse: Women in Computing*. Cambridge: The MIT Press.

102 Odame, H. H. (2005). Op. cit.

103 Galperin, H. *et al.* (2014). Op. cit.; UNESCO. (2015a). *Mobile Phones and Literacy: Empowerment in Women's Hands – A Cross-Case Analysis of Nine Experiences*. Paris: UNESCO. www.unesdoc.unesco.org/images/0023/002343/234325E.pdf; Kuga Thas, A. M. (2005). Op. cit.

104 Broadband Commission. (2013). Op. cit.

105 Ya'u, Y. Z, & Aliyu, M. A. (2017). Op. cit.; World Wide Web Foundation. (2016). Op. cit.; A4AI. (2015). Op. cit.; Galperin, H. *et al.* (2015). Op. cit.; Deen-Swarray, M. *et al*. (2012). Op. cit.

106 GSMA/LIRNE*asia* (2015). Op. cit.; GSMA. (2015b). Op. cit.; World Wide Web Foundation. (2015) *Women's Rights Online: Translating Access into Empowerment*. webfoundation.org/wp-content/uploads/2015/10/womens-rights-online21102015.pdf

107 World Bank. (2016). Op. cit.; UNCTAD. (2014). Op. cit.

108 UNESCO & Intel. (2014). *Towards Gender Equality in Education Policies and ICTs: An Action Brief and Toolbox*. Paris: UNESCO and Intel. www.intel.nl/content/dam/www/public/us/en/documents/corporate-information/gender-equality-education-ict-unesco-girl-rising.pdf

109 Galperin, H. *et al.* (2014). Op. cit.

110 UNESCO & Intel, (2014). Op. cit.; Cummings, C., & O'Neil, T. (2015). Op. cit.; Galperin, H. *et al.* (2014). Op. cit.

research warns of the exploitation of women and their labour in the network economy.[111] This not only extends to the ways in which women's cheap labour is used in mines for relevant materials, in fabrication laboratories and in electronic assembly plants,[112] but also to the "unwanted" and "hidden and often-stigmatised and dangerous labour" of women who perform digital labour to create content and/or moderate misogyny and sexism online.[113] Such forms of labour not only enable online platforms to become increasingly powerful but also create more unequal and even fatal[114] labour chains defined by tedious and difficult occupations related to electronics production, primarily tasked to women.[115] These new forms of labour restrict "progressive ideas" related to labour rights,[116] and lead to increased violations of women's privacy as a result of obscure algorithms and data mining practices[117] that define platform business models and "power digital culture".[118] As Nakamura argues, "Cheap female labour is the engine that powers the internet."[119] There is a need for more sustained research to understand the hidden costs associated with women's and more broadly gendered labour in the network economy.

The introduction of ICT4D into different postcolonial economies also poses certain questions in relation to the economy and the labour performed by women and those marginalised. With reference to the research that fuels the ICT4D discourse, Gurumurthy and Singh say:

> Moreover, ICTD research has also show complacency, theoretical looseness and a characteristic ahistoricity. The casualty here is the D in ICTD, the lack of strong community accountability, the uncritical celebration of easy-to-infer attributes to the exclusion of deeper systemic insights and long term historically and theoretically grounded ethnographies. *Who drives the research agenda is an old research question*, but like the Emperor's New Clothes, it is a question that has never been asked in ICTD.[120]

Gurumurthy and Singh argue that spaces that are oriented towards movements and spontaneous outbursts are where the real ICT4D narratives lie. Gurumurthy and Singh go as far as to dismiss the entire decade of 2000-10 as being lost, dominated as it was by the agendas of WSIS, public private partnerships, neoliberalism and information market economy (also discussed in the interview with Lisa Mclaughlin in the next chapter). The discourse on development does not leave space for the radical change and disruption that are the demands of women (as is evident from the recent organising around #MeToo) and other powerful voices and communities, and these could challenge the conditions of labour, employment and work in terms of gender equity.

What most academics and researchers in the field want to point out is that the new network economy, while promising women employment and economic independence, does not necessarily or directly lead to empowerment and enhanced agency.

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111 Nakamura, L. (2017). *Racism, Sexism, and Gaming's Cruel Optimism*. www.lnakamur.files.wordpress.com/2015/02/racism-sexism-and-gamings-cruel-optimism.pdf; Nakamura, L. (2015). The Unwanted Labour of Social Media: Women of Color Call Out Culture as Venture Community Management. *New Formations: A journal of culture, theory, politics*, 106-112. www.politeianet.gr/magazines/-xena-periodika-new-formations-issue-86-253800; Gurumurthy, A., & Chami., N. (2017). Op. cit.

112 Nakamura, L. (2015). Op. cit.

113 Ibid.

114 Nakamura explains, for example, that a number of women had committed or attempted suicide by leaping out of their factory dormitory windows in Shenzhen factories of Foxconn. Nakamura, L. (2017). Op. cit.

115 Ibid.

116 Gurumurthy, A., & Chami., N. (2017). Op. cit.

117 Ibid.

118 Nakamura, L. (2015). Op. cit.

119 Ibid.

120 Gurumurthy, A., & Singh, P.J. (2009). ICTD – Is it a New Species of Development? *Civicus Blog.* www.civicus.org/media/Think-piece-from-IT-for-Change-Anita-Gurumurthy.pdf

Women in science, technology, engineering and math (STEM)

In relation to STEM and ICT, women must also often overcome stereotypes regarding their unsuitability for such careers and education.[121] It is unsurprising that the literature shows that the gender gap between men and women in careers related to STEM is large in not only developing but also developed countries.[122] The lack of female representation in STEM is mirrored in a similar dearth of female representation in the governance and development of ICTs, which "affects society as much as the corresponding gender disparity in the offline world."[123] More research is necessary to better indicate and understand the connection between women in governance roles and STEM.

The literature is starting to pay more attention to a further risk that women who do not develop their digital skills will be excluded from the potential of digital dividends as technology becomes increasingly pervasive in political, cultural, social and economic life.[124] As Scott *et al.* point out, "digital skills are the bridge from passive access to meaningful usage of ICTs that maximizes impact on individuals and institutions."[125] As some studies stress, women must be involved as consumers and producers of technologies and content[126] – also because it stands to benefit business and economies.[127]

Summary of research recommendations

There is a need for further research aimed at better understanding:

- Local challenges and intersectional factors impacting women's ability to develop their digital capacities.
- The dangers and benefits involved in supporting women's labour at various stages in the production and sustenance of the network economy.
- How women can be better involved as both consumers and producers of content and technologies.
- The connection between women in governance roles and STEM.
- The genesis, processes and outcomes of developmental projects of states, corporations and civil society that deploy the language of women's empowerment and agency, and their use of such language in the context of neoliberalism and globalisation.

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121 World Bank. (2016). Op. cit.; AkiraChix. (2015). *Women in STEM: Attitudes and motivations for women using technology and entering technology careers in Kenya.* www.drive.google.com/file/d/0B3Epr0-LCzppaGdNeHJIZnMwWDQ/view; Microsoft *et al.* (2014). Op. cit.

122 Broadband Commission. (2016). *The State of Broadband 2016: Broadband Catalyzing Sustainable Development.* Geneva: ITU. www.itu.int/dms_pub/itu-s/opb/pol/S-POL-BROADBAND.17-2016-PDF-E.pdf; UNDESA. (2015). *Millennium Development Goals Report*. New York: UNDESA. www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG 2015 rev (July 1).pdf; APC. (2016). Op. cit.

123 APC. (2016). Op. cit.

124 World Bank. (2015). *Supporting women's agro-enterprises in Africa with ICT: A feasibility study in Zambia and Kenya.* Washington DC: World Bank. www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/04/29/090224b082c25eb5/1_0/Rendered/PDF/Supporting0wom00in0Zambia0and0Kenya.pdf; Cummings, C., & O'Neil, T. (2014). Op. cit.; Galperin, H. *et al.* (2014). Op. cit.; UNESCO. (2015). Op. cit.; Broadband Commission. (2013). Op. cit.

125 Scott, S. *et al.* (2017). Op. cit.

126 Broadband Commission. (2016). Op. cit.

127 IREX, & Beyond Access. (2016). Op. cit.; GSMA. (2015). Op. cit.

EMBODIMENT

The digital age or the information age has been described as post human – here technology and body combine and collude from a molecular to a grander scale. Digital technologies have taken prosthetic and intimate forms in our lives. Simultaneously the body is rendered and converted to information and data by governments, corporations, social media, welfare agencies, and so on.

Historically feminist theory has focused on women's lived experiences of the body, that the body is both a material thing in the world as well a point of view towards the world.[128] Whether it is the feminist articulation of the personal as political (feminist text circulated in 1969 in the USA) or the split between sex and gender as biology and social conditioning (now hugely contested) – the body has been an essential site of contested meanings, articulations and theories within feminism. In the work of Judith Butler there is an examination of how often experience is constituted as the outside or the other of discourse, when in fact it needs to be folded in and within knowledge making. Lived experiences often escape the ascribed meanings of gender. In the work of feminists such as Audre Lorde[129] there is a celebration of body, self-care and autonomy, and within Dalit feminism there is an emphasis on learning and knowledge that emerge from autobiographies and stories, as in themselves these are a critique of the dominant social order.[130] This recognition of embodiment as epistemic grounding was also taking place in other disciplines such as race studies, culture/cinema studies and phenomenology. There has been a growing recognition of the need to centre knowledge produced from embodied and lived experiences.

In the 2000s the work carried out online by feminist groups and women's movements, on forms of online gender-based violence, was responsible for shifting the focus away from looking only at the emancipatory potential of technology (see introduction for more details on ICT4D discourse). The internet can be a terrain of violence of various kinds – stalking, abuse, harassment, threats, etc. This critique of the role of ICTs in maintaining hegemony, which seems so commonplace now, can be traced back to women's rights advocates and feminists who opposed the binary of virtual and real to insist that violence that takes place online is violence and that it violates consent. At the same time it was important to also foreground that the internet was a site of expression for women and other minorities, especially around sex, sexuality, reproductive issues and rights.[131] As technologies of control mesh with biopower and surveillance at a much larger scale, these positions taken by feminists and women's groups seem prescient, almost prophetic in their insistence that violence takes place online, and that a human rights framework be included in ICT4D and more broadly in relation to all technology spaces.

Online violence

ICTs have the capacity to challenge monopolised discourses by amplifying the agency, narratives and voices of women, feminists and human rights defenders; thereby supporting sexual, political, religious and general freedom of expression.[132] But ICTs can just as easily do the opposite by persecuting and silencing women, feminists, LGBTI people and human rights defenders. Some authors point out that there is a "direct proportionality"[133] between increased access to ICTs for women and infringements on their human rights; partly/arguably because

128 De Beauvoir, S. (1952). *The Second Sex.* Vintage Books: London.

129 Lorde, A. (1988). *A burst of light: Essays.* Firebrand Books:

130 Tomar, R. (2013). Dalit Feminism: A transformation of rejection into resistance. *The Criterion: International Journal in English,* Issue 12.

131 APC WNSP. (2000). Women's networks and ICTs: The character, achievements and challenges past and present of the APC WNSP. *APC Annual Report 2000.* www.apc.org/en/about/history/womens-networks-apc-wnsp-founding

132 Arrow for Change. (2016). *Sexuality, Sexual and Reproductive Health and Rights, and the Internet.* Asian-Pacific Resource and Research Centre for Women. www.arrow.org.my/wp-content/uploads/2016/08/AFC22.1-2016.pdf

133 Doria, A. (2015). Op. cit.

offline experiences like harassment, abuse, manipulation, exclusion, and discrimination "find their twins online".[134]

ICTs can, for example, be used as safety tools and to monitor human rights and the abuse thereof.[135] In Egypt, HarassMap uses crowdsourcing methods to enable women to report sensitive challenges like harassment, which previously tended to be underreported in the country due to entrenched stigmas and stereotypes.[136] On the other hand, similar applications designed to promote women's safety, for example by tracking them on their cellular phones, have been misused by families and/or abusive partners to monitor, follow and/or even abuse women.[137]

The effects of varied human rights infringements online echo, extend into and mingle with offline contexts,[138] and unsurprisingly have roots in offline realities and patriarchal norms.[139] Gurumurthy and Chami, however, express concern about the usefulness of the so-called "offline-online binary"[140] that has become common in literature and is reflected in documents like the UN resolutions that confirm that the rights people have offline must be protected online too.[141] They argue that this distinction that tends to be drawn between offline and online dimensions is unproductive as many rights violations tend to occur in "hybrid contexts of techno-mediated life, in the unfreedoms wrought by data, digitalisation and networks".[142] An unnatural distinction between offline and online dimensions, they say, has restricted women's agency and enabled more violations of women's economic, social and cultural rights because there are no binding legal mechanisms by which such violations can be challenged effectively.[143]

This discrepancy or binary has some serious implications that need further research. The literature warns that women tend to underreport online infringements of human rights because victims often believe online harms are too abstract[144] to be taken seriously by relevant authorities and platforms like Facebook or Twitter[145] and are not on par with the harms that

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134 Gomberts, R. (2016). Apps, Drones, and iTunes: Opportunities and Challenges in Using New Technologies for Safe Medical Abortion Services. In Arrow for Change (2016). *Sexuality, Sexual and Reproductive Health and Rights, and the Internet*. Asian-Pacific Resource and Research Centre for Women. www.arrow.org.my/wp-content/uploads/2016/08/AFC22.1-2016.pdf

135 GSMA. (2015a). Op. cit.; HarassMap. (2014). *Towards a Safer City: Sexual Harassment in Greater Cairo: Effectiveness of Crowdsourced Data*. www.harassmap.org/en/wp-content/uploads/2013/03/Towards-A-Safer-City_full-report_EN-.pdf; Liddicoat, J. (2011). Op. cit.

136 HarassMap, Ibid.

137 Kovacs, A. (2017b). *Reading Surveillance through a Gendered Lens: Some Theory*. Gendering Surveillance www.genderingsurveillance.internetdemocracy.in/theory; Khan, S. (2016, 2 December). Surveillance as a Feminist Issue. *Privacy International*. https://medium.com/privacy-international/surveillance-as-a-feminist-issue-12b5b45e1312

138 Dad, N., & and Khan, S. (2017, 12 January). Naila Rind killed herself because Pakistan's cybercrime laws failed her *Dawn*. www.dawn.com/news/1306976/naila-rind-killed-herself-because-pakistans-cybercrime-laws-failed-her; Digital Rights Foundation (2016). *Surveillance of Female Journalists of Pakistan*. Pakistan: Digital Rights Foundation. www.digitalrightsfoundation.pk/wp-content/uploads/2017/02/Surveillance-of-Female-Journalists-in-Pakistan-1.pdf; Pasricha, J. (2016). *"Violence" Online in India: Cybercrimes Against Women and Minorities on Social Media*. Feminism in India www.feminisminindia.com/wp-content/uploads/2016/05/FII_cyberbullying_report_website.pdf; IGF BPF. (2015). Op. cit.; Cummings, C., & O'Neil, T. (2015). Op. cit.; APC. (2011). Op. cit.

139 Khan, S. (2016, 2 December). Op. cit.; Shephard, N. (2016). *Big data and sexual surveillance*. Johannesburg: APC. www.apc.org/en/system/files/BigDataSexualSurveillance_0.pdf

140 Gurumurthy, A., & Chami., N. (2017). Op. cit.

141 UNHRC. (2016). The promotion, protection and enjoyment of human rights on the Internet. (A/HRC/32/L.20). www.un.org/ga/search/view_doc.asp?symbol=A/HRC/32/L.20

142 Gurumurthy, A., & Chami., N. (2017). Op. cit.

143 Ibid.

144 Kovacs. (2017a). Op. cit.

145 Chair, C. (2016, 23 February). Women @ Facebook Roundtable: Discussing tech-related violence and solutions by African women. *The RIA Rap*. www.goo.gl/gU2UQi; Pasricha, J. (2016). Op. cit.; Kovacs, A., Kaul Padte, R., & Shobha, S. V. (2013). *"Don't let it stand!" An Exploratory Study of Women and Verbal Online Abuse in India*. New Delhi: Internet Democracy Project. www.internetdemocracy.in/wp-content/uploads/2013/12/Internet-Democracy-Project-Women-and-Online-Abuse.pdf

result from offline infringements.[146] Further research into the benefits and drawbacks of adopting binary or hybrid conceptualisations of harm and women's rights "offline" and "online" will enable not only lexical clarity but also the ability to make comparisons and gather better statistics on the incidence of harm in interactions with ICTs.

The literature points to a strong nexus between surveillance technologies and online harassment and technology-related violence, with the two being "deeply interconnected in both their logic and the techniques they employ."[147] These practices should therefore not be considered in a vacuum when undertaking research in the field, with both having real, harmful and alarming effects on women's human rights. The literature depicts a growing focus on understanding online GBV in different contexts,[148] while there appears to be a lesser, yet growing, interest in investigating surveillance and data governance practices as well as the nexus between the two. This is perhaps because of the largely covert nature of particularly state but also social surveillance,[149] as opposed to the rather public nature of online abuse and gender-based violence.

Fears related to online harassment and technology-related violence are highlighted in many studies as significant barriers to women's meaningful access to and usage of ICTs,[150] although the nature of this fear differs between contexts. Examples include fear of misleading content like fake news;[151] "inappropriate" content;[152] scams and cybercrime;[153] potential "threats" to relationships, particularly for women;[154] harassment;[155] privacy concerns;[156] and support or

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146 Pasricha, J. (2016, 1 December). Op. cit.

147 Khan, S. (2016, 2 December). Op. cit.; Kee, J. (2011). Op. cit.

148 e.g. APC/GenderIT.org. (2016). *Democratic Republic of Congo: Exploring technology-related violence against women*. Johannesburg: APC. www.genderit.org/edition/democratic-republic-congo-exploring-technology-related-violence-against-women; APC/GenderIT.org. (2016). *Kenya: Exploring technology-related violence against women.* Johannesburg: APC. www.genderit.org/edition/kenya-exploring-technology-related-violence-against-women; Arrow for Change. (2016). *Sexuality, Sexual and Reproductive Health and Rights, and the Internet.* Asian-Pacific Resource and Research Centre for Women. www.arrow.org.my/wp-content/uploads/2016/08/AFC22.1-2016.pdf; APC/GenderIT.org. (2015). *Bosnia and Herzegovina: Exploring technology-related violence against women*. Johannesburg: APC. www.genderit.org/edition/bosnia-and-herzegovina-exploring-technology-related-violence-against-women; APC/GenderIT.org. (2015). *Colombia: Exploring technology-related violence against women*. Johannesburg: APC. www.genderit.org/edition/colombia-exploring-technology-related-violence-against-women; APC/GenderIT.org. (2015). *Mexico: Exploring technology based violence against women.* Johannesburg: APC. www.genderit.org/edition/mexico-exploring-technology-related-violence-against-women; APC/GenderIT.org. (2015). *Pakistan: Exploring technology-related violence against women.* Johannesburg: APC. www.genderit.org/edition/pakistan-exploring-technology-related-violence-against-women; APC/GenderIT.org. (2015). *Philippines: Exploring technology-related violence against women and children*. Johannesburg: APC. www.genderit.org/edition/philippines-exploring-technology-related-violence-against-women-and-children

149 Hosein, G., & Nyst, C. (2013). *Aiding Surveillance: An exploration of how development and humanitarian aid initiatives are enabling surveillance in developing countries*. London: Privacy International. www.privacyinternational.org/sites/default/files/Aiding%20Surveillance.pdf

150 Scott, S. *et al.* (2017). Op. cit.; World Wide Web Foundation. (2016). Op. cit; Ya'u, Y. Z, & Aliyu, M. A. (2017). Op. cit.; Chair, C. (2017). Op. cit.; IGF BPF. (2015). Op. cit.; IGF BPF. (2016). Best Practice Forum Gender. Gender and Access. (2016). *Overcoming barriers to enable women's meaningful Internet access.* Geneva: IGF. www.intgovforum.org/multilingual/index.php?q=filedepot_download/3406/437; GSMA. (2015). Op. cit.; World Wide Web Foundation. (2014). Op. cit.

151 Chair, C. (2017). Op. cit.

152 World Bank. (2015). Op. cit.; see cultural barriers in Part II above.

153 Ya'u, Y. Z, & Aliyu, M. A. (2017). Op. cit.

154 Chair, C. (2017). Op. cit.

155 Access Now. (2017a). *A First Look at Digital Security.* www.accessnow.org/cms/assets/uploads/2017/02/A-first-look-at-digital-security_DigiCopy.pdf; IGF BPF. (2015). Op. cit.; Pasricha, J. (2016). Op. cit. Broadband Commission. (2015). *Executive Summary: Cyberviolence against women and girls: a worldwide wake-up call*. www.broadbandcommission.org/Documents/reports/bb-wg-gender-discussionpaper2015-executive-summary.pdf; IGF BPF. (2015). Op. cit.; APC. (2016). Op. cit.

156 Khan, S. (2017, 7 February). Jasoosi Band Karo: Gendered Surveillance Of Journalists In Pakistan. *Feminism in India*. www.feminisminindia.com/2017/02/07/gendered-surveillance-female-journalists-pakistan; Chair, C. (2017). Op. cit.; Ya'u, Y. Z, & Aliyu, M. A. (2017). Op. cit.; World Wide Web Foundation. (2016). Op. cit.; A4AI. (2015). Op. cit.

facilitation of women's trafficking through ICTs.[157] The terminology associated with addressing and studying online violence is still unsettled, with some criticising the use of the term "violence" in online contexts. One reason for failing to recognise some forms of online violence as such could be because the fear that subjectively labelling certain conduct online as violence or abuse "runs the risk of limiting someone's freedom of expression and opinion."[158] Despite such lexical uncertainty, however, the literature displays general acceptance of the fact that online violence is part of the broader problem of GBV[159] and acts that violate the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and consequently limit women's freedoms and human rights.[160]

As far as states' responsibilities are concerned, some women's conviction that they will not receive help from authorities is not unfounded in many regions. APC research in seven countries has found that national laws are often not sufficient to deal with online GBV, remedies are often inadequate and there is a culture of impunity in all countries studied.[161] Web Foundation's research similarly indicates that in 74% of the countries it studied as a part of its Web Index, law enforcement agencies and courts were failing to take "appropriate" action to address GBV.[162] While the responsibility of states to protect women online is widely acknowledged, although therefore rarely adequately reflected in relevant regulatory provisions, policy makers must avoid the risk of assuming over-protectionist stances to protect women, a move which could limit other rights.[163]

Kovacs *et al.* argue that besides reliance on the law and platform operators, there are many other routes and mechanisms for women to fight abuse online,[164] including counter-speech, peer network support and other strategies. Yet other authors also point out that the responsibility of intermediaries and internet platforms to protect women and other marginalised communities online is less well understood.[165] Research looks into the principles

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157 Maltzahn, K. (2006). *Digital dangers: Information and communication technologies and trafficking in women.* Johannesburg: APC. www.apc.org/en/pubs/issue/gender/all/digital-dangers-information-communication-technolo

158 Ganesh, M. I. (2016). The New Green: The Landscapes of Digital Activism (Editorial). *Arrow for Change: Sexuality, Sexual and Reproductive Health and Rights, and the Internet.* Asian-Pacific Resource and Research Centre for Women. www.arrow.org.my/wp-content/uploads/2016/08/AFC22.1-2016.pdf

159 Briones, I., & Sulathireh, T. (2016). Security in Contentious Contexts: Exploring Digital Resilience for Organisations Serving Sexual and Gender Minorities (Monitoring Regional and Global Activities chapter). *Arrow for Change: Sexuality, Sexual and Reproductive Health and Rights, and the Internet*. Asian-Pacific Resource and Research Centre for Women. www.arrow.org.my/wp-content/uploads/2016/08/AFC22.1-2016.pdf; Doria, A. (2015). Op. cit.; Kee, J. (2005). Op. cit.

160 Sullivan, D. (2016). *Business and digital rights: Taking stock of the UN Guiding Principles for Business and Human Rights in the ICT sector*. Johannesburg: APC. www.apc.org/en/system/files/BusinessAndDigitalRights_full report.pdf; Doria, A. (2015). Op. cit.; Liddicoat, J. (2011). Op. cit.; Garcia, L. S., & and Manikan, F. Y. (2014). Op. cit.; Scott, S. *et al.* (2017). Op. cit; World Wide Web Foundation. (2016). Op. cit.; Khan, S. (2017, 7 February). Op. cit.; Broadband Commission. (2017). Op. cit.; Pasricha, J. (2016). Op. cit.; Chair, C. (2016). Op. cit.; Dhatta, B. (2016, 30 August). Belling the trolls: Free expression, online abuse and gender. *OpenDemocracy*. www.opendemocracy.net/bishakha-datta/belling-trolls-free-expression-online-abuse-and-gender; Broadband Commission. (2015). Op. cit.; IGF BPF. (2015). Op. cit.; GSMA. (2015a). Op. cit.); APC. (2016). Op. cit.; Dhatta, B. (2015). Porn. Panic. Ban. In Finlay, A. (Ed.), *Global Information Society Watch 2015: Sexual rights and the internet*. Johannesburg: APC/Hivos. www.giswatch.org/es/node/5773; Kovacs, A., Kaul Padte, R., & Shobha, S. V. (2013). Op cit.; APC. (2011). Op. cit.

161 APC & Women's Legal and Human Rights Bureau, Inc. (2015). *From impunity to justice: Domestic legal remedies for cases of technology-related violence against women.* Johannesburg: APC. www.genderit.org/sites/default/upload/flow_domestic_legal_remedies.pdf.

162 World Wide Web Foundation (2016). Op. cit.

163 TEDIC. (2017, 7 March). TEDIC could be censored for publishing about gender-based violence. *TEDIC*. www.tedic.org/tedic-could-be-censored-for-publishing-about-gender-based-violence; IGF BPF. (2015). Op. cit.; APC. (2011). Op. cit.; Liddicoat, J. (2011). Op. cit.; APC. (2010). *Media brief from the APC: Censorship, sexuality and the internet*. Johannesburg: APC. www.apc.org/en/system/files/EroTICsBriefingEN_0.pdf; Malhotra, N. (2007). *The World Wide Web of Desire: Content regulation on the internet.* Johannesburg: APC. www.apc.org/en/system/files/webOFdesire_EN_0.pdf

164 Kovacs, A. *et al*. (2013). Op. cit.

165 Sullivan, D. (2016). Op. cit.

of due diligence – the international law mandate that states must exercise due diligence to promote, protect and fulfil human rights – and what that could mean in relation to liabilities of internet intermediaries and states. This in particular pulls in the UN Guiding Principles on Business and Human Rights (the Ruggie framework) which states categorically that all businesses must respect human rights.[166] There is also a move amongst most social media companies and businesses to attempt to look for technological and algorithm-based solutions to the problems of online GBV and harassment.[167]

In this context researchers and activists should continue to work with intermediaries and internet platforms to improve the transparency and expediency of online reporting mechanisms, alongside raising awareness on the responsibilities all users have in not infringing upon other users' rights on a particular platform.

EXPRESSION AS A CROSS-CUTTING THEME

The potential of ICTs for opening up new public spheres or platforms for all kinds of expression – including political, religious and sexual expression – is a relatively moot point.[168] Recent literature has emphasised that due to the growing capacity of state and non-state actors to control, surveil, regulate and restrict freedom of expression online, anonymity and encryption (as forms of security) "provide a zone of privacy" within which to exercise freedom of expression and opinion.[169] While anonymity and encryption can thus bolster women's ability to express opinions and beliefs and to challenge taboos, there is also awareness in the literature of how anonymity enables and fuels forms of online harassment and violence against women.[170]

The literature also indicates that women's sexual expression, in particular, is often limited because of overzealous content regulation grounded in the ostensible need to limit potentially harmful consequences of pornography or sexual expression.[171] APC's Exploratory Research on Sexuality and the Internet (EROTICS), which published its findings in 2011, investigated the ways in which online content regulation can impact women's sexual expression, sexuality and sexual health practices. It notes that while the term "sexual rights" encompasses diverse issues related to sexuality and rights, it still needs to be properly defined and clarified.[172] It also highlights the movement towards greater regulation and criminalisation of online expression, content and interaction, and warns that such protectionist and moralistic approaches should be replaced with a framework that is rather grounded in human rights principles.[173] While there appears to at least now be a wider scope to online harm than in its erstwhile focus on child protection,[174] the ways in which sexual expression is limited by technology-related violence, including cyberstalking, online harassment and sexualised violations of privacy, needs further investigation.

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166 Aziz, Z. A. (2017). *Due diligence and accountability for online violence against women.* APC. www.apc.org/sites/default/files/DueDiligenceAndAccountabilityForOnlineVAW.pdf

167 Machirori, F., & Smith, E. (2017, 3 May). Did Facebook finally figure out that consent is more important than nipples? *GenderIT.org.*
www.genderit.org/articles/facebook-intimate-image-filter

168 www.deepdives.in; Kee, J. (2011). Op. cit.

169 UN Human Rights Council. (2015). *Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, David Kaye.* www.ohchr.org/EN/Issues/FreedomOpinion/Pages/CallForSubmission.aspx

170 IGF BPF. (2015). Op. cit.

171 Ganesh, M. I. (2016). Op. cit; Kee, J. (2011). Op. cit.

172 Kee, J. (2011). Op. cit.

173 Ibid.

174 Ibid.

Other literature also indicates the significance of intersectional factors like race, religion, class, geopolitical location, health and/or bodily diversity[175] where the limitation of women's freedom of expression is concerned. Women who break taboos or transgress gender norms may face particularly severe repercussions. LGBTI people,[176] female activists[177] and journalists[178] similarly face more pushback in the form of violence, surveillance and threats online. In severe situations, women's expression on social media has resulted in "honour" killings for "bringing families into disrepute", as the murder of Qandeel Baloch in Pakistan shows.[179] The ways in which women can use security measures like encryption and anonymity to express themselves more freely online need further investigation and promotion.

As a result of fears of pushback and threat when they express themselves online, women are often likely to self-censor; thereby chilling freedom of expression[180] and impacting other human rights as a result.[181] Content regulation is often accompanied by surveillance which can, in turn, affect women's right to privacy – as is discussed in the next section.

Privacy, data governance and surveillance

The data practices on and of ICTs, along with the ways in which data is governed, can help both empower and exploit women. Empowering and responsible data practices have the capacity to transfer power from governments and corporations, or other powerful stakeholders, into the hands of minorities and women.[182] Whether they in fact enable such transformation, however, depends on agency and consent or, as Shephard points out, "how data is collected, by whom, and to what ends."[183]

Data is collected for surveillance purposes with diverse objectives, including safety, security and/or commercial benefit. Kovacs notes that at least in democratic states surveillance used to be conducted with the objective of scrutinising (a) person(s) under suspicion of criminal activity for a particular period of time and for a specific reason, usually upon the issuance of a court order permitting it. Today, however, ICTs and big data are enabling mass surveillance and thereby pre-emptively shape, impact and limit what surveillance subjects may do in the future; with subjects furthermore having little to no control over such surveillance.[184] Evidence also shows that it is more likely to affect women than men.[185]

The literature points to an increasing awareness of the fact that online surveillance can be and is carried out by a multiplicity of stakeholders, including government stakeholders,

175 Shephard, N. (2016). Op. cit.

176 Briones, I., & Sulathireh, T. (2016). Op. cit.

177 OSCE. (2016). *New Challenges to Freedom of Expression: Countering Online Abuse of Female Journalists*. Vienna: OSCE. www.osce.org/fom/220411?download=true

178 Digital Rights Foundation. (2016). Op. cit.; Comninos, A. (2013). *A Cyber Security Agenda for Civil Society: What is at Stake?* Johannesburg: APC. www.apc.org/en/system/files/PRINT_ISSUE_Cyberseguridad_EN.pdf

179 Kamram, H. (2016, 14 October). After the Murder of Qandeel Baloch. *Digital Rights Foundation*. www.digitalrights-foundation.pk/after-the-murder-of-qandeel-baloch

180 World Wide Web Foundation. (2016). Op. cit.; IGF BPF. (2015). Op. cit.; Digital Rights Foundation. (2016). Op. cit.; Khan, S. (2016, 2 December). Op. cit.

181 Jensen, H., Kee, J., Venkiteswaran, G., & Randhawa, S. (2012). Sexing the Internet: Censorship, Surveillance, and the Body Politic(s) of Malaysia. In Deibert, R., Palfrey, J., Rohozinski, R. and Zittrain, J. (Eds.). (2012). *Access Contested: Security, Identity, and Resistance in Asian Cyberspace*. Cambridge/London: MIT Press/IDRC. www.idrc.ca/en/book/access-contested-security-identity-and-resistance-asian-cyberspace; APC. (2011). Op. cit.

182 Shephard, N. (2016). Op. cit.

183 Ibid.

184 Kovacs, A. (2017a). Op. cit.

185 Penney, J. W. (2017). Internet surveillance, regulation, and chilling effects online: A comparative case study. *Internet Policy Review*, *6*(2). policyreview.info/node/692/pdf

private sector stakeholders, and/or social/private actors[186] – or even the surveilled subject him or herself.[187] Shephard, for instance, points out that surveillance can even be empowering when exercised by the surveilled subject. She highlights increasing instances, mostly at the grassroots level, of individuals learning how to observe the observers (or "sousveillance").[188] Alex Comninos similarly notes that women human rights defenders should work towards building women's capacity to use technological tools to protect their own operational and physical security and privacy[189] – cybersecurity as well. The ability of women – including women with fewer digital literacy skills – to learn to identify and manage data and surveillance practices by learning about privacy, safety and encryption mechanisms should be further supported and amplified.

More negative effects of surveillance on women's rights can be found in state and social surveillance, which can be "deeply interlinked" with and "equally severe" as offline surveillance.[190] Authors point out that states are promoting regulation and surveillance in an increasingly active and public manner, often on grounds as varied as the potential of surveillance to support development practices,[191] cybersecurity, the need to protect human rights online, and child online protection[192]. For example, in the context of certain African countries, Chair argues that privacy and security concerns impact the extent of ICT use, particularly in urban and peri-urban areas.[193] Ya'u and Aliyu, in turn, found that in northern parts of Nigeria "women feel that being online undermines their privacy."[194] On the other hand, A4AI found in a global study that "very few respondents of either sex" reported concerns about privacy discouraging them from using the internet.[195] Because the literature tends to differ on what the effects of privacy concerns are, more localised studies regarding such privacy concerns are required.

Development rhetoric, for instance, is particularly contentious as it puts activists in the difficult position of having to oppose ostensibly laudable development objectives on the grounds of privacy at a time when there is still limited understanding of the potential harms that even anonymised data-driven surveillance might pose for women and other marginalised groups.[196] The drive to implement SDG indicators can "affect the fragile balance of exposure and anonymity for people who have been marginalised in their societies".[197] Gus Hossein and Carly Nyst similarly warn that there is a "systemic failure to critically contemplate the potential ill effects" of deploying technologies like surveillance tactics with development aid in developing countries, although there is still limited understanding of these risks. "As privacy rises on the

186 Chair, C. (2017). Op. cit.; Shephard, N. (2016). Op. cit.; Khan, S. (2016, 2 December). Op. cit.; Digital Rights Foundation. (2016). Op. cit.; Jensen, H. *et al.* (2012). Op. cit.

187 Gurumurthy, A., & Chami., N. (2017). Op. cit.; Ganesh, M. I. (2016). Op. cit.; Rizk, V. & Othman, D. (2016). Quantifying Fertility and Reproduction through Mobile Apps: A Critical Overview. *Arrow for Change: Sexuality, Sexual and Reproductive Health and Rights, and the Internet*. Asian-Pacific Resource and Research Centre for Women. www.arrow.org.my/wp-content/uploads/2016/08/AFC22.1-2016.pdf

188 Shephard N. (2016). Op. cit.

189 Comninos, A. (2013). Op. cit.

190 Digital Rights Foundation. (2016). Op. cit.

191 Hosein, G., & Nyst, C. (2013). Op. cit.; Kovacs, A. (2017a). Op. cit.

192 Mazango, E. (2014). *African Declaration on Internet Rights and Freedoms: APC Background Paper.* Johannesburg: APC. www.apc.org/en/system/files/Background Paper Internet Rights and Freedoms_20140703.pdf; Liddicoat. J. (2011). Op. cit.

193 Chair, C. (2017). Op. cit.

194 Ya'u, Y. Z, & Aliyu, M. A. (2017). Op. cit.

195 A4AI. (2015). Op. cit.

196 Kovacs, A. (2017a). Op. cit.; Ditmore, M. (2016). Minding the Data Gap: Data Risks and Revolutions in Meeting the Sustainable Development Goals. *Arrow for Change: Sexuality, Sexual and Reproductive Health and Rights, and the Internet*. Asian-Pacific Resource and Research Centre for Women. www.arrow.org.my/wp-content/uploads/2016/08/AFC22.1-2016.pdf

197 Ibid.

policy agendas of countries across the world, the contrasting approaches to new technologies in the developed and developing worlds has become increasingly stark."[198]

A related challenge is the responsible use of data in development programming aimed specifically at women. The Engine Room, for instance, warns that "the hype about a data revolution" and its potential for sustainable development has not been accompanied by sufficient critical consideration of how data subjects can be protected.[199] It advocates for responsible data management in general as well as for the appropriate treatment of marginalised communities, and for researchers to be "intentional" in how such communities, including women, are represented in responsible data.[200]

Other literature laments the complicit role that social media platforms and other intermediaries are playing in rendering users more vulnerable to state surveillance.[201] Often companies might not have surveillance as a goal but become major "datagathering machines" that can identify, track, monitor, tabulate, and analyse data.[202] With surveillance by the private sector there is a risk of reducing people to merely "the sum of a few data points" that "takes precedence over who we are as human beings," a move which will perpetuate structural inequalities.[203]

Social surveillance, on the other hand, is often found to be reported as more clearly or explicitly experienced by women than state governance. Such forms of surveillance, often exercised by women's peers, friends and/or family, tend to take a particularly gendered form and related harassment often targets a woman's sexuality, appearance and/or character more than it would a man's.[204] It also particularly affects women in social relationships that are already patriarchal or abusive. It is important that definitions and investigations of the online surveillance of women in ongoing research not only encapsulate state surveillance but also consider and study the incidence and effects of social surveillance.

Self-surveillance, or the growing trend of recording, tracking, and sharing personal information, for instance details related to sexual and reproductive health (e.g. pregnancy or menstruation tracking apps),[205] tends to be portrayed by at least private sector stakeholders as a positive service, and generally not as a form of surveillance. Big data has amplified the reach of self-surveillance, however, among other things through the promise of ostensible potential public health benefits. Some organisations like A4AI and the Web Foundation recently called for open government platforms, to prioritise gender access and equality.[206]

Other literature expresses growing concern regarding the potentially detrimental effects of self-surveillance and "dataveillance", especially for women's right to privacy as data is often shared with third parties.[207] Not only do these forms of surveillance blur the "boundaries

198 Hosein, G., & Nyst, C. (2013). Op. cit.

199 The Engine Room. (2016). *The Handbook of the Modern Development Specialist: Being a Complete Illustrated Guide to Responsible Data Usage, Manners and General Deportment.* www.responsibledata.io/resources/handbook/assets/pdf/responsible-data-handbook.pdf

200 Ibid.

201 Liddicoat, J. (2011). Op. cit.

202 Kovacs, A. (2017a). Op. cit.

203 Ibid.

204 Digital Rights Foundation. (2016). Op. cit.; Chair, C. (2017). Op. cit.

205 Gurumurthy, A., & Chami., N. (2017). Op. cit.; Ganesh, M. I. (2016). Op. cit.; Shephard, N. (2016). Op. cit.; Rizk, V. & Othman, D. (2016). Op. cit.

206 Web Foundation. (2016, 22 December). Beyond gender commitments: OGP needs to "walk the talk". *World Wide Web Foundation* www.webfoundation.org/2016/12/beyond-gender-commitments-ogp-needs-to-walk-the-talk; Web Foundation (2016, 6 December). Will the Open Government Partnership Commit to Gender Equality this year? *World Wide Web Foundation*. www.webfoundation.org/2016/12/will-the-open-government-partnership-commit-to-gender-equality-this-year

207 Rizk, V. & Othman, D. (2016). Op. cit.

between commercial and lateral modes of surveillance",[208] they can also help reproduce, often using obscure algorithms,[209] stereotypes and discrimination that may in turn reduce women's agency,[210] impede women's sexual and reproductive health and rights, and exacerbate abuse and violence.[211] More research is needed regarding the potentially detrimental effects of self-surveillance or "quantified self" developments[212] on women's human rights, particularly through the use of big data. As Rizk and Othman also urge, there is a related need for more research into the algorithms which define women's health and cycle monitoring apps.[213]

Following a feminist approach to surveillance practices is important in illustrating the harms of surveillance[214] because surveillance is never gender neutral and reflects asymmetries in power. Yet discourses about surveillance generally treat surveillance as uniform, meaning that the standard subject of surveillance tends to be male.[215] A gender lens enables one to assume a more comprehensive understanding of the effects of surveillance on women's rights like freedom of expression and privacy,[216] and enables researchers to place marginalised communities "at the centre of discourse around privacy and surveillance".[217] Kovacs, for instance, points out that by "gendering surveillance" the debate can be deepened and sharpened in more empowering ways.[218] More country-specific, gender-sensitive research on surveillance and censorship will ensure that women's unique challenges regarding surveillance are addressed.[219]

Summary of research recommendations

To summarise, there is a need for further research aimed at better understanding women's agency and embodiment in network economies, in order to:

- Understand binary or hybrid conceptualisations of harm and women's rights offline and online.
- Expand on understandings of online violence and document instances of online violence in light of changing platforms and practices.
- Understand how to enable women, including women with fewer digital literacy skills, to better use security measures like encryption and anonymity.
- Understand how privacy, surveillance and related concerns affect women in diverse circumstances, using case studies or similar anthropological approaches.
- Clarify definitions and investigations of the online surveillance of women in ongoing research to encapsulate both social and state surveillance.
- Understand the effects of self-surveillance or "quantified self" developments, including the use of big data, on women's human rights.
- Decipher the algorithms used in women's health and cycle monitoring apps.
- Study and promote practices of responsible data gathering and use.
- Clarify the nexus between surveillance and online harassment/technology-related violence.

208 Shephard. (2016). Op. cit.

209 Rizk, V. & Othman, D. (2016). Op. cit.

210 Ibid.

211 Shephard, N. (2016). Op. cit.

212 Ganesh, M. I. (2016). Op. cit.

213 Rizk, V. & Othman, D. (2016). Op. cit.

214 Kovacs, A. (2017a). Op. cit.

215 Khan, S. (2016, 2 December). Op. cit.

216 Shephard, N. (2016). Op. cit.; Khan, S. (2016, 2 December). Op. cit.; Jensen, H. *et al.* (2012). Op. cit.

217 Khan, S. (2016, 2 December). Op. cit.

218 Kovacs, A. (2017a). Op. cit.

219 Jensen, H. *et al.* (2012). Op. cit.

MOVEMENTS, WOMEN'S PARTICIPATION AND DECISION MAKING

Movements and campaigns online

One way of facilitating better feminist involvement in sustainable change is through movement building, which, as Srilatha Batliwala argues, is not only "essential to the transformation of gender power relations in a sustainable way", but can "help marginalized and stigmatized communities become more visible."[220] Movement building has, according to one author, faced a decline in recent years because donors have reportedly moved away from supporting movement building strategies towards interventions with more visible and measurable results,[221] like gender mainstreaming, gender components in larger development projects, and so-called "investing in women and girls" approaches.[222] While Batliwala does not mention ICTs, it is curious that this decline happens to coincide, more or less, with the exponential expansion of ICTs and networked societies.[223]

Other authors, however, recognise that ICTs offer "powerful" potential for feminist movement building, to transform local struggles for social justice and gender equality into "global rallying cries".[224] Castells, although not referring to movement building specifically, argues that ICTs offer ways to overcome the historical difficulty faced by networks in organising at a more global level (as opposed to at a smaller-scale level). Digital networking technologies, he feels, can coordinate flexibly "along a network of autonomous components" towards a shared purpose.[225]

To find such a shared purpose, there is a need to ensure that women's movements are guided by a shared understanding of political rights, governance norms and the limitations of the exercise of power on the internet—as some authors define it, they need to understand "digital constitutionalism".[226] Nadine Moawad points out that feminists should learn to use new technologies in ways that can enable and facilitate better organisation, activism and expression.[227] There is arguably a need for further support of digital constitutionalism in supporting feminist movement building in ICT governance. For example, the aforementioned Feminist Principles for the Internet 2.0[228] was developed with the aim of promoting a better shared understanding of priorities for women and queer persons, in all are diversities, where the internet is concerned. It encapsulates a range of topics (which were also used to guide this chapter), including access, movement building and public participation, participation in economies, freedom of expression, and agency.

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220 Batliwala, S. (2012). *Changing Their World: Concepts and Practices of Women's Movements* (Second edition). Toronto: AWID. www.awid.org/sites/default/files/atoms/files/changing_their_world_2ed_full_eng.pdf

221 Ibid.

222 Ibid.

223 While lamenting this decline, Batliwala does not refer to the role of ICTs in any sections, beyond a case study on women with disabilities in which the role of the internet for enabling women with disabilities to build movements is lauded (Ibid).

224 APC, JASS, & Women'sNet. (2015). *ICTs for Feminist Movement Building: Activist Toolkit.* Johannesburg: APC. www.apc.org/es/system/files/ICTs Toolkit_2015_0.pdf

225 Castells, M. (2005). Op. cit.

226 Gill, L., Redeker, D., & Gasser, U. (2015). *Towards Digital Constitutionalism? Mapping Attempts to Craft an Internet Bill of Rights.* www.cyber.harvard.edu/node/99209

227 Moawad, N. (2016). One and the Other: Fighting Online Misogyny, Fighting a Corporatised Internet. In Arrow for Change, *Sexuality, Sexual and Reproductive Health and Rights, and the Internet.* Asian-Pacific Resource and Research Centre for Women. www.arrow.org.my/wp-content/uploads/2016/08/AFC22.1-2016.pdf

228 www.apc.org/en/pubs/feminist-principles-internet-version-20

There is a need felt for "a shared ideological narrative"[229] in the movement towards using techniques and tools such as hacking[230] or feminist autonomous infrastructure[231] to facilitate sustained change. Such infrastructure enables women to assume more proactive stances to self-organise in order to, among other things, challenge online violence and discrimination. Examples include the creation of safe spaces for women, feminist hackerspaces, tackling online violence by developing bots to target trolls, building feminist online libraries and servers,[232] or even a Distributed Denial of Women (DDoW) strike, which represents a global call to protest unequal conditions for women in technology by using a Distributed Denial of Service (DDoS) technique.[233]

Participation in policy reform and policy making

Supportive and enabling policy environments are crucial in democratising policy making that affects the internet and ICTs.[234] Similarly, women's ability to participate in internet and ICT governance is necessary to diffuse ownership of and power in global and local networks and the network economy.

It is therefore important to challenge patriarchal spaces and processes that control internet and ICT governance, to promote women's participation in policy making processes, and to ensure that policies reflect a proper understanding of women's needs and priorities. As noted in the Feminist Principles of the Internet 2.0, the internet is another space in which practices "shaped by patriarchy and heteronormativity," along with accompanying social norms, are "negotiated, performed and imposed." It also forms part of a broader continuum of feminist struggle and resistance in "other spaces, public, private and in-between."[235]

The diversity of problems and issues, as well as the pace of change that is involved in the governance of ICTs, pose a significant challenge. Some authors point out that the diversity of platforms and processes that feminists and actors must remain involved in, to vigilantly ensure that women's needs and rights are reflected in a plethora of issues of relevance to the internet and its governance, can "easily overwhelm feminist activists."[236] For instance, Gurumurthy and Chami are sceptical of multistakeholder platforms common to internet governance, and argue that feminist intervention must continue to "straddle different scales and spaces, using every avenue globally and nationally to present its development and rights agenda in relation to ICTs."[237] Moawad similarly warns of the growing power of corporate interests in public spaces – including multistakeholder platforms – which will continue to "privilege profit over users' rights."[238]

There is a need for further research into how feminists' involvement in a plethora of policy forums can be improved, strengthened and streamlined. Where multistakeholder platforms for internet governance are concerned, there is furthermore a need for promoting better initiatives

229 Gurumurthy, A., & Chami., N. (2017). Op. cit.

230 Adam, A. (2003). Hacking into Hacking: Gender and the Hacker Phenomenon. *ACM SIGCAS Computers and Society, 33*(4). www.link.springer.com/chapter/10.1057%2F9780230000520_7

231 Nadège. (2017, 22 February). Feminist autonomous infrastructure in the internet battlefield: From Zombies to Ninjas. *GenderIT.org*. www.genderit.org/articles/feminist-autonomous-infrastructure-internet-battlefield-zombies-ninjas; Toupin, S., & Hache, A. (2015). Feminist autonomous infrastructures. In A. Finlay (Ed.), *Global Information Society Watch 2015: Sexual rights and the internet*. Johannesburg: APC/Hivos. www.giswatch.org/es/node/5773

232 Ibid.

233 DDoS generally serves to overwhelm a server with requests to the point that it collapses.

234 Also see the access theme for a description of the importance of policy environments in promoting equal access for women.

235 www.apc.org/en/pubs/feminist-principles-internet-version-20.

236 Gurumurthy, A., & Chami., N. (2017). Op. cit.

237 Ibid.; Gurumurthy, A. (2017). Op. cit.

238 Moawad, N. (2016). Op. cit.

through research to enable equal participation of all relevant stakeholders, especially women and other marginalised and/or vulnerable groups with a stake in the future and evolution of the global internet.[239]

While these and related measures/moves/strategies can potentially support women's movement building and/or gender equality in ICTs, they are still "in muddy waters" and an "embryonic stage".[240]

Summary of research recommendations

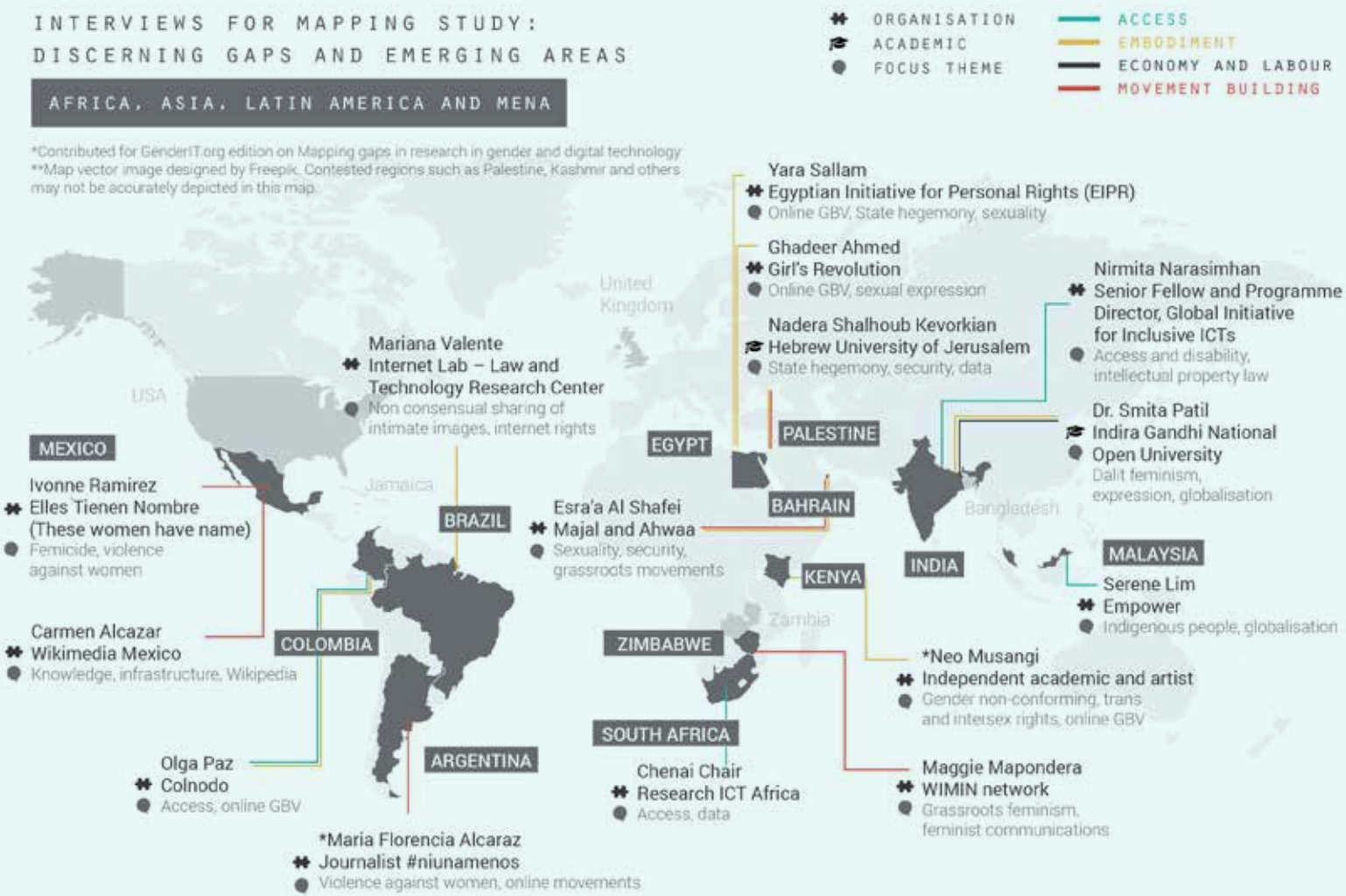
To summarise, to support women's participation in decision making related to the future and evolution of ICTs, further research should be aimed at:

- Understanding how feminists' involvement in a plethora of policy forums can be improved, strengthened and streamlined.
- Understanding how women and other marginalised and/or vulnerable groups can be better supported in participating in multistakeholder policy platforms.
- Investigating the benefits and challenges associated with feminist autonomist infrastructure and its ability to support women's movement building and/or gender equality in ICTs.

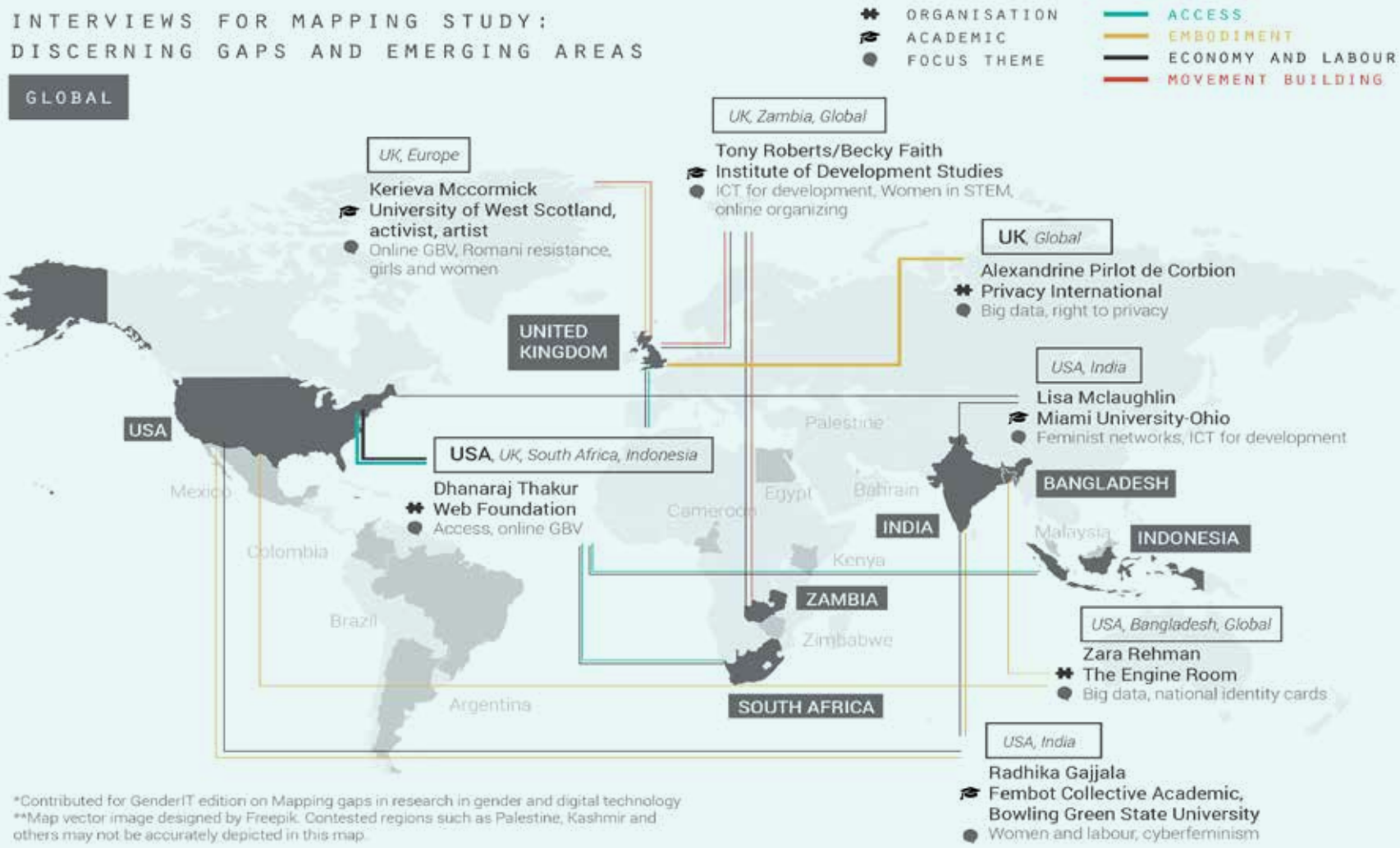
239 Gill, L., Redeker, D., & Gasser, U. (2015). Op. cit.

240 Ibid

Interviewees for Mapping Study: Discerning Gaps and emerging areas



Interviewees for Mapping Study: Discerning Gaps and emerging areas



*Contributed for GenderIT edition on Mapping gaps in research in gender and digital technology
**Map vector image designed by Freepik. Contested regions such as Palestine, Kashmir and others may not be accurately depicted in this map.

Participants in expert group meeting on mapping gender and digital technology

Mapping challenges, gaps, priorities and emerging areas: Interviews with key actors

INTRODUCTION

In the literature review we set out the themes and major contemporary concerns we want to explore, to get a sense of the breadth of the field based on existing research in gender and digital technology – research that is informed by a feminist perspective or relies on analyses of gender-based differences or inequities. In this chapter the themes that emerged in the study are further unpacked through interviews with key actors, academics and researchers from different regions, to deepen our understanding of the complexities and nuances that currently make up the field of gender and digital technology, particularly ICTs. Through the methodology of interviews and based on the practitioners' and researchers' understanding of the field, we want to identify challenges, trends and highlights related to each of the thematic areas and identify gaps in research and concerns that we have been unable to address adequately.

This mapping study looks at the last ten years (2005-2017) in the field of research in gender and technology. We begin at the point when the WSIS conferences (2003 and 2005) were concluded and the multistakeholder model for internet governance, involving the state, the corporate sector and civil society, was initiated through the Internet Governance Forum (2006 – now). A number of other phenomena and developments in the broader field of ICTs have also taken place in this last decade, including datafication, fintech, national identity cards and biometric cards, increased access across the globe, mobile phones equipped with data connectivity and internet, and so on.

ACCESS

In our expert group meeting on Mapping Gender and Digital Technology in Port Dickson, Malaysia, in September 2017 (hereafter referred to as the expert group meeting) the assumptions behind "access" were deeply interrogated, especially whether access as such is a concept that is useful from a feminist perspective. As a term, access is embedded in traditions of liberalism and representative democracy that do not take into account social power dynamics based on gender, class, race, caste and other differences. The discomfort with the term is also related to the fact that feminist analysis of digital technology has repeatedly posed the question of whether technology is a neutral tool and not an already gendered field of apparatuses and practices. The issue is clearly not as simple as ensuring that women have access to the internet.

From a feminist perspective access would be framed differently in terms of both the uses and appropriations of the internet – whether the internet will be used to find content, get better jobs or receive/provide services. This notion of what the internet will be used for has to enrich the ideas around access, says Patricia Peña (Instituto de la Comunicación e Imagen, Universidad de Chile, Chile), and what complicates the question of use of the internet is that it is taking place within neoliberalisation and globalisation. About her context, Patricia Peña says, "There is this strong idea taking hold – that we have an internet for the rich and an internet for the poor."

Ruth Nyambura Kilonzo (African Ecofeminists Collective, Kenya) also points out that in spite of discussions around access repeatedly being about those who are not included – people with disability, indigenous people, rural and poor women – it remains divorced from a critique of power and structural dynamics, and this is deeply problematic. As argued by Horacio Sívori (Universidade do Estado do Rio de Janeiro/Sexuality Policy Watch Brazil), access is inherited from the framing of issues within the ICT4D discourse that has faced critique from authors such as Anita Gurumurthy,[241] Lisa McLaughlin[242] and others. Jinnie Chae (Fembot Collective, South Korea) points to the liberal roots of the concept of access, arguing that a discourse that simply calls for ensuring access to technology requires us to think of technology as a neutral

241 Gurumurthy, A. & Singh, P.J. (2009). Op. cit.

242 Gurumurthy, A., Jha, M., & Mclaughlin, L. (2012). *Labouring Women, Enterprising States – A Research Study on Women, Information Technology and Narratives of Entrepreneurship*. IT for Change. www.itforchange.net/labouring-women-enterprising-states-%E2%80%93-a-research-study-on-women-information-technology-and-0

space which women only need to be "incuded" in or as a set of tools which women only need to be "allowed to use" in order to reap the benefits. This understanding ignores the argument that technology might in fact be predicated on an exclusion of people on various grounds including gender. Ruth Nyambura also argues that we need to question why we want to get women to have access to a terrain where there are death threats and incidents of violence on a daily basis. She says, "I think it's important to change the structure of the internet."

As Jac sm Kee (APC WRP, Malaysia) says:

> If you look at access not through the lens of gender, but from a feminist perspective, then questions around access at the ground level get more complicated. It is not just about affordability of data and devices though that remains important, but who has control over the devices, who has the ability to buy the device or to buy data, and so on.

She also says that mobile phones are sites of violence but also sites of mobility and empowerment for women.

At the same time, access remains predominantly an issue in low- and middle-income countries. It is also a field in which many big players, including corporations, governments and others, have an economic stake.[243]

At this point, rather than create another language around access (as we discuss later in the chapter there are nuanced differences between access and inclusion) and keeping in mind that many international laws, policy frameworks and offices (such as the Office of the United Nations High Commissioner for Human Rights, other United Nations bodies and instruments, internet-related protocols in international law) work with the terminology of access, what we do here is create a new way of framing what this particular term and the language surrounding it are supposed to entail and what a feminist and global South understanding would bring to them.

Jac sm Kee further explains how this is possible:

> One of the important pushes from especially the BPF [Best Practice Forum] in the Internet Governance Forum is to place access not only in relation to economic empowerment but within a human rights framework – particularly as an enabler of human rights i.e. civil, political but also economic, social and cultural rights.

A number of organisations and researchers explore this idea further through the notion of meaningful and substantial access.

Meaningful and substantial access

Research ICT Africa does qualitative and quantitative studies around access, and is one of the key organisations whose work pushes the idea that there is a difference between access and *meaningful and substantial access*. In the interview with their principal researcher Chenai Chair, whose work focuses, among other things, on gender and ICT access, we learned that one of the specific mandates in their funding was to look at gender across their research projects, in correlation with other factors such as location, income, age and so on.

In her interview, Chenai Chair says:

> The impact of not having a feminist framework for analysis is that we often miss what happens with the interplay of relationships and power dynamics in any given situation, like the impact of reproductive or household labour on whether or not a woman goes online, or whether the person is the sole caregiver for a child or children. Since the country partners are not guided through a feminist framework, they do not ask the questions that unearth these power dynamics at play. Our partners look at the difference between men and women accessing the internet, and not at the power dynamics.

243 Best Practice Forum Gender: Gender and Access. (2016). *Overcoming barriers to enable women's meaningful Internet access.* Geneva: IGF. www.intgovforum.org/multilingual/index.php?q=filedepot_download/3406/437

She also says:

> For instance we did focus group discussions through our country partners – but we are not aware of data such as who spoke more often, what gender they were, and so on. This kind of data that will show how access works for women and gender non-conforming persons should be more available through the next stage of the household survey.

The previous work by Research ICT Africa on understanding gender indicators did open up new ground for looking at gender and access. Now the design and intention of their studies and surveys are to parse and tease out the gender aspects of how access works.[244]

In their research Research ICT Africa defines meaningful and substantial access to the internet as:

- Being able to use the internet anytime and access ICTs as you please in a space that is comfortable without fear of having to monitor or time yourself, and
- Being able to do whatever you please online, even if it is using social media only. Explorations on the internet should be encouraged and we should not make assumptions that people will access only health information or relevant websites, as they might explore other aspects of the internet.

With regard to this, Chenai Chair adds, "One indicator of meaningful access is that a person can move between being a content producer and a consumer, and be able to put out information."

Radhika Gajjala, an academic of Indian origin based in North America whose work deals with the context of gender, non-profit organisations, labour and technology in Asia and North America, has also worked on access and relies largely on ethnography and interviews. She insists that we must draw a distinction between inclusion and access, because inclusion is when people in a position of authority are going to include you, i.e. it is top-down, and access is from the bottom up. When pressed on what this means, Radhika Gajjala says:

> The corporate sector is vying to *include* more people with access to devices and data as this can be a potential market for their services or products, but also where cheap labour comes from, particularly in Asia. It is in relation to this distinction between access and inclusion that agency of people becomes important – because with access they are able to choose which of the available technologies to use, and to consider whether it is indeed bettering their lives, and to participate and negotiate – within limits – on their own terms within cultures around technology.

She adds, "We need to ask certain questions to determine if we are talking about access or inclusion – Who is making the decisions? And what is at the stake in talking about voice and agency? Do people have choice, and what choices do they make?" She further says that we often see access and/or inclusion as being or becoming part of the mainstream, but it would make more sense that access works in different directions.

This perspective is also shared by Maggie Mapondera, an activist working with JASS in Africa and with organising peasant and landless women against climate change in Africa. She says:

> I am not convinced that our goal should be to get those women online. Rather what we should do is broaden the way that we connect our conversations online with the traditional and "conventional" ways such as radio and television so that our messages filter through to corners we do not usually reach. That way we would have brought those critical voices on board. We cannot allow ourselves to think that the internet is the "be all and end all" of communication. We have to be context appropriate, and appropriate to the people that we are speaking to.

She adds that we have to think about whether if a woman tells her story, her communities of interest (geographical and otherwise) will have access to it.

Similarly, Serene Lim discusses indigenous communities and how they are to be assimilated

244 Deen-Swarray, M. *et al.* (2012). Op. cit.

into the mainstream through the use of technology – referring in particular to services like Free Basics – that limits their experience of the internet to select services and websites. She says, "The reality is, indigenous peoples want sustainable development, not an imposed top-bottom approach of development that does not consider the values of their customary practices, their connection to the land and natural resources, and their identity and dignity." Indigenous peoples have fought for the right to education, proper health care, information and public participation, basically their right to development. "Zero rating services such as Free Basics and many other subsidised data strategies operate based on the presumption that everyone needs only access to several pre-selected services, and that a watered down internet access to those who do not have access is better than having none." Much like the other scholars she cautions that access need not move in one direction alone: "We should start by not assuming that indigenous peoples need the internet we are familiar with today, that they need to be part of this globalised information network system." Access should after all not be defined in relation to a specific app such as Free Basics that promises to be the "first step towards digital equality."[245]

Infrastructural barriers to access include electricity and public facilities, affordability of both devices and data, availability of relevant and appropriate content, and lastly supportive and enabling policy environments. In the interviews we also explored in detail a few gaps and areas not picked up through the literature review, including cultural and social barriers that are especially significant for women and accessibility barriers for people with disabilities.

Barriers to access

Infrastructure

For Research ICT Africa, there are gendered, social and cultural dimensions to infrastructure. Chenai Chair speaks of the study done by Research ICT on public Wi-Fi and accessibility of these public access points in South Africa, in both Pretoria and Cape Town. Public Wi-Fi has to be deployed with understanding of social and cultural contexts in society, particularly in relation to gender and age.

Chenai Chair says:

> In Cape Town, it was hard for people to even know that the public Wi-Fi is available. While this system actually worked for young people who would gather at these public Wi-Fi points for internet access, it was not available to others. There are many assumptions in such a project that if you just grant free Wi-Fi, then the rest of the details around access will just take care of themselves. This for instance doesn't work for a woman with a child, who can then access internet only by coming out and standing at a particular Wi-Fi access point. These Wi-Fi points were also in spaces that were dangerous for women to be present or to linger for a substantial amount of time, and this offsets how public Wi-Fi should be able to ensure equal access to men and women.

In relation to other vulnerable groups or people such as trans people or gender non-conforming persons, Chenai Chair says that it was hard to include them in the research because that was not the mandate of the project and it was difficult to surface these issues through the interviews and focus group discussions with people in rural and peri-urban areas. "Even sexuality was not openly discussed."

Affordability

While affordability of devices and data is definitely a concern, especially in rural and peri-urban areas, schemes such as Free Basics do not fulfill the internet requirements of people and are therefore not effective in providing meaningful access. An essential component of how meaningful access is understood is that it should allow you the freedom to choose and curate your experience online, and this is definitely curtailed by zero rating schemes.

245 Lim, S. (2017, 7 September). Op. cit.

Dhanaraj Thakur who works in Web Foundation speaks of two projects in their foundation: one on Women's Rights Online and the other the Alliance for Affordable Internet (A4AI). The latter is a network of women's groups in over 10 countries and focuses primarily on policy advocacy to promote women's rights online with governments, and this also looks at affordability of data and devices as well. The Affordability Reports put out annually by A4AI analyse "the policy frameworks in place across 58 low- and middle-income countries to determine what changes countries have made to drive prices down and expand access – and what areas they should focus on to enable affordable connectivity for all." Dhanaraj Thakur says, "This project is an instance where access is linked to the creating of environs for women where they can explore and enjoy their rights."

A4AI also shares online the affordability drivers index that measures what the government has put in place (in relation to infrastructure, cost of data, etc.) that can lower the overall cost structure for broadband. On the basis of these reports the Web Foundation does lobbying around broadband policies, and also looks at how gender responsive they are. Their objective by doing so is to make the people who frame broadband policies aware that there is a gender digital gap in the global South and that they will never achieve universal access if women are not online, and to help them determine what practical strategies the government can deploy to bring women online.

Digital skills, language and appropriate content

Digital skills or digital literacy are broadly the set of skills and competencies required to navigate in the contemporary information or knowledge society, including effective use of devices such as computers, smart phones, laptops, etc. Digital skills can be quite a barrier especially in rural areas. Chenai Chair says, "Digital skills are quite crucial even if they seem mundane. You need to be equipped with sufficient knowledge to be able to curate your experiences online. Just in terms of showing people 'here is Google and you can type a word and search' – it is a skill."

In relation to access, Colnodo in Colombia is another organisation that has done substantial activism and training in digital skills. Olga Paz speaks of their project and also the context in which they do their work: "In relation to access, mostly it's the rural women who are left behind, but also housewives and women in the informal economy don't have proper access to ICTs and the internet, or skills or opportunities to develop an interest in getting trained." There has been an effort in the city of Bogotá to train women who are local leaders and Colnodo participated in this experience, training almost 9,000 women in 2014 and 2015 in community centres.

Colnodo also used the Gender Evaluation Methodology (GEM) developed by APC WNSP to ascertain if ICTs are actually improving the conditions of women's lives and gender relations, and whether they promote positive change in a broader sense at the individual, institutional, community and social levels. In particular, Colnodo was looking at telecentres – one of the nodes for accessing the internet. The organisation was a key actor in the training of telecentre facilitators and constituencies, in partnership with other organisations, movements and universities. Through these trainings, it raised questions on the participation of women and men in telecentres, moving beyond just equity to look at relevance of content, ease of use, networks formed around the telecentres and the promotion of telecentre activities that would be of value to women.

Olga Paz points out that younger women and girls are getting more easily involved in their ICT workshops and activities and in these spaces young men and boys are open to their presence. But with more mature women there are still some barriers – they are seen as not being "smart enough" or they do not have the necessary skills or they cannot afford their own devices. When it comes to civil society organisations (CSOs) as well Olga Paz sees a continuation of this trend: "Even established women's organisations don't have open policies around ICT uses and development. They see ICTs as tools for communications, but they don't analyse their impact or their current development and don't get involved in discussing ICT or internet policies."

Radhika Gajjala complicates the picture around access and skills or digital literacy by pointing out that "the internet is a social, cultural, relational space; it is a communicative and relational medium and not just a medium of transmission, and is a part of community and everyday practices. In particular the social aspect is shaped by histories of colonialism, and the politics of technology determine how any one technology surfaces at any time."

In relation to digital skills and relevant content, we also explore the topic of online learning and education models that use ICTs in more detail later in this chapter.

Cultural and social barriers

Even though the Web Foundation does not focus specifically on cultural and social barriers in their work, they have found that these are extremely relevant to the question of access. Dhanaraj Thakur shares some learnings from the A4AI project:

> In some contexts, the cultural barriers are obvious, such as men who don't allow women access to devices. In others, women don't have enough mobility and the spaces (like cybercafés) where internet can be accessed are not safe or comfortable for a woman or girl to go to or to use.

He adds:

> Some of these findings feed into our policy recommendations. For example, one of the findings from recent survey research was that in some contexts women are more likely than men to use public Wi-Fi, but they are less likely to use public access centres (such as a library or other public spaces where computers are made available). If you have your own device, then accessing public Wi-Fi for a woman can be quite comfortable. On the basis of this we made a specific set of recommendations of how governments should invest more in public Wi-Fi as a way of getting women online and how this Wi-Fi system should be set up.[246]

In relation to cultural issues, Dhanaraj Thakur also points to the work done by GSMA and LIRNEasia in Myanmar (explored in detail in Chapter 1) on strategies to address cultural barriers. He says, "The LIRNEasia report reveals that if there was a programme that provided or subsidised a second phone per household then it is likely that the woman would get to have this device." However he also adds, "Each time there is a strategy put in place that targets a particular group, whether gender, race or ethnicity based, then it gets pushback from everyone else, and that makes it hard to sustain. Which is why this project of the second phone sounds good because it is targeting women but doing so indirectly." He adds, "Obviously we are working in a context where policy makers are largely men." Referring to the difficulty of measuring cultural barriers within projects that require the measurement of access indicators, he says, "However, for our policy work it is hard to translate what we understand as the social and cultural barriers, and so we also focus on access and affordability, use of the internet and skills."

Through the work of Research ICT Africa, Chenai Chair finds that often women do not have time to explore the internet because of gendered relations within the family and the way distribution of labour takes place inside the home. She adds, "What is also at play are the perceptions people have about what you are doing online, and this relates to women as well as the internet – whether it is meeting other men or being exposed to pornography and 'blue films'." Many of those interviewed felt that the range of cultural and social issues that could have an impact on access varies across regions, and it would be hard to generalise from specific contexts to a global scale.

246 Web Foundation. (2017, 26 July). Safety First: Making Public WiFi Work for Users. *Web Foundation.* webfoundation.org/2017/07/safety-first-making-public-wifi-work-for-users

Availability of sex- or gender-disaggregated data

One of the major concerns is the lack of gender-disaggregated data that is available for research and analysis, and this was marked out in the literature review as well. In the discussion related to access at the expert group meeting the lack of availability of relevant data was highlighted as a central concern. The primary need is for sex- or gender-disaggregated data, but there is a need to break down the data further as well.

One of the concerns was that there needs to be data about the number of connections or difference in access to broadband internet as opposed to access through mobile phones, public access points, etc.

At the expert group meeting, Elena Pavan (University of Trento, Italy) offered a slightly different view on the need for data:

> Whenever we say we need more sex-desegregated data we're kind of assuming basically that the data that are available would somehow help us in having a more fine-grained picture, which is not necessarily the case. The data we need might not be the data that we know is available with private corporations and governments. Maybe different questions should be asked about the same phenomenon in different places. And so maybe the data thing is also a bigger box that needs to be unpacked and also approached critically.

This aspect of data opens up a field of enquiry and advocacy for activists and researchers, as a number of companies do share data at regular intervals and this can lead to new grounds of analysis. At the expert group meeting, Safia Khan (University of Cape Town/Development Policy Research Unit) also pointed out that doing regular data audits is a part of the job of ministries of health and other government bodies, and this is actually not done by the ICT ministry and we should push for this. She adds, "Our understanding of the data we are looking for needs to get more nuanced." Data collection like this, similar to the census and other government surveys, should be anonymised both at the individual and household levels.

Education

Education plays an important role for women and links to their economic prospects and opportunities. It is important to look at education, including but not limited to digital skills and literacy, as being both a conduit for providing access and a way in which access is made more meaningful for people. Education is part of the basic rights people have under international law and is intrinsically linked to the right to self determination as well, to determine one's own life, choices, future, standard of living, access to culture, etc.

There is growing discourse around the lack of gender equity in the fields of science, technology, engineering and math (STEM) and related policy environments, and this is connected to the experiences of women and gender non-conforming people in technology spaces (whether within companies, CSOs or movements) and the relational and cultural dynamics in/around spaces where only cisgender men are seen as having the requisite technological skills and knowledge.

But the first step towards women in STEM or diversity in these fields has to be in education. With regard to this we interviewed Taskeen Adam who does research on online education and currently works on massive open online courses (MOOCs) and the creation of local content, and she has also worked on initiatives such as the One Laptop per Child (OLPC) project in sub-Saharan Africa, particularly Rwanda.

Taskeen Adam says that even though this project did not focus on gender in particular and was more concerned with class disparities, gender always plays a role in terms of participation. She also spoke about the role of governments:

> In both South Africa and Rwanda, the government set out to have paperless classrooms – a highly tech enabled environment, but there was no focus on maintenance, on professional development of teachers or the integration of computers into all aspects of life. This was all about aspiring to Western standards of technology, rather than creating tech to suit African contexts.

Referring particularly to how technology is adopted in education projects in Africa, she says:

> We are recipients of technology rather than creators of it and this is the point at which we lose our agency. This dynamic also extends to content. In One Laptop per Child there was some effort at creating local and relevant content. And generally with MOOCs that come from Western universities, people just do these courses and there is no connection to where people are from. There is a huge loss of local and indigenous knowledge.

In contrast to some of the perceptions on moving beyond access, Taskeen Adam thought that even a smart phone in the hand of a person can be empowering. "You can google a word and find its meaning – even this can be empowerment." But she also observed that in certain areas girls have to walk farther for an education or through areas that are dangerous, and in these contexts women and girls might actually benefit from online education. She felt that the future for women looks slightly brighter as the idea of computers and technology being a solely male domain is getting broken down.

In relation to access and education, Taskeen Adam also pointed out that safety was a factor that was not initially considered by the project implementers in the One Laptop per Child project in Rwanda. Here tablets were rolled out as part of the project and handed to the children. The idea was that with a tablet or laptop per child, the entire family would have access to the device and learn to use it. When the project was implemented people realised it was too dangerous for the kids to walk home carrying the laptops, and so the devices were kept locked in school storerooms, defeating the intention of handing them out in the first place.

Disability and access

Though the world of ICTs is said to have offered radical new possibilities to people with disabilities, through text-to-speech programmes, global positioning systems, disability-friendly product design, virtual reality systems, e-governance and many other innovations, it remains to be seen whether there is universal and meaningful access that also takes into consideration the intersections between disability and other social and economic aspects. One of the people we spoke to is Nirmita Narasimhan (Senior Fellow and Programme Director, Global Initiative for Inclusive ICTs) who works with the Centre for Internet & Society in Bangalore (CIS) on accessibility for people with disability. One of her earlier projects was to do a report on government websites in terms of accessibility for people with disability, especially those websites offering schemes and projects for people with disability. The websites were examined for their compliance to universal accessibility standards for people with disabilities.[247]

She says about their work since the early 2000s:

> The focus was on (a) electronic accessibility policy and guidelines formulation (website accessibility standards, digital accessibility policy standards, etc.), (b) IP and accessibility – Copyright Act and Marrakesh Treaty,[248] (c) research producing reports which are globally used such as on accessible ICTs for situations of disasters and emergencies, editing the e-accessibility hand book for policy makers, report on mobile

247 Narsimhan, N. (Ed.). (2010). *e-Accessibility Policy Handbook for Persons with Disabilities*. Bangalore: Centre for Internet & Society. cis-india.org/accessibility/publications/e-accessibility

248 World Intellectual Property Organization. (2013). *Marrakesh Treaty to Facilitate Access to Published Works by Visually Impaired Persons and Persons with Print Disabilities* www.wipo.int/wipolex/en/details.jsp?id=13169

phone accessibility, etc. and (d) technology development – the text to speech project and capacity building for web developers.

Most of the work done by Nirmita Narasimhan as part of CIS, Global Initiative for Inclusive ICTs and in her own capacity, has been on policy formulation and research – including guidance on accessibility standards, particularly for people with disabilities.[249] This was accompanied by trainings in India and neighbouring countries as well. Another aspect of the work has been to study and develop open source text to speech software for Indian languages,[250] to deal with the dual barriers of both language as well as visual impairment.

She explains the reason for the paucity of research on disability and technology that focuses on gender and accessibility: "The mainstream in itself is challenging in terms of changing policy and standards for people with disability, so it has been hard to look at gender in particular, though one of the potential areas for future research is definitely that." The focus has been on assistive technology and implementation, doing surveys and research involving people with disability and their parents to see what their requirements are, and conducting events that simplify and explain the requirements of accessibility to governments and other actors. Even though Nirmita Narasimhan says that it was hard to centre gender in these processes, especially in relation to research, she remarks that there were definitely less girls and women at most of the trainings that they did. She says, "In the Asian region there is not much research taking place now, and there are mostly projects and initiatives."

Summary of research recommendations from interviews

From a global South perspective, the importance of access to ICTs as a base-level requirement is evidently clear, but the terms and language around access need to be interrogated from a feminist perspective. To support such analysis, the broad research recommendations are as outlined below:

- Unpacking the language of access and its uses in different policy forums, corporate agendas and in civil society discourse: framing access within human rights discourse rather than development discourse, especially around economic empowerment.
- Understanding and promoting meaningful and substantial access: building a feminist framework to surface power dynamics tied to meaningful access.
- Understanding the relationship between education and access, and exploring the potential of online learning: learning how accessible and viable the online educational system is for women; addressing challenges for women from middle- and low-income countries.
- Bringing a gender focus to research on disability and accessibility standards: mapping specific challenges faced by women, trans and gender non-conforming people with disabilities.
- Closely examining data on the difference in access through mobile phones and broadband: understanding what the difference means in terms of use by people.
- Examining the role of cultural and social barriers to access, especially in varied local contexts and differing understandings of digital technology, especially the internet.
- Understanding intersectionality in relation to barriers to access: the role of race, caste, ethnicity, cultural and social barriers.

249 Narsimhan, N. (2010). Op. cit.

250 eSpeak: Affordable text-to-speech software from India. zeroproject.org/practice/affordable-text-to-speech-software-from-india

ECONOMY AND LABOUR

In the context of high-income countries one of the relevant concerns raised since the 1990s has been about the presence of women in technology careers and education, and more broadly in STEM. However, through the interviews and the expert group meeting it becomes apparent that from a global South perspective what is perhaps more relevant is gendered labour. Gendered labour broadly refers to the ways in which labour and work is divided amongst people based on gender expression and roles, and certain kinds of labour are expected particularly of women – it refers to a historical split of productive vs reproductive work, or work inside and outside the domestic sphere. Research into the connection between gendered labour and technology in the global South is evident as early as the 1980s with Aihwa Ong's book and research addressing women workers in the electronics industry in Malaysia,[251] and her subsequent research doing a comparative analysis of the flexible labour regimes in Asia and Mexico.[252] As shared in the previous chapter, gendered labour is also done online, where women, transgender and gender non-conforming people often have to "enlighten" people on social media and other forums about the impacts of sexism, colourism, racism and casteism.[253] In this section we begin by unpacking what the relations between gendered labour and technology are in the context of middle- and low-income countries and postcolonial contexts where the market economy dominates many of the newer relations, especially of employment, even as the discourse around empowerment and agency, particularly of women (as opposed to other gender expressions), has taken hold.

Gendered labour and empowerment

During and following WSIS, the various agencies that were part of the drive for ICT4D took on the task of ensuring the entry of women into the information economy with some degree of empowerment and agency, through the provision of basic digital literacy and training. Examining these projects is essential in order to unpack the language of empowerment and agency used by an array of actors in this field – ranging from the state to companies to civil society.

We had a conversation with Lisa McLaughin who worked with IT for Change in Bangalore, Karnataka, on a project that examined the impact of training in digital literacy offered to women in Karantaka and Kerala (India) as part of the Public Private Partnerships (PPPs) that emerged from WSIS. The study looked at whether this training impacted the lives of women, their employment and their sense of agency and empowerment.[254]

Lisa McLaughlin says:

> What surprised me was that in all these PPPs imagined at WSIS as being part of the agenda of using ICTs for development, in this instance particularly for women's empowerment, development and entrepreneurship – no one asked the women what they wanted. These projects were not based on any understanding of women's needs from surveys or research.

She describes the various micro-enterprises and informal and small-scale enterprises that were enthusiastic about the training. In Karnataka there were women with their own enterprises in pickle making, garment production, boutique establishment, etc. and even a few designers and coders, and in the historically left-leaning Kerala the women were largely involved in development-oriented government programmes.

Discussing the neoliberal discourse that offers the promise of entrepreneurship, Lisa McLaughlin states:

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251 Ong, A. (1987). *Spirits of Resistance and Capitalist Discipline: Factory Women in Malaysia*. SUNY Press. Also see Lim, L. (1978). *Women Workers in Multinational Corporations: The Case of the Electronics Industry in Malaysia and Singapore*. Michigan Feminist Studies.

252 Ong, A. (1991). The gender and labour politics of postmodernity. *Annual Review of Anthropology*, *20*, 279-309.

253 Nakamura. L. (2017). Op. cit.

254 Gurumurthy, A., Jha, M., & McLaughlin, L. (2012). Op.cit.

> Our original findings were consistent with those which critique the prevailing notion that enterprising *individuals* are the heart and soul of the information society. We understood the work that predominates in the information society as based in a neoliberal dynamic, pervasive in governmental and intergovernmental policies, educational/vocational institutions, and workplaces across the world, in which the objective is to create labouring individuals who are "workforce ready", self-reliant, independent, and focused on their own "upward mobility". This is a view of neoliberalism's subject as the enterprising worker who is expected to invent and reinvent herself in order to succeed in the new capitalist order. Much of the critique is that embedded within neoliberal practices is a deep resentment of unions and the working class rank-and-file because these represent struggles for engaged social justice and appear as artifacts of agentic democratic citizenship that is out of place on the terrain of neoliberalised individuality.

According to her, within this discourse the poor are framed as consumers and economic actors, not as citizens, thereby privileging the figure of the individual social entrepreneur who needs marketing strategies rather than democratic actions that will ensure social equity.

Another understanding of these processes is that they in fact create modes for extraction of labour from low- and middle-income countries in Asia and Africa for the global capitalist and neoliberal information economy. While agreeing with this, Lisa McLaughlin says:

> It's a very American idea that someone like Mark Zuckerberg the atomistic individual will become an entrepreneur. Social entrepreneurship is even understood or perceived as a movement in some countries in the global South but such projects are about ensuring social control rather than justice or rights of citizenship. Much of the literature around entrepreneurship or management in fact sees social justice as inefficient.

Specifically in relation to the gender aspect of the project, she adds:

> Teaching women ICT skills does not change anything about the deep structures within which they are disempowered. Often we heard of the dissatisfaction of women with the basic nature of the skills they were being taught. In the village of Poovar in Kerala where predominantly the fishing community lives, we talked to a number of women who were wives of fishermen, some were very young and could be in their teens but many had babies. They actually laughed when asked about learning computer skills. One woman said about their experience in this project for learning digital skills, "We saw the computers for one or two days and then they were taken away."

It was these women who felt most deeply that they were not helped at all by this process for their alleged development.

Lisa McLaughlin also talks about the rhetoric around these projects:

> We noted that mainstream gender and development policies and practices use expressions such as "unleashing individual women's entrepreneurial energies" and "mainstreaming women into corporate-led public-private partnership initiatives" instead of confronting structural inequalities which establish women as the preferred labourers in the lowest ranks of occupations associated with new technologies.

The initial findings of this project were that several of the self-help groups that "brokered" the relationships between state governments, trainers and rural and peri-urban women were forms of community that disrupted the progress of neoliberalism and capitalism. This is because even within this induction into the capitalist information economy, women were entering not as individuals but as groups and communities. Lisa McLaughlin explains:

> In contrast to the highly individualised conception of the entrepreneur, created by NGOs, corporations and the state, the women entrepreneurs themselves have explored arenas of collaboration with other entrepreneurs and formed themselves into groups and collectives. Women have an immense amount of faith in such collectives and understand these to be important support groups which are more powerful than the individual alone.

But in 2017, her findings differ considerably and she says, "Having re-thought our earlier findings, I now believe that both individualistic and social (more collective) approaches to women, ICT4D, and entrepreneurship work to create and sustain a neoliberal environment."

It is evident here that projects that claim partnership with community should be examined particularly closely and questions on structure, decision making and autonomy need to be asked. At the expert group meeting, there was a strong emphasis that the analysis of digital technology and ICTs is not possible without the analysis of the political economy they are embedded in.

Gendered labour in technology spaces

One of the dominant research themes that emerge in relation to economy and labour is *how labour and particularly labour by women and gender nonconforming people is used, extracted and exchanged in the information economy*. Research in this includes the experience of care workers/nurses in India enabled and trained in the use of smart phones, migrant domestic workers across Asia who often unionise and form networks through mobile phones, and the role of women in the manufacturing industry and mining and extractive industries in South East Asia and East Asia.

A study by Verite finds that the official estimate for the gender breakdown of women labourers in the electronics industry as per the government of Malaysia is 60% while in reality it is probably closer to 70-80%.[255] In this industry, forced labour conditions are common, impacting almost 40% of those employed and including workers being stuck in a cycle of recruitment debt, migrants being duped into jobs, passport retention and so on. GenderIT did an edition on gender, labour and technology that coincided with the Distributed Denial of Women (DDoW) strike called on 23 February 2017 to protest against the lack of diversity in the fields of technology, and led by Coraline Ada Ehmke,[256] who has previously worked on the Contributor Covenant for open source and free software projects. In this edition, Sonia Randhawa shed light on the precarious role of women labourers in the information economy, particularly those employed for their allegedly dexterity and made to work for long hours in the manufacturing industry for gadgets and phones.[257]

Radhika Gajjala has conducted research on care workers in parts of Asia, particularly India where young women and some men are employed by non-resident Indians to take care of the latter's parents who are usually old, ailing and/or sick. Care workers are trained and habituated to the use of the smart phone so while on the one hand they are able to communicate effectively with their employers, on the other they are often on duty constantly. They are also sometimes barred from using the device for any personal use. In this scenario, Radhika Gajjala questions whether the use of ICTs is linked to empowerment. She also states that in these situations young women care workers may have escaped structures of caste and class hierarchy as experienced in their villages or the peri-urban areas they come from, but they have in fact exchanged these for different hierarchies with the employers in the context of care work. A sort of technologised labour that is expected of them in these situations does in fact give them a salary, perhaps even relative autonomy and a free day off once a week, but cannot strictly speaking be considered empowerment and the fullness of agency as imagined in feminist discourses. Radhika Gajjala says, "Technology is meant to better our lives – but then questions of agency come up. Who is making the decisions, do people have a choice and what

255 Verite. (2014). *Forced labour in the production of electronic goods in Malaysia: A Comprehensive Study of Scope and Characteristics*. Verite. www.verite.org/wp-content/uploads/2016/11/VeriteForcedLaborMalaysianElectronics2014.pdf

256 Heidel, E. (2006, 27 September). Tu presencia en el mundo como una afirmación política: la historia de Coraline Ada. *GenderIT.org.* www.genderit.org/es/articles/columna-tu-presencia-en-el-mundo-como-una-afirmaci-n-pol-tica-la-historia-de-coraline-ada

257 Randhawa, S. (2017, 21 February). Ten facts about your computer: Health, hardware and the toll on women. *GenderIT.org*. www.genderit.org/node/4900

choices do they make, what technology is chosen and what for, and what is at stake in talking about voice and agency?"

She links the care workers' role to the economy in which they suddenly find themselves, unhinged from previous production processes (especially those in the informal sector) in such a way that they are either unemployed or working as domestic workers, weavers and so on. For them carework is in fact a step up and the courses and training come with the promise of upward mobility, including the certification processes/diplomas that are required for care work. In this space even if men are employed they become managers while women remain at the level of care workers and care providers. She adds, "If I asked any of the care workers whether this tech device i.e. the smart phone is empowering to you, most would say yes." But Radhika Gajjala's analysis is that empowerment here is layered and relative: "Social media connects you to all this stuff and initially that is empowering and fantastic, but my work load increases because the employer can contact me at any time. How does that structure your life? It apparently gives flexibility but implies that the worker is available at home and around the clock." Radhika Gajalla also connects this to the experience of women who are employed in tech industries and other spaces and allowed to work from home or given some flexibility, but are still made constantly available.

Tony Roberts, Institute of Development Studies (IDS), is keen to explore the use of mobile phones and broadly ICTs by migrant workers within Asia who are living far from home. In the pilot study done by IDS they found that women were using these devices to maintain family relations and close ties but also occasionally for organising among themselves. Such women workers are at the intersection of various axes of exclusion like gender, race and class and are often denied complete citizenship rights in their places of residence.

There is a gap in the research that looks specifically at what is happening in relation to gender in the context of "communicative capitalism" and the "sharing economy". While there is a rise of women drivers in companies that provide taxi services like Uber or even apps that provide only women drivers, this kind of disaggregated labour faces some of the same problems as informal labour – not being able to form unions that can effectively make demands, instability in income, lack of benefits, pension and welfare, etc.[258] Dr. Smita Patil, in her article titled "Debrahmanizing Online Sphere: On Larger Questions of Caste, Gender and Patriarchy"[259] however points out that the critique of globalisation, neoliberalism and the economic and other opportunities it affords, cannot be assumed to be the same for various groups. She states that this critique is missing the voices of those marginal to the systems of economy, specifically the Dalits, Bahujans and Adivasis in India who are struggling with caste-based hierarchies that maintain the current status quo.

At the expert group meeting Becky Faith (IDS) shared the necessity of looking at developments in the future of work in relation to automation in particular and how it is gendered labour that is most at risk especially in developing countries.[260] She also emphasised that this is not necessarily only a problem in the global South, but extends to high-income countries as well.

Many of those participating in this discussion felt that a broader framework is needed in terms of understanding the context of the digital economy within neoliberalism, the impact of the capitalist free market as well as global organisations like International Monetary Fund, and the specific nature of the "sharing economy". Becky Faith proposed that the study of economy and labour from a feminist perspective be recast as feminist digital economics, a specific discipline, to reiterate the importance of this field and how it impacts people's lives. Also that it should draw from existing understandings in feminist economics to unpack what is considered labour and to take into account domestic work, care work and many other forms of gendered labour. Ruth Nyambura raised the question, "Across the whole ICT chain, what is

258 Scheiber, N. (2017, 23 May). Uber to repay millions to drivers. *New York Times.* www.nytimes.com/2017/05/23/business/economy/uber-drivers-tax.html

259 Patil, S. (2017, 6 September). Op. cit.

260 Faith, B. (2017, 17 May). Automation and the future of work; bringing women into the debate. *Institute of Development Studies.* www.ids.ac.uk/opinion/automation-and-the-future-of-work-bringing-women-into-the-debate

the possibility of greater movement building, with concrete analysis of the labour regime in particular?" This also extends to research, to look at dynamics related to gender and labour across mining, manufacturing, distribution and use of digital technology, especially ICTs.

Free/libre and open source software movements and gender

Free/libre and open source software (FLOSS) and its concomitant movements around content through copyleft and Creative Commons have been hugely influential in changing habits and behaviours of individuals while simultaneously challenging the domination of market economies. While many projects do exist, including AkiraChix[261] and S.K.I.R.T.S[262] in Kenya, FAT (Feminist Approach to Technology) in India[263] and Kéfir in Mexico, this particular domain was not mentioned in relation to research. Similar to cybersecurity, these initiatives are a huge part of the activism and practice of a feminist politics of technology. But there is a growing discourse around the philosophy of feminist servers and libraries that bears a closer look as it touches on autonomous archiving projects led by people themselves and also on practices of ethical research and sharing of knowledge.

Feminist autonomous infrastructure

There is a nascent radical discourse emerging around feminist autonomous infrastructure and actions by movements and groups in Mexico, Brazil, Colombia and other countries in Latin America looking to build autonomy and alternate systems of economy, exchange, growth, labour and mutual care and respect. This includes groups like Kéfir and Vedeta, and individual activists, artists, geeks and archivists who have set up feminist servers, libraries and hubs.[264] There is a strong sense of technology as not separate from humans but as similar to them, as fallible and prone to error – after all the internet for all its ability to effect change is a system of underground wires and cables that is susceptible to attack.[265]

Cybersecurity is currently understood as tools to protect privacy in online spaces used by human rights workers, journalists, filmmakers, radical campaigns and movements, largely against incursions by states and corporations. Online GBV introduces into this the question of security for people in the context of intimate relationships with family or sexual partners, and also generally of the violence and online harassment that women and others (black people, minorities) are vulnerable to if they are doing journalism, human rights work and so on.[266] Most workshops around cybersecurity stress this vulnerability, the importance of privacy for the *individual*, and on protecting yourself and defending against attacks. The groups working on feminist autonomous infrastructure and on bringing together physical defence and cybersecurity want to shift this framework of understanding cybersecurity and protection through a framework of care and ethics within and outside communities. In a recent interview, Liliana Zaragoza Cano (Lili_Anaz, Laboratorio de Interconectividades - Interconectivities Laboratory, Mexico) explains this by saying: "We use combat as a form of resistance to work continuously to keep us strong, joyful and alive in the face of mass surveillance, espionage, persecution and the war against our bodies." Nadege from Kefir, a small organisation in Mexico, says, "We're using other languages to explain why it's important to shift from an idea of service towards the notion of common goods that people of trust are maintaining and managing."[267]

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261 akirachix.com

262 https://hivos.org/skirts-kenya

263 http://www.fat-net.org

264 kefir.red

265 Nadege/Ganesh. (2016, 5 October). The backbone of our thirsty complicities: From internet hiccups to collective synapsis at AWID2016. *GenderIT.org*. www.genderit.org/node/4816/

266 Gardiner, B., Mansfied, M., Anderson, I., Holder, J., Louter, D., & Ulmau, M. (2016, 12 April). The web we want: The dark side of Guardian comments. *The Guardian*. www.theguardian.com/technology/2016/apr/12/the-dark-side-of-guardian-comments

267 Radloff, J. (2017, 7 November). Interview with Lili_Anaz: The body that knows itself…. *GenderIT.org*. www.genderit.org/node/5030/

With regard to diversity in progressive and technology spaces, Nadege says: "One thing is thinking [that] diversity and intersectionality [are] important, another thing is how you really embed that in your day-to-day flow. How you do things, feel things. And I think there are priorities." This kind of self-examination has easily been pushed away in earlier iterations of feminist politics around technology. The result of this is hugely apparent in that those doing research in civil society organisations and in academia tend to uniformly be from relatively privileged positions of class, race, caste, ability, and even gender. Research within the field of gender and technology has always privileged the voices of cisgender women, who have discounted their own hierarchical relationship with gender non-conforming persons, intersex and trans people and participated in a refusal to center the latter's issues. Part of building movements on open source and free software is opening the discourse to participants from the margins, and, according to Nadege:

> This can't be an "elite" conversation between people that can and have privileges that allow them to have this discussion, no, let's do it in other places as well. Many communities have thought about this long way back in not necessarily internet-related contexts. They have and have had reflections that are very similar in terms of intimacy and opening and closing up, resistance, creativity, autonomy... So let's just intersect and touch each other more.

However, the precarity of such experiments is marked; they are either overshadowed by far more powerful discourses or swept up in the necessities of the members needing to make a living and moving on. Their articulations however do point to a direction of care, responsibility and ethics that perhaps might be the only reasonable direction remaining. At the expert group meeting one of the topics discussed was the possibility of a feminist commons as well (aside from infrastructure) – what does a feminist platform economy look like that recognises affective labour and equity in labour relations in a digital economy? The question raised was: How can feminist infrastructure increase the resilience of the internet, as network, content and architecture, to have more resistance against hegemonic corporate and state power?

Work cultures in technology spaces

As an engineer and researcher around technology and education, Taskeen Adam spoke about her personal journey in the field of technology as a woman engineer. "Even as a woman with a full hijab on, oxygen mask on my face, and even if I was the manager of the biggest power systems – I would still be hit on." This emphasises what Judith Owigar, the founder of AkiraChix in Kenya and a software engineer, also says, as do countless other women in the field of technology and science: "I am waiting for the day when it is not amazing, when there are women engineers, coders and we are not admired simply for being here or making it. This should be normal."[268]

In the expert group meeting one of the issues touched upon was the work culture in technology spaces (companies, start-ups) and allegedly progressive environments dealing with FLOSS and online and offline technology – spaces where sexism, sexual harassment and violence take place often. There is a a lack of diversity in technology spaces and culture and this contributes to an environment where sexual harassment and other kinds of behaviour, including hate speech, racism, casteism, "gaslighting", are almost taken for granted in spite of the recent insistence on self-regulatory norms and laws. Whether in relation to mainstream corporations and start-ups[269] or more progressive spaces,[270] there has been a series of conversations taking place on necessary changes to policy, ways of working, and ways to combat the sexual harassment and violence in technology-related spaces.[271]

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268 Aavriti, N. (2017, 23 February). A woman coder's journey: Interview with Judith Owigar *GenderIT.org.* www.genderit.org/feminist-talk/entering-tech-spaces

269 Yeoh, C. (2017, 3 July). Shedding Light on the "Black Box of Inappropriateness". *Breadcrumbs: A Series of Interconnected Events*. cherylyeoh.com/2017/07/03/shedding-light-on-the-black-box-of-inappropriateness

270 Poitras, L. (2016). *Risk.* en.wikipedia.org/wiki/Risk_(film)

271 Campaign: *We will boycott any event with known sexual predators in attendance – and encourage others to do the*

Sexual harassment and rape culture in workspaces and their related counterpart of online GBV (especially on social media platforms like Facebook and Twitter) is an issue that we address in more detail in the section on embodiment, but there is a need to understand that violence is actually not just one facet of the gendered experience but an important element in the construction of gender in totality – this extends to and from the home, educational and work spaces, public spaces, etc. and profoundly impacts the sense of self, mobility and freedom of women, transgender and gender non-conforming people.

Summary of research recommendations from interviews

Globalisation and neoliberalism are experienced in varied ways – women and others who are marginalised or vulnerable have a different and even contradictory experience of the information/knowledge society, which does open up avenues of expression, sharing, movements and even empowerment. At the same time, how certain kinds of labour are gendered (affective, reproductive, labour that requires "nimble fingers", etc.) is essential to unpack. To support a feminist analysis of labour, gender and digital technology, the following research recommendations were made:

- Understanding the rhetoric around empowerment- and agency-driven projects within neoliberalism, globalisation and capitalism.
- Understanding local challenges and intersectional factors impacting women's ability to develop their digital capacities; the connection between women in governance roles and STEM.
- Understanding the impact of digital technology-driven enterprises, companies and projects (the complexity of this), e.g. Uber hiring women cab drivers, care workers gaining/losing social and economic mobility.
- Examining how economic models lead to exploitation of gendered labour at the lowest rungs (contract work, precarious labour, unsafe conditions, long working hours).
- Examining the future of automation and the impact that this will have on specific industries including business process outsourcing in Asia and Africa, and manufacturing and electronics industries in Asia where women have been employed.
- Changing the model of extractive research or methodology and building better ethical practices around knowledge building and sharing.
- Scrutinising work cultures in terms of diversity, sexual harassment, sexual violence, sexism, "gaslighting" and addressing the professional undermining of women, transgender and gender non-conforming persons in technology-related spaces (companies, start-ups, content generators, freelance work for coders and designers) and allegedly progressive movement spaces around FLOSS and technology.

EMBODIMENT

A focus on body, corporeality, embodiment and subjectivity becomes acutely important to a feminist analysis and is crucial to understanding the multiplicities of human experience. In the field of feminist science studies, Asha Achuthan's research examines embodiment and gender, particularly in relation to the experience of women within the medical field. This research is focused on the experiences of *dais* or midwives who are being trained in more scientific and medically acceptable processes of delivering babies, thereby being asked to relinquish their own methods and ways of knowing. There is a loss of systems of knowing and the duality that most postcolonial subjects experience when they are incorporated into the flows of the global and/or national information economy. On the relationship between human and technology Asha Achuthan says:

same. protectourspaces.org

> Critiques of the objectification and homogenization of bodies by technology have, in their associated critique of value-neutrality and objectivity in science, shifted to a more phenomenological approach. Notions of touch and embodiment have tried to address questions of this relationship through porosity, lack of separation, and so on, and deserve greater attention.[272]

Many of the topics dealt with in this section in different ways dissolve the binary of human and technology, whether by exploring sexuality and gender expression through forums and blogs online, online GBV, or datafication. Yet the interviews with researchers point to how it is knowledge that comes from lived experience that has to be the basis of feminist research, advocacy around law and policy, and an understanding of human nature.

One of the concerns raised by Elena Pavan (University of Trento, Italy) at the expert group meeting was that online GBV is overwhelming and will probably dominate all the issues within the thematic of embodiment but also broadly within the field of research on gender and digital technology, and that we should be watchful of this. However, as is evident from the recent mobilising around #MeToo and other movements, GBV as an experience forms the basis of solidarity and movement building and is also intrinsic to the politics of feminist research. This stretches from feminist infrastructure in Latin America that emphasises the body as a fundamental unit of infrastructure that we begin with (and whose security and safety we establish) to all the policy, advocacy and research around online GBV that for the last decade has worked hard to establish its legitimacy in addressing a form of violence in international and national law. Now that there is some acceptance of online GBV as a phenomenon that requires attention in a way that centres the rights of people attacked, the need is to unpack the various forms it takes, what older and new forms of violence there are, who is being targeted, and the forms of masculinity, nationalism, toxicity and rape culture that online GBV is connected to.

Online gender-based violence

In the period between 2005 and 2013 there was a gradual shift in perceptions of online GBV, which originally was dismissed as a violation by institutions of justice (police, legislature, judgments) and as a legitimate cause within movements for women's rights. Yet groups such as APC WRP persisted, joined by several local groups including the campaign Take Back the Tech. In the current climate (post 2013) there is recognition of the nature and extent of the problem – as rooted in a widespread culture of misogyny and shaming women about gender roles and transgressions around sexuality and sex. Initially it was difficult to get groups to put this topic on their agenda and it was through Take Back the Tech's global campaign that various local campaigners first took on the project of addressing online GBV in contexts from the Democratic Republic of Congo to Pakistan.

272 Achuthan, A. (2011). *Re:wiring Bodies*. Bangalore: Centre for Internet & Society. cis-india.org/raw/histories-of-the-internet/blogs/rewiring-bodies

Policy advocacy around online GBV has greatly benefited from the research in specific contexts and countries – particularly the seven-country study by APC WRP (in the Democratic Republic of Congo, Bosnia and Herzegovina, Colombia, Kenya, Mexico, Pakistan and the Philippines). Here is a list of the various forms taken by online GBV in different contexts:

- Taking and/or uploading and distributing intimate photos and/or videos without consent
- Altering photos/videos and uploading in pornography sites
- Harassment: women receiving insulting text messages; receiving comments and messages online using sexualised insults
- Stalking
- Blackmail/threats: a girl receiving messages asking her to have sex or her family will be harmed
- Accessing and/or dissemination of private data, or doxxing
- Creation of fake profile/identity theft: profile containing the name and picture of the woman but with derogatory descriptions
- Hate speech: calling for women to be murdered, raped, etc. and trolling
- Rape/sexual violence: woman forced to have sex
- Harassment and stalking by intimate partners
- Targeting of women celebrities and outspoken women.

As stated in the publication *Good questions on technology related violence*:

> Technology-related VAW infringes on women's right to self-determination and bodily integrity. It impacts on women's capacity to move freely, without fear of surveillance. It denies them the opportunity to craft their own identities online, and to form and engage in socially and politically meaningful interactions.[273]

More recently, since 2013 there have been several statements from the Special Rapporteur on violence against women Dubravka Šimonović (Croatia) and from the Special Rapporteur on freedom of expression David Kaye (USA),[274] that differently address the problems posed by online GBV, the ways in which it manifests online and extends offline, and how it has a chilling effect on the speech of women and leads to censorship and exclusion of their views. Another concern has been the use of online GBV to target *women human rights defenders, journalists, semi-celebrities, and ordinary women who are open about their sexuality*. It is evident from several recorded instances of online GBV that it is increasingly being used as a tool to restore the status quo of hegemonic masculinity whenever women visibly occupy public and online spaces.

Dhanaraj Thakur (Web Foundation) speaks of the study that he conducted in Jamaica on how online GBV was understood and addressed. He says:

273 Malhotra, N. (2015). *Good questions on technology-related violence.* Association for Progressive Communications. www.apc.org/en/pubs/good-questions-technology-related-violence

274 United Nations Office of the Human Rights Commissioner Media Unit. (2017, 8 March). UN experts urge States and companies to address online gender-based abuse but warn against censorship. www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=21317&LangID=E

> We did a national survey to gauge the extent of the problem and attitudes towards it. In our estimation our report did not raise sufficient awareness, and there is still not enough recognition of the problem of online harassment, bullying and violence, including physical violence, that it leads to. Policy makers tended to be unaware of the problem even though our research indicated that online violence disproportionately targets women and girls. In the Caribbean there was also a particular reality of boys and men being under represented in the education system and girls faring better – which tends to overshadow most discussions on gender equality, for example leading to questions as to why there was not as much attention given to boys and men who were vulnerable to violence as well as unemployment.

Dhanaraj Thakur also recounts his difficulty in finding women collaborators in technology spaces and that in the context of Jamaica, the government's focus on technology is largely in terms of national security and not that of the citizens: "Governments and policy makers are enamoured with economic development. People put aside or place less value on human rights issues." He speaks about a recent instance in Jamaica:

> Recently, the Tambourine Army, a group of feminists, raised the issue of GBV broadly including online violence. In one instance, the leader of the group called out her several abusers online, naming them. Government used existing cybersecurity laws and defamation laws to arrest her. Since then, they have dropped the case. But this is just one instance where even though it is the woman being harassed, she is targeted by the police and legal mechanisms.

According to him, civil society is not yet strong enough and does not raise issues around human rights online. "The narrative in middle- and low-income countries that is more powerful now is around economic empowerment."

He acknowledges that at least at the international level there has been some change in the discourse around online GBV but he says that the progress has been slow. He adds:

> Race, gender and class play a role as well. The Caribbean is a former European colony and the impact of colonialism is evident. Certain groups, both men and women, have far more privilege relative to others. There is no specific recognition for the rights of gay and trans people in the Caribbean and particularly trans communities online have to be secret.

Another critical gap in the conversations around online GBV relates to the implementation of laws. It is only recently that the laws that address online GBV have come into place (after 2010 in most countries) and a few studies have looked at the implementation aspect of these laws. Aside from the APC WRP studies that focus on legal, domestic and international mechanisms, there has been a recent study by Point of View on the efficacy of new laws on non-consensual sharing of intimate images (NCII).

Shift from VAW to GBV

One of the shifts in the last 10 years in the terms used to describe violence signals moving away from "violence against women" and towards "gender-based violence". This mirrors a similar shift in national and even the global or international discourse in women's movements implying that though it remains prominent, violence against women is not the only concern for them and they take cognisance of all violence that is done on the basis of gender – including violence against transwomen, transmen and gender non-conforming persons. In certain contexts like Brazil and parts of Latin America there are high rates of transfemicides, and not nearly enough research or advocacy has been carried out regarding these systemic incidents. In the initial survey conducted for this study, the group Ellas Tienen Nombre (They have a name) looked at the high rate of femicides and did a mapping of where the women were attacked over a period of three years. Ivonne Ramirez speaks of this mapping and says, "The aims are: Recover the names of these victims, have index cards with their general data, georeferencing the location where their bodies were found, highlight the most dangerous red lights for women in the city." She adds that

data on transfemicides is particularly hard to monitor because it is often not documented in mass media.

It is also the conjunction of the women's movements online and queer and sexuality-based groups that has led to an expansion of the terrain that the women's groups seek to cover. Sex, sexuality and sexual expression, especially in some parts of the world, are still not easy topics to negotiate and it has increasingly become the agenda of the women's movements online, and to some extent internet rights groups, to take on these difficult topics, as evidenced by the inclusion of freedom of expression, pornography, sex and sexuality in the articulations around the Feminist Principles of the Internet. That being said most of the research mapped in this study deals with women as the subjects, and only in a few instances are people of varied gender expression expressly included.

Non-consensual sharing of intimate images (NCII)

We spoke to Mariana Giorgetti Valente at length about the research on NCII by the InternetLab in Brazil. This was a three-year project that focused on research and collecting evidence around online GBV to ensure that it is understood in its complexity and taken seriously by policy and law makers. Part of their project was also to teach a course in the University of Sao Paulo around their research. Mariana Giorgetti Valente's own trajectory has followed the paths of feminist scholarship and involved studying race and gender in Brazil, but the major challenge of this project was to bring together scholarship on internet rights and feminism. The group also attempted to raise online GBV in varied ways in different spaces that either dealt with women's rights movements and feminism, or internet rights and human rights.

Mariana Giorgetti Valente says:

> It seemed like the internet was a lawless land where women and girls were repeatedly subjected to NCII and had no resources even when their consent was clearly violated and bodies displayed without permission. We looked at the legal system and it seemed that in fact there were laws to deal with NCII – but the problem was implementation and enforcement.

In the book by InternetLab[275] the focus is on legal decisions pronounced by one court of appeals in Sao Paulo and how it has addressed NCII – the analysis is based on the reasoning the judges use and the precedents they rely on. "Through the cases we found that there were instances of extortions and threats, women forced to have sex and relationships with men on the basis of the intimate images," says Mariana Giorgetti Valente. "All the problems that women report in relation to physical violence were also present in online GBV and it was part of the same patriarchal heteronormative culture."

About their methodology for research she explains:

> We wanted to know about cases that don't reach the judiciary as well, and this part of the research was pieced together through interviews with lawyers, law enforcement agencies and also some women, though most were not willing to speak because of the fear of being found out and the shame.

This research project was largely meant to build evidence for policy-making efforts around online GBV:

> It has given credence and validity to our critiques of a bill that is currently being proposed in parliament as a solution to online GBV. We first challenged the notion that there is no legal mechanism in place, because there is. One of the major problems with the law is that it makes online GBV a private lawsuit, which implies that if the person wants to pursue their complaint then they have to hire a private lawyer. This clearly means that a

275 InternetLab. (2016, 16 July). InternetLab releases the book "the Body is the Code". *InternetLab.* www.internetlab.org.br/en/news/internetlab-releases-the-book-the-body-is-the-code

> woman with relative privilege, more money, access to lawyers and networks, would be able to file and pursue a case, but poorer women cannot. This is one aspect of the law that should have been changed but it was not with the proposed bill.

Mariana Giorgetti Valente adds, "This is a discussion in which clearly we need inputs from feminists who have done research on violence in police stations, or on how morality is talked about in courts."

She states that this is a very different moment from what Brazil was like even four years ago:

> We have had a Feminist Spring here in the last few years. Issues around women's rights, gender and feminism are in a rare spotlight right now, and some issues that we have had forever – for instance with conference panels populated only by men, called manels – are now issues in the mainstream as well. But at the same time there is a growing conservative movement as well, which is possibly a backlash to the rise of feminism. Similar to the Women against Donald Trump movement and Women's March on 21 January 2017 in USA, we have had more and more women speaking out about political issues, and not even just those that relate to women and women's rights.

As part of the research, she also took part in a conversation with Facebook representatives along with leaders and activists from indigenous, queer, feminist, trans and other groups. "While Facebook was insisting on shifting the discussion to tactics of countering speech with speech, the activists present were resistant to this idea," she explained. "These activists can see the importance of internet and of having a safe space online. They insisted that Facebook needs to engage in the conversation on online GBV."

She agrees that contradictions within society are also played out online but points to some distinctions as well:

> The feminist discourse in the 90s was about equality of access – it was about a different internet. Now our bodies are online, and so is the way we relate to the world. This is another moment, but I am not discounting those earlier narratives or thinking of them as naive.

She adds, "A network of feminist researchers would be something we would really profit from – it would be interesting to have collaborations on such a platform as well."

The research by InternetLab looks at legislation, but also particularly at judicial decisions at the local level, in district courts. In terms of gaps in relation to online GBV, Mariana Giorgetti Valente speaks about the debate on criminalisation in the context of Brazil, saying:

> Most of those in jail are poor and black. In that context to talk about the criminalisation of NCII we are speaking from a privileged standpoint, where our relatives are not being killed or oppressed by the police. We need to, along with internet policy groups, go deeper into the real needs of people who do not have the problems we are seeing from our positions.

At the same time she points to the danger of some of the positions taken by internet rights groups that are vehemently against all forms of criminalisation, arguing that they tend to not take women's rights issues seriously. "Some groups take a very dogmatic stance that platforms should not be held liable under any circumstance." Addressing the fact that NCII is also a problem specifically with minors, she adds:

> The problem with incarceration for certain offences is that often the crimes were by teenagers on teenagers. Some common practices were also accepted within society, like the making of slut lists in schools, which were prompting girls to drop out, with two suicides having taken place. Often the parents were not told either and what it points to is the lack of a support structure. Here again the need is to get the list removed – that is the first step. This is what came out of our interviews, and it's not so much about judicial intervention as it is about content being taken down and the processes for this not being obscure to the ordinary person.

At the expert group meeting Horacio Sívori spoke about a study done in Brazil and remarked on how the circulation of private or sexual images (without consent) particularly leads to consequences (shame, loss of reputation, jobs, etc.) when such images go *offline.* He stressed that the justice system that is in place, formal or informal, should respond to what the woman (or girl) wants. He pointed out that when we think of NCII and even leaks of intimate images we tend to think of them as leaking into "an abstract, wide open, online field" but actually it is when the images reach those networks grounded in face-to-face relations (like the family, church, school, etc.) that problems arise.

Another gaping hole in the scoping of this field is that not much attention is paid to aggressors. Horacio Sívori said that aggressors also organise and they have agency too, and these acts or attributes are not to be viewed, examined and understood only in relation to the experience of the "victim". "There is a need to unpack violence, we tend to look at it as a black box. Violence is generative as well, it produces knowledge, it educates and it organises community." He cautioned that it is not about nationalism, religious or other kinds of groupings around which either violence or masculinity is organised. What is at the center of NCII is not just revenge but also humiliation, and "humiliating women is very central to establishing boys' masculinity."

Trans, gender non-conforming and intersex people: Online violence

Trans, gender non-conforming, non-binary and intersex people are often included in projects for "LGBTI" communities, but very rarely the focus. For this mapping study we interviewed Neo Musangi, a non-binary artist and researcher based in Kenya, previously part of Iranti-org, a media advocacy organisation that defends the rights of lesbians, transgender and intersex persons in Africa. In relation to how trans, gender non-conforming, non-binary and intersex people are included or not in knowledge-making projects and research, they said, "We are a footnote ... 'non binary people' is just something that is thrown into the soup because it's not okay to not mention us. But I don't think there is any effort taken or research done."

They spoke about the kind of online violence they faced that was particularly debilitating: "Those attacks constantly remind me that 'you are not real' and it's confusing because I did start doubting myself, and asking – what am I?" At the same time they point to the ways in which people connect and communities are formed online:

> The language I use to talk about myself and to explain myself – it's very internet based. It's not everyday language to say I'm non-binary or gender non-conforming or gender queer. There was no way that language was going to get to me somewhere in Kenya. You start from a place of "I don't know what is going on with me, I'm so confused, and I'm the only one who is like this." That is the usual story, and then you go online and you find others.

Neo Musangi also points to the fractures within sexuality and queer circles, largely brought about by external factors such as differing laws and funding mechanisms:

> The context of Kenya is more lenient towards those who are transgender than those who are LGB. Homosexual is just disgusting; with intersex it can be corrected and even with transgender people the discourse is not as moral. But in terms of the movement itself and the distancing between the transgender community and the LGB community, it emanates from the funding environment and that's really unfortunate but true. "LGBTI" organisations multiply but they don't do any work with trans or intersex people, so trans and intersex people are saying NO, we are separate.

While there is relatively less research on the particular relationship trans, gender non-conforming and intersex people share with technology and the internet, the little existing work, like that of Beatriz Preciardo on gender hacking and collusions of technology and human at the molecular

level,[276] Jack Halberstam on female masculinity and trans,[277] Judith Butler on gender performativity,[278] is insightful and rich. From the global South there are even fewer projects of knowledge building and research in this area, and not much archival material on the history of people and communities. Most projects and initiatives are focused on building urgently needed resources to escape family violence or address medical needs, but a substantial amount of work is taking place on questions of legitimacy, legal rights and reform.[279]

State hegemony, masculinity and the link to online GBV

One of the gaps pointed out by the interviewees was the lack of research on online GBV in contexts that are already precarious because of state violence, especially complicated like in Egypt, or where there are existing movements for self-determination like in Palestine and Kashmir. Last year in GenderIT we did in-depth interviews with Kashmiri women and gender non-conforming activists who spoke at length about how the woman's body is the site of contestation online and offline, and especially how outspoken women bear the brunt of hate speech against Kashmiris by Indians and the Indian state against the minority Muslim population.[280] *A common strand to be observed in many countries is that high nationalist sentiment in particular seems to fuel online GBV and creates an allowance for attacking women, women journalists, activists and women human rights defenders*.

Yara Sallam, an Egyptian feminist and lawyer who is currently working in Egypt, has been interested in monitoring and researching online GBV in the difficult and fluctuating context of Egypt. She was arrested for being at a protest in mid-2014. She interviewed Ghadeer Ahmed, a young activist in Egypt who uses Facebook often as her platform and for the group Girl's Revolution to start highlighting how online violence affects women's lives differently.

Yara Sallam speaks about the kind of hostility and aggression that Ghadeer Ahmed faces because she discusses various issues related to sexual and bodily rights, shares belly dancing videos, discusses political issues and is very confrontational, is open about her beliefs and not very shy to talk to mainstream media. Yara Sallam says, "For most others in civil society it is as if Ghadeer is being attacked the same as others, but I thought there was a gender aspect to it." Ghadeer Ahmed's ex-boyfriend attempted to use an intimate video of hers as blackmail but instead she shared it publicly to reclaim it and not give in to his blackmail. Yara Sallam says:

> We are living in Egypt, where hundreds of people have disappeared and oppressive laws are being adopted, so women's rights and issues are at the end of the list and particularly something like online GBV. But Ghadeer had to move out of her apartment when her Facebook account was discovered by her neighbours and now she is aware that her personal and physical security is at stake because of her online activity. She doesn't reveal her address or other details online.

Addressing the prevalent attitudes towards the idea of online violence, she adds:

> People consider this to be a very light or not serious thing. They say, "It is just messages," but these are rape threats and death threats. And add to this the techie community in

276 Preciado, B. (2013). Testo Junkie: Sex, Drugs, and Biopolitics. *E-flux Journal #44.* www.e-flux.com/journal/44/60141/testo-junkie-sex-drugs-and-biopolitics/

277 Halberstam, J. (2017). *Trans*: A Quick and Quirky Account of Gender Variability.* Volume 3 of American Studies Now: Critical Histories of the Present Series. University of California Press.

278 Williams, C. (2015). Gender Performance: The TransAdvocate interviews Judith Butler. *TransAdvocate*. transadvocate.com/gender-performance-the-transadvocate-interviews-judith-butler_n_13652.htm

279 Sampoorna for trans* and intersex indians by trans* and intersex indians across the globe. sampoornawg.wixsite.com/sampoorna; see also Iranti-org, a media advocacy organisation that defends the rights of lesbians, transgender and intersex persons in Africa: www.iranti-org.co.za

280 Aavriti, N. (2016, 2 September). Curfew on solidarities: Interviews with Kashmiri activists on censorship and lockdown. *GenderITorg.* www.genderit.org/articles/ecurfew-kashmir

> Egypt is rather small, and not many women are interested or present there. The paradox is that the use of social media is huge in Egypt, the revolution and the events following are always accompanied and fuelled by social media sharing, but I don't see gender as part of the conversation ever when it comes to online presence.

State surveillance of online activity seems to be growing in Egypt. Yara Sallam says:

> When we stormed the state security buildings following the revolution in January 2011, people found that there were transcripts of chats and conversations between ordinary people, and not just activists. We realised then that who is or who is not being surveilled is not something we can know or predict.

In the issue paper written for APC WRP, Nicole Shephard sets up a conceptual frame for the understanding of big data and dataveillance as feminist issues, and in the articles that accompany this she also examines the particular role of surveillance and algorithmic discrimination.[281]

Intersectionality: The overlap with hate speech

Aggressions and hostility online are pervasive and particularly directed towards black people and people of colour, Muslims, Dalits, Romani people and others, and here too it has been found that women of these communities face higher levels of online GBV.[282] In an article[283] that Kerieva McCormick wrote for the GenderIT edition,[284] she explores the aggressions that are unleashed online against Romani people and Romani women through the comments sections of articles, the sharing of videos of harassment and violence and so on. She speaks of how these images and videos play a particular role in the formation of identity and self for young Roma women online:

> This confrontation is a representation of re-emerging paradigms in humiliation that the community is currently negotiating – the heightening of security measures by European state agencies (in relation to restrictions on mobility, evictions, and deportations) on the one hand, and a populace who feel entitled (and are emboldened by the current political climate) to dehumanise and humiliate without impunity on the other.

The acts of violence and humiliation that take place are now available for consumption to a far bigger audience via social media, and this feeds into what Kerieva Mccormick calls a "deficit inclusion", "a community only mentioned in the public space and/or media in a negative context (e.g. stereotypes of criminality, mental deficiency et al.), or at social policy level as a 'pariah nation' or 'problem'." From her research on the responses of young Roma women to what they see online, it is evident that questions of embodiment and visibility are central to the oppressions faced by Roma women and also to their reclamation of power. She ends by saying hopefully, "I look forward to the future of guiding and watching these young women grow as community leaders – and what Generation Z will create with technology and a whole lot of attitude at their fingertips."

According to many interviewees, one of the critical gaps in relation to online GBV is lack of material on its intersection with other social divisions and exclusions based on ethnicity, religion, caste, race[285] and even class. In India, there is rampant casteism online in the form of jokes, memes and comedy shows and there was a recent attempt to prosecute one of the

281 Shephard, N. (2016). Op. cit.

282 Gardiner, B. *et al.* (2016, 12 April). Op.cit.

283 McCormick, K. (2017, 4 September). Op. cit.

284 www.genderit.org/edition/we-cannot-be-what-we-cannot-see-mapping-gaps

285 Out of the 10 most abused writers on *The Guardian* website since 2006, eight are women and the two men are black. Gardiner, B. *et al.* (2016, 12 April). Op. cit.

creators of the offensive material.[286] The debate on online GBV does overlap with the one on hate speech against minorities, caste atrocities and racism. In the interet rights discourse, most civil society organisations stick to a liberal view of free speech that is against censorship of even controversial content since this would be a slippery slope, and allow the state far too much control over speech. However, from the perspective of feminists and scholars of race, ethnicity and caste studies it is evident that the contours of this debate need to be mapped constructively and not only in terms of binary positions for and against free expression.[287]

Datafication and the body

Growth of big data and progressive datafication of various aspects of our bodies, lives, cities and environs is taking place across the globe at a varying pace in different countries and contexts. In relation to big data and sexual surveillance, Nicole Shephard, in an issue paper for APC, states that "The body in its virtual iteration has the potential to be re-constituted, controlled, marketised, and quite literally sold to the highest bidder." Since gendered and feminist analyses look specifically at the impact on women and on the body, unpacking dataveillance poses certain methodological questions that have to be worked through and this is the quandary faced by most researchers in the field. The impact of big data lies in how datasets of people are used, analysed and reconfigured through various algorithms and processes. Feminist research and analysis has to determine the particular impacts of dataveillance on women, transgender and gender non-conforming persons, and on lived and embodied experiences, and also address how these and other vulnerable populations are affected when they are reduced to datasets rather than people.[288] It is here that shared learnings through networks would be particularly valuable.

We interviewed Alexandrine Pirlot de Corbion of Privacy International (PI) about their project on gender, privacy and surveillance. PI has seven partners in Latin America, three in Africa, three in the MENA region, and five partners in Asia. Alexandrine Pirlot de Corbion says, "Data protection and regulation around it is coming up as a big issue now, for instance the connection between elections, data, algorithms and profiling." In relation to PI's work with countries in the global South, she says:

> We have already seen what data intensive systems can do in some countries in the West, and part of our agenda is also to point out these risks and factors to the organisations we partner with. To do this we develop material for our partners articulating what data intensive systems are, what data protection principles we should follow, looking at fintech and smart cities that will use data systems. Right to privacy is the framework that we use but now our work largely pertains to data intensive systems.

She admits that PI has a lot to learn about how to frame this issue through a gender-sensitive approach that also looks at how certain groups and individuals who are vulnerable are impacted. She adds, "For instance we are shifting from the gender binary to understand different gender expressions, and understanding the shifts in this field particularly through the work of groups like Tactical Tech and APC WRP."

Alexandrine Pirlot de Corbion shares that they are at the initial stages in their research projects on mapping gender and privacy, and along with their partners from different countries have brought out a collection of articles and reports for International Women's Day (8 March 2017).[289]

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286 Shende, V. (2017, 7 January). Fight against the Misogyny & Casteism of 'Best Indian Memes for Creamy Teens', FB page. *Roundtable India:News.* roundtableindia.co.in/index.php?option=com_content&view=article&id=8917:best-indian-memes&catid=129:events-and-activism&Itemid=195

287 Aziz, Z. A. (2017). Op. cit.; Pellizzer, V. (2016, 5 October). Feminist politics of freedom of speech: Reflections on session in AWID 2016. *GenderIT edition: Fortitude and change in AWID.* www.genderit.org/node/4814

288 Foucault, M. (1997). The Birth of Biopolitics. *Ethics, Subjectivity, and Truth,* 73-79. New Press.

289 Privacy International. (2017, 8 March). *2017 International Women's Day Report.* Privacy International. privacyinter-

This report represented the activities of different organisations working on gender and privacy. Derechos Digitales in Chile looked at the risk to women's privacy, created a series of materials around privacy and surveillance and also held workshops focusing on the role of menstrual apps. The promotional material states:

> This poster shows key questions about menstrual apps and surveillance, evidencing they are not neutral technology. In order to be aware of this, app designers should provide transparency around user concerns, taking into consideration that users are providing sensitive data about natural cycles and intimate life.[290]

The concern raised by apps around menstruation, fertility and health, and wearables such as fitness trackers and pacers, is also that corporations will create a model of what a woman's healthy body should look, be or behave like and this might conform more to corporate interests and agendas than to research on women's health.

Digital Rights Foundation in Pakistan looked at the risks faced by women journalists in terms of their security and privacy, Foundation for Media Alternatives in the Philippines looked at online GBV, and in Kenya the National Coalition for Human Rights Defenders looked at the threats faced by women human rights defenders in a context of arbitrary surveillance and physical violence.[291]

In relation to health care, period apps, pacers and fitness trackers play a role, but as Alexandrine Pirlot de Corbion says:

> There have been studies by PI that link data got through social media surveillance to credit scores, bank loans and so on – and similarly could link social media data to health apps like period trackers. There is enough ground for concern around the gendered implications of surveillance.

Shymla Khan (Digital Rights Foundation, Pakistan) states that surveillance is often looked at as a national security issue, and "implicit in this discourse is the conceptualisation of surveillance as uniform and the 'surveilled' subject as exclusively male." She argues that an understanding of how vulnerable and oppressed groups are particularly impacted by surveillance is limited by a gender neutral understanding of the topic:

> The spectre of 1984-esque critiques simply do not account for the disproportionate impact of surveillance on the oppressed groups in society and the complex intersectionalities that inform that oppression. The feminist project, built on many feminist concepts such as the male gaze and self-regulation of gendered stereotypes, has been applied to the surveillance and control by technology.[292]

Alexandrine Pirlot de Corbion sketched out the current areas of research for PI in relation to privacy and surveillance, in which gender has come up in various ways. These include fintech, smart cities, cybersecurity and the spearheading of several of these projects by governments in the global South. She says:

> There is some attempt to parse out the gendered aspects in these issues. For instance we are aware that smart cities projects are imagined around citizens who are probably male, have the same interests and kinds of jobs, and this is a tailored approach to how a city is lived in which doesn't take into account that women navigate and experience cities differently. Issues of safety limit the shortcuts they can take, some of them don't walk alone at night – but does this reflect in the decisions by policy makers and this is important to ask because smart cities are meant to reflect the needs of the citizens.

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national.org/sites/default/files/IWD_2017.pdf

290 Derechos Digitales. (2017, 8 March). Privacy Zines and Menstrual App Events. *2017 International Women's Day Report.* Privacy International. privacyinternational.org/sites/default/files/IWD_2017.pdf

291 Ibid.

292 Khan, S. (2016, 2 December). Op. cit.

In the article on algorithmic discrimination, Nicole Shephard says:

> The resulting tension between counting/being counted/being included in the data and the struggle against non-consensual and disempowering uses of data is not easily resolved, nor should it be. Reflexivity, after all, has long been one of feminism's flagships for good reasons.[293]

From the point of view of PI's research, Alexandrine Pirlot de Corbion says:

> Data intensive systems require that you leave a trail. But what if you don't have a smartphone, don't shop online, don't have a credit card. It is difficult to research this because the harm will come much later on. A general example we often use to explain this is how insurance companies use social media to decide whether the buyer of insurance is viable. As an example, a person who texts late at night, has relatives who have a problem with law enforcement, or "likes" photos of people drinking could be considered high risk for insurance, and would have to pay a higher insurance premium.

On the subject of algorithmic discrimination she explains that data is collected from various sources including social media, biometrics and other datasets. The problem according to her is that, "*There is less individual control over the conclusions being made about individual people* even if this can have severe implications on those who are counted in the data but also on those who are often left out by policy makers."

She also says:

> What is troubling for me is that people are viewed as datasets – as consumers who generate more data so that the companies make more profit and the state has more control over us. We are being seen as data. People are dehumanised and this also feeds into the discourse of women as second class citizens. Here is also where I find a link to online violence and harassment – it is easy to make threats and be aggressive because we have distanced ourselves from the fact that there is a human person whom we are attacking. This is what I find most discomfiting about a society that is built around data and how we are thinking about the future.

One of the questions we asked was about methodologies of such research on datafication and Alexandrine Pirlot de Corbion spoke about the various research methods that have been used by PI, not all relevant to gender, for gathering primary and secondary data:

> PI does interviews with government officials, industry and with beneficiaries. We use "right to information" requests to find out what data is held by the government; interviews; focus group discussions with "users"; and also speaking to employees of different technology companies that create products and develop the technology.

We also spoke to Zara Rahman of The Engine Room, and she pointed out how there is a necessity to talk about responsible data practices for civil society organisations (CSOs) that are doing international development programming. In their handbook on responsible data, The Engine Room seeks to support responsible thinking as the development community grapples with relatively new social and ethical challenges stemming from data use.[294] The handbook explains in simple terms how everyone is essentially working with data in their research and that there is a need for responsible and ethical handling of data in research that foregrounds people.

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293 Shephard, N. (2016, 5 December). Algorithmic discrmination and the feminist politics of being in the data. *GenderIT edition: Economic, social and cultural rights and the internet: The feminist take*. www.genderit.org/feminist-talk/algorithmic-discrimination-and-feminist-politics

294 The Hand-book of the Modern Development Specialist. responsibledata.io/resources/handbook

National identity cards and dataveillance

Many of the interviewees we spoke to also expressed grave concern over the development of national identity projects without regard for principles of privacy or safeguarding the citizen from surveillance and arbitrary policing. National identity cards are at various stages of development in different countries, and while there is a lot of activism and research around these systems in different countries, particularly with the liberal free speech movement and the internet rights community, there has been minimal examination of the implications on gender, or even on other vulnerable groups. Mythri Prasad-Aleyamma (Institute for Human Development) examines how both the legal mechanism and the liberal opposition to unique national identity cards in India are premised around notions of good citizenship in a digital economy, and especially around keeping out the Muslims or migrants at the border or within the country.[295] Many who are concerned about the surveillance implications of national identity cards are unable to understand that for migrants, refugees and people who are otherwise precarious or at the margins of mainstream development, *being counted in the data* is often seen and experienced as an asset.

As a whole, embodiment as a thematic or *research bucket* covers a vast area of concerns and issues, some of which might seem distant from each other but all of which are relevant to the research in gender and digital technology. Embodied and lived experiences are also the crux of feminist research methodologies. Yet in many different spaces where policy making or research is taking place, the difficulty remains making visible the non-normative body and to bring to the forefront their particular concerns. It is then evident that what also needs to be brought to the research around embodiment are the specific contributions around intersectionality as a theoretical framework and tool. Introduced in the 1980s as a self-evident and heuristic term, intersectionality comes from critical legal studies but is relevant both to activism and research, particularly in exposing how single-axis thinking undermines knowledge production and struggles for social justice.[296] What the framework of embodiment, intersectionality and a contextual analysis of power have brought to the fore in this previous section are the multiple and dynamic ways in which power operates and identity is complicated.

EXPRESSION AS A CROSS-CUTTING THEME

Conflict between freedom of expression and online GBV

A number of internet rights groups express concerns about how laws for online GBV could be used to control forms of sexual or political expression. Internet rights advocates have focused largely on freedom of expression as the primary ground for their activism, research and advocacy. They argue that asking for online GBV to be curbed gives rise to another ground for censorship and accedes further to state or corporate power over speech. Within the community that works on internet rights there is some realisation that another lens by which to look at this debate is to understand the role of online GBV in silencing and chilling the speech of women and those marginalised,[297] rather than only look at it as an issue of civil liberties. In the field of journalism there is already a skewed balance, the majority of journalists are cisgender males and there are relatively fewer women in the field. In a study on female journalists in Europe, Zorana Antonijevic says: "The crucial question is where to

295 Prasad-Aleyamma, M. (2017, 19 July). Resisting Aadhaar, Resisting Islamophobia: A critical look at debates and litigation around Aadhaar. *GenderIT.org*. www.genderit.org/node/4979

296 Williams, C. (2015). Op. cit.

297 Pellizzer, V. (2016, 5 October). Op. cit.

draw the line between freedom of expression and misogyny that encourages violence."[298] Responding to the research by *The Guardian*[299] of how harassment is taking place on their website, Soraya Chemaly writes about the scourge of online harassment and its impact: "Women are more frequently targeted, as so richly illustrated at *The Guardian*, with gendered slurs, hateful commentary, and pornographic photo manipulation because the objectification and dehumanization of women are central to normalizing violence against us."[300] This dehumanisation that she refers to is often used instrumentally against women politicians, leveraging historic discrimination and amplifying double standards that women face in their work, their homes and their everyday lives.

Internet rights groups and think tanks on internet policy issues, like ARTICLE 19[301] and the Citizen Lab,[302] have also been part of the evidence collection and policy reform efforts to address online GBV, in spite of there being some misgivings about how such laws could be broadly used to further censorship by states, or to enhance the power of corporate entities to discipline and control speech. In the official recognition of online GBV as a problem that needs to be tackled, both the Special Rapporteur on violence against women and the Special Rapporteur on freedom of e`xpression have released statements directed towards governments, companies and civil society organisations to address and tackle online GBV while safeguarding freedom of expression. Speaking about the alleged clash between freedom of expression and controlling online GBV, the Special Rapporteur on VAW emphasised the rights of women. "Ensuring an internet free from gender-based violence enhances freedom of expression, as it allows women to fully participate in all areas of life and is integral to women's empowerment."[303]

What also needs to be taken into consideration are the multiple ways in which moral panics and patriarchal controls over the body of the woman play out through state-led projects of censorship and stifling of speech. While the state project of censorship is often built around paternalist notions of protecting women and children, it is mostly women and gender non-conforming people who face censorship, particularly around practices related to sexuality and sexual expression. The Feminist Principles of the Internet (FPIs) in particular look at sexuality, pornography, expression and agency as interlinked concerns, and sexuality as also profoundly about embodiment, desire and pleasure, themes that are often overlooked in the focus on violence in gender-based research.

As stated in the FPI on expression: *We strongly object to the efforts of state and non-state actors to control, surveil, regulate and restrict feminist and queer expression on the internet through technology, legislation or violence. We recognise this as part of the larger political project of moral policing, censorship, and hierarchisation of citizenship and rights*.

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298 Antonijevic, Z. (2016). The media cannot be truly free if women's voices are silenced. B. Gardiner (Ed.), *New Challenges to Freedom of Expression: Countering Online Abuse of Female Journalists.* OSCE. www.osce.org/fom/220411?download=true

299 Gardiner, B. *et al.* (2016, 12 April). Op. cit.

300 Chemaly, S. (2016, 15 April). Online Harassment Is a Social Problem That Requires a Social Response. *Huffington Post.* www.huffingtonpost.com/soraya-chemaly/online-harassment-is-abou_b_9702696.html

301 ARTICLE 19. (2017, 8 March). Breaking the Silence: Protecting women's freedom of expression online and offline. *ARTICLE 19.* www.article19.org/resources/breaking-the-silence-protecting-womens-freedom-of-expression-online-and-offline

302 Deibert, R., Gill, L., Israel, T., Legge, C., Poetranto, I., & Singh, A. (2017, 2 November). *Submission of the Citizen Lab (Munk School of Global Affairs, University of Toronto) to the United Nations Special Rapporteur on violence against women, its causes and consequences, Ms. Dubravka Šimonović.* citizenlab.ca/wp-content/uploads/2017/11/Final-UNSRVAG-CitizenLab.pdf

303 United Nations Office of the Human Rights Commissioner Media Unit. (2017). Op. cit.

Sex, sexuality and freedom of expression

Issues around sex and sexuality were the focus of the Exploratory Research Project into Sexuality and the Internet (EROTICS)[304] that looked at the experience of technology and internet for people who have little access to other kinds of publics due to the multiple forms of discrimination that they face, including their gender, age, class and sexuality. The EROTICS research has continued in three countries in South Asia and is also accompanied by the annual EROTICS survey that similarly looks at the importance of the internet for movements around sexuality in the global South. From 2008 to 2014, the research project EROTICS was carried out through researchers in Brazil, Lebanon, India, South Africa and the USA with marginalised sections of society who use the internet in the exercise of their sexual rights, including young women, transgender communities and lesbian queer activists.

What was stated in the India-specific study remains relevant today as the preoccupations of laws around ICTs are still centred around three key figures of the pirate, the terrorist and the pornographer.[305] The study notes:

> Current directions and recent actions in information and communications technology (ICT) law and policy reflect anxieties around cyberterrorism, resulting in greater regulation of cybercafes, a preoccupation with censoring "obscene" content and protection of children from online harm and sexual content. There are two problems with this: one, that these concerns are not derived from an evidence base and two, that the realities of women users and young people are notably absent.[306]

In the study in Lebanon the findings were focused more on what could be a "successful model of organising for LGBT rights" in the region, and here the authors state that the model they arrived at through the process of their research focused strongly on personal privacy, safety and providing relevant information, and not on *coming out* (which could be deadly in many Arab societies).[307]

The intention of the EROTICS project, as stated by Jac sm Kee in the introduction to the executive summaries, is "to bridge the gap between policy and legislative measures that regulate content and practice on the internet, and the actual lived practices, experiences and concerns of internet users in the exercise of their sexual rights. It aims to promote *evidence-based policy making by engaging in on-the-ground research* with a range of internet users – especially those most affected by internet regulation measures, including young women and people of diverse sexualities."[308] While there are some instances of research that informs policy making and movement building, including a continuation of the EROTICS project in South Asia and the annual EROTICS survey, there is still not enough happening to bolster the movement for legal rights, policy making and visibility in most middle- and low-income countries where homosexuality and/or transgender people are still criminalised.

Sexuality, violence and security

There is precarity to the discourse around sexuality in certain contexts including some parts of Asia, the Middle East and North Africa. Yara Sallam speaks of a report that was published

304 Kee, J. (Ed.). (2011). *EROTICS: Sex, rights and the internet.* APC. www.apc.org/sites/default/files/EROTICS_0.pdf

305 Shah, N. (2007). Subject to Technology: Internet Pornography, Cyber-terrorism and the Indian State. *Inter-Asia Cultural Studies*, *8*(3), 349-366.

306 Ganesh, M., & Bhattacharya, M. (2011). The internet has its dangers but is not a dangerous place: Female internet users in Mumbai negotiate intimacy and harm. In J. Kee (Ed.), *EROTICS: Exploratory research on sexuality and the internet. Executive summary*. APC. www.apc.org/sites/default/files/Erotics_Exec_Summary_2.pdf

307 Moawad, N., & Qiblawi, T. (2011). Who's afraid of the big bad internet? Internet regulation and queer movement in Lebanon. In J. Kee (Ed.), *EROTICS: Exploratory research on sexuality and the internet. Executive summary*. APC. www.apc.org/sites/default/files/Erotics_Exec_Summary_2.pdf

308 Kee, J. (Ed.) (2011). *EROTICS: Exploratory research on sexuality and the internet. Executive summary*. APC. www.apc.org/sites/default/files/Erotics_Exec_Summary_2.pdf

by the Egyptian Initiative for Personal Rights (EIPR) on the crackdown on the LGBT community and the extent to which gay hook-up websites are used to entrap men and then imprison or blackmail them. Even in this difficult context there are a few initiatives – @LoveMattersA is a group Twitter account in Arabic that shares information on bodily rights, and the personal blogs of a couple of women who talk about their body and sex have had a positive impact. Yara Sallam says:

> EIPR's campaign on International Women's Day highlighted stories of Egyptian transwomen and their struggle in the Egyptian society, I believe this initiative around transwomen was received mostly positively and it did not have as much of a backlash as initiatives around gay men, who are more targeted than lesbian women. Even lesbian women are able to live in secrecy but it is gay men who are most targeted.

Esra'a Al Shafei, based in Bahrain, created and now runs a platform for LGBTIQ people to connect online safely and anonymously, and this platform is bilingual and available in both Arabic and English. It is accessed across most MENA countries. She explains:

> There were groups and conversations online before but it was not long before they were either hijacked or bullying and trolling began. And even if that didn't happen then people were just sharing links, there was no space for deep conversations to take place and a sharing of personal stories – and it was that that I was interested in. I wanted to learn and know about the personal stories and how it could impact my own story.

The platform was started with the belief that amplifying the use of technology would reduce the isolation faced by queer youth in the MENA region and the Arab world. Work on it was started in 2009, it was launched in 2010 and made open to all in 2011.

Esra'a al Shafei explains the strategies they came up with to ensure safety, anonymity and privacy on it:

> We gamified the trust aspect – especially to counter the ways in which online platforms are used to entrap LGBTQI people but especially gay men, we created a system where someone on the platform gains points as they use the space and share personal stories. So even for a new person it is easy to see who is trustworthy.

About the risks faced by LGBTQI people, she says:

> In Egypt, Grindr is used to prosecute gay men, in Iraq and other places ISIS will use these online platforms to track queer people and brutally kill them. And this is not isolated to war zones but also takes place in Saudi Arabia. There is a lot of blackmail and extortion based on intimate images that takes place in most of these countries.

Since a big concern for many young people is the perceived contradiction between their sexual choices and their religion's supposed dictats, the platform decided to address this through an "open discussion on how to reconcile faith to their sexuality – even teenagers come on the site and say, 'I have feelings for my friend and I know that is not acceptable as per the Quran.' We try to protect these teenagers too and post everywhere on the site that people should not share physical details of where they are and should use the shield of anonymity that the site provides. You can't ever be safe online and this is something that we tell our users often."

She says that in order to try and ensure security for their users and the space, messages are encrypted, there is a dedicated server for this site, a server administrator ensures that the website is not being attacked or users tracked, and warning safety messages are sent out to every user who posts on the site.

The effects of such a platform don't manifest only "online":

> The website has helped in offline links as well – there are Ahwaa chapters in Egypt, Bahrain, one potentially in UAE and so on. Ahwaa is used along with other platforms such as Twitter, Facebook and WhatsApp for any kind of organising. In every country there are little movements around sexuality and events like movie screenings are

organised through the website and other safe gatherings as well. There is no Pride of course, and the only country in which such organising is imaginable is Lebanon.

In concluding this section around embodiment and sexuality, what seems evident is that there is a need for local level research around sexuality, sexual orientation and gender expression in relation to the internet and digital technology, rather than only an imposition of international "progressive" norms that are often perceived as aggressive intrusions.[309] The presence of organisations like Ahwaa, Coalition of African Lesbians,[310] National Gay & Lesbian Human Rights Commission in Kenya[311] and Sampoorna in India,[312] and the scholarship that exists in this area, indicate that the work around research, legal reform, community and practices needs to be supported at the local level.

Movements and sharing of resources

One of the remarkable knowledge-making and sharing exercises around sexuality has been the Sexuality and Disability (S&D) blog[313] run by Point of View, which shares personal essays around sex, sexuality and the body by people who are living with disability and health issues. Nidhi Goyal, who created this website and blog, reveals the impetus for starting the S&D blog:

> Point of View pioneered this online resource called Sexuality and Disability, and the idea was to start bringing out the conversation around disability and sexuality with women with disabilities. If you look at our online resource it is not information or policy heavy. Our concept for the website is, "You are a woman. You are interested in knowing about your body. You need this information." There are many prejudices around disability. There is the whole idea or notion of asexuality, the stigma of you not being desired, of being sexless, of not having desired anybody or of being hypersexual – all of these misconceptions are floating around. But through this website is where we want to talk to you directly. The whole premise of the project was that women with disabilities are also human beings and that the stigma around sexuality is a big myth.

Why the S&D blog is a unique experiment in both building a community and knowledge making is evident after one year of its existence – there is no similar resource which is talking across disability and across a spectrum of sexuality, and it is this that makes the blog an insightful resource. In a recent article on mental health and relationships, writer Sneha Rajaram says, "No other aspect of a mentally ill life is as tightly knotted as this (relationships) – not functionality, not work, not the need for happiness and not legacy."[314]

Another writer, Antara Telang, shares, "A sci-fi enthusiast became intensely excited at the possibility that he could be flirting with a cyborg. I had a handful of boys throw words like 'brave' and 'inspirational' at me. However, most of my Tinder experiences were similar to those that nondisabled women have."[315] In a recent article on food intolerance and illness, the writer Unmana Dutta ends with saying, "The answer perhaps lies in something I've learned from the disability rights movement as well as feminism: anyone who thinks they are independent is kidding themselves. What we need is more circles of mutual dependence, where we can

309 Coalition of African Lesbians. (2016, 29 May). Coalition of African Lesbians says NO to a Special Rapporteur on Sexual Orientation, Gender Identity. www.cal.org.za/2016/05/29/activists-brief-coalition-of-african-lesbians-says-no-to-a-special-rapporteur-on-sexual-orientation-gender-identity

310 www.cal.org.za

311 www.nglhrc.com

312 sampoornawg.wixsite.com/sampoorna

313 blog.sexualityanddisability.org/2017/01/best-sexuality-disability-blog-2016

314 Rajaram, S. (2017, 1 August). Why mental illness, for me, is about relationships, relationships, relationships. *Sexuality and Disability.* blog.sexualityanddisability.org/2017/08/mentalillnessrelationships

315 Telang, A. (2016, 9 September). Tindering as a one-legged girl in Mumbai. *Sexuality and Disability.* blog.sexualityanddisability.org/2016/09/tinder-ing-one-legged-girl-mumbai

lean on each other in different ways."[316] The S&D blog is becoming a site for the sharing of experiences and the building of understanding between people.

S&D blogs and other such feminist resources and zines are a very valuable form of knowledge making for communities and people who are at the periphery of academic and even CSO knowledge-making forums. Such spaces upset the periphery-centre way in which knowledge making within institutions has been privileged, and the role of the internet in the circulation of essays and art in such spaces has been enormously helpful and even provocative.

Summary of research recommendations based on interviews

In relation to embodiment as a research theme or bucket, it is evident that varied aspects ranging from online violence to the complexities of datafication are linked to how embodied and lived experiences are changing in the context of the use of digital technology. To further feminist analysis in relation to embodiment, gender and digital technology here are the research recommendations made:

- To understand binary or hybrid conceptualisations of harm and women's rights offline and online; to clarify definitions and understandings of online violence.
- To understand possible responses to the ways in which sexual expression is limited by various forms of online violence.
- To understand the context of trans, gender non-conforming, non-binary people and the online violence and harassment faced by them; also to understand the role of the internet here in building relations and connections.
- To support research into laws and policy making around sex, sexuality, sexual orientation, gender expression at the local level and not only in relation to international norms.
- To understand the connection between state hegemony, nationalist sentiments and online GBV; and the role of surveillance and state power in relation to women and gender non-conforming activists who have a high public profile, are in regions of conflict, etc.
- To understand how privacy, surveillance and related concerns affect women in diverse circumstances, using case studies or similar anthropological approaches.
- To clarify definitions and investigations of the online surveillance of women in ongoing research that encapsulates both social and state surveillance.
- To understand the effects of self-surveillance or "quantified self" developments (including the use of big data) on women's human rights.
- To understand/decipher algorithmic discrimination e.g. the algorithms which define women's health and cycle monitoring apps, welfare schemes by states that use algorithms, body scanners and the normative body type they could produce, and what impact all this has on the rights of people.
- To study and promote practices of responsible data gathering and use; what could be feminist praxis around data.
- To clarify the nexus between surveillance and online harassment/technology-related violence.
- To understand the drive towards national identity cards and biometric voter cards through the lens of gender.

MOVEMENT BUILDING

The use of ICTs in movements and protests across the world is evident to see, as is also the use of surveillance and tracking against the formation, building and growth of these

316 Datta, U. (2017, 19 September). What living with food intolerance taught me about dependence. *Sexuality and Disability.* blog.sexualityanddisability.org/2017/09/foodintolerancedependence

movements. An earlier section featured Mariana Giorgetti Valente of InternetLab in Brazil speaking of the burgeoning of women's movements and women's voices in Latin America as the Feminist Spring, but adding a caveat immediately by saying that the growing tide of conservatism in Brazil could well be the backlash against this.

There have been social media-led movements in the last few years in Zimbabwe, particularly the #ThisFlag movement (2016) for change in how the country is governed. In Nigeria, the #BringBackOurGirls campaign (2014), though not very successful, did ensure that there was global attention directed towards the plight of 276 girls who were kidnapped from a school in Chibok, Nigeria. In South Africa too there were several hugely popular hashtags, such as #MenAreTrash (2017) that was used to collect stories of violence and harassment that women have experienced, or the popular students' movement #FeesMustFall (2015) that used social media to engage with a wider audience and to amplify their concerns. In India there was the Nirbhaya movement (2012), campaigns to raise issues related to Dalit women and feminism through #DalitWomenFight (2013), websites and resources like Feminism in India and The Ladies Finger, and naming and shaming campaigns to raise and address sexual harassment, sexism and violence in the workplace and the university (2017). It is of utmost importance now to ponder on, research and attempt to unravel the role of ICTs in movements.

Resistance

Smita Patil examines the role of ICTs in the organising by Dalit women, especially young Dalit women online, and how it plays a role in building community and giving voice. With regard to the specific relationship of Dalit-Bahujan-Adivasi people in India to ICTs she cautions:

> Those connected to the internet are 35% of the population – the social composition of those with access to ICTs is dominant Indian castes, and they stand disconnected from the reality for majority of the Indian society. Thus, it accelerates the gap related with access and social mobility.[317]

She points to how the operation of the caste system as well as the exclusion of indigenous people from conventional forms of media have meant that Adivasi-Dalit-Bahujan voices are using platforms like Twitter, YouTube and Facebook and creating spaces online for resources such as Savari, Roundtable India and others. She adds:

> Recovering the memory thus becomes the essential way to declare the independence from the tangible and intangible forms of the dominant-power structures. *This online space largely foregrounds a meaningful intellectual-activist premise for the restoration of social justice.*

Referring particularly to feminist spaces such as Savari she says:

> One of the striking aspects of this online forum is that it provides an alternative online forum of marginalised women from South Asia. As a result, it brings forth an epistemic challenge to the so called dominant category of "South Asian Feminism" that creates *apolitical pastiche out of disconnected issues*. Social composition of intelligentsia and the ideology of South Asian Feminist circle is elitist because it does not provide any critique to the interlinkages of caste, gender and patriarchy.

Smita Patil raises questions about the relevance of ICTs and online spaces or expression to Dalit-Bahujan-Adivasi women's politics online, considering that "access to basic quality education, teachers, schools, infrastructure and so on are major issues faced by the underprivileged in India." Another challenge she raises is that technology and its forms are part of the surveillance:

> People always make reference to, for instance, the Arab Spring, as a phenomenon that

317 Patil, S. (2017, 6 September). Op. cit.

> happened online. But those people had been organising against oppression for many years. All these online movements were informed by the real and lived experiences of the people on the ground. So even for the women's movement, it is such experiences that should prompt us to connect with other women. This can be done ether online or in other ways, so that when social media comes along, it is just to amplify and spread the message.

Similar questions were also raised by Maggie Mapondera about movement building, her current work in WIMIN and previous work with JASS. Further stressing the connection between online movements and the historical trajectories and lived experiences that led to them, she said:

> There are examples where movements have harnessed the internet, and especially social media, to amplify, magnify and voice out an issue so that it gains traction. For instance, South Africa's #FeesMustFall obviously did not just start online. There was students' activism on the ground around the issue for a long time. Students in South African universities were passionately angry about the injustices in university institutions for a long time, and yes! the hashtag really caught fire. It gave visibility to the students' activism that has continued offline; meaning the hashtag was not the sole reason that the campaign was "big". The hashtag allowed the movement to gain a presence beyond the South African borders, which it may not have had without social media. The same can be said of #BlackLivesMatter. People have been organising against racism in the United States for a long time. This is not to say that the hashtag is insignificant. No! It still is a powerful moment and movement that has given birth to other movements. However, it is important that long after that the hashtag has gone or been changed to something else, those movements remain and continue to grow. It is not possible for something that happens in isolation online to be sustainable. There has to be the on-going conversation because things always have to be that grounded.[318]

For Maggie Mapondera, using the internet and technology for movement building is fundamentally linked to access. After all who we want with us, who we are speaking to, and where we are speaking from are fundamental questions to raise. This horizontal movement between groups and people is of essence in building a movement:

> We always have to be creative and sharp about our class analysis because it informs how access to the internet is different for all women. Access to the internet will vary based on geographical location, race, class and age. Given this reality, the women's movement must organise itself so that, as much as possible, we reach each other as best we can and have the ability to share our experiences horizontally.

Considering that there is inequitable access to the internet for women in Zimbabwe, and more broadly in Africa, she is pointing out that online activism cannot be and should not be the only basis for building movements.

She believes in the importance of stories, especially women's stories, in providing the interconnectedness needed to build movements, and there are several such projects that carry a similar message, including the MOOCs on creative writing and identity and the digital storytelling workshops organised by APC WRP, that specifically look at sex and sexuality as building points from which stories can be told. As Maggie Mapondera eloquently says:

> The women's movement has to challenge itself, and think outside silos and search for the interconnectedness of these stories so that we have a full story. Otherwise we keep going two steps forward, and five steps back, as we continue thinking that issues such as the political participation of women is important because we think representation in government will take us where we need to go.

At the expert group meeting the discussions around movement building surfaced many complexities and questions. As pointed out by Kalyani Menon-Sen (Gender at Work, India) there are discussions around technology and movements that are happening in underground spaces,

318 Majama, K. (2017, 7 September). Op. cit.

non-formalised spaces and in languages that we have not been able to tap and connect with. This refers to a certain hierarchy that is built around knowledge production or research within movements – that while people in positions of privilege continue to publish and write about these movements, the conditions have not changed at all. Tigist Hussen pointed this out in relation to #FeesMustFall – that a campaign with such global reach and credibility has been written about extensively, but the students at the forefront are struggling with their lives and completing their education. The invisibilising that takes place within the space of movements is also important to address.

The participants felt that we need to address the difference between movement building and coalition building. There are various attempts to put and keep in place a transnational feminist solidarity. Caitlyn Bentley (Singapore Internet Research Centre) said that one aspect of network or coalition building is to build connections and align ourselves with those actors that are working with communities on development problems and socio-cultural problems, even if these are not necessarily focused on technology. Patricia Peña (academic, Chile) said that several of the movements for social justice in Latin America were about free public education. "We need to look at networks and coalitions not only related to digital technologies, but also in relation with other demands, social demands, gender demands, that are there." She added:

> Feminist collectives are probably not seeing technology as a field of struggle. For instance, they don't see why they should participate in local decision policy making around digital agendas in Latin America. Technology shouldn't be pointed out as an issue isolated from the rest, because it is absolutely related to how life is going on today.

The paradox is of course that as much as this is a valid viewpoint, especially since people who are not even online are now part of digital databases, it is also simultaneously true that online movements are in some contexts driven by an elite few. Ruth Nyambura and Safia Khan pointed this out in relation to both Kenya and South Africa, and Ruth Nyambura asserted:

> I still feel that there's a lot to be said about who gets to be online, who gets to have their hashtag, who gets to drive narratives. And everyone else who doesn't have that kind of access (I'm using access here at the most basic level) doesn't get to drive the conversation that a small group of people online get to participate in, and that could alter material realities for many.

The impact of online movements was also part of the discussion that took place at the expert group meeting. Hashtags are an algorithm that is used by many online movements, but does that validate a movement? The impact should not be ascertained by numbers. The question can also be whether or not a movement enters into "the real field of politics" and achieves some change for the ordinary woman. Kalyani Menon-Sen spoke of the four quadrants of change proposed as a framework by Gender at Work, which divide the change along the two axes of formal-informal and individual-systemic change. While policy reform is both systemic and formal change, there is the opposite end of the spectrum as well where changes must take place at the level of the perceptions, habits and beliefs of people. We should be wary of relying entirely on social media analytics and corporate strategies to address the efficacy of a movement, and yet also map the various players, governmental and corporate, that actually determine the contours of the online space and within that the ways in which an online movement would work.

Tigist Shewarega Hussen (academic, University of Western Cape) also spoke about the movement #RapeMustFall that was started in the context of the #FeesMustFall campaign in South Africa (October 2015). As explained by her, the broader movement was for the reduction of fees for higher education, while #RapeMustFall, as a subcategory or a sub-movement, was and is about the culture of sexual assault in college campuses. "What happened was that as part of the original movement #FeesMustFall 'they' started calling and naming alleged rapists. They also circulated a list and people did name 'rapists'." She adds how several feminists felt that this was a form of justice because the conventional legal system had failed to secure any reparations for the women who had been raped and the harm that they had faced. "People are taking the system in their hands

and creating an informal justice system. But the problem is that these people are not convicted as rapists and being labelled as that without being 'found guilty' was difficult. I found myself troubled as well." From her perspective there is violence occasioned by naming and shaming as well.

In terms of achieving real change as an indicator, one caveat to place in the context of the recent spate of #MeToo campaigns is the resilience of the "status quo". There have been attempts to address sexual harassment and violence, and the prevailing hegemonic structures in the entertainment industry, the software industry, journalism, and academia, while perhaps crumbling, are definitely not decimated – and to determine movements by the actual change they achieve at chipping away at patriarchal norms and ideas is perhaps a disservice to the disruption that they do achieve.

Movements, security and the role of ICTs

What is of particular relevance here is the role of ICTs in movements that are configured around self-determination, where women human rights defenders are at a particularly high risk to themselves, their families and others around them. Yara Sallam spoke to Professor Nadera Shalhoub-Kevorkian, a native Palestinian anti-violence, feminist activist and scholar who has written on settler colonialism, biopower of the ruling power, and the impact of war and occupation on women and children. She speaks of how the Israeli systems use ICTs for managing populations, and how draconian emergency regulations are turned into security concerns. Her analysis is situated "in the intimate, in the everydayness of oppression, in the home, in the ordeals of birthing women, the reading and writing power of the Palestinian dead bodies, and within securitized justifications – Homeland security – and moments of security threats used by the Israeli settler colonial regime." She speaks of the establishment of "an industry of fear" and explains that "a machinery of power that invades the intimate is how order is maintained – and by intimate, I mean the body, the home space, sexuality and so on."[319]

In a poignant instance shared by her, of a woman who was giving birth en route to Jerusalem who agonised about how if she gave birth at home or midway the child would have to live without identity papers, she quotes the woman as saying, "I was living life, but also death." While she acknowledges that technology *can be* emancipating, it is a difficulty when it is in the hands of the coloniser. In her interview she also shared various instances of ordinary people being tracked, like the girl who wrote "have mercy on me" on Facebook and was then arrested by the Israeli authorities; *Murabetat al-haram*[320] (Steadfast Women of Al-Aqsa), a group of women who took it upon themselves to protect Al-Aqsa mosque against Israeli settlers just by being physically there, and others. Nadera Shalhoub-Kevorkian says:

> Any sentiment that you express online can lead you to detention because the Israeli authorities are watching all online channels. The whole structure of the internet is controlled by the occupier; the email, the internet, the accessibility, what you write, what you put in Google, Skype, everything is tracked, so for example if we're talking about gatherings or a meeting that is being organised against the occupation they will track it.

Not just this, day-to-day life is also difficult, young girls are harassed and intimidated by soldiers daily and they do try to document this through their phones but also delete pictures immediately after sending them because of fear of what could be found on their devices if they are caught.

Nadera Shalhoub-Kevorkian says, "Technologies are very frustrating for girls, it's not only an open space, because they have access now to see the whole world and how it is, and how different their lives are." She adds that sometimes we have to ask the girls to delete their accounts on Facebook and other social media because they could be tracked and it is difficult for them to do that. But there are some uses to ICTs in such contexts as well:

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319 Shalhoub-Kervokian, N., & Berenblum, T. (2010). Panoptical Web: Internet and the Victimization of Women. *International Review of Victimology*, *17*, 69-95.

320 Staton, B. (2014, 25 November). The women of al-Aqsa: the compound's self-appointed guardians. *Middle East Eye.* www.middleeasteye.net/news/women-al-aqsa-meet-murabitats-2039073489

> A group of female students from Beir Zeit and Beit Lahm universities developed a mobile application where they can share which check-point should they use, which route should they take, and what they should do. At the moment this application is not widely used anymore because the situation on the ground develops quite fast and at the moment they find it faster to inform each other directly through WhatsApp concerning closed check-points which they should avoid and which alternatives they should go to.

In the expert group meeting, Horacio Sívori shared that it is in this examination of how gender and digital technology play out in the context of Palestine that he finds a glimmer of the theorising required to understand the particular nature of the violence of the state. Power is not merely a repressive mechanism, it is also productive and generative, as described in the work of Michel Foucault in relation to sexuality, discipline and punishment. As stated by Horacio Sívori, power is productive of "designing how individuals think about, conceptualise, classify themselves and their opportunities for living." What is at stake in the description of the experiences of women and girls in Palestine is biopolitics and necropolitics, i.e. the politics of life and death in a microcosm. Here, as eloquently stated by Horacio Sívori:

> Power is producing norms about not only what you can't do but what you should do, and what makes you, meaning, what makes life meaningful. It's crucial to think about this productive dimension in how technology-mediated relations of power create us the way we are. And produce possibilities and possibilities of being.

The importance of this analysis of power as productive and generative is embedded in several projects of research in the field but needs to be brought to the surface for a sharper and more incisive feminist take on research around gender and digital technology.

Effective uses of ICTs

ICTs, aside from amplifying and giving voice to people and movements, can also be used to map, study, research, and draw greater attention to underlying issues. Ivonne Ramirez in the Chihauhua district in Mexico took on the difficult task of mapping femicides in the region. Ellas Tienen Nombre (They Have a Name) is an online initiative using Google maps and FLOSS tools to map femicides in her home town, Ciudad Juárez (Chihuahua, Mexico), from the very start of the wave of femicides in 1993 till present day 2017. About the use of technology for projects and movements by women she says:

> Women rely on social networks to make their work and activism known. They make use of ICT tools and spaces, but they are not updated on new tools or applications and take time to learn how to use them and adopt them for their daily work. They very seldom create their own tools and spaces.

However, she does point out that while this is true there is a difference between how women approach ICTs in the rural district and in more urban centres in Mexico, where the use of ICTs by women's movements and groups is growing.

About the dangers of femicide and threats to those who want to report or talk about them, Ivonne Ramírez says:

> Most of the "victims" are between 17 and 30 years of age, and most of the femicides in Ciudad Juárez are the result of domestic violence, but during the war against drug dealers and among them that went from 2008 to 2012, the number of femicides went up but there has not been a proper analysis that could link the increase of killings of young women to the war. Nowadays femicides go on taking place in the area, but the media are not highlighting them anymore. This fact makes the situation look less serious. It is mostly feminist journalists that go on writing about new cases in the media, both local and national. Some activists and organisations have received online attacks because of their work, like trolling and threats, but they don't take their case to the authorities.

About the value of the project she says:

> This strategic use of ICTs has helped to highlight the situation and to keep on denouncing that violence against women and femicides in Ciudad Juárez go on and there are no real public policies in place to stop them, to eradicate them. Women human rights defenders have also found the tool helpful because it shows which are the areas where more femicides have taken place. This helps to focus prevention initiatives and to take steps to secure women's safety and police action in that particular area.

Kerieva McCormick talks about Romani feminism, particularly the strand of defiant truth telling and storytelling that young women engage in – and there are parallels here to be drawn with both the indigenous women's movement and Dalit feminism in India, that also rely on personal and autobiographical accounts of having overcome adversity as a starting point of pulling together communities. In Kerieva McCormick's article she says, "The young women interviewed are not afraid to tell their stories. However, the gap identified is the need for a positive, autonomous and youth-led media base that is truly grassroots and outside current silos of Roma organization."[321] It is also the same strand of storytelling that Maggie Mapondera identifies as a particularly powerful node of movement building.

Movement building remains a complex field where it is important to research and analyse many nodes including but not limited to: concerns around digital security and datafication, discourse as a field of activism, community building and a space for truth telling and storytelling, complexities of affiliations at a large scale and understanding impact and change.

Summary of research recommendations based on interviews

Movements are complex formations and alliances, and the introduction of digital technology has led to several women-led and feminist-inspired events, campaigns and changes – some of which could even have far-reaching consequences on law, policy, and on how we understand human relations, the workplace and other spaces. To unpack and understand the role of digital technology in relation to movements, the research recommendations are as follows:

- How digital technology is part of movement building and amplifying voices; histories of movements and the use of digital technology.
- The growth of platforms and forums for Dalit-Bahujan-Adivasi women in South Asia and diaspora; Romani women and youth consciousness; the parallel growth of surveillance and other state mechanisms and the risk posed to self-determination movements and vulnerable populations; how media, technology, new media, design and other tools/forums can be used for resistance, recovering memory, and addressing trauma and history.
- The innovative use of digital technology for movements; surveillance as a hindrance to the growth of movements; the benefits and challenges associated with feminist autonomist infrastructure and how it can support women's movement building and/or gender equality in ICTs; how feminists' involvement in a plethora of policy forums can be improved, strengthened and streamlined.
- How women and other marginalised and/or vulnerable groups can be better supported in participating in multistakeholder policy platforms.

RESEARCH NETWORKS

As is evident from the literature review and the interviews, a large portion of the research done is coming from research networks that were set up – this includes regional and global research networks, networks around thematics and methodology, networks around the global South as a location, academic networks and so on. In this section the aim is to look at existing research networks and the reality of establishing and running them; gaps in them; innovations in research methods or modes of networks that are necessary to both understand the five

321 McCormick, K. (2017, 4 September). Op. cit.

thematic areas fully and to enable interventions in terms of advocacy, policy making and movement building.

Models of research networks

Privacy International is a global organisation and research network that focuses on the right to privacy as a framework of analysis for their research. Alexandrine Pirlot de Corbion of PI spoke a bit about the experience of running a research network and says:

> All of the partners in our network develop their own research proposals. They don't naturally bring in gender, but it is not lack of interest or lack of need. What I've observed is that privacy is such a complex topic, and there is such a lack of evidence around issues of privacy, that researchers are a bit wary of looking at discrimination or gender or other elements. We also haven't quite developed the framework yet. There is definitely a need to adopt a gender lens, also to look at LGBTIQ, ethnic and religious minorities and other groups – we've just been a bit overwhelmed or daunted about not having a framework to approach it. Personally I don't want us to look at gender as a tick box, an additional question in a survey. We want to do it well, and that's why we don't want to look at it particularly right now. But I believe it is a great opportunity for both PI which has 20+ strong team of people looking at privacy that hardly any other organisation looks at, and a huge women's movement and feminist movement to collaborate with – it would bring us to new learnings and to new actors and we could explore that.

Tony Roberts from IDS also echoed some of this optimism, and has in fact started the process of trying to pull together such a network of researchers around gender and feminist analysis, particularly because he feels that within the academic space it is still hard to find people who look specifically and seriously at gender issues in relation to ICTs. In relation to this network, he enumerates some of the areas that the gender and digital development network would look at: "research around technologies used by migrant women and workers, women in technology hubs and the experience of tech spaces, the future of work – particularly the impact of artificial intelligence and digitisation on women workers."

Location: Academia or civil society

Speaking to Radhika Gajjala about the Fembot Collective was insightful, as this is one instance of a feminist academic network but it is not structured around a project as much as a shared ethos, ideals around feminism, the sharing of labour and the preservation of the openness of knowledge that should not be only within closed academic journals. Radhika Gajjala talks about the journal which is one of the core activities of the network:

> *Ada: A Journal of Gender, New Media, and Technology*[322] is an academic project. We want people to be able to use it in their academic credentials, and hence it is structured around open peer review both by activists and academics. We have an online platform which facilitates peer reviewers from everywhere. Other than this the collective is sustained through an email list and also a blog on the mainstream website for Ms magazine that we contribute to. What particularly helps about the *Ada* journal is that through the website we are able to see the analytics and share the impact of our writing, something that is not always possible through more staid academic avenues of publication.

She also shares that the network and journal would not have been possible without her co-collaborator Carol Stabile making sure it had institutional backing and space within her university, and even then a lot of the labour that went into building the collective was made possible by the personal time spent by the Fembot and *Ada* founding team (including Bryce Peake, Karen Estlund, Chelsea Bullock, Iris Bull and several others) under the leadership of Carol Stabile, especially in the initial few years:

322 adanewmedia.org

> My goal and my desire for a possible sister project through Fembot Collective is to extend the network towards global South initiatives around feminist researchers. We are working within academia and that does come with pitfalls of having to not be as inclusive as we would like to be – but for me something like Fembot is more hopeful than the discourse around science and technology for development, for instance. We are committed ideologically to do this in a certain DIY way even, to avoid pitfalls of how academic work is distanced from the grounds of its research – we want to preserve the integrity of the process as dialogic.

Gender analysis and feminism

Research ICT Africa (RIA) also shared their particular experiences of being a research institute that straddles both academic worlds and civil society and is in a global collaboration with sister networks LIRNE*asia* and DIRSI (Latin America) but also collaborates with a regional network of organisations in Africa. In Chenai Chair's profile on the RIA research network (see Appendix 5) she says that "country partners were drawn in to drive the surveys within their countries as well as draw out analysis on areas of thematic focus." Research ICT Africa is also one of the groups that run a regional network that feeds into their quantitative studies around access. In her interview Chenai Chair shared how it is not easy to push a feminist analysis from the beginning, but that because of not having such a framework it is difficult to determine power and gender dynamics at play in the data they get from regional partners. She says, "I've realised the importance of sensitising my researchers in the field to a feminist approach to the research. And part of this is to identify one's own power and privilege, and be aware of these issues in research design and questions." She adds, "We have actually used the FPIs in our trainings and found that we should cover the content first and then say these are feminist principles, because by saying feminist we would empty the room sometimes."

As stated in the profile, Chenai Chair further elaborates on the divisions produced by the separations perceived between gender-based analysis and feminist approaches. She says:

> By calling it gendered research, it did draw criticism from a gender research specific network (GRACE network) that the work being done was not feminist. The challenge to conducting research in a network or hoping to form a feminist collaborative network is an issue of whether there is one right way or different ways of achieving a similar outcome. The opportunity for Research ICT Africa and the GRACE network to collaborate did not take place as a result of differing approaches.

In the profile Chenai Chair acknowledges some of the limitations placed on their research: "The critique of our mixed methodology has been that at times, gender is not always at the forefront of the data analysis. Further, from a policy perspective, the work on gender has focused on far more box ticking and certainly calls for a far better approach in conceptualising gender in research, from design to analysis."

In relation to their research agenda she adds, "One could ask for the interrogation of power paradigms or an intersectional analysis to the approach." And yet it is the paucity of organisations following any kind of data and quantitative studies approach to gender that makes the work by RIA particularly useful as building blocks on which feminist analysis can be based, and this is what RIA also seeks with its collaborations and alliances with other researchers. "However, it is the principles of the researcher as well as the influence of the intellectual project that determines where you place your research," she notes. "In our instance, being feminist researchers doing gender research allows us to be aware of what we can and cannot do and where we can contribute to this growing body of knowledge."

In contrast here we have the experience of Fembot Collective, which is a looser network of academics that shares a profound commitment to feminist ideology and principles that they also bring to the study and research around digital technology. However, it is perhaps evidence of feminist research and networks not easily getting the same support as other kinds of work

(including gender-based analysis) that this network subsists largely because of the voluntary and unpaid efforts of those involved, especially those who have built and sustained the network. Other than housing the network in institutional/university spaces there has hardly been any form of formal funding. In the profile of the network prepared by Radhika Gajjala and Kaitlyn Wauthier, this is how the network is introduced:

> Collaborative. Interdisciplinary. Unapologetically Feminist. The Fembot Collective emerged in 2009 as a response to academic research and publishing structures that have historically created boundaries between academic critical practice and the intellectual work practised and circulated by those who identify as artists, activists, community leaders and independent researchers. Fembot is a feminist project that moves within and beyond academic spaces in its organisational structure and practice, particularly through open networking among individuals invested in intersecting social issues and through the collective's peer-reviewed publication *Ada: A Journal of Gender, New Media, and Technology*.

Informality, funding, participation: Limitations within research networks

As described by a member of the network, "Fembot has been a community where I can engage with people who are exclusively engaged with women's studies or gender studies, trans studies, or bot studies." Part of the agenda of Fembot is to provide a safe space, which becomes particularly important in the light of emerging narratives of sexual harassment and violence in all institutional spaces including academia. One of the founding members, Carol Stabile, states that the experiences of almost all the members "constantly kind of affirm the fact that we're on the margins of institutions and we're not at the centre, for differing, really complicated reasons." One of the reasons why Fembot works is not so much because it is a parallel of an old boy's club except with women as members but because it is designed to keep that openness and accessibility. For instance, the journal, the email list and especially the self-nomination process affirm that. Jinni Chae, a relatively new member of Fembot, says that the network works to "ultimately not only act against inequality embedded in the formalised academic culture but also works for the marginalised who do not have enough cultural, economic, and social capital in academia, such as the graduate students."

A substantive way in which this openness also works is through the peer-reviewed journal process:

> *Ada*'s open-peer review (OPR) system is one of the Collective's most rewarding and successful tools for members to contribute. *Ada*'s OPR system allows all members to provide constructive, summative feedback on in-progress journal submissions. These contributions are attributable and, as Bull indicates, are a way for members to "pay their dues" so to speak, but through constructive action and conversation, not through financial obligations.

Another group that looks at research around sexuality and gender and is largely based in the global South is EROTICS. As stated by Smita Vanniyar in her research network profile on EROTICS (she is a longstanding member of the group):

> EROTICS network was launched in 2008 with the aim of filling this knowledge gap that existed about sexuality in the online space. There were research and advocacy projects done in India, Brazil, Lebanon, South Africa, the United States and Indonesia which looked at internet-related challenges facing the LGBT and other sexual rights communities. The aim of the research was to promote evidence-based policy making through on-the-ground research with a diverse mix of internet users, especially those who would be most affected by internet regulation measures, such as young women and people of diverse gender and sexual identities.

One of the first studies done as part of the EROTICS research was a mapping of the literature around sexuality and ICTs, and not surprisingly in 2008 there was not much that dealt with the global South and looked particularly at what could be useful for policy change and reform. What separated EROTICS at that point, according to Manjima Bhattacharya, one of the initial

researchers to join the network, was: "They didn't involve an academic institution to do the research but instead paid importance to a feminist approach, as well as a combination of strong theoretical framework and experience in activism." This group got funding to do research in five countries – India, Brazil, Lebanon, South Africa, the United States and Indonesia. The research projects varied from the online landscape of early social media forums like Orkut to the workings of the queer community in Lebanon to the use of the internet by young women and girls to explore sexuality.

After the first iteration, the network functioned informally and without funding, mostly through sharing resources and opportunities via an email list, but the lack of funding impacted the continuity of research. One part of the EROTICS project has been the global survey, which has continued since the release of the first EROTICS report in 2011. In 2015 the second iteration of EROTICS was only in South Asia and the support was to build "an advocacy network which will help bridge the gaps between different movements – feminist, LBT rights, digital rights." One of the immense fights of such a project was also to localise the concerns, says Jyotsna Maskay, the executive director of LOOM in Kathmandu, Nepal. There are certain similarities across the different contexts of Sri Lanka, India and Nepal about how difficult it is to have conversations on sex, sexuality and sexual rights, demonstrating how offline silences around certain topics, prejudices and power structures are inadvertently reflected in the online spaces as well.

One of the researchers in the EROTICS network points to the importance of intersectionality in research. She says:

> When researching a space like the internet, which is both global and local, public and private at the same time, it becomes all the more important to observe how these dichotomies (of caste, skin colour, ethnicity, etc.) play with and against each other. Without paying attention to that, it will be very hard to actually work with the communities or policy makers.

Networks are particularly difficult to pull together and sustain, and with informal networks that are often driven by the energy and (unpaid) labour of small groups of people this difficulty is altogether more apparent. But such constellations of people and efforts are also essential as they challenge the mainstream apparatus of research and the assumptions it makes. *For feminist research around gender and digital technology, the role of networks that do not have consistent funding and support has been particularly important.* Whether the form of the network is that of a global network led by an international organisation or an informal network of researchers held together largely by ideology and occasionally shared projects, all forms have various limitations. Financial precarity and the difficulties of sustaining networks and research were common to both but experienced in very different ways.

The research profile of Fembot states:

> Even as Fembot Collective remains open and informal – it still remains as mostly a US located and global North-based feminist network. While the network leaders have made concerted efforts not only to include but to encourage queer, trans and feminists of colour in the global North to define several of the Fembot initiatives and *Ada* special issues, the network has not been able to involve itself or represent global South issues in depth.

It is only recently that Radhika Gajjala has begun leading the effort to look for "Fembot Collective Global South Initiatives".

EROTICS too as a network has had trouble in sustaining both the work that they do and the flow of funding. But today there is a mailing list, websites, articles, information and resources on gender, sexuality and the internet, which did not exist before 2008. Smita Vanniyar refers to the network as "a labour of love for and by many people". "It has transformed from a network to a small movement of sorts fed by research, facts, and information. Like a submovement within the internet rights movement," says Manjima Bhattacharya. The need for such spaces within the context of campaigns, organisations and movements for internet rights, privacy, against state censorship and surveillance, and for civil and political rights, is immensely important, to ensure that the interests of women,

gender non-conforming people, transgender people and other minorities are reflected and they remain centred and are not excluded from projects of research and knowledge making.

From the varying strands around the experiences of research networks it seems that people have attached a lot of value to their experience as part of research networks, particularly to the idea of a feminist network of researchers that they could tap into for discussions, ideas and feedback. That a shared ideologically feminist framework would inform the research, rather than just region or topic, was perhaps what was most exciting for a majority of people interviewed.

CONCLUSION

The mapping study on the themes of embodiment, agency, expression, movement building, access, economy and gendered labour in network economies indicates common trends, issues and areas for further research and emerging fields of study and intervention. In this conclusion we summarise the questions and research recommendations in relation to future work within each of the themes (or research *buckets*).

In relation to *acccess* from a feminist perspective, what we have to especially examine are dynamics of power and structural imbalances, since access is delivered through the state and its apparatus, and then controlled through other sites of power, whether corporations, institutions like school or college, or family.[323] The questions that need to be asked include: Who are the key players in the provision of access? What are the laws, regulation and policy measures on access? Who are the key actors who are allowed into the space where decisions are made, and at the local level, is the community ever actually consulted? What kind of surveillance of traffic takes place and what data is recorded by key players who provide access?

Increasing number of reports, initiatives and efforts are focused on addressing women's ability to enjoy universal, acceptable, affordable, unconditional, open, meaningful and/or equal access to information, the internet and ICTs. These include, but are not limited to, the recent work of civil society organisations (e.g. A4AI, Access Now, APC, CIPESA, Paradigm Initiative Nigeria); research institutions (e.g. LIRNE*asia*, Research ICT Africa); various private sector organisations (e.g. Facebook, Google, GSMA); and intergovernmental organisations (e.g. ITU, IGF Best Practice Forum on Gender, UN Broadband Commission for Sustainable Development, UNCTAD, UNESCO, UN Women, World Bank, World Economic Forum).

There is also a widely acknowledged need for more gender-disaggregated data to accurately measure "gender digital divides". But there also needs to be more locally relevant data (as opposed to aggregated data at a global level) to better understand underlying local factors and circumstances that hinder women of specific regions in the global South from accessing and using ICTs, the internet and/or information.

But why access is important perhaps also needs to be interrogated from a feminist perspective, which entails not taking for granted that access to ICTs is necessarily a positive and empowering development. What is also relevant is to view the dynamics of race, caste, region (urban-rural), ableism, age and other factors, in relation to gender and access.[324] One of the

323 Many authors note that stereotypes, gender discrimination and social norms are difficult (if not impossible) to measure and address because they are so deeply ingrained in society, and findings as to whether families are comfortable with women using the internet tend to differ. See the discussion on barriers to access in Chapter 2, Mapping trends and issues in research in gender, digital technology and information society: Literature review; see also Chair, C. (2017). Op. cit.

324 ICTs offer radical new possibilities to people with disabilities, through text-to-speech programmes, global positioning systems, disability-friendly product design, virtual reality systems, e-governance and many other innovations; it remains to be seen whether there is universal and meaningful access that also takes into consideration the intersections between disability and other social and economic aspects. See Chapter 3, Mapping challenges, gaps, priorities and emerging areas in research: Interviews with key actors – civil society researchers and academics.

important pushes from especially the IGF Best Practice Forum is to place access not only in relation to economic empowerment but within a human rights framework – particularly as an enabler of human rights, i.e. civil and political but also economic, social and cultural rights.[325] How would access contribute to increasing women's participation in technical roles and community ownership over ICTs? How does it impact the roles of women in the information/knowledge society – what impact does it have on opportunities for entrepreneurship and advancement,[326] but keeping in mind also how digital technology and access work with existing hierarchies of power and distribution of agency.

Local and relevant content also plays a role in ensuring and sustaining use of ICTs. Internet intermediaries concentrated in the global North tend to determine what content users have access to, and there is a need to help develop alternative content platforms "owned and operated by women and marginalised groups in the global South" to ensure that women's knowledge is codified and that access is meaningful for women.[327]

Civil society organisations and other key players are also exploring alternative ways of looking at access, especially through community access networks and experiments in providing feminist infrastructure. Community networks often are women-led and sustained in terms of how they function.[328] But we need to ask more questions about the actual form that community networks and ownership take. Do these community networks provide ways to understand power dynamics in relation to access at the micro and macro level?

From a feminist perspective, what is particularly interesting is the development of a nascent understanding of practices around feminist infrastructure and services. Feminist infrastructure would address several concerns about providing, using and learning about technology, building community, and dealing with violence and dynamics of power within and outside. Could this form of infrastructure be a mode of providing access that would work against hegemonic state, institutional and patriarchal power, support movements on the ground and empower through access?[329]

To promote meaningful and substantial access across gender barriers, there is a need for further research in order to better understand:

- Power dynamics and imbalances that hinder or restrict access, especially from a feminist persepecitve: the role of patriarchy, gendered distribution of labour in homes and outside, and other aspects of structures of discrimination and exclusion based on gender, heteronormativity and patriarchy; links between these and race, caste, class, ethnicity and gender expression.
- What meaningful and substantial access is, in relation to gender: the cultural and social reasons why women who do have access to ICTs fail to adopt them; specific affordability challenges for women; how women can become not only consumers but also producers of content relevant to meaningful access; the effects of zero-rated services on women.
- Barriers at local levels in different contexts, using in-depth case studies: specific challenges and intersectional factors that affect women's use, production, creation and design of ICTs; specific factors that affect women in specific circumstances, as opposed to generalised descriptions of such factors.
- Public access facilities (Wi-Fi, libraries, etc.) and experiences of using them for people of different genders and gender expressions, location, class, ethnicity, ability, etc.
- How to provide policy makers and gender equality activists alike with tangible evidence

325 IGF BPF. (2016). Op. cit.

326 Gurumurthy, A., Jha, M., & Mclaughlin, L. (2012). Op. cit.

327 Ibid.

328 Hussen, T. S., Bidwell, N. J., Rey-Moreno, C., & Tucker, W. D. (2016). Gender and Participation: Critical Reflection on Zenzeleni Networks in Mankosi, South Africa. *Proceedings of the First African Conference on Human Computer Interaction.*

329 Radloff, J. (2017, 7 November). Op. cit.

to support the prioritisation both of women's access in broadband plans and of ICTs and broadband in gender equality initiatives.

- The language of access and its uses in different policy forums, corporate agendas and civil society discourse: how to frame access within human rights discourse rather than development discourse, specifically in relation to economic empowerment of women, and carry out research that provides a substantial basis for corporate efforts to promote access but also critiques, ranks and examines data put out by companies in relation to gender and access.
- The relationship between education and access, and the role of online learning: how to understand the presence of women within technology education and examine how accessible and viable the educational system is; challenges especially for women in middle- and low-income countries, and from vulnerable communities.
- Disability and accessibility standards and what specific impact this has in relation to gender.
- Statistics on access: how to carry out a more in-depth examination of data on difference in access through mobile phones and broadband; what difference means in terms of use by people; the availability of relevant and appropriate content.
- How barriers to access are intersectional: the role of race, caste, ethnicity, gender expression (i.e. transgender, intersex, gender non-conforming persons) in relation to access.
- The availability of relevant infrastructure in rural areas, difficult-to-connect remote areas, areas in conflict.

In relation to *economy and labour* the focus largely has been on the evolution of women's roles from being located as mere beneficiaries of development to acting as primary agents of development, e.g. by supporting the development of relevant skills and varied capacity-building programmes through corporate and state projects. There has been some critical examination of how these projects have actually impacted on gender relations in the global South, especially in relation to unpacking the language around empowerment and ICT4D. To many authors it is evident that the mere provision of ICTs or access to them does not challenge fixed hierarchies of power in relation to gender, class, race, caste, or for indigenous and rural communities. It is important to ask where women and other vulnerable people are placed – are they benefeciaries of development and welfare schemes or do they have control and decision-making power?[330]

From a feminist perspective, it is important to "borrow" from feminist economics and look at how gendered labour and unpaid work by women and others in the domestic sphere and elsewhere are essential to how the mainstream economy functions. The questions then raised are about the dynamics and distribution of power, with a specific focus on work, livelihood, labour, opportunities and entrepreneurship, and also about how power operates within workspaces. The internet is a high-cost space for marginalised people because of how gendered labour operates in industries of mining, outsourcing, automation, the "sharing economy", civil society and social movements, and so on. Additionally, from a global South perspective, it is evident that cheaper labour in middle- and low-income countries, where labour regulations are not as stringent, is crucial and essential for the global information economy. This is evident especially in outsourcing and also other kinds of labour that are not so well documented, such as nursing and care work.[331]

Immaterial labour is extracted in the information society, and a large portion of that is emotional and affective labour on social media, especially done as a labour of care by women, gender non-conforming and transgender people and other vulnerable groups and people.[332] The difficulties in measuring this labour are also connected to the difficulties in measuring cultural production, the shadow economy and unpaid labour. This connects also to the future

330 Hlupekile, S. (1998). Women's empowerment framework: A conceptual framework for gender analysis and planning. *ILO/SEAPAT's OnLine Gender Learning & Information Module*. www.ilo.org/public/english/region/asro/mdtmanila/training/unit1/empowfw.htm

331 Gajjala, R. (2017, 23 February). Editorial: The problem of value for women's work. *GenderIT.org edition: Gender, labour, technology*. www.genderit.org/node/4907

332 Nakamura, L. (2015). Op. cit.

of work and how labour is or will be transformed in the information economy, in relation to automation and artificial intelligence. Automation will particularly impact on labour that is low-end, repetitive and usually done by those who are vulnerable, including women and those located in the global South.[333] Many of those participating in the discussion around economy and labour at the expert group meeting felt that a broader framework of feminist (digital) economics is needed in terms of understanding the context of the digital economy within neoliberalism and communicative capitalism, and the specific nature of the "sharing economy" and the digital economy.

To support gender equity and equal participation in digital economies there is a need for further research to better understand:

- The study of economy and labour from a feminist perspective (feminist digital economics) drawing from existing understandings in feminist economics to unpack what is considered labour and to take into account domestic work, care work, affective labour and many other forms of gendered labour.
- Feminist commons and infrastructure: what a feminist platform economy that recognises affective labour and equity in labour relations in a digital economy looks like; feminist commons, ethics and practices of appropriation.
- Work cultures, sexual harassment, sexual violence, sexism, "'gaslighting" and the professional undermining of women and transgender and gender non-conforming persons in technology-related spaces (companies, start-ups, content generators, freelance work for coders and designers) and allegedly progressive movement spaces around FLOSS and technology.
- Local challenges and intersectional factors that impact women's ability to develop their digital capacities and skills.
- The dangers and benefits involved in supporting women's labour at various stages in the production and sustenance of network economies; how women can be better involved as both consumers and producers of content and technologies, and the connection between women in governance roles and STEM.
- The impact of projects using the language of social change, empowerment and agency (especially for women) run by public-private partnerships, civil society, corporate entitites and governments; the language of empowerment and agency as deployed by different actors.
- The impact of digital technology-driven enterprises, companies and projects (the complexity of this), e.g. Uber hiring women cab drivers; care workers and social and economic mobility; how economic models such as the "sharing economy" lead to exploitation of gendered labour at the lowest rungs (contract workers, precarious labour, unsafe conditions, long working hours).
- Automation, the future of work and the impact that this will have on specific industries, including business process outsourcing in Asia and Africa and manufacturing and electronics industries in Asia, where women and other vulnerable groups/people have been employed.
- How to change the model of extractive research or methodology and build better ethical practices around knowledge making and sharing; addressing appropriation of labour in various domains including the academic domain.

In relation to *embodiment* the questions raised emphasise that technology is not a gender-neutral space, and that this is particularly evident through the lived and embodied experiences of those who are marginalised, including women in different contexts but also other vulnerable groups and people. A focus on body, corporeality, embodiment and subjectivity becomes acutely important to a feminist analysis and is crucial to understanding the multiplicities of human experience.

As is evident from the recent mobilising around #MeToo and other movements, GBV as an experience forms the basis of solidarity and movement building and is also intrinsic to the politics of feminist research. This is also indicated through the policy, advocacy and research

333 Faith, B. (2017, 17 May). Op. cit.

around online GBV that for the last decade has worked hard to establish its legitimacy as a form of violence in international and national law.[334] There is increasing acceptance of online GBV as a phenomenon,[335] and most countries have adopted or included laws that address online GBV as a cybercrime.[336] The need now is to analyse implementation of laws, to unpack the various forms it takes, what older and new forms of violence there are, who is being targeted, and the forms of masculinity, nationalism, toxicity and rape culture that online GBV is connected to.

What is needed also is research into business and technical solutions that are being proposed to address online GBV – where the question shifts from whether it is acknowledged as a problem or a crime, to how corporations and states choose to address it. Whose burden it will be to address online GBV (corporations, the state, courts, etc.) and will that agency also be bound by a human rights framework, equal respect for all people, principles of free speech, civil and political rights, transparency in decision making, etc.[337]

While it is clear that we need to interrogate the stability of binaries such as male/female, online/offline from a feminist perspective,[338] we also need to stress pleasure and safety, sexuality and danger as domains of exploration and research in relation to digital technology. Sex, sexuality and sexual expression, especially in some parts of the world, are still not easy topics to negotiate and it has increasingly become the agenda of the women's movements online and to some extent internet rights groups to take on these difficult topics,[339] as evidenced by the inclusion of freedom of expression, pornography, sex and sexuality in the articulations around the Feminist Principles of the Internet. There is still a need for local-level research around sexuality, sexual orientation and gender expression in relation to the internet and digital technology, rather than only an imposition of international "progressive" norms.[340]

Within embodiment, another critical area is that of datafication. Feminist research and analysis have to determine the particular impacts of dataveillance on women and transgender and gender non-conforming persons, and also address how these and other vulnerable populations are affected when they are reduced to datasets rather than people. Being counted within the data is of particular importance for those whose citizenship and access to resources (whether welfare or pension, or the simple need for identity documents) are already precarious. This stresses the need for reflexivity about the tension between the need to be included in the data (especially for women and other vulnerable groups and individuals) and the disempowering and non-consensual ways in which data can be and is being used.[341] There are myriad ways in which personal information can be recorded, tracked, shared (including social media, pregnancy and menstruation apps where people voluntarily share information); here algorithms can often deploy stereotypes leading to discrimination that may in turn reduce women's agency, impede women's sexual and reproductive health and rights, and exacerbate abuse and violence.[342]

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334 APC WRP. (2016). *Exploring technology-related violence against women*. Johannesburg: APC. www.apc.org/en/projects/end-violence-womens-rights-and-safety-online

335 Gardiner, B. *et al.* (2016, 12 April). Op.cit.

336 Aziz, Z. A. (2017). Op. cit.

337 Ibid.

338 Pellizzer, V. (2016, 5 October). Op.cit.; Ganesh, M. I. (2017, 21 February). The architectures of online harassment. *GenderIT.org*. www.genderit.org/node/4899

339 Kee, J. (Ed.) (2011). Op. cit.

340 Coalition of African Lesbians. (2016, 29 May). Op. cit.; EROTICS research shows that in the study in Lebanon, the question was about what could be a "successful model of organising for LGBT rights" in the region, and here the authors state that the model they arrived at through the process of their research focused strongly on personal privacy, safety and providing relevant information, and not on coming out (which could be deadly in many Arab societies).

341 Shephard, N. (2016). Op. cit.

342 Rizk, V., & Othman, D. (2016). Op. cit.

Within feminist research, there is also a need for interdisciplinarity, creativity, research methodologies that include and centre communities and people. There is a call and obligation for stepping outside the politics of citation, and bringing recognition to the works of activists and researchers, and especially to build on scholarship by feminists of colour.[343] Research hackathons could bring together people from different streams and different kinds of practice of coding, art, activism, research and writing together to address questions that are speculative – like what does a feminist algorithm or a feminist national identity database look like, what is feminist infrastructure or feminist data practices.

To understand relations between human and technology (beyond oppositional or binary) from the lens of gender and feminist understanding; to enable women and transgender and gender non-conforming persons to exercise their human rights online, including the right to freedom of expression and privacy, there is a need for further research to understand and clarify:

- How to build on the theories around embodiment and feminist analysis to further examine our increasingly technologised, mediatised experience, especially in terms of the gendered body; how to unpack ideas around the online and offline, in relation to violence but also pleasure, labour, relationships and experience.
- Definitions and investigations of the online surveillance of women in ongoing research that encapsulates both social and state surveillance; how privacy, surveillance and related concerns affect women in diverse circumstances, using case studies or similar anthropological approaches; the effects of self-surveillance or "quantified self" developments (including the use of big data) on women's human rights.
- Binary or hybrid conceptualisations of harm and rights offline and online, especially for women; definitions and understandings of online violence.
- The context of trans, gender non-conforming, non-binary people and the online violence and harassment faced by them; also the role of the internet here in providing resources, building relations and connections.
- The connection between nationalist sentiments, state hegemony, masculinity and online GBV; and the role of surveillance and state power in the lives of women and gender non-conforming activists who have a high public profile.
- The impact of datafication on different bodies, non-normative bodies in particular (in terms of race, gender expression, caste, ability, etc.).
- Algorithmic discrimination, e.g. the algorithms which define women's health and cycle monitoring apps, welfare schemes by states that use algorithms, body scanners and the normative body type they could produce, and what impact this has on the rights of people.
- Practices of responsible data gathering and use, i.e. what feminist praxis around data could be, what a feminist algorithm would look like.
- How ICTs and big data can be harnessed in a responsible manner to support sustainable development without infringing upon women's human rights and while adopting responsible data practices.
- Unpacking projects of national identity cards and biometric voter cards through the lens of gender and feminist analysis.
- How to better enable people, including women with fewer digital literacy skills, to use security measures like encryption and anonymity; the role of pleasure, safe spaces; how to reframe questions around digital security: security makes you small, pleasure is expansive – how do you think about security from the point of view of pleasure?

In relation to *expression* what is needed is a mapping of the various players who can deterimine the extent of freedom of expression and speech online that can be exercised by individuals and communities. Is this limited to corporations that own social media and other online spaces,

343 Ahmed, S. (2017). *Living a Feminist Life.* Duke University Press.

the police, judiciary, legislature? Authors point out that states are promoting regulation and surveillance in an increasingly active and public manner, often on grounds as varied as the potential of surveillance to support development practices, cybersecurity, the need to protect human rights online, and child online protection.[344]

The debates around free speech online and recognition of hate speech and violence based on gender, race, caste, politics or other kinds of groupings need to be looked at from a feminist perspective.[345] Criminalisation particularly impacts vulnerable communities, and state and/or corporate censorship can be a slippery slope, and yet an internet free from GBV would ensure that women can fully participate online. It is paradoxical that the state project of censorship is often built around paternalist notions of protecting women and children, but it is mostly women and gender non-conforming people who face censorship, particularly around practices related to sexuality and sexual expression.[346] Sexuality, pornography, expression and agency are interlinked concerns, especially for LGBTQIA people, and also for women whose expressions around sex and sexuality are limited within a cisgender heterosexual patriarchal paradigm. In relation to research, it is important to complicate our questions and enquries by also taking into account sexuality which is about embodiment *and* expression about desire and pleasure, themes that are often overlooked in the focus on violence in gender-based research.

To focus on ICTs (and digital technology broadly) as modes of pleasure, expression, building safe spaces and ensuring openness towards varying gender expressions, sexual orientations and identities, there is need for further research to understand:

- The ways in which online violence and harassment limit forms of expression for women and other marginalised groups.
- Debates around internet rights that prioritise the right of expression as more primary than that of privacy and protection against online GBV.
- Who owns the data, which can be better understood by undertaking mapping, similar to how media ownership and control have been mapped.
- How ICTs have been enabling and affirming spaces for people of marginalised identities.
- Whose personal is more political? Empowerment, agency, "identity politics" online, discourse as activism.
- How ICTs (smartphones, internet, etc.) are/can be used to organise, unionise, in formal and informal ways, by women and transgender and gender non-conforming persons – particularly online and using social media; the efficacy of informal online mechanisms of justice, "naming and shaming" tactics and other such methods in changing discourse and creating change and movements; the risk of defamation, the right to privacy, the precarity of using corporate platforms and questions of ethics and accountability.

In relation to *movements* that seek to make the necessary and radical structural change to ensure gender equity and eradication of GBV, it is clearly evident from several social movements online (#MeToo, #MenAreTrash, #BringBackOurGirls, #RapeMustFall, #NiUnaMenos) that digital technology will play a hugely important role in *movement building*. Movements are a response to injustice, inequality and exclusion that are no longer acceptable, and here the question is how feminist groups and women's groups lean on and learn from technologies, and participate and build discourse. Communities and people who have been excluded from the mainstream are now using the internet, platforms like Twitter, YouTube and Facebook, and creating spaces and resources online.[347] At the same time, considering that there is inequitable access to the internet, online activism cannot and should not be the only

344 Mazango, E. (2014). Op.cit.; Liddicoat. J. (2011). Op. cit.

345 Chemaly, S. (2016, 15 April). Op. cit.

346 Malhotra, N. (2007). Op. cit.

347 Patil, S. (2017, 6 September). Op. cit.

basis for building movements.[348] Another factor that complicates the use of the internet for movements and causes is surveillance and the hegemony of the state, particularly in conflict and contested areas, and in the global South.

Movements are essential to the transformation of gender power relations in a sustainable way, to ensure the magnitude of social, behavioural, economic and cultural change that is required.[349] Research around movements remains a complex field where it is important to analyse many nodes, including but not limited to: discourse as a field of activism, community building and a space for truth telling and storytelling, concerns around digital security and datafication, complexities of affiliations and coalitions on a large scale, and understanding the impact and/or disruption that they do achieve.

A corollary question raised here, which also links with *expression* and representation, is that of ensuring women's *participation in governance* and policy-making processes, but also of including feminism and gender as organising ideas and principles in multistakeholder forums. What is needed is to build links between international policy and discussions and local levels and needs.[350]

To build movements for social change online, especially those needed to challenge patriarchy and gender norms; to support women and transgender and gender non-conforming persons to develop proactive responses and actively participate in governance and decision making that affect digital technology (especially ICTs), there is a need for further research to better understand:

- The relationship between technology, infrastructure and movements; how to contextualise research and online activism keeping in mind social and cultural dimensions, intersectionality and local histories.
- Counter movements (e.g. Hindu right-wing movenents in India, actions against lesbian and gay festivals in Indonesia, anti-abortion campaigns in countries like the Philippines, etc.) and their strategies and methods, to better understand the dynamics of power and change.
- Strategies of communication, the constitutive role of platforms and technology, and the materiality of movements and technology.
- What a feminist digital media governance approach looks like – what are the priorities, strategies and focus of such governance?
- How feminists' involvement in a plethora of policy forums can be improved, strengthened and streamlined; how women and other marginalised and/or vulnerable groups can be better supported in participating in multistakeholder policy platforms.
- The benefits and challenges associated with feminist autonomist infrastructure to support women's movement building and/or gender equality in ICTs.
- How digital technology is part of movement building and amplifying voices; histories of movement and the use of digital technology; the growth of platforms and forums for Dalit-Bahujan-Adivasi women in South Asia and the diaspora; Romani women and youth consciousness; the use of media, technology, new media, design and other tools/forums for resistance, recovering memory, and dealing with traumatic histories.
- The parallel growth of surveillance and other mechanisms and their effect on self-determination movements and other populations at risk.

Feminist research that looks at the themes is likely to raise different questions, as it focuses on the experiences of those marginalised by existing structures. However, what particularly holds together a set of feminist research practices and questions is also questions around research

348 Majama, K. (2017, 7 September). Op. cit.

349 Batliwala, S. (2012). Op. cit.; see also Rao, A. Sandler, J. Kelleher, D., & Miller, C. (2016). Gender at Work: Theory and practice for 21st century organizations. New York: Routledge

350 Doria, A. (2015). Op. cit.

methodology.

To dismantle existing power dynamics of doing research and the necessity of feminist methodology

The recurring question in the discussions and the literature review in the mapping study has been: How do we dismantle the power relations in research?[351] What do the practices, intentions and position of the researcher have to do with this, in terms of their awareness of history, location and their own status in society? How does such research relate to the institutions within which it is taking place (whether academic, civil society or even corporate) and can the practices of the institution be challenged from within?

We often think of knowledge production as available only for people with formal training (with rigour, methods and so on). Can we think of alternative methodologies that emphasise that knowledge is actually outside of such strictly defined silos? For instance, there is an emphasis on written knowledge as opposed to oral histories. A good starting point here would be to look at what research methodologies already address this question and others, e.g. the imbalance between the researcher and the researched, and to see what such feminist and other methodologies of research accomplish.

It is also important to look for creative methods in research, and at the efficacy and acceptance of such methods of research, to find a balance between research that is aimed at building evidence for policy change and field building and yet adheres to the ethical practices of feminist and rigorous methodology. There is a need to question the various binaries of researcher|researched, online|onground, of gender, of generative and repressive power; methodology is the starting point of how we can conceptualise these.

In relation to methodology, another repeated idea is that of doing intersectional research,[352] not merely speaking about it as a tokenistic gesture. The essential questions we have to ask before embarking on feminist research is who the research is for, and who it benefits. But we also have to ask about the ethics and practices of doing such research. It is important for feminist research to remain open to articulations that lie outside the realms of citation, to allow us to tackle systemic inequality within research.

351 This is particularly evident in several online journals and publications. See, e.g., *Kohl Journal: Online journal for body and gender research*: "This journal hopes to trouble the hegemony of knowledge production, and ensure that our regions and communities play a central role in redefining their own intersections and challenges when it comes to feminist and sexuality research." kohljournal.press/about-this-journal; *Ada: A journal of gender, new media and technology*: "The journal publishes contributions that exemplify Ada's commitments to politically engaged, intersectional approaches to feminist media scholarship… Articles published as part of Ada are distributed under a Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License unless otherwise noted." adanewmedia.org/about; *GenderIT.org*: "The site maps the intersections between women's and sexual rights issues and internet rights issues, and concentrates on bringing voices from the global South into the discussion of these issues, since the discussion is often dominated by voices from the North." www.genderit.org/about

352 Cho, S., Crenshaw, K. W., & McCall, L. (2013). Op. cit.

APPENDIX 1

RESEARCH ACTORS RELEVANT TO GENDER AND ICTs

This appendix contains a summary outlining some of the important publishers, researchers and initiatives working in areas relevant to this study's interest in gender and ICTs. The list was compiled from existing research considered in the literature review, along with submissions made in response to APC's survey conducted for the purposes of this study.

For ease of reference, the tabled list is ordered according to the themes covered in the literature review. Under each theme, resources in the form of literature and relevant initiatives doing research in the field are listed alphabetically. Note that individual authors are not listed if their work is published as a part of an organisational actor in the field. If an individual actor has published a number of works, however, she or he is listed individually.

This is not an exhaustive list, but merely serves as a reflection of some of the initiatives and research actors operating in the field.

GENERAL and/or CROSS-CUTTING THEMES		
Organisation/individual	**Region/country**	**Specific focus/description (if any)**
Association for Progressive Communications (APC)	Global	APC is a network and organisation with the mission to empower and support organisations, social movements and individuals in and through the use of ICTs to build strategic communities and initiatives for the purpose of making meaningful contributions to equitable human development, social justice, participatory political processes and environmental sustainability (source: website). Website: https://www.apc.org
Bonhishikha – unlearn gender	Bangladesh	Bonhishikha – unlearn gender works in producing content which helps to raise awareness about gender issues, targeting young people in Bangladesh, mainly Dhaka. The organisation has been organising theatrical productions highlighting gender issues that women and men face growing up in Dhaka, produced short videos around these topics, and collected experiences of people through direct interviews and also online research collection (source: APC survey 2017 input).
Digital Rights Foundation	Pakistan	Digital Rights Foundation is a registered research-based advocacy NGO focusing on ICTs to support human rights, democratic processes, and digital governance. It aims to strengthen protections for human rights defenders, with a focus on women's rights, in digital spaces through policy advocacy and digital security awareness-raising. In addition, one of the Foundation's aims is also to protect women from work and cyber-harassment that they have to deal with throughout their lives (source: website). Website: https://digitalrightsfoundation.pk
Engine Room, The	Global	The Engine Room is an NGO that helps activists, organisations, and other social change agents make the most of data and technology to increase their impact, based on the belief that data and technology have the potential to dramatically accelerate the impact of any group or organisation that promotes equality, justice, human rights, good governance and accountability (source: website). Website: https://www.theengineroom.org
Feminism in India	India	Feminism in India (FII) is a digital intersectional feminist platform to learn, educate and develop a feminist consciousness among the youth. It is required to unravel the F-word and demystify all the negativity surrounding it. FII amplifies the voices of women and marginalised communities using tools of art, media, culture, technology and community (source: website). Website: https://feminisminindia.com

	Relevant literature and further information
	APC. (2015). *Women's rights, gender and Internet governance.* www.genderit.org/sites/default/upload/issue_women-rights_digital.pdfAPC. (2015). *Unlocking broadband for all: Broadband infrastructure sharing policies and strategies in emerging markets.* Johannesburg: APC. https://www.apc.org/en/system/files/Unlocking broadband for all Full report.pdf APC. (2015). *How technology issues impact women's rights: 10 points on Section J.* Johannesburg: APC. www.genderit.org/sites/default/upload/sectionj_10points_apc.pdf APC. (2011). *Voices from digital spaces: Technology related violence against women.* Johannesburg: APC. https://www.apc.org/en/system/files/APCWNSP_MDG3_2011_EN pdf.pdfDoria, A. (2015). *Women's rights, gender and Internet governance*. Johannesburg: APC. www.genderit.org/sites/default/upload/issue_womenrights_digital.pdf Finlay, A., & Brown, D. (2016). Key considerations: Economic, social and cultural rights and the internet. In Finlay, A. (Ed.), *Global Information Society Watch 2016: Economic, social and cultural rights and the internet*. Johannesburg: APC/IDRC. https://www.giswatch.org/sites/default/files/gw2016-thematic-keyconsiderations.pdf Garcia, L. S., & Manikan, F. Y. (2014). *Gender violence on the internet: The Philippine experience.* Johannesburg: APC/FMA/ Dutch Ministry of Foreign Affairs. www.genderit.org/resources/gender-violence-internet-philippine-experience Gurumurthy, A. (2017). *A history of feminist engagement with development and digital technologies*. Johannesburg: APC. https://www.apc.org/sites/default/ files/HistoryOfFeministEngagementWith DevelopmentAndDigitalTechnologies.pdf Gurumurthy, A., & Chami, N. (2017). *A Feminist Action Framework on Development and Digital Technologies.* Johannesburg: APC. https://www.apc.org/en/pubs/feminist-action-framework-development- and-digital-technologies Kee, J. (2005). *Cultivating Violence through Technology? Exploring the Connections between Information Communication Technologies (ICT) and Violence Against Women (VAW).* Johannesburg: APC. https://www.apc.org /en/system/files /VAW_ICT_EN.pdfKuga Thas, A. M. (2005). *Paddling in circles while the waters rise: Gender issues in ICTs and poverty reduction*. Johannesburg: APC. https://www.apc.org/en/ system/files/paddling .pdfLiddicoat, J. (2011). *Internet rights are human rights. Freedom of expression, freedom of association and democracy: New issues and threats.* Johannesburg: APC. https://www.apc.org/en /system/files/APC_IRHR _FOEand FOAissuepaper_2012_ web_EN.pdf
	Facebook page: https://www.facebook.com/unlearngender YouTube channel: Bonhishikha
	Khan, S. (2017, January 31). *Harassment as a Legal Concept in Cyber Law*. Dhaka: Digital Rights Foundation. https://www.digitalrightsfoundation.pk/harassment-as-a-legal-concept-in-cyber-law
	Responsible Data. (2016). *The Handbook of the Modern Development Specialist: Being a Complete Illustrated Guide to Responsible Data Usage, Manners & General Deportment.* The Engine Room. www.responsibledata.io/resources/handbook/assets/pdf/responsible-data-handbook.pdf
	Pasricha, J. (2016). *"Violence" Online in India: Cybercrimes Against Women & Minorities on Social Media.* Feminism in India. www.feminisminindia.com/wp-content/uploads/2016/05/FII_cyberbullying_report_website.pdf

GENERAL and/or CROSS-CUTTING THEMES		
Organisation/individual	**Region/country**	**Specific focus/description (if any)**
GenderIT.org (*initiative, see APC*)	Global	GenderIT.org is a project of the Women's Rights Programme of APC. It runs a website meant to be a think tank of and for women's rights, sexual rights and internet rights activists, academics, journalists and advocates from a range of disciplines and contexts. GenderIT.org provides a space for reflection, influence and advocacy on internet policy and culture, to help ensure that they meet women's needs and do not infringe on their rights. GenderIT.org maps the intersections between women's and sexual rights issues and internet rights issues, and concentrates on bringing voices from the global South into the discussion of these issues, since the discussion is often dominated by voices from the North (source: website).Website: www.genderit.org
International Development Research Centre (IDRC)	Global	IDRC funds research in developing countries to create lasting change on a large scale. To make knowledge a tool for addressing pressing challenges, IDRC provides developing-country researchers with financial resources, advice, and training to help them find solutions to local problems; encourages knowledge sharing with policy makers, researchers and communities around the world; fosters new talent by offering fellowships and awards; and strives to get new knowledge into the hands of those who can use it. In doing so, IDRC contributes to Canada's foreign policy, complementing the work of Global Affairs Canada and other government departments and agencies (source: website). Website: https://www.idrc.ca.
Point of View	India/global	Point of View has worked on gender and ICTs since January 2013, and its multi-pronged programme equips women and girls with the knowledge, information, skills and capacities they need to assert their digital rights. Point of View's work integrates gender and sexuality with free expression, sexual expression, surveillance and governance; and among other things consists of research, capacity building at a national level, advocacy, and publications through its online series, Deep Dives: Sexing The Interwebs, which explores the intersection of sex, gender and technology (source: APC survey 2017 input). Website: pointofview.org.
United Nations organisations (various)	Global	N/A

	Relevant literature and further information
	APC/GenderIT.org. (2016). *Kenya: Exploring technology-related violence against women.* www.genderit.org/edition/kenya-exploring-technology-related-violence-against-womenAPC/GenderIT.org. (2016). *Democratic Republic of Congo: Exploring technology-related violence against women.* www.genderit.org/edition/democratic-republic-congo-exploring-technology-related-violence-against-womenAPC/GenderIT.org. (2015). *Mexico: Exploring technology based violence against women.* www.genderit.org/edition/mexico-exploring-technology-related-violence-against-women APC/GenderIT.org. (2015). *Colombia: Exploring technology-related violence against women.* www.genderit.org/edition/colombia-exploring-technology-related-violence-against-women APC/GenderIT.org. (2015). *Bosnia and Herzegovina: Exploring technology-related violence against women.* www.genderit.org/edition/bosnia-and-herzegovina-exploring-technology-related-violence-against-womenAPC/GenderIT.org. (2015). *Philippines: Exploring technology-related violence against women and children.* www.genderit.org/edition/philippines-exploring-technology-related-violence-against-women-and-childrenAPC/GenderIT.org. (2015). *Pakistan: Exploring technology-related violence against women.* www.genderit.org/edition/pakistan-exploring-technology-related-violence-against-women Nadège. (2017, 22 February). Feminist autonomous infrastructure in the internet battlefield: From Zombies to Ninjas. *GenderIT.org.* www.genderit.org/articles/feminist-autonomous-infrastructure-internet-battlefield-zombies-ninjas
	Adera, E. O., Waema, T. W., May, T., Mascarenhas, O., & Diga, K. (2014). *ICT Pathways to Poverty Reduction: Empirical evidence from East and Southern Africa*. Warwickshire/Ottawa: Practical Action Publishing/IDRC. https://www.idrc.ca/en/book/ict-pathways-poverty-reduction-empirical-evidence-east-and-southern-africaFinlay, A., & Brown, D. (2016). Key considerations: Economic, social and cultural rights and the internet. In Finlay, A. (Ed.), *Global Information Society Watch 2016: Economic, social and cultural rights and the internet*. APC/IDRC. https://www.giswatch.org/sites/default/files/gw2016-thematic-keyconsiderations.pdf
	ITU. (2014). *Connect 2020 for Global Telecommunication/ICT Development*. Geneva: ITU. www.itu.int/en/connect2020/Pages/default.aspx ITU. (2015). *Measuring the Information Society Report 2015*. Geneva: ITU. www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2015/MISR2015-w5.pdfUNCTAD. (2015). *Implementing WSIS Outcomes: A Ten-Year Review*. Geneva: UNCTAD. www.unctad.org/en/PublicationsLibrary/dtlstict2015d3_en.pdf UNCTAD (2014). *Measuring ICT and gender*. Geneva: UNCTAD. www.uis.unesco.org/Communication/Documents/measuring-ict-and-gender.pdfUNESCO. (2015). *CONNECTing the dots: Options for future action* (Outcome document). Paris: UNESCO. www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/outcome_document.pdfUNGA. (2015). *Outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society* (A70.L33). workspace.unpan.org/sites/Internet/Documents/UNPAN95735.pdf UNGA. (2015). *Resolution adopted by the General Assembly on 25 September 2015: Transforming our world: the 2030 Agenda for Sustainable Development* (A/Res/70/1). www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

ACTORS DOING RESEARCH ON THEME I: WOMEN AND ACCESS		
Organisation/individual	**Region/country**	**Specific focus/description (if any)**
Alliance for Affordable Internet (A4AI)	Global	A4AI is a broad coalition working to enable everyone, everywhere to access the life-changing power of the internet. Its mission is focused on overcoming the affordability barrier to access for women, the poor, rural dwellers, and other marginalised populations that remain priced out of the digital revolution. Specifically, A4AI is working to achieve a "1 for 2" affordability target: 1GB of mobile broadband priced at 2% or less of average monthly income (source: website). Website: https://a4ai.org/who-we-are/about-a4ai
Association for Progressive Communications (APC) *Related ongoing initiative: GenderIT.org*	Global	APC is a network and organisation with the mission to empower and support organisations, social movements and individuals in and through the use of ICTs to build strategic communities and initiatives for the purpose of making meaningful contributions to equitable human development, social justice, participatory political processes and environmental sustainability (source: website). Website: https://www.apc.org.
Centre for Information Technology and Development (CITAD)	Northern Nigeria	CITAD undertakes research to identify how women in Northern Nigeria can be aided in more effectively using the internet; to promote awareness of the importance of women's access more broadly; and to prevent and understand gender-based violence online (source: APC survey 2017 input). Website: www.citad.org
DIRSI	Latin America	DIRSI aims to become a regional focal point for research and learning about ICT policies and regulation, and its impact on poverty. DIRSI was initially conceived as a purely virtual network, with no specific headquarters and with coordination, production and management decentralised among members in various countries in the region. Now, in order to simplify network management, the Instituto de Estudios Peruanos (IEP) serves as the administrative headquarters of DIRSI (source: website). Website: https://dirsi.net/web/web/en
GSMA	Global	GSMA's purpose is to be the driving force behind the mobile operator industry's commitment to playing the leading role in connecting the world and achieving the Sustainable Development Goals (SDGs), which aim to end poverty, halt climate change and fight injustice and inequality. Access to the mobile internet is a defining moment in a community's economic, social and political development (source: website). Website: https://www.gsma.com/betterfuture
International Development Research Centre (IDRC)	Global	IDRC funds research in developing countries to create lasting change on a large scale. To make knowledge a tool for addressing pressing challenges, IDRC provides developing-country researchers with financial resources, advice, and training to help them find solutions to local problems; encourages knowledge sharing with policy makers, researchers and communities around the world; fosters new talent by offering fellowships and awards; and strives to get new knowledge into the hands of those who can use it. In doing so, IDRC contributes to Canada's foreign policy, complementing the work of Global Affairs Canada, and other government departments and agencies (source: website). Website: https://www.idrc.ca

	Relevant literature and further information
	Alliance for Affordable Internet. (2016). *The 2015-2016 Affordability Report.* Washington DC: Alliance for Affordable Internet. www.1e8q3q16vyc81g8l3h3md6q5f5e.wpengine.netdna-cdn.com/wp-content/uploads/2016/04/A4AI-2015-16-Affordability-Report.pdf Alliance for Affordable Internet. (2015). *Women's Rights Online: Translating Access into Empowerment.* Washington DC: Alliance for Affordable Internet. https://www.webfoundation.org/docs/2015/10/womens-rights-online21102015.pdf
	APC. (2016). *Ending digital exclusion: Why the access divide persists and how to close it*. Johannesburg: APC. https://www.apc.org/en/pubs/issue APC. (2015). *Unlocking broadband for all: broadband infrastructure sharing policies and strategies in emerging markets.* Johannesburg: APC. https://www.apc.org/en/system/files/Unlocking broadband for all Full report.pdf Doria, A. (2015). *Women's rights, gender and Internet governance*. Johannesburg: APC. www.genderit.org/sites/default/upload/issue_womenrights_digital.pdf Gurumurthy, A., & Chami, N. (2017). *A Feminist Action Framework on Development and Digital Technologies.* Johannesburg: APC. https://www.apc.org/en/pubs/feminist-action-framework-development-and-digital-technologies Kuga Thas, A. M. (2005). *Paddling in circles while the waters rise: Gender issues in ICTs and poverty reduction*. Johannesburg: APC. https://www.apc.org/en/system/files/paddling.pdf
	Centre for Information Technology and Development. (2016). *Overcoming Gender-based Digital Exclusion in Northern Nigeria: A Strategy Document.* Kano State: Centre for Information Technology and Development. www.citad.org/download/overcoming-gender-based-digital-exclusion-in-northern-nigeria-a-strategy-document Ya'u, Y. Z., & Aliyu, M. A. (2017). *Internet for Men? The Digital Marginalisation of Women in Northern Nigeria.* Centre for Information Technology and Development. www.citad.org/download/internet-for-men-the-digital-marginalisation-of-women-in-northern-nigeria
	Galperin, H., Mariscal, J., & Barrantes, R. (2014). *The Internet and Poverty: Opening the Black Box*. DIRSI. www.dirsi.net/web/files/files/Opening_the_Black_Box.pdf
	GSMA. (2015). *Bridging the gender gap: Mobile access and usage in low- and middle-income countries*. London: GSMA. www.gsma.com/connectedwomen/wp-content/uploads/2015/02/GSM0001_02252015_GSMAReport_FINAL-WEB-spreads.pdf GSMA & LIRNE*asia.* (2015). *Mobile phones, internet, and gender in Myanmar.* London: GSMA. www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/02/GSMA_Myanmar_Gender_Web_Singles.pdf
	Adera, E. O., Waema, T. W., May, T., Mascarenhas, O., & Diga, K. (2014). *ICT Pathways to Poverty Reduction: Empirical evidence from East and Southern Africa*. Warwickshire/Ottawa: Practical Action Publishing/IDRC. https://www.idrc.ca/en/book/ict-pathways-poverty-reduction-empirical-evidence-east-and-southern-africa

ACTORS DOING RESEARCH ON THEME I: WOMEN AND ACCESS		
Organisation/individual	**Region/country**	**Specific focus/description (if any)**
Internet Governance Forum (IGF)	Global	The IGF serves to bring people together from various stakeholder groups as equals, in discussions on public policy issues relating to the internet. While there is no negotiated outcome, the IGF informs and inspires those with policy-making power in both the public and private sectors. At their annual meeting delegates discuss, exchange information and share good practices with each other. The IGF facilitates a common understanding of how to maximise internet opportunities and address risks and challenges that arise (source: website). Website: https://www.intgovforum.org/multilingual
International Telecommunication Union (ITU)	Global	The ITU is the UN specialised agency for information and communication technologies (ICTs). It allocates global radio spectrum and satellite orbits, develops the technical standards that ensure networks and technologies seamlessly interconnect, and strives to improve access to ICTs to underserved communities worldwide (source: website). Website: https://www.itu.int/en/about/Pages/default.aspx
International Research and Exchanges Board (IREX)	Eurasia	IREX embraces a people-focused approach to development that invests in human potential and the conditions that help people to thrive. It works with partners around the world to promote more just, prosperous and inclusive societies in four areas essential to progress, namely extending access to quality education and information; empowering youth; cultivating leaders; and strengthening institutions (source: website). Website: https://www.irex.org
LIRNE*asia*	Asia Pacific	LIRNE*asia* is based in Sri Lanka and aims to catalyse policy change through research to improve people's lives in the Asia Pacific region by facilitating their use of hard and soft infrastructures through the sharing of knowledge, information and technology. It conducts in-depth, policy-relevant research on infrastructure industries including ICT sectors. (Source: APC survey 2017 input and website). Website: lirneasia.net
Luchadoras	Mexico City	Luchadoras is a cyber-feminist and media-activist collective of women based in Mexico City that reclaims public space online and offline to promote personal and collective processes of political transformation for gender equality. They aim to engage feminist communities on discussions about the internet and women's rights, hold workshops with young women to encourage processes of appropriation of ICTs with a feminist perspective, and organise edithatons to overcome the gender gap in Wikipedia content. Luchadoras also works towards an internet free of violence against women by documenting aggressions and its impacts, analysing public policy and public action around this topic, and developing strategies to offer rapid response resources to women who have been subject to such attacks (source: APC survey 2017 input).
National Telecommunications Corporation	Sudan	Sudan's National Telecommunications Corporation (NTC) conducts ICT household surveys to collect detailed data about ICT spread and usage in Sudan. Data is classified by age group, gender, educational level and profession. NTC uses the survey results as an input for national planning and universal services provision (source: APC survey 2017 input). [no website details]

	Relevant literature and further information
	IGF Best Practice Forum on Gender. (2016). *Gender and Access (2016): Overcoming barriers to enable women's meaningful Internet access.* Geneva: IGF. www.intgovforum.org/multilingual/index.php?q=filedepot_download/3406/437 IGF. (2016). *Policy Options for Connecting and Enabling the Next Billion(s) – Phase II (2016).* Geneva: IGF. www.intgovforum.org/multilingual/index.php?q=filedepot_download/3416/412
	ITU. (2016). Facts and Figures 2016. www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx. ITU. (2013). *Universal service funds and digital inclusion for all.* Geneva: ITU. www.itu.int/en/ITU-D/Digital-Inclusion/Documents/USF_final-en.pdf ITU. (2011). *Connect a School, Connect a Community* (toolkit). Geneva: ITU. connectaschool.org
	IREX & Beyond Access. (2016). *Why young women need digital skills now to participate in Myanmar new information society*. Washington DC: IREX. www.myanmarbookfoundation.org/wp-content/uploads/2016/04/IREX-Myanmar-Gender-Study.pdf Scott, S., Balasubramanian, S., & Ehrke, A. (2017). *Ending the Gender Digital Divide in Myanmar: A Problem-Driven Political Economy Assessment.* Washington DC: IREX. www.irex.org/sites/default/files/node/resource/gender-digital-divide-myanmar-assessment.pdf
	GSMA & LIRNE*asia.* (2015). *Mobile phones, internet, and gender in Myanmar*. London: GSMA. www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/02/GSMA_Myanmar_Gender_Web_Singles.pdf
	More information: www.luchadoras.org

ACTORS DOING RESEARCH ON THEME I: WOMEN AND ACCESS		
Organisation/individual	**Region/country**	**Specific focus/description (if any)**
Research ICT Africa (RIA)	Africa	RIA conducts public-interest research on ICT policy and regulation that responds to national, regional and continental needs. It provides African researchers, governments, regulators, operators, multilateral institutions, development agencies, community organisations and trade unions with the information and analysis required to develop innovative and appropriate policies, effective implementation and successful network operations that can contribute to sustainable development (source: website). Website: https://www.researchictafrica.net/home.php#
Techatassanasoontorn, A. A. (*individual*)	n/a	n/a
UN Broadband Commission for Sustainable Development	Global	ITU and UNESCO set up the Broadband Commission for Digital Development in response to UN Secretary-General Ban Ki-Moon's call to step up UN efforts to meet the Millennium Development Goals (MDGs). The Commission was established in May 2010 with the aim of boosting the importance of broadband on the international policy agenda, and expanding broadband access in every country as key to accelerating progress towards national and international development targets. It defines practical ways in which countries – at all stages of development – can achieve this, in cooperation with the private sector. The Broadband Commission has had three working groups to date dedicated to tackling issues specifically related to women and internet access (source: website). Website: www.broadbandcommission.org/about/Pages/default.aspx
World Bank	Global	Established in 1944, the World Bank Group is headquartered in Washington, DC, and is a source of financial and technical assistance to developing countries around the world. It provides a unique partnership to reduce poverty and support development, and comprises five institutions managed by their respective member countries (source: website). Website: www.worldbank.org/en/about/what-we-do
World Economic Forum (WEF)	Global	The WEF was established in 1971 as a not-for-profit foundation and is headquartered in Geneva, Switzerland. It is independent, impartial and not tied to any special interests, and strives to demonstrate entrepreneurship in the global public interest while upholding the highest standards of governance. The WEF's activities are shaped by a unique institutional culture founded on the stakeholder theory, which asserts that an organisation is accountable to all parts of society (source: website). Website: https://www.weforum.org

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ACTORS DOING RESEARCH ON THEME I: WOMEN AND ACCESS		
Organisation/individual	**Region/country**	**Specific focus/description (if any)**
World Wide Web Foundation (Web Foundation)	Global	The Web Foundation aims to promote the internet as a human right and a public good. It uses a combination of research, policy advocacy and storytelling. Its Women's Rights Online and Alliance for Affordable Internet programmes strive to promote women's empowerment through technology by working in partnership with a coalition of approximately 80 member organisations to support over 15 countries to implement gender-responsive ICT policies. Its work focuses on reforming policy and regulation so that everyone, everywhere can i) afford to connect and ii) have the skills and opportunities to participate in the digital revolution privately and freely (source: APC survey 2017 input). Website: https://webfoundation.org.

ACTORS DOING RESEARCH ON THEME II: ECONOMY AND LABOUR		
Organisation/individual	**Region/ country**	**Specific focus/description (if any)**
AkiraChix	Kenya	AkiraChix is a non-profit organisation that aims to inspire and develop a successful force of women in technology who will change Africa's future. Founded in April 2010, AkiraChix aims to be the leading women's network impacting technology in Africa. Its programmes are developed to reach young women at different levels, those working in technology and those who wish to have a career in technology, making it an effectively wholesome programme (source: website and APC survey 2017 input). Website: www.akirachix.com
Amnesty International		Amnesty International is conducting research on harassment and violence against women online on platforms such as Facebook, Twitter and Reddit. The project focuses specifically on women in the UK and USA who use these mediums to communicate online – both professionally and personally – and who have received targeted threats of violence and harassment related to their gender (as well as other intersecting forms of their identity) (source: APC survey 2017 input). Website: https://www.amnesty.org/en
Association for Progressive Communications (APC) *Related ongoing initiative: GenderIT.org*	Global	APC is a network and organisation with the mission to empower and support organisations, social movements and individuals in and through the use ICTs to build strategic communities and initiatives for the purpose of making meaningful contributions to equitable human development, social justice, participatory political processes and environmental sustainability (source: website). Website: https://www.apc.org
Centre for Information Technology and Development (CITAD)		CITAD undertakes research to identify how women in Northern Nigeria can be aided in more effectively using the internet; to promote awareness of the importance of women's access more broadly; and to prevent and understand gender-based violence online (source: APC survey 2017 input). Website: www.citad.org

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	(ongoing project and forthcoming publication)
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ACTORS DOING RESEARCH ON THEME II: ECONOMY AND LABOUR		
Organisation/individual	**Region/ country**	**Specific focus/description (if any)**
DIRSI	Latin America	DIRSI aims to become a regional focal point for research and learning about ICT policies and regulation, and its impact on poverty. DIRSI was initially conceived as a purely virtual network, with no specific headquarters and with coordination, production and management decentralised among members in various countries in the region. Now, in order to simplify network management, the Instituto de Estudios Peruanos (IEP) serves as the administrative headquarters of DIRSI (source: website). Website: dirsi.net/web/web/en/about-dirsi/who-we-are/management-committee
GSMA	Global	GSMA's purpose is to be the driving force behind the mobile operator industry's commitment to playing the leading role in connecting the world and achieving the SDGs, which aim to end poverty, halt climate change and fight injustice and inequality. Access to the mobile internet is a defining moment in a community's economic, social and political development (source: website). Website: https://www.gsma.com/betterfuture/.
International Research and Exchanges Board Inc. (IREX)	Eurasia	IREX embraces a people-focused approach to development that invests in human potential and the conditions that help people to thrive. It works with partners around the world to promote more just, prosperous and inclusive societies in four areas essential to progress, namely extending access to quality education and information; empowering youth; cultivating leaders; and strengthening institutions (source: website). Website: https://www.irex.org/about-us
LIRNE*asia*	Asia Pacific	LIRNE*asia* is based in Sri Lanka and aims to catalyse policy change through research to improve people's lives in the Asia Pacific region by facilitating their use of hard and soft infrastructures through the use of knowledge, information and technology. It conducts in-depth, policy-relevant research on infrastructure industries including ICT sectors (source: APC survey 2017 input and website). Website: lirneasia.net/about
Nakamura, L. (*individual*)	n/a	Lisa Nakamura is the Gwendolyn Calvert Baker Collegiate Professor in the Department of American Cultures at the University of Michigan, Ann Arbor, the Coordinator of Digital Studies at the University of Michigan, and on the Steering Committee of the FemTechNet Project, a network of educators, activists, librarians and researchers interested in digital feminist pedagogy (source: website). Website: https://lisanakamura.net
Overseas Development Institute (ODI)		The ODI is an independent think tank on international development and humanitarian issues. It aims to inspire and inform policy and practice which lead to the reduction of poverty, the alleviation of suffering and the achievement of sustainable livelihoods in developing countries. As well as 14 core research programmes, the ODI also hosts a number of flagship projects and runs the ODI Fellowship Scheme (source: website). Website: https://www.odi.org/about-odi.

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ACTORS DOING RESEARCH ON THEME II: ECONOMY AND LABOUR		
Organisation/individual	**Region/ country**	**Specific focus/description (if any)**
Research ICT Africa (RIA)		RIA conducts public-interest research on ICT policy and regulation that responds to national, regional and continental needs. It provides African researchers, governments, regulators, operators, multilateral institutions, development agencies, community organisations and trade unions with the information and analysis required to develop innovative and appropriate policies, effective implementation and successful network operations that can contribute to sustainable development (source: website). Website: https://www.researchictafrica.net/home.php#
World Bank	Global	Established in 1944, the World Bank Group is headquartered in Washington, DC, and is a source of financial and technical assistance to developing countries around the world. It provides a unique partnership to reduce poverty and support development, and comprises five institutions managed by their respective member countries (source: website). Website: www.worldbank.org/en/about/what-we-do
World Wide Web Foundation	Global	The Web Foundation aims to promote the internet as a human right and a public good. It uses a combination of research, policy advocacy and storytelling. Its Women's Rights Online and Alliance for Affordable Internet programmes strive to promote women's empowerment through technology by working in partnership with a coalition of approximately 80 member organisations to support over 15 countries to implement gender-responsive ICT policies. Its work focuses on reforming policy and regulation so that everyone, everywhere can afford to connect and have the skills and opportunities to participate in the digital revolution privately and freely (source: APC survey 2017 input).
UN Educational, Scientific and Cultural Organization (UNESCO)		UNESCO is responsible for coordinating international cooperation in education, science, culture and communication. It strengthens the ties between nations and societies, and mobilises the wider public so that each child and citizen has access to quality education, a basic human right and an indispensable prerequisite for sustainable development; may grow and live in a cultural environment rich in diversity and dialogue, where heritage serves as a bridge between generations and peoples; can fully benefit from scientific advances; and can enjoy full freedom of expression; the basis of democracy, development and human dignity (source: website). Website: en.unesco.org/about-us/introducing-unesco

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ACTORS DOING RESEARCH ON THEME III: AGENCY AND EMBODIMENT		
Organisation/individual	**Region**	**Specific focus/description (if any)**
Access Now		Access Now is focused on the intersection of ICTs, the internet, and human rights. Various internal- and external-facing initiatives have attempted to integrate consideration of gender into its work, with some areas including the need to develop, implement and share inclusion practices; provide direct digital security support through its Digital Security Helpline; educate women on threats and security best practices; fund groups that empower women and provide safe spaces; engage in global processes for change; develop policy guidance that supports inclusion; and support advocacy to protect identity online (source: APC survey 2017 input). Website: https://www.accessnow.org.
AkiraChix	Kenya	AkiraChix is an non-profit organisation that aims to inspire and develop a successful force of women in technology who will change Africa's future. Founded in April 2010, AkiraChix aims to be the leading women's network impacting technology in Africa. Its programmes are developed to reach young women at different levels, those working in technology and those who wish to have a career in technology, making it an effectively wholesome programme (source: website and APC survey 2017 input). Website: www.akirachix.com
Alliance for Affordable Internet (A4AI)		A4AI is a broad coalition working to enable everyone, everywhere to access the life-changing power of the Internet. Its mission is focused on overcoming the affordability barrier to access for women, the poor, rural dwellers, and other marginalised populations that remain priced out of the digital revolution. Specifically, A4AI is working to achieve a "1 for 2" affordability target: 1GB of mobile broadband priced at 2% or less of average monthly income (source: website). Website: a4ai.org/who-we-are/about-a4ai
Asian-Pacific Resource & Research Centre for Women (ARROW)	Asia Pacific	ARROW is a regional non-profit women's organisation based in Kuala Lumpur, Malaysia, and strives to enable women to be equal citizens in all aspects of their life by ensuring their sexual and reproductive health and rights are achieved (source: website). Website: arrow.org.my

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ACTORS DOING RESEARCH ON THEME III: AGENCY AND EMBODIMENT		
Organisation/individual	**Region**	**Specific focus/description (if any)**
Association for Progressive Communications (APC) *Related ongoing initiative: GenderIT.org*	Global	APC is a network and organisation with the mission to empower and support organisations, social movements and individuals in and through the use ICTs to build strategic communities and initiatives for the purpose of making meaningful contributions to equitable human development, social justice, participatory political processes and environmental sustainability (source: website). Website: https://www.apc.org.

	Relevant literature and further information
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ACTORS DOING RESEARCH ON THEME III: AGENCY AND EMBODIMENT		
Organisation/individual	**Region**	**Specific focus/description (if any)**
Derechos Digitales	Latin America	Derechos Digitales, in collaboration with Privacy International, is working on varied challenges related to gender and ICTs. It has analysed, for instance, the data protection and privacy implications of menstrual apps. It also develops online security tools for women and LGBTI communities (source: APC survey 2017 input).
Dhatta, B. (*individual*)		Bishakha Datta is an Indian film maker, activist and a former journalist. She is the co-founder and executive director of Point of View, based in Mumbai, a non-profit working in the area of gender, sexuality and women's rights.
Digital Rights Foundation	Pakistan	Digital Rights Foundation (DRF) has been working to make the internet a safer, freer and more inclusive space for all regardless of gender, sexual identity, class, religion, occupation, ethnicity, race, ability and age. DRF's Hamara Internet campaign seeks to address issues around online harassment and provide digital security training to young women in universities and colleges. It aims to help women reclaim online spaces and ensure equal participation in these spaces. DRF also launched a Cyber Harassment Helpline in December 2016. The Helpline support staff provide digital security support, legal advice and psychological counselling to victims of online harassment (source: APC survey 2017 input). Website: https://digitalrightsfoundation.pk
Engine Room, The		The Engine Room is an NGO that helps activists, organisations, and other social change agents make the most of data and technology to increase their impact, based on the belief that data and technology have the potential to dramatically accelerate the impact of any group or organisation that promotes equality, justice, human rights, good governance and accountability (source: website). Website: https://www.theengineroom.org
Feminism in India	India	Feminism in India (FII) is an award-winning digital intersectional feminist media organisation that aims to learn, educate and develop a feminist consciousness among the youth. It is required to unravel the "F" word and demystify all the negativity surrounding it. FII amplifies the voices of women and marginalised communities using tools of art, media, culture, technology and community (source: APC survey 2017 input). Website: https://feminisminindia.com
Internet Democracy Project	India	The Internet Democracy Project is a project of the organisation Point of View. Gendering Surveillance is one of its most recent initiatives, and aims to concretise the multifaceted ways in which widespread surveillance shapes and harms women's lives. It adopts a gendered approach to emphasise the harms of surveillance (source: website). Website: https://genderingsurveillance.internetdemocracy.in/intro
GSMA	Global	GSMA's purpose is to be the driving force behind the mobile operator industry's commitment to playing the leading role in connecting the world and achieving the SDGs, which aim to end poverty, halt climate change and fight injustice and inequality. Access to the mobile internet is a defining moment in a community's economic, social and political development (source: website). Website: https://www.gsma.com/betterfuture

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	Digital Rights Foundation. (2016). *Surveillance of Female Journalists of Pakistan*. www.digitalrightsfoundation.pk/wp-content/uploads/2017/02/Surveillance-of-Female-Journalists-in-Pakistan-1.pdf
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ACTORS DOING RESEARCH ON THEME III: AGENCY AND EMBODIMENT		
Organisation/individual	**Region**	**Specific focus/description (if any)**
HarassMap	Egypt	HarassMap is a volunteer-based initiative founded to engage Egyptian society to create an environment that does not tolerate sexual harassment and guarantees the safety of all people from sexual and gender-based violence. It works to convince bystanders and institutions to stand up to sexual harassment before or when they see it happen (source: website). Website: harassmap.org/en
Hollaback!		Hollaback! maintains an app and websites that allow users to document incidents of harassment on maps and share their stories. It also runs HeartMob, a web platform that mobilises bystander support for people experiencing online harassment. Volunteer bystanders (or "HeartMobbers") can help by sending supportive messages to victims, documenting harassment, or reporting abuse to social media platforms. Hollaback! also facilitates the Online Harassment Task Force listserv, hosts online bystander intervention trainings via webinar, provides technical safety information and resources, and has participated in international discussions pertaining to the ways in which online harassment contributes to the gendered digital divide (source: APC survey 2017 input).
International Development Research Centre (IDRC)	Global	IDRC funds research in developing countries to create lasting change on a large scale. To make knowledge a tool for addressing pressing challenges, IDRC provides developing-country researchers with financial resources, advice and training to help them find solutions to local problems; encourages knowledge sharing with policy makers, researchers, and communities around the world; fosters new talent by offering fellowships and awards; and strives to get new knowledge into the hands of those who can use it. In doing so, IDRC contributes to Canada's foreign policy, complementing the work of Global Affairs Canada, and other government departments and agencies (source: website). Website: https://www.idrc.ca.
Internet Governance Forum (IGF)	Global	The IGF serves to bring people together from various stakeholder groups as equals, in discussions on public policy issues relating to the internet. While there is no negotiated outcome, the IGF informs and inspires those with policy-making power in both the public and private sectors. At their annual meeting delegates discuss, exchange information and share good practices with each other. The IGF facilitates a common understanding of how to maximise internet opportunities and address risks and challenges that arise (source: website). Website: https://www.intgovforum.org/multilingual
IT for Change	India	IT for Change is an NGO based in Bengaluru, India, and aims to help create a society in which digital technologies contribute to human rights, social justice and equity. Its work in the areas of education, gender, governance, community informatics and internet/digital policies try to push the boundaries of existing vocabulary and practice, exploring new development and social change frameworks (source: website). Website: https://www.itforchange.net
Organization for Security and Co-operation in Europe (OSCE)	Europe (and global)	The OSCE has a comprehensive approach to security that encompasses politico-military, economic and environmental, and human aspects. It addresses a range of security-related concerns, including arms control, confidence- and security-building measures, human rights, national minorities, democratisation, policing strategies, counter-terrorism and economic and environmental activities (source: website). Website: www.osce.org
Penney, J. W. (*individual*)	Global	n/a

	Relevant literature and further information
	HarassMap. (2014). *Towards a Safer City: Sexual Harassment in Greater Cairo: Effectiveness of Crowdsourced Data*. www.harassmap.org/en/wp-content/uploads/2013/03/Towards-A-Safer-City_full-report_EN-.pdf
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	IGF Best Practice Forum. (2015). *BPF on Online Abuse and Gender-Based Violence: Final outcome document.* Geneva: IGF. www.intgovforum.org/cms/documents/best-practice-forums/623-bpf-online-abuse-and-gbv-against-women/file
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	Penney, J.W. (2017). Internet surveillance, regulation, and chilling effects online: a comparative case study. *Internet Policy Review, 6*(2). https://policyreview.info/node/692/pdf

ACTORS DOING RESEARCH ON THEME III: AGENCY AND EMBODIMENT		
Organisation/individual	**Region**	**Specific focus/description (if any)**
Privacy International	Global	Privacy International investigates covert government surveillance and exposes the companies enabling it; litigates to ensure that surveillance is consistent with the rule of law; advocates for strong national, regional and international laws that protect privacy; conducts research to catalyse policy change; and raises awareness about technologies and laws that place privacy at risk to ensure that the public is informed and engaged (source: website). Website: https://privacyinternational.org
Research ICT Africa (RIA)	Africa	RIA conducts public-interest research on ICT policy and regulation that responds to national, regional and continental needs. It provides African researchers, governments, regulators, operators, multilateral institutions, development agencies, community organisations and trade unions with the information and analysis required to develop innovative and appropriate policies, effective implementation and successful network operations that can contribute to sustainable development (source: website). Website: https://www.researchictafrica.net/home.php#.
World Wide Web Foundation (Web Foundation)		The Web Foundation aims to promote the internet as a human right and a public good. It uses a combination of research, policy advocacy and storytelling. Its Women's Rights Online and Alliance for Affordable Internet programmes strive to promote women's empowerment through technology by working in partnership with a coalition of approximately 80 member organisations to support over 15 countries to implement gender-responsive ICT policies. Its work focuses on reforming policy and regulation so that everyone, everywhere can afford to connect and have the skills and opportunities to participate in the digital revolution privately and freely (source: APC survey 2017 input).

ACTORS DOING RESEARCH ON THEME IV: PARTICIPATION AND DECISION MAKING		
Organisation/individual	**Region**	**Specific focus/description (if any)**
Association for Progressive Communications (APC) *Related ongoing initiative: GenderIT.org*	Global	APC is a network and organisation with the mission to empower and support organisations, social movements and individuals in and through the use ICTs to build strategic communities and initiatives for the purpose of making meaningful contributions to equitable human development, social justice, participatory political processes and environmental sustainability (source: website). Website: https://www.apc.org.
Batliwala, S. (*individual*)	n/a	n/a
Engine Room, The	Global	The Engine Room is an NGO that helps activists, organisations, and other social change agents make the most of data and technology to increase their impact, based on the belief that data and technology have the potential to dramatically accelerate the impact of any group or organisation that promotes equality, justice, human rights, good governance and accountability (source: website). Website: https://www.theengineroom.org/

	Relevant literature and further information
	Hosein, G., & Nyst, C. (2013). *Aiding Surveillance: An exploration of how development and humanitarian aid initiatives are enabling surveillance in developing countries*. London: Privacy International. www.privacyinternational.org/sites/default/files/Aiding%20Surveillance.pdf
	Chair, C. (2017). *Internet use barriers and user strategies: Perspectives from Kenya, Nigeria, South Africa and Rwanda*. Cape Town: Research ICT Africa. www.researchictafrica.net/docs/RIA 2016 Comparative FGD study_Final_Web version.pdf
	World Wide Web Foundation. (2016). *Women's Rights Online: Digital Gender Gap Audit*. www.webfoundation.org/about/research/digital-gender-gap-audit

	Relevant literature and further information
	Gurumurthy, A. (2017). *A history of feminist engagement with development and digital technologies*. Johannesburg: APC. https://www.apc.org/sites/default/files/HistoryOfFeministEngagementWithDevelopmentAndDigitalTechnologies.pdf Gurumurthy, A., & Chami, N. (2017). *A Feminist Action Framework on Development and Digital Technologies.* Johannesburg: APC. https://www.apc.org/en/pubs/feminist-action-framework-development-and-digital-technologies Nadège. (2017, 22 February). Feminist autonomous infrastructure in the internet battlefield: From Zombies to Ninjas. *GenderIT.org*. www.genderit.org/articles/feminist-autonomous-infrastructure-internet-battlefield-zombies-ninjas Toupin, S., & Hache, A. (2015). Feminist autonomous infrastructures. In A. Finlay (Ed.), *Global Information Society Watch 2015: Sexual rights and the internet*. Johannesburg: APC/Hivos. https://www.giswatch.org/es/node/5773 APC, JASS, & Women'sNet. (2015). *ICTs for Feminist Movement Building: Activist Toolkit.* Johannesburg: APC. https://www.apc.org/es/system/files/ICTs Toolkit_2015_0.pdf
	Batliwala, S. (2012). *Changing Their World: Concepts and Practices of Women's Movements* (2nd ed.). Toronto: AWID. www.awid.org/sites/default/files/atoms/files/changing_their_world_2ed_full_eng.pdf
	Responsible Data. (2016). *The Handbook of the Modern Development Specialist: Being a Complete Illustrated Guide to Responsible Data Usage, Manners & General Deportment.* The Engine Room. www.responsibledata.io/resources/handbook/assets/pdf/responsible-data-handbook.pdf

APPENDIX 2

SCOPING SURVEY ON MAPPING GENDER IN ICTs

Attention is increasingly given to ensuring that gender dimensions or analysis is integrated into research, particularly when trying to understand inclusion and variable access for women and their ability to use information and communication technologies (ICTs) to improve their livelihoods, quality of life and rights. Yet there are many challenges in integrating gender dimensions comprehensively and effectively in programmatic work, especially by organisations that focus primarily on Internet rights and/or ICTs for development (ICT4D). With the aim of trying to improve gender-related outcomes, to strengthen gender analysis and inclusion in research projects, and to bolster the field of gender and ICTs with the development of a gender-focused network, the Association for Progressive Communications (APC) is mapping gender dimensions in existing and ongoing work. This mapping exercise will help provide an overview of key actors and current trends relating to gender, and will help to identify the main gaps in current initiatives, particularly in relation to research.

Tell us about yourself

(You can remain anonymous if you choose to.)

Name:

Stakeholder group: *(Please select the closest option.)*

- Government (e.g. you work for your government)
- Technical community (e.g. you design websites or applications)
- Civil society
- Private sector
- Intergovernmental organisation
- Academia (e.g. you're a student or lecturer)
- Other:

Organization:

Email/Contact:

Country:

What work have or are you and/or your organization have doing in relation to gender and ICTs and/or the Internet?

If you or your organization have done an impact assessment/evaluation of your initiative(s), are such report(s) available? (Yes/No – Link)

(Name, launch date, who is responsible, where can we find more information, what country or region – is the work national, regional, local)

Note: mention any past, existing or planned initiatives. Gender and ICTs need not be the primary focus of the work, but should be mentioned in some capacity.

Have you or your organization published anything in relation to gender and ICTs?

Publications include any reports, documents, blogs, policy briefs, articles, or other written material that have been published on gender and ICTs, or simply material concerned with ICTs that might be of relevance gender issues.

Title	Author/ Publisher	Publication year	URL (if any)

Do you know of other publications in relation to gender and ICTs that we should look at?

Title	Author/ Publisher	Publication year	URL (if any)

Does your work or research also deal with exclusion and/or discrimination - or have you encountered these factors in your work (including disability, race, caste, ethnicity, urban/rural, etc.)?

Have you noticed any emerging trends in terms of gender and ICTs?

In other words, if you had to explain to someone what is currently happening in the ICT field with regards to gender, what would you say? What have you noticed in terms of current challenges, developments, etc.?

Do you know of any other projects related to gender and ICTs? Do you have recommendations of who else we should speak to?

This can be an organization or individual

Contact details for the individual or organization:

APPENDIX 3

INTERVIEW GUIDELINES BASED ON THEMATIC AREAS

Tell us a bit about yourself and your work

1. Name
2. Organisation
3. Stakeholder
4. Email
5. Region/country

Your work

6. What work have you or your organization been doing in relation to gender and ICTs and/or the internet?
7. Any links to reports or research or impact reports or evaluations - then please do share. (might be better to get this via followup email)

THEME I - ICTs for women's rights and empowerment

8. What are the ways in which you think ICTs work for women's rights and empowerment?
9. What level at which in your region or context ICTs are helpful to women and gender non conforming people
10. ICTs as positive or negative impact largely on women's rights and empowerment
11. Do you see a difference between how we approach ICTs for women's empowerment in the last decade (non leading question on shift from development to rights approach)
12. Are there trends you perceive in relation to women's empowerment online? Like websites and mags for instance, or blogging, or twitter visibility. Or rise in online GBV. or rising concern about online GBV. Taking access seriously. Women's movement taking note of tech as a tool and tech issues as part of their concerns.
13. And what are the gaps. what has ICTs not helped in addressing for women's rights, what category of women were left behind

THEME II Access

14. Difference between access and meaningful access or substantive access.
15. Barriers to access in your context or region
16. Do you see cultural norms, social behaviour and stereotypes as playing a role in relation to access?
17. Are there other barriers as well - cost and affordability, language - and language mostly used online, infrastructure - electricity for instance?

18. What do you see as the link between the local levels at which access works and how governments or corporates or even large CSOs or orgs like UN look at plans for achieving access for all women?
19. The link between participation of women at the policy level and how many women are ensured access at the local level — how does women's inability to participate in ICT and STEM policy making play out?

THEME III the limitation on women's rights through ICTs

20. One of the most often talked about one is online GBV. is this a phenomenon - tell us a bit about your experience and in the region? (specific to WHRDs too)
21. What forms do you see this taking - for instance is it abuse by strangers on twitter, aimed at public personalities or all women, ex-boyfriends and partners sharing intimate images online without consent, doxxing or revealing someone's real name or location (Qandeel) with dire consequences
22. Do you see a link between online GBV and prevailing violence and harassment in the lives of women on the streets and at homes? or is this a different phenomenon?
23. What are the other conditions that affect women's rights both online and offline - relevant to region like MENA - State violence in particular, state censorship etc.
24. What are the other kinds of exclusions that might be playing out - racism, casteism, ethnicity, backlash and so on
25. Do you think there are specific concerns in relation to women's privacy online - specific to women and gender non conforming people
26. What do you see as the role of internet and tech in relation to sexuality in your region - a space for expression, organising and solidarity, for hooking up and forming community .. is there a specific danger to privacy and anonymity at this level
27. How would you see the promise of ICTs undone by how it is used
28. Have you thought about big data and data collection in relation to women's rights in your region - and do you see a link there? the effect it has on privacy and the kind of surveillance datafication of people would involve (also to explore the idea that surveillance is part of patriarchy or colonialism)
29. Do you see a specific danger in relation to big data and data collection by states and corporates - social media and surveillance? is this compounded by other existing factors - for instance anti government struggles for WHRDs and other activists, state control and agenda.
30. Aside from that - what would you see or already see as the dangers to ordinary women from such surveillance through data? Both by corporates and state

Future plans for research

31. Observations (themewise) Have you noticed any emerging issues and/or trends relating to gender and ICTs? In other words, if you had to explain to someone what is currently happening in the ICT field with regards to gender, what would you say? What have you noticed in terms of current challenges, developments, etc.?
32. Are there other projects related to gender and ICTs that you admire or would recommend. Could you provide name of person or project, any contact details, or url for the project.
33. What are your future plans for research (especially relelvant for those who have research networks - Web Foundation, Fembot Collective (upcoming issues)) and for your own work?
34. Recommendations and links

APPENDIX 4

PARTICIPANTS IN EXPERT GROUP MEETING ON GENDER AND DIGITAL TECHNOLOGY

29 September to 1 October 2017

Port Dickson, Malaysia

Name	Region	Country	Organisation
Kalyani Menon Sen	Asia	India	Gender at Work
Minakshee Rode	Asia	India	Indian institute of technology, delhi
Chenai Chair	Africa	South Africa	Research ICT Africa
Ruth Nyambura	Africa	Kenya	African Ecofeminists Collective
Safia Khan	Africa	South Africa/India	University of Cape Town/ Development Policy Research Unit
Mariana Valente	Latin America	Brazil	InternetLab – Law and Technology Research Center
Patricia Peña	Latin America	Chile	Académica del Instituto de la Comunicación e Imagen, Universidad de Chile
Horacio F. Sívori	Latin America	Brazil	Universidade do Estado do Rio de Janeiro/ Sexuality Policy Watch
Catalina Alzate	Latin America/ Asia	Colombia/India	Srishti Institute of Art, Design and Technology
Jinnie Chae	Global	South Korea	Fembot Collective
Becky Faith	Global	UK	Institute of Development Studies (IDS)
Elena Pavan	Europe	Italy	University of Trento (Italy)
Bruna Zanolli	Latin America	Brazil	Vadias de campinas, Vedetas (vedetas.org/) and Thydewá.
	MENA		
Tigist Shewarega Hussen	Africa	Ethiopia/South Africa	University of Western Cape
Caitlin Bentley	Asia/Europe	UK/Singapore	Singapore Internet Research Centre
Matthew Smith	North America	Canada	International Development Research Centre
Ruhiya Seward	North America	Canada	International Development Research Centre
Namita Aavriti	Asia	India	Association for Progressive Communications
Jac sm Kee	Asia	Malaysia	Association for Progressive Communications
Katerina Fialova	Europe	Czech Republic	Association for Progressive Communications
Jennifer Radloff	Africa	South Africa	Association for Progressive Communications

APPENDIX 5

RESEARCH NETWORK PROFILES

Guidelines for doing a profile on a research network

A short note on networks: Network here is a group of people or organisations that connect or operate together and are interconnected. This can be a formal arrangement like a funded project with multi country research nodes, or a more informal arrangement that coagulates around an email list, shared activities like conferences or a journal, or it can also be the network formed by outsourcing of work through local partners etc. The purpose here is to get insight into how knowledge production takes place through various forms of networks.

Name of network and organisations involved:

If there is a main organisation that heads the network, their name:

Region(s), Countries:

Focus of network (issues, theme, topics):

Is this a formalised/funded or informal network? Do the partners come together for particular projects or is it a loose network around an email list (for example)?

If it is a formalised/funded network, then how is the project for the partners decided – through collaboration or through one central node of the project and partners implement it?

If it is a formalised/funded network, was there a fixed format in how the research should be done – how was this format decided?

If it is an informal network, what are the threads that bind together the partners - are there regular meetings, a journal that is co-produced or sourced from the network, or email list that is active. Even with a funded network, are there email lists that are sustained post the project and still used by members for planning or sharing?

Does the project entail gender analysis? Is there a feminist framework or a framework that looks at the concerns of people who are marginalised in the economy, social or cultural sphere? If there is a feminist approach that also looks at intersecting axis of exclusion and discrimination (such as race, caste, ethnicity etc.) can you share a bit about how this politics is shared or reached at amongst the members?

Was the network focused on civil society partners or did it include academics, or vice versa?

Was the same research methodology used by all or most partners, or were they different approaches to research, or did differences become apparent over time?

What are the pros and cons of research done through this model of a network? The answer to this could vary from what have been the learnings from the experience of doing research networks, to questions of methodology and approach, limitations of comparisons between different contexts, questions of funding and sustainability, and so on.

Did the partners and the coordinator both distribute and disseminate the research, or was it done through only one node of dissemination?

FEMBOT COLLECTIVE

Collaborative. Interdisciplinary. Unapologetically Feminist. The Fembot Collective emerged in 2009 as a response to academic research and publishing structures that have historically created boundaries between academic critical practice and the intellectual work practised and circulated by those who identify as artists, activists, community leaders, and independent researchers. Fembot is a feminist project that moves within and beyond academic spaces in its organisational structure and practice, particularly through open networking among individuals invested in intersecting social issues and through the collective's peer-reviewed publication *Ada: A Journal of Gender, New Media, and Technology.*

Institutional place and intersectional research

The Collective formed at the University of Oregon where its founding members, including Carol Stabile, Karen Estlund and Bryce Peake, thought of ways to expand their research group to other institutions and spaces. Stabile, the Collective's managing editor and *Ada* co-editor (with Radhika Gajjala), moved to the Women's Studies Department at the University of Maryland in July 2017, which provides the Fembot Collective with a new institutional home and additional support. The Fembot Collective has grown to include feminist media scholars, artists, producers, writers and activists from around the world. The Collective currently has 561 members, from 24 countries. Since its launch in 2012, *Ada* has published 80 peer-reviewed articles.

From the beginning, the Collective's intent was to create an open access, open source publishing platform for feminist research on gender, new media, and technology grounded in feminist ethics and practices. Many of its initiatives, such as hack-a-thons and its partnerships with *Wikimedia* and *Ms*., have worked at "demystifying IT," according to Estlund. The Collective's 2017 symposium "Gender, Race, Technology and Labor" is an example of these efforts, having focused on the ways in which digital humanities projects function as both tools and products of decolonising, anti-racist, and feminist labour inside and beyond academia. In-person and digital participants engaged with each other in workshops and practised new digital humanities interventions for social justice issues.

What made this most recent symposium and other Fembot critical practices valuable to its members' own work is the interdisciplinarity and intersectionality that these initiatives cultivate. Multiple feminist frameworks and research methodologies guide its members and have shaped conversations by Fembot's editorial board since its earliest iterations. Iris Bull, a graduate student at Indiana University and long-time Collective member, describes her feelings of belonging within Fembot, pointing to the value she finds in its interdisciplinarity:

> Even though I've never been in a women's and gender studies program or an ethnic studies program, Fembot has been a community where I can engage with people who are exclusively engaged with women's studies or gender studies, trans studies, or bot studies, and so even if I'm not always getting that conversation at home in Bloomington, I'm getting that conversation when I go to Fembot or … if I just read *Ada* … the *Ada* journal has always been where I can find something interesting and different than when I go to other academic journals.

Fembot's diverse membership from across and outside of academic institutions helps supplement the project's more marginalised location within academia, reflective of larger attitudes toward work in the humanities. The connections Fembot fosters outside of academia help rebuild a space for socially engaged humanities scholarship and critical thinking that is increasingly disappearing from higher education institutions. Stabile articulates that part of the project's impetus was motivated by the leaders' personal academic and professional experiences that "constantly kind of affirm the fact that we're on the margins of institutions and we're not at the centre … for differing, really complicated reasons." Thankfully, the project's new institutional home promises more stability within academia as the University of Maryland currently supports a "robust digital humanities presence on campus and they get the value of the project and they have an infrastructure to support it," according to Stabile.

Beyond this institutional and member-driven support, the Collective is managed by Stabile and Gajjala, who volunteer their time and labour to continue Fembot's growth. Each editor mentors their own graduate student assistant, each of whom manage different aspects of the Collective's web presence and *Ada*, and are compensated through stipends at their home institutions. Thus clearly the network is sustained mostly through unpaid volunteer labour as it is now. While Stabile has negotiated infrastructural support for Fembot and *Ada* through her institution at the University of Maryland and Gajjala is currently supported with a graduate assistant from the American Culture studies programme at Bowling State University, much of the labour that both Stabile and Gajjala themselves do for this network and the labour that others put in towards the various initiatives for the collective and for the *Ada* journal are unpaid. When hosting conferences, Stabile and Gajjala usually apply for internal grants on campus that would normally be given to faculty for their research projects or conference-related travel.

Network structure and partnerships

Although the Collective identifies as an informal network, the editorial board discussed its governance at length in a concerted effort to facilitate and mentor members' professional and personal projects. Fembot's founding members decided to remain informal because of both realistic challenges they faced, including fair compensation for grad student labour, and because of the possibility of the Collective moving from place to place, as new members join and move into leadership positions.

By remaining an informal network, Fembot retains the openness and accessibility it has strived for from its start. Stabile articulates in reference to the Collective's structure:

> There's some feminist networks that feel like they're friendship networks and [you can belong] if you're friends with so and so or if [you] have lots of cultural capital. But I think what's interesting about Fembot, is that it was never that. It was a bunch of scrappy people from scrappy public institutions and not people from elite institutions and because of that … I think that we wanted to make sure that we didn't reproduce those dynamics in the Collective itself. That's one of the reasons that we still have this self-nomination process … Just self-nominate yourself, you don't need to know anyone in the Collective, you can just nominate yourself and that's really cool."

Bull affirms, "In a lot of other kind of scholarly or academic communities … there's usually this kind of policed boundary between like who belongs and who doesn't. And I've not really seen that in Fembot." In addition, as a Fembot member from South Korea, Jinnie Chae, asserts, having self-nomination and open membership allows Fembot to "ultimately not only act against inequality embedded in the formalised academic culture and but also works for the marginalised who do not have enough cultural, economic, and social capital in academia such as the graduate students. (e.g. mentoring, Ada, etc)."

Member-driven action

Participation in the Collective can manifest however a particular member wants it to look or feel. Membership can involve actively reading or responding to the listserv, through which members post about new projects, publications and activities that they want to share with others. Membership can also involve suggesting new initiatives for the Collective. Stabile comments, "People just contribute to it, it's not like it's friends of friends, it's not like it's these affinity groups … it's like people have and as long as people have ideas, I think Radhika and I have always been kind of open to them." Both Bull and Stabile agree that *Ada's* open-peer review (OPR) system is one of the Collective's most rewarding and successful tools for members to contribute. *Ada's* OPR system allows all members to provide constructive, summative feedback on in-progress journal submissions. These contributions are attributable and, as Bull indicates, are a way for members to "pay their dues" so to speak, but through constructive action and conversation, not through financial obligations.

Stabile says of conceiving this system:

> We thought, well, you know, we could have this peer-review process that's open and it's not anonymous and then if people are gonna say critical things, they need to be accountable to saying those critical things … [At Fembot's core] was a kind of affect of care and community. Like, we don't want to tear people down, we want people to do better work and that kind of infused everything that we were doing and made it really different than the experiences people had with traditional journals where a lot of it is, elevating some people to the exclusion of others.

Fembot members share a responsibility of respect for themselves and each other, demonstrated through this process.
Because of its open membership and its sustained relationships with civil society partners, like *Ms.* and Wikimedia, there are diverse feminist frameworks that guide members. Through it all, Stabile says that the Collective has worked at being both international and intersectional. While she believes Fembot has demonstrated well a commitment to intersectionality, the Collective continues to work towards its goal of internationality.

Limitations and continuing initiatives

Yet even as Fembot Collective remains open and informal, it still remains as mostly a US-located and global North-based feminist network. While the network leaders have made concerted efforts not only to include but to encourage queer, trans and feminists of colour in the global North to define several of the Fembot initiatives and *Ada* special issues, the network has not been able to involve itself in or represent global South issues in depth. Partly this is a result of the limitations of location of the main leaders of the network and the lack of resources to do more outreach. Gajjala has recently started to investigate the possibility of extending Fembot Collective with what she terms as the "Fembot Collective Global South Initiatives". Thus some members of Fembot have been discussing the need to expand on its international efforts through discussions with various global South-based feminist scholars, activists and NGO workers. Gajjala explains:

> In this initiative, we aim to extend Fembot publishing and mentoring successes further beyond the formal academia that is dominated mostly by English-speaking Western countries. We would like to think of it more as an extension of Fembot within Fembot. In doing so, this initiative extends Fembot's core philosophy by challenging the inequalities between the global North and the global South academic culture and working with global South feminist scholars and activists in their struggles around negotiations of a mix of local and neocolonial hierarchies around evaluations of scholarly output that prevail in many such institutional settings.

Translations, issue themes, and offline networking support Fembot's attempt to have these conversations and to promote increasingly larger online networks of feminist connectivity.

As mentioned above, *Ada* serves as the main conduit through which Fembot shares research with a broader public beyond its memberships. Stabile asserts that the Collective is always seeking ways to optimise its accessibility, and that she and others think often of the ways in which they can make the Collective and journal known to folks who share an interest in the research and projects of Fembot/*Ada* contributors.

Bull highlights the exciting prospects of stumbling upon the Collective, especially as a graduate student or scholar whom traditional journals and academic spaces exclude and marginalise:

> I think that for me, when I think about what Fembot is for or like what is its mission, I think back to its beginnings, like why did people get together to form Fembot in the first place, and there were a number of things that kind of catalysed or galvanised the effort. Not having a space on campus where you felt like you had a community. Not having particular resources. Not feeling like you belonged. Like these three things I think will always kind of characterise why people continue to come back to Fembot because they'll find one of those three. They'll find novel resources, they'll find novel people, they'll find a novel place.

RESEARCH ICT AFRICA

To be a feminist researcher or to do feminist research? That is the question!

"What is the difference between feminist research and gender research?"

This question was asked of the participants in the gender and digital technologies workshop hosted by APC and IDRC in Malaysia at the end of September. This problem, addressed to a room full of women passionate about feminist issues but in different research groups, caused a bit of a frenzy. Does it count that one does not deal with power paradigms *per se* or is it important that the research done is reflective of women? This forms the point of departure for this thoughtful exercise on how the Research ICT Africa research mandate maps out how we engage with this question.

Initially, Research ICT Africa (RIA) was set up as a research network, driven by IDRC's mandate to build regulatory and African research capabilities – at first within universities and later within individual researchers. The IDRC ACACIA programme and the regional offices drove networking as well, resulting in RIA extending its work to West and North Africa. At this point, the need was for a research network focused on ICT policy, and intersecting themes would emerge as the network evolved. The initial purpose that a research network is set up for influences whether one will conduct feminist or gendered research. Those who were part of the network were the few people working in the ICT space and had evolved to members with dependable research qualities and are close to the policy-making process.

This meant RIA intended to draw in those with the capacity and the network to conduct the research. Suffice to say, the tension of whether academics may be classified as civil society or not played out. RIA's purpose in the beginning and present day was to produce the data and analysis necessary for evidence-based ICT policy and effective regulation that could be used by African researchers, governments, the development community, activists, community organisations and multilateral organisations. The evidence and analysis were designed to be made use of by a wider audience.

One of the core research activities that relied on this model of research based on network partners were the ICT access and use household and individual surveys. The network approach of RIA has also been seen in the collaboration on the surveys with its global South sister networks in LIRNE*asia* in Southeast Asia and DIRSI in Latin America. At a regional level, country partners were drawn in to drive the surveys within their countries as well as draw out analysis on areas of thematic focus. It is at this point that we focus on our gendered approach to the data.

In 2010, we used the data to highlight sex-disaggregated differences between men and women and ICT access and use. This was our first piece of gendered research that had been driven from the core of the network and brought in those who were interested in the topic. By calling it gendered research, it did draw criticism from a gender research-specific network (GRACE network) that the work being done was not feminist. The challenge to conducting research in a network or hoping to form a feminist collaborative network is an issue of whether there is one right way or different ways of achieving a similar outcome. The opportunity for Research ICT Africa and the GRACE network to collaborate did not take place as a result of differing approaches.

So why did we do this gendered research and were the limitations acknowledged? In the interview conducted with Professor Alison Gillwald on the background to gender research within our network, two factors drove the focus on this thematic: Gillwald's "personal intersection" as a feminist political economist and the influence of the main funders' development agenda and intellectual project which has focused on gender. The criticism raised of the gender research not being feminist highlights a clash in terms of whether research needs to check all the boxes to be defined as feminist research. However, the question of whether one is feminist or not helps in how you approach the research and the analysis. As the research director on this project was feminist, the understanding of what feminism entails helped in accepting what story quantitative data can tell and to what point, as well as what could be done to further nuance quantitative research findings.

From her feminist perspective, Gillwald emphasised that the results on differences between men and women, before further analysis was done, needed to be treated as sex-disaggregated data. Issues of power and patriarchy were not being addressed, as the focus was on what the numbers could tell. RIA's subsequent work lifting the gender veil and taking a microscope to gender research went on to further look at the inequalities that impacted on men and women that had been masked by hard statistics.

This where the gendered research found that factors of education and income determined levels of access differently for groups of men and groups of women. Furthermore, location also plays a factor in the scope of the gender divide, as we found differences in access and use between urban and rural women. Thus the approach helped to highlight that the gendered divide was related to other factors of social inequality, shifting the focus from the technology itself. The awareness of what we could measure and what we could not helped RIA adapt its methodology to also conduct qualitative research with country partners. This mainly took the form of focus group studies or ethnographic studies to nuance the results from the surveys and tease out the questions of power and patriarchy. In this round of surveys – the #AfterAccess surveys – we started with qualitative focus group studies and then used the findings to develop the questionnaire.

"Our purpose with gender research had been to find points of policy interventions, and to address what we had called sex inequality, but it did provide an indicator of gender inequality," said Gillwald.

As a research network with a more significant mandate focused on policy interventions, the research work on gender told a story as far as the data showed. Even though one could ask for the interrogation of power paradigms or an intersectional analysis to the approach, our gender research agenda has been developed with an awareness that we can only go so far and rather contribute to the greater research agenda. The critique of our mixed methodology has been that at times, gender is not always at the forefront of the data analysis. Further, from a policy perspective, the work on gender has focused on far more box ticking and certainly calls for a far better approach in conceptualising gender in research from design to analysis. The collaboration on gender has been far more with RIA's sister networks or individuals, mostly women, interested in working on this module. The research centre, RIA itself, conceptualises the gender research which results in-country partners conducting the field work on the RIA template but without a conceptualisation or interrogation of what gender means to them. It has been a challenge to find people working on gender specifically to conduct the qualitative component of the research, for example.

Networks are living organisms and often require vigorous efforts to keep them alive. Some people inevitably fall off the grid while others are more active within the network. RIA now operates as a think tank – an evolution that needed to happen due to funding cuts and to adapt to research models – which has maintained working partnerships with those members that did not fall off the grid. While the research agenda is from the core, it highlights the opportunities and challenges of operating within network research.

To answer the question posed earlier, the differences between feminist research and gender research stems from the way the study is conceptualised and if it teases out inequalities between men and women and interrogates power and patriarchy issues. However, it is the principles of the researcher as well as the influence of the intellectual project that determines where you place your research. In our instance, being feminist researchers doing gender research allows us to be aware of what we can and cannot do and where we can contribute to this growing body of knowledge.

EROTICS NETWORK

The internet is made up of sex and cats… and feminists

At a conference recently, one of the participants said, "The internet is made up of sex and cats. We talk about the cats a lot. But sex? Not so much." This is no doubt an over-simplification of the world wide web. It is definitely made up of more things than just sex and cats. But the truth remains that people don't like to talk about the sex-related parts of the world wide web. Information and content on sex and sexuality, especially non-normative sexuality of women and queer persons, is still labelled as "harmful content" or is deemed to "violate community standards." One of the main reasons for this is the fact that the lived experiences of the people and the knowledge from it have not been taken into consideration in policy making. This is where the EROTICS network comes in. It was initiated to "bridge the gap between policy and legislative measures that regulate content and practice on the internet, and the actual lived practices, experiences and concerns of internet users in the exercise of their sexual rights."

With a provocative abbreviation, the EROTICS network was launched in 2008 with the aim of filling this knowledge gap that existed about sexuality in the online space. There were research and advocacy projects done in India, Brazil, Lebanon, South Africa, the United States and Indonesia which looked at internet-related challenges facing the LGBT and other sexual rights communities. The aim of the research was to promote evidence-based policy making through on-the-ground research with a diverse mix of internet users, especially those who would be most affected by internet regulation measures, such as young women and people of diverse gender and sexual identities. EROTICS fittingly expands to Exploratory Research into Information and Communication Technology and Sexuality.

"Things related to technology change very quickly. The aim was to give a quick and intense snapshot of how things were at that time," says Manjima Bhattacharjya who, with Maya Ganesh, was part of the two-person team which did the India research. "Maya and I were looking for exciting work which was a mix of activism and research, and this fit right now. It was a new area of study that was opening up," she added. This was part of the first phase of the EROTICS project which took place between June 2008 and June 2011.

First, there was a policy and literature review done to map the then landscape of the issue. This helped in working out the global context on sexuality and ICTs, and acted as starting points for the country-level investigations. The policy and literature reviews also revealed that there was a severe lack of research and information on sexuality, online censorship, and content regulation. It additionally showed that there was almost no engagement between the gender and sexuality rights movements and the related policy debates. "They didn't involve an academic institution to do the research but instead paid importance to a feminist approach, as well as a combination of strong theoretical framework and experience in activism," says Manjima, recalling the early days of EROTICS. This is also essential to develop a rights-based framework, especially with respect to sexuality and sexual rights in the digital space.

Within the broader framework of sexuality and the internet, the research in the five countries looked at a diverse set of specific issues and engaged with diverse communities. In Brazil, the research mapped policy debates on internet regulations, and did an online ethnographic study of Orkut groups and their members. One of the groups advocated for "defence of sexual relationships between adults and adolescents", while contesting the category "paedophilia" as the descriptor of their preferences, and the other focused on women who actively contested the offensive anti-lesbian remarks which floated around, especially within male-oriented Orkut communities. The India research looked at how women and young women in particular access and use the internet in their everyday lives, and specifically for accessing sexual content and information, as well as the gendered nature of access to the internet itself. The research in Lebanon focused on the dynamics of the queer movement in the country, and traced the ways in which the community used ICTs to "create, build and empower their liberation movement." The South African EROTICS research conducted an overview of the South African sites that pertain

to transgender and lesbian internet usage and the construction of their "web sphere", and also worked to bring out the subjects' views on the internet and their sexuality as well as the possible harms which they may be subjected to due to their participation in such networks. The research done in the United States focused on access to information about sexuality for young people, and the harmful effects of filters on this access, labelling the information as "harmful content."

The first phase of the EROTICS project concluded in June 2011. The research done brought significant gender and sexuality perspectives into the debates around technology. It also got the conversations going in time to provide the sexual and reproductive health rights movements with the necessary capacity to engage with the internet politically, and work to influence "how the internet is designed, used, and governed – both as a tool and a public space."

Fast forward to 2016. The EROTICS South Asia network has just started. It has partners from India, Sri Lanka and Nepal. Prior to this, in 2014 and 2015, two Imagine a Feminist Internet meetings were held, formally called Global Meetings on Gender, Sexuality and the Internet. They brought in women's rights, sexual rights and internet rights activists as well as academics, artists, etc., and the result was the Feminist Principles of the Internet, a 17-point advocacy document with principles to take into account the sexual rights of women, youth and the queer community. Set against this backdrop, the EROTICS South Asia project aimed to build capacity, improve networking and promote inter-movement collaboration between sexual rights and internet rights movements in the three countries.

"We were first contacted by APC in 2015. The whole idea of the EROTICS network in South Asia was as an advocacy network which will help bridge the gaps between different movements – feminist, LBT rights, digital rights," recalls Jyotsna Maskay, the executive director of LOOM in Kathmandu, Nepal. "It also wanted to get conversations going about internet and gender, internet and sexuality, and sexual expression, etc. It's a fantastic idea, but it's really hard to get it going in the local context," she says.

"This isn't new. It's the same problem which comes up with conversations on sex, sexuality, and sexual rights," she adds, demonstrating how offline silences around certain topics, prejudices, and power structures are inadvertently reflected in the online spaces as well. "It was, therefore, all the more important for us to work on bringing out research looking at how things are in Nepal specifically. There is only so much we can do looking at the information and work coming out of India, or Sri Lanka, or any other country for that matter."

A three-country research study was done as part of the EROTICS South Asia project. In Nepal and Sri Lanka, these were pioneering research studies done at the intersections of gender, sexuality and technology. In India, where the conversations at this intersection had already started to an extent, the research specifically looked at the obscenity provision under the Indian Information Technology (IT) Act. It does an in-depth exploration of one section of the Act: Section 67, more commonly known as the anti-obscenity provision.

Section 67 is currently the second-most-used provision under the IT Act. This section is studied through a mixed methodology that includes historical research on the roots of the Act, quantitative data from the National Crime Records Bureau, and a three-year review of Section 67 cases covered by the media. The study makes recommendations for strengthening Section 67 – and other related sections in the IT Act – to make them more rights-affirming.

The Sri Lanka research examined the way in which LGBT Sri Lankans exercise their rights in the online space through available internet platforms and other services. Access to information and expression, the safety of devices and content, along with the types of adverse online experiences endured within the online spaces are discussed at length. The research examines the existing legal and policy framework that shrouds the online space in Sri Lanka and the need for positive reforms for the protection of LGBT persons. The findings also look at the limitations and restrictions which impede the enjoyment of online spaces and identify key policy reforms that could enhance the use of the internet for LGBT Sri Lankans.

The research in Nepal explored the relation between the use of the internet and freedom of expression, particularly around sexuality. It further examines how the internet is used in the work of women's rights and LGBTI activists. Guided by the belief that the internet plays a pivotal role in fulfilment of sexual rights through free flow of information, open participation and its role in challenging the status quo, it further identifies opportunities for engagement and advocacy. This is an exploratory research study conducted over a period of six months involving reviews of existing literature, articles and trends in implementation of laws.

"Phew! The research was a roller coaster ride for me. We were not only doing the research, but also learning on the job," Jyotsna recalled. "Though we had done some work with community radio and media, LOOM had never worked with sexuality and internet before this. So we were working to both understand internet and sexuality at a global level, and simultaneously trying to localise it to get conversations going here," she added.

Looking back on the first phase of EROTICS research, Indian researcher Manjima recalls, "When we were doing the research, we knew we had to bring in more intersections, such as caste especially. And really wanted to! But it was harder to do without leading on the subjects. Caste, for example, came up in masked ways, like once one of the girls said that she won't fall in love with a boy from another community as it will cause complications. Things like that."

When researching a space like the internet, which is both global and local, public and private at the same time, it becomes all the more important to observe how these dichotomies play with and against each other. Without paying attention to that, it will be very hard to actually work with the communities or policy makers.

The EROTICS network came out of a gap. A gap in knowledge and information about issues and communities which were repeatedly ignored or not spoken about. It was built by people who are either in these gaps themselves, or those who recognise that these gaps exist and need to be filled in. "Just because the project is ending doesn't mean that the connections will also end. We have now started talking about sex and the internet from a positive perspective finally, and we have to keep it going," says Jyotsna. "Yes, there are problems, like when we want to talk about surveillance through a feminist lens but realise that there is no word for privacy in Nepali. But that just means that we need to work together to build this knowledge, both within the country as well as with other countries," she adds optimistically.

The network was a labour of love for and by many people. Today, there is a mailing list, websites, articles, information and resources on gender, sexuality and the internet, which did not exist before 2008. "It has transformed from a network to a small movement of sorts, fed by research, facts and information. Like a submovement within the internet rights movement," says Manjima. There is still a long way to go, but this is as good a start as any.