

A Conceptual Framework to Inform National and Global Monitoring of Gender Equality in WASH

Bethany A. Caruso, Amelia Conrad, Allison Salinger, Madeleine Patrick, Awa Youm, and Sheela Sinharoy Emory University June 2021





ACKNOWLEDGEMENTS

This document was prepared and written by Bethany A. Caruso, Amelia Conrad, Allison Salinger, Madeleine Patrick, Awa Youm, and Sheela Sinharoy from Emory University.

We are grateful for guidance, support, and insights from the WHO/UNICEF JMP team: Rick Johnston and Francesco Mitis (WHO) and Tom Slaymaker and Ayca Donmez (UNICEF). We are also appreciative of the expert review and feedback from Sue Cavil (Independent Consultant), Shirin Heidari (WHO), Sarah House (Independent Consultant), Jess MacArthur (University of Technology Sydney), Priya Nath (WaterAid), Lauren Pandolfelli (UNICEF), Lincy Paravanethu (Independent Consultant), Lisa Schechtman (USAID), Juliet Willets (University of Technology Sydney), Inga Winkler (Central European University), and Lesha Witmer (Women for Water Partnership).

Preferred Citation:

Caruso, B.A., Conrad, A., Salinger, A., Patrick, M., Youm, A., & Sinharoy, S. 2021. A Conceptual Framework to Inform National and Global Monitoring of Gender Equality in WASH. WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation, and Hygiene, June 2021.

Cover Photo Credit: Amelia Conrad

ACRONYMS AND ABBREVIATIONS

BMGF Bill & Melinda Gates Foundation

CEDAW Convention on the Elimination of All Forms of Discrimination against Women

GRAS Gender Responsive Assessment Scale

IAEG-GS Inter-Agency Expert Group on Gender Statistics

IOM International Organization for Migration IWRM Integrated water resources management

JMP Joint Monitoring Program
KIT Royal Tropical Institute

LMIC Low- and middle-income country MHM Menstrual hygiene management

OHCHR Office of the High Commissioner for Human Rights

SDG Sustainable Development Goal SGM Sexual and gender minorities TAB Temporarily able-bodied

UN United Nations

UNESCO United Nations Economic, Scientific, and Cultural Organization

UNICEF United Nation Children's Fund
UNSD United Nations Statistics Division
WASH Water, sanitation, and hygiene
WHO World Health Organization

WWAP World Water Assessment Programme

TABLE OF CONTENTS

BACKGROUND	5
A FRAMEWORK TO INFORM MONITORING OF GENDER EQUALITY IN WASH	5
Monitoring Gender Equality in WASH Requires Gender Statistics	5
Sex- and Disability-Disaggregated Data	6
Data on Gender Issues	7
Data on the Diversity of Gendered Experiences	8
Monitoring Gender Disparities in WASH as a Means to Enable Gender Equality	8
Gender-Specific Data Collection in WASH Monitoring: A Framework	11
THE GENDER EQUALITY IN WASH CONCEPTUAL FRAMEWORK	15
Overview of Framework Domains	15
Interactions between Framework Domains	16
Key Considerations for the Conceptual Framework	18
GENDER EQUALITY IN WASH: FRAMEWORK DOMAINS & DIMENSIONS	19
ABILITY TO MEET BASIC WASH NEEDS	19
ACCESS TO RESOURCES	22
Bodily Integrity	22
Health	22
Safety and Freedom from Violence	24
Privacy	25
Assets	25
Time and Labor	25
Financial Resources and Physical Assets	26
Social Capital	27
Knowledge and Information	28
ABILITY TO EXERCISE AGENCY	31
Household Decision-Making	31
Public Participation	31
Freedom of Movement	33
MULTI-LEVEL ENABLING ENVIRONMENT	35
Social Context	35
Political Context	36
Environmental Context	37
Economic Context	38
LINKING THE GENDER IN WASH CONCEPTUAL FRAMEWORK TO SDG 6	40
Gender Data Gaps for Global Monitoring	43
Next Steps	44
APPENDIX A: RELEVANT DEFINITIONS	45
REFERENCES	62

BACKGROUND

The 2030 Agenda for Sustainable Development was established in 2015 to stimulate action across 17 goals, 169 targets, and 232 indicators to enable sustainable economic, social, and environmental development.¹ Anchored in human rights, the 2030 Agenda applies to all, prioritizing the most disadvantaged, in an effort to leave no one behind in the course of achieving sustainable development. The 2030 Agenda's preamble specifies the aim 'to achieve gender equality and the empowerment of all women and girls,' a commitment outlined further in a stand-alone goal focused on gender, Sustainable Development Goal (SDG) 5, and emphasized as integral across all goals and associated targets.¹

To align with the intentions of the 2030 Agenda to leave no one behind and to achieve gender equality and empowerment, there is a need to assess gender equality across targets for SDG 6, which focuses on water, sanitation, and hygiene (WASH). To this end, researchers at Emory University are engaging with the World Health Organization (WHO)/United Nations Children's Fund (UNICEF) Joint Monitoring Programme for Water Supply, Sanitation, and Hygiene (JMP) team to develop a conceptual framework that identifies critical domains of gender equity and equality for monitoring efforts. With the ultimate goal of facilitating national and global monitoring, the conceptual framework focuses explicitly on gender equality. This conceptual framework will guide collaborative activities, including a review of how gender has been incorporated into water, sanitation, and hygiene monitoring efforts at various levels and identification of monitoring gaps, needs, and opportunities.

A FRAMEWORK TO INFORM MONITORING OF GENDER EQUALITY IN WASH

We propose a framework to inform monitoring of gender equality in WASH that leverages work from various United Nations (UN) agencies, including UNICEF, the UN Statistics Division (UNSD), the UN Economic, Scientific, and Cultural Organization (UNESCO), UN Women, and the World Health Organization (WHO), as well as academics and practitioners. Below we describe the thinking, approaches, and principles that have informed the framework. Specifically, we elucidate key facets and considerations for the use of gender statistics in relation to monitoring WASH, explain how appropriate monitoring can support efforts to achieve gender equity, and describe how a conceptual model of gender equality can be leveraged to identify gender-specific WASH needs and monitoring opportunities.

Monitoring Gender Equality in WASH Requires Gender Statistics

Gender statistics are necessary for monitoring gender equality in WASH. As defined by UNSD, gender statistics "adequately reflect the differences and inequalities in the situation of women and men in all areas of life." Monitoring gender equality in WASH requires recognition of the complexities of gender statistics, which include but also extend beyond sex-disaggregated data (see Text Box 1). Each of the points highlighted in Text Box 1 elucidate what gender statistics are. UNICEF's 2020 guidance document "Every Child Counts: Using Gender Data to Drive Results for Children" further emphasizes these points and the benefits of gender statistics.

Text Box 1: Gender Statistics

According to the UN Statistics Division (2016), Gender Statistics are inclusive of:

- a) Data that are collected and presented by sex as a primary and overall classification;
- b) Data that reflect gender issues;
- c) Data that are based on concepts and definitions that adequately reflect the diversity of women and men [all genders] and capture all aspects of their lives;
- d) Data collection methods take into account stereotypes and social and cultural factors that may induce gender bias in the data;
- e) Data analyses and presentation of data should reveal meaningful similarities and differences between women and men [individuals of different genders].

Sex- and Disability-Disaggregated Data

Gender statistics include sex-disaggregated data, which are data that are collected and reported separately for males and females.³. Sex-disaggregated data enable understanding of differences by sex, the unique needs of males and females, and can also reflect differences by gender, the socially and culturally constructed roles, responsibilities, and expectations of women and men, and girls and boys (see Text Box 2).³ It is worth noting that these definitions do not adequately acknowledge sexual and gender minorities¹, including people who are intersex² or transgender³.⁵ (For additional definitions of sex and gender from various organizations, see Appendix A.)

Text Box 2: Sex and Gender Definitions ⁶			
Gender	A social and cultural construct, which distinguishes differences in the attributes of men and women, girls and boys, and accordingly refers to the roles and responsibilities of men and women. Gender-based roles and other attributes, therefore, change over time and vary with different cultural contexts. The concept of gender includes the expectations held about the characteristics, aptitudes and likely behaviors of both women and men (femininity and masculinity). This concept is useful in analyzing how commonly shared practices legitimize discrepancies between sexes.		
Sex	Refers to the biological and physiological reality of being males or females.		

As noted by the Special Rapporteur regarding the human rights to water and sanitation, "disaggregated data is essential in order to fully understand where and how discrimination occurs with respect to access to the human rights to water and sanitation" (p.11). Disaggregating data by sex enables the identification of inequalities and potential discrimination, and has the potential to reveal inequities (See text box 3 for definitions of equality and equity). Sex-disaggregated data can reveal equality, and simultaneously point to inequity. For example, when women and men have access to the same number of toilets, they have equal access. However, because women take longer using facilities, use facilities for menstruation, or may need to visit facilities more often when pregnant, if they have a urinary tract infection, or because they are caring for children, having an equal number of facilities can also indicate inequitable access. 8

Reporting should include data and statistics for not only for women and girls, but also for men and boys to enable comparisons, as applicable and relevant. Analyses can be carried out to identify differences based on *gender identities*, which may not be the same as biological sex.⁵ Further, disaggregation need

¹ The term "sexual and gender minorities" will be used throughout this document to refer to populations who are not cisgender and/or heterosexual. There are a wide range of terms and understandings of sexual and gender minorities in contexts around the world; the International Organization for Migration (IOM) has produced a LGBTQI Glossary that helpfully identifies some of these terms: https://lgbti.iom.int/sites/default/files/LGBTI Glossary 2017.pdf

² Those who are born with sex characteristics that may not fit the typical definitions of male and female⁴.

³ A broad term used to describe a wide range of identities whose appearance and characteristics are perceived as gender atypical – including transsexuals, crossdressers, and those who identify as third gender⁵.

not be binary – focusing only on males and females – but can include intersex individuals as well. However, data that enables people to self-identify as intersex is rarely collected; therefore, many reports only disaggregate along the male-female binary (if at all), limiting the representation of intersex people. It is also critically important to collect disability-disaggregated data, which can help to understand the heterogeneous experiences of men and women with disabilities and those who are temporarily ablebodied (TAB).

Despite its importance, collection, analysis, and reporting of sex- and disability-disaggregated WASH data is limited in research and monitoring. In her 2007 work *Women, Water, and Development,* Isha Ray noted the lack of sex-disaggregated data available to understand women's experiences with water, limiting the ability to make evidence-based policy recommendations and inspiring her call for sex-disaggregated water data⁹. This work preceded a 2008 UN Water sponsored Expert Group Meeting on Gender-disaggregated Data on Water and Sanitation that drew similar conclusions.¹⁰

While UN Women has made major strides in providing guidance for sex-disaggregated water and sanitation data, the availability of sex-disaggregated data in WASH remain limited, and repeatedly called for. ¹¹⁻¹⁵ The basic unit of assessment for SDG Targets 6.1 and 6.2 is the household, which, while sometimes assumed to be gender neutral, is in fact gender blind. Collecting data at the household level prevents disaggregation by sex, disability, and other characteristics, and, as Fisher (2017) notes, prevents identification of intra-household inequities. ¹³ Disaggregation by sex of heads of household likewise does not allow for analysis of intra-household inequities. Thus, sex-disaggregated data are needed for monitoring gender equality in WASH, requiring novel data collection, analysis, and reporting approaches for identifying inequalities and inequities. If sex-disaggregated data are not possible to obtain, it is recommended to collect data on women alone, since male needs are expected to be met in the course of meeting female needs. ¹⁵

Data on Gender Issues

Beyond disaggregation of data by sex, collection, analysis, and reporting of data that reflect *gender issues* are also integral to gender statistics.³ As noted by UN Women, "In a world where inequalities of all kinds are on the rise, disaggregation by sex alone is insufficient for monitoring outcomes among women and girls." In 2008, a UNESCO expert group meeting wrote of the global commitments around WASH: "So far, global commitments made in the areas of water and sanitation, including the MDG goals, do not specifically address the equitable division of power, work, access to and control of resources between women and men" (p. 8) and highlighted that water and sanitation are not "gender-neutral and common resources" (p. 19) but are extremely gender-specific.¹⁰ In the SDG era, acknowledging and monitoring gender-specific WASH disparities is imperative.

Data that reflect gender issues account for varied roles, responsibilities, relations, and expectations and are critical for identifying and addressing gender-based inequities. For example, a gender issue frequently discussed in WASH is water collection, which is primarily the burden of women globally. Water collection responsibilities can result in inequities in time use and unpaid labor, along with physical strain and injury, and missed educational, economic, economic, social, economic, and leisure opportunities. As such, data is needed that seeks to understand the varied gendered experiences of water and sanitation beyond access to water and sanitation facilities alone. Women in many parts of the world play "triple roles" – reproductive work, such as childcare; productive work or income-generating activities; and community management work. This triple role has clear implications for women in relation to WASH, with women responsible for domestic responsibilities such as water collection and assisting dependents,

productive roles in WASH-related or WASH-dependent enterprises, and community roles related to water management and sanitation improvement.

Data on the Diversity of Gendered Experiences

Gender statistics need to reflect the diversity of all genders and capture all aspects of their lives. Women and men are not homogenous groups but comprise complex identities. Aggregated figures that provide averages, whether for a total population or even for women and men, can mask improving or deteriorating circumstances of sub-populations.²⁵ Males and females have different WASH needs throughout the life course, as well as different gendered responsibilities.

While much of the gender-specific monitoring of WASH issues will focus on women and girls – given their specific needs and vulnerabilities as well as the larger body of academic research on women and girls' WASH issues – gender analysis and monitoring of WASH issues should also include men, boys, and sexual and gender minorities since these individuals may have gender-specific needs and considerations related to WASH as well.²⁶ For example, men may choose not to use a household toilet in order to slow the rate of pit filling or due to high demand, and it may be more acceptable for them to practice open defecation since they have greater freedom of movement.²⁷⁻³¹

Note: There are risks inherent in collecting data related to sexual orientation and gender identity. WASH actors must carefully consider contextual factors to determine the appropriateness of collecting this type of data. As is the case for all research and data collection, potential risks should be weighed against potential benefits.

Gender also intersects with myriad forms of discrimination, including but not limited to sexual orientation and gender identity, age, ability, income, caste, race, ethnicity, geography, religion, origin, nationality, and indigenous, marital, family, immigration, and HIV status.²⁵ Monitoring of WASH and gender, therefore, needs to account for intersectionality, and recognize that meaningful categories for comparison and assessment over time may be different at global than at national levels.

Monitoring Gender Disparities in WASH as a Means to Enable Gender Equality

The purpose of the SDG indicator framework and associated monitoring systems is to harmonize data collection at the regional, national, and global levels; to track progress towards the SDGs; and to increase accountability. Data generated through national monitoring efforts can help governments develop policies and allocate resources towards achievement of the SDGs. Therefore, in the development of the SDG indicators, an important recommendation was that all indicators should be policy-relevant and "able to be disaggregated to track progress for all relevant groups." 32

Monitoring is especially critical to enabling gender equality. Monitoring can provide the data needed to determine if men and women have the same opportunities in life, referred to as *formal equality*, and if their different needs, preferences, and interests are being met, referred to as *substantive equality* or *de facto equality* (see Text Box 3).³³ Further, as is noted by UNICEF's 2020 guidance document *Every Child Counts: Using Gender Data to Drive Results for Children* gender equality does not just benefit women but also results in positive outcomes for both children and communities 'as children's rights and well-being often depend on the rights and well-being of women' (p.6).⁴ National policymakers can then use monitoring data to develop and allocate resources towards the implementation of policies that advance both formal and substantive gender equality.

	Text Box 3: Gender Equality, Gender Equity, and Empowerment
Formal Equality	Formal equality refers to equality under the law. Laws and policies that codify the equality of men and women are a component of formal equality. Addressing <i>formal discrimination</i> requires ensuring that a State's constitution laws, and policy documents do not discriminate on prohibited groups, such as sex. ³⁴ The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) is an example of an attempt to eliminate formal discrimination in the laws and policies of signatories.
Substantive Equality	Going beyond formal equality, substantive equality focuses on the outcomes and impacts of laws and policies. Substantive equality goes beyond creating formal legal equality and means that governments are responsible for the impact of laws. Governments must tailor legislation to respond to the realities of individual's lives. The achievement of substantive equality requires action in four interrelated areas: addressing stereotyping, prejudice, stigma, and violence; redressing women's socioeconomic disadvantage; strengthening women's agency, voice, and participation; ^{35,36} and accommodating differencing and achieving structural change. ⁶ Substantive discrimination refers to discrimination in practice and eliminating it requires paying attention to groups of individuals that suffer historical or persistent prejudice, rather than merely comparing formal treatment of individuals in similar situations. ³⁴
Gender Issues	Refer to questions, problems and concerns related to all aspects of women's and men's lives, including their specific needs, opportunities, and contributions to society. Gender equality issues should be the center of analyses and policy decision, medium-term plans, program budgets and institutional structures and processes. From a statistics perspective, gender issues should also be at the core of plans and programs for developing gender statistics by national statistics systems. ³
Empowerment	The expansion of choice and strengthening of voice through the transformation of power relations, so women and girls have more control over their lives and futures. It is both a process and an outcome. ³⁷

	Text Box 4: The WHO Gender Responsive Assessment Scale ³³
Level 1: Gender Unequal	Perpetuates gender inequality by reinforcing unbalanced norms, roles, and relations, and often leads to one sex enjoying more rights or opportunities than the other.
Level 2: Gender Blind	Ignores gender norms, roles and relations and very often reinforces gender-based discrimination. By ignoring differences in opportunities and resource allocation for women and men, such policies are often assumed to be 'fair' as they claim to treat everyone the same. ¹
Level 3: Gender Sensitive	Indicates gender awareness, although no remedial action is developed.
Level 4: Gender Specific	Considers women's and men's specific needs and intentionally targets and benefits a specific group of women or men to achieve certain policy or program goals or meet certain needs. Such policies often make it easier for women and men to fulfill duties that are ascribed to them based on their gender roles, but do not address underlying causes of gender differences.
Level 5: Gender Transformative	Address the causes of gender-based health inequities by including ways to transform harmful gender norms, roles, and relations. The objective of such programs is often to promote gender equality and foster progressive changes in power relationships between men and women.

To determine if people of all genders have the same chances and opportunities in life (*formal equality*) and have their needs, preferences and interests met (*substantive equality*), gender-specific data are critical. However, SDG 6, which seeks to "ensure availability and sustainable management of water and sanitation for all" is considered *gender blind* by UN Women because it lacks *gender-specific* indicators, or indicators that specifically call for sex-disaggregation or gender equality.³⁸ While Target 6.2 specifically

calls for the need to be "paying special attention to the needs of women and girls" in relation to sanitation and hygiene, the indicator for this target does not explicitly monitor the specific needs of women and girls. Rather, the indicator is the "proportion of the population using safely managed sanitation services.³⁸

Gender blind and gender-specific are levels on the WHO's five level Gender Responsive Assessment Scale (GRAS), which was created to assess programs and policies (see Text Box 4). ³³ The GRAS has been further adapted to pictorially depict the levels, demonstrating which types of programs and policies contribute to gender equity and which contribute to gender inequity (Figure 1).³⁹

While the GRAS and the conceptual model shown in Figure 1 are designed to assess programs and policies, they can also be used to assess monitoring efforts and how those efforts contribute to gender equity and inequity. As noted previously, the unit of assessment for the indicators aligned with Targets 6.1 and 6.2 is the household, making these targets gender blind. As the GRAS points out, initiatives that are gender blind are "often constructed based on the principle of being 'fair' by treating everyone the same," often ignoring differences between men and women and "reinforcing gender-based discrimination" (see Text Box 4).³³

Regardless of intent, collecting data at the household level is gender blind because all individuals within the household are treated the same, as if each person has the same needs, the same roles and responsibilities, and the same decision-making power. Household level data collection also assumes that resources are equally allocated among and equally available to all household members, obscuring intrahousehold inequalities. As shown in the adapted framework in Figure 1, gender blind approaches can be considered exploitative and contribute to gender inequity³⁹ and may reinforce *gender-based discrimination* by masking differences.³³.

Importantly, despite how the SDG 6 goal, targets and indicators are written, national and global WASH monitoring efforts, inclusive of data collection, analysis, and reporting, can be gender-specific, can accommodate gender, and can generate data that identifies and can be used to address gender inequalities and inequities.

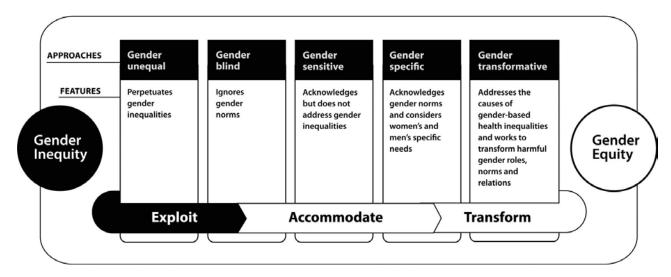


Figure 1: A Continuum of Approaches to Action on Gender and Health (Pederson, Greaves, & Pools, 2014)

Gender-Specific Data Collection in WASH Monitoring: A Framework

WASH can play a critical role in achieving gender equality as well as women and girls' empowerment. Gender equality may also influence WASH behaviors, conditions, and related outcomes. Gender-specific data, that account for gender issues, are integral to understanding this bidirectional relationship. To inform the gender-specific data needed for monitoring, we created a conceptual framework that depicts gender-specific issues linked to gender equality in WASH (see Figure 2).

It is important to acknowledge at the outset the relationship between gender equality and gender empowerment and to identify the focus of this framework. The EMERGE project has noted that "measurement of gender inequalities will be indicated by assessment of both unequal distribution of...resources, socially valued goods, opportunities, rewards, and well-being, advantaging males over females and transgender people, and unjuust access, situations or opportunities for females (or transgender individuals) due to their sex."40 Gender empowerment refers to a process "based in a means of change that alters the positioning of those in a lesser position due to their gender (including women and transgender individuals) to allow for autonomy and self-determination."40 Equality and empowerment are, therefore, clearly closely related and yet distinct. Empowerment may help to achieve equality and equality may improve the conditions for empowerment. This relationship is depicted in the visual framework (Figure 2) where Access to Resources, Ability to Exercise Agency, and Ability to Meet WASH Needs represent elements of equality. Therefore, this framework draws upon theories that highlight domains of empowerment, or pre-conditions of empowerment, that can be measured and monitored, given the intertwined nature of equality and empowerment. However, this document will focus primarily on gender equality in WASH, since the measurement and monitoring of equality in WASH is the focus of the JMP, for which this framework was developed.

This framework aims to outline the breadth of considerations related to gender equality in WASH and elements are further described in the proceeding sections.. This comprehensive focus serves to inform identification of indicators and measures for monitoring purposes, and to identify gaps in the indicators and measures currently available for monitoring.

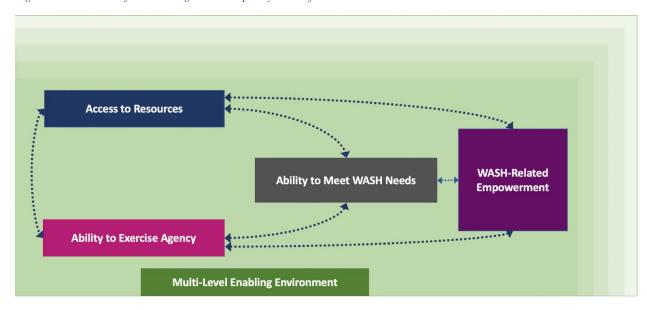


Figure 2: Framework for Achieving Gender Equality in and from WASH

Foundations of the Framework

To construct this framework, we built upon the work of various organizations and scholars. In particular, we leaned on the definition of gender equality as presented by the WHO (2011)³³ and the conceptual model and associated definition of empowerment as presented by van Eerdewijk et al. (2017) (see Text Box 3).³⁷ We also drew upon the UNESCO World Water Assessment Programme (WWAP) and Oxfam's call for integrating SDGs 5 and 6 through gender-transformative water programs. These four foundational frameworks are described briefly below:

WHO Guidance on Gender Mainstreaming

As outlined above, the WHO (2011) outlines guidance on gender mainstreaming in the health sector, including core definitions of gender equality and gender equity. These definitions inform the basic structure of the conceptual model we have created. The WHO identifies *resources* and *opportunities* as fundamental to gender equality, or specifically that gender equality refers to equal *opportunities* to access and control *resources*. It also considers gender equity – the different needs, preferences, and interests of women and men, which may mean that different treatment is needed to ensure gender equality. Such framing establishes gender equity as a process through which to achieve gender equality. This WHO framing grounds our conceptual model to focus on both *agency* (closely tied to opportunities) and *equal access to resources*, understanding that men and women may require differential treatment and consideration of differing needs and vulnerabilities to experience that equality.

The Royal Tropical Institute (KIT) Conceptual Model of Women and Girls' Empowerment

The conceptual model of empowerment by the KIT team³⁷—which was inspired by the work of Naila Kabeer⁴¹⁻⁴³, the World Bank,⁴⁴ and CARE⁴⁵—was used to inform the domains and dimensions of our WASH-specific framework. They define empowerment as: "The expansion of choice and the strengthening of voice through the transformation of power relations, so women and girls have more control over their lives and futures."³⁷ They note, and depict with their conceptual model (see Figure 3), that empowerment is "contingent on the interaction between three key elements: agency, institutional structures, and resources...Empowerment of women and girls is a dynamic and transformative process of change. Transformation of power relations occurs through women and girls exercising agency and taking action, through the redistribution of resources towards women and girls and through shifting institutional structures that shape women and girls' choice and voice, and ultimately their lives and futures" (see Figure 3). While these elements informed and are incorporated into our conceptual model, it is important to note that our model stops short of incorporating empowerment as a comprehensive concept, for the reasons previously described. Below, we briefly describe how the elements are incorporated, and each of these is explained further in the next section.





World Water Assessment Programme (WWAP) Gender-Responsive Framework⁴⁶

The WWAP has sought to generate gender-responsive indicators and guidance for monitoring water issues, specifically. They have outlined this guidance based on ten priority topics:

- 1. Gender-responsive water governance
- 2. Safe drinking water, sanitation, and hygiene
- 3. Gender-specific knowledge resources
- 4. Transboundary water management
- 5. Water for agricultural uses
- 6. Water for industry and enterprise
- 7. Human rights-based water resources management
- 8. Water, migration, displacement, and climate change
- 9. Indigenous and traditional knowledge, and community water rights
- 10. Water education and training.

The WWAP has mapped each of the SDGs onto this list of ten key topics (see Figure 4). We have incorporated relevant core topics into our framework while shifting the focus from higher-level – policy and industry – institutions to the individual and institutions at a lower level (schools, healthcare facilities, and workplaces).

RELATED SDGS

Gender-responsive water governance

| 1500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 5

Figure 4: List of WWAP Priority Topics for Indicators and related SDGs

Oxfam's Case for Gender-Transformative Water Programmes¹²

Oxfam defines gender inequality as the result of unfair social norms, legal discrimination, women's underrepresentation in politics, and violence against women and girls, and notes that SDG 6 does not explicitly address gender inequality despite intrinsic linkages between SDG 5 and 6.¹² In fact, Oxfam (2020) notes that the only explicit reference to women and girls is under SDG Target 6.2, which relates to sanitation and hygiene but not to water access and management. For these reasons, Oxfam lays out three key recommendations:

- 1. Increase the availability and quality of sex-disaggregated data on water, sanitation and hygiene, including water governance;
- Increase women's leadership and meaningful participation in water governance and integrated water resources management (IWRM) at all levels (household, community, national, and transboundary);
- 3. Challenge social norms around unpaid care work, women's leadership and gender-based violence.

These key points have been incorporated into our framework, which, like Oxfam, focuses not only on women's access to water, sanitation, and hygiene but also on the social norms, labor, leadership, and violence that impact women's experiences of water, sanitation, and hygiene.

Further Insights from Research

The relationship between WASH and gender is increasingly addressed in research and scholarship, which provides further guidance on the importance of monitoring gender equality within WASH. Notably, Fisher et al (2017) note that SDG 5 does not have an infrastructure-specific goal, but that basic infrastructure is critical for gender issues, and that WASH is fundamental for women's empowerment and equality. Thus, they argue, women's movements need to be cognizant of the role of and advocate for the provision of WASH services and infrastructure as critical to enabling empowerment and equality.¹³ To be impactful, however, and to demonstrate the importance of WASH in women's empowerment and gender equality to those focusing on gender and SDG 5, appropriate gender data and monitoring are needed.

Kayser et al (2019) offer four priority areas for measuring water, sanitation, and hygiene, and gender equality and empowerment: women's water-fetching responsibility and time-use burden and implications for health and economic well-being; sanitation access and relationship with gender-based violence and psycho-social stress; women's water, sanitation, and hygiene needs during menstruation, pregnancy, and caregiving, and effects on health, education, and psychosocial stress; and women's participation in water, sanitation, and hygiene decision-making and governance, leading to their social and political empowerment.¹⁴ These priority areas align with the proposed framework described below.

THE GENDER EQUALITY IN WASH CONCEPTUAL FRAMEWORK

Based on foundational sources described as well as an extensive review of literature on the interplay between gender and WASH, we have developed a conceptual framework for gender equality in and from WASH. Grounded in the WHO (2011) definitions of gender equality, the framework includes four interrelated domains: Ability to Meet Water, Sanitation, and Hygiene Needs; Ability to Exercise Agency; Access to Resources; and the Multi-Level Enabling Environment.

To be able to meet their basic needs related to WASH, individuals must have access to a suite of WASH-related resources and the agency to exercise choice. In turn, women and girls' ability to meet their needs influences their ability to equitably access resources and exercise their agency. Our preliminary conceptual framework shows the dynamic, reciprocal relationships between equal access to resources, agency, and the ability to meet basic needs, as well as how these elements operate within the broader enabling environment. Figure 2 depicts the basic structure of the framework while Figure 5, below, depicts a more detailed version. As noted above, this framework draws from and is intended to complement more comprehensive and process-focused empowerment work. The domains included in this framework are considered necessary but insufficient preconditions for progress toward women's WASH-related empowerment.

Overview of Framework Domains

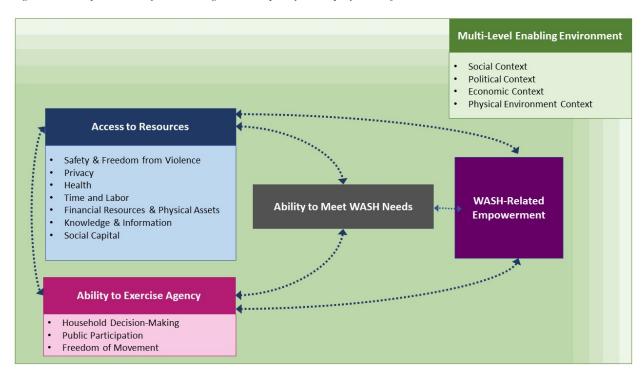
Central to the framework is the *Ability to Meet Water, Sanitation, and Hygiene Needs* domain. This domain refers to women and men, boys and girls, and sexual and gender minorities (SGM) not only experiencing equal access to water, sanitation, and hygiene facilities but also having their different needs and vulnerabilities accounted for.

The framework's *Ability to Exercise Agency* domain is informed by several frameworks, including the Agency domain of the KIT model³⁷, as well as WWAP (2019)⁴⁶ and Oxfam (2020)¹². *Agency* refers to women's ability to participate in decision-making around WASH issues, including at the leadership level, and to move freely to access WASH facilities and to attend WASH-focused meetings and activities. Within the *Ability to Exercise Agency* domain we include: Intra-Household Decision-Making, Public Participation, and Freedom of Movement.

The framework's *Access to Resources* domain is similarly informed by the Resources domain in the KIT model³⁷, as well as WWAP (2019)⁴⁶ and Oxfam (2020).¹² This domain refers to women's control over and access to all of the basic requirements to meet their WASH-related needs. *Resources* include numerous dimensions, including: Health, Social Capital, Time and Labor, Safety/Freedom from Violence, Financial Resources and Physical Assets, Knowledge and Information, and Privacy.

Finally, our *Multi-Level Enabling Environment* domain is informed by the Institutional Structures domain in the KIT model³⁷ as well as by other literature identified through a literature review. The *Multi-Level Enabling Environment* refers to the social, legal, physical, and market-based factors that shape women's experiences, behaviors, and access to resources, agency, and WASH facilities. Our *Enabling Environment* domain includes the following dimensions: Social Context, Political Context, Economic Context, and Environmental Context, which is inclusive of climate and natural (e.g. rivers) and person-made (e.g. roads) physical structures.

Figure 4: Conceptual Model for Achieving Gender Equality and Equity in and from WASH



Interactions between Framework Domains

The conceptual model presented above asserts that *Access to Resources* and *Ability to Exercise Agency* enable individuals, particularly women, girls, and sexual and gender minorities, to *Meet their Basic WASH Needs*.

Resources impact individual's **Ability to Meet WASH Needs**. In order to attend to their water, sanitation, and hygiene needs, individuals need to feel safe and have sufficient privacy; they must have good health and social support to access facilities as needed; they must be able to afford to use the facilities that they prefer and have the time to do so; and they must have sufficient knowledge and information to address concerns or challenges.

Resources – such as time, knowledge and information, financial resources and physical assets, and social capital – also can equip individuals with the tools or support they need in order to exercise their **Agency** (e.g. in leadership or decision-making roles). **Agency** may, in turn, make new pools or types of **Resources** available to individuals who – without leadership roles or without the ability to move freely, for example – may have not previously been able to access such resources.

Individuals' *Agency* also impacts their *Ability to Meet WASH Needs* since individuals' decision-making and leadership can affect the type of WASH facilities available and their freedom of movement can determine whether or not they are able to access their preferred facilities.

While *Resources* and *Agency* synergistically improve individual's *Ability to Meet Basic WASH Needs*, individuals who are able to have their basic needs WASH met will be much better positioned to seek access to and benefit from *Resources* and *Agency*. For example, an individual with a regular water supply at home may have greater time (a *Resource*) to exercise their *Agency*, such as attending a WASH committee

meeting in their community where they may be able to obtain additional *Resources*, like a stipend to improve her latrine. Conversely, when individuals face barriers to meeting their WASH needs, they may lose time – waiting in queues to use sanitation facilities or to collect water – and therefore also miss out on opportunities for productive activities, one form of exercising their *Agency*. Exercising greater *Agency* can also present new challenges to meeting WASH needs, since the location where a meeting is held may not have a female-friendly sanitation facility for the female attendees to utilize.

All of these relationships are shaped by the *Multi-Level Enabling Environment* in which individuals live. For example, the physical environment my make water collection more difficult and social norms may restrict individuals' roles in the community. The *Multi-Level Enabling Environment* domain illustrates that structural and systemic forces specific to a given context will impact individuals' access to *Resources* and ability to exercise *Agency* and may also play a role in defining whether and how these *Resources* and *Agency* are able to be translated into ability to meet basic needs. In summary, these relationships are bidirectional, complex, and, in some cases, cyclical as enhancing one domain can create new deficits in other domains (See narratives for further examples).

Example 1

Maria lives in a slum outside a large city with her husband and two children. While portions of the slum were constructed many decades ago and are connected to free public water, Maria lives in a newer portion of the slum, which is not connected. To access water, Maria must hike down a steep hill to use a public tap that runs at certain hours of the day, although this is not regular. Because of the irregularity of the water supply, Maria cannot travel far from her home to work or attend public events; her husband travels into the city for work but wives in her culture are expected to provide for the household's water supply. Then, the city government decides to expand water connectivity to Maria's section of the slum and a tap is installed outside her door that runs for an hour each morning and each evening. With the easier access to water, Maria can fill buckets in the morning and then travel into the city for work, increasing her family's household income, which allows them to invest in improved water storage and treatment options. However, Maria finds new challenges with her commute and work, since the informal work she engages in is based on a street where there are no public toilets available. Maria must suppress her urge to urinate or defecate until she returns home late in the evening.

Example 2

Uma lives in a rural village where she has no access to a latrine and spends nearly an hour in the morning and again at night going to an open defecation field with her female neighbors. Then a new law is passed and a government program provides stipends to households to construct private household latrines. Uma's husband is supportive and they build a latrine. However, Uma is a young wife and is not asked to participate in decisions around where and how the latrine will be constructed. In the end, it is built in a place where she is hesitant to use it as passerby on the busy road might see her entering or exiting the latrine, which is especially concerning later at night when Uma fears someone might harm her. She continues to use the open defecation field most times she has a need, although with more women using private latrines it is harder to find accompaniment and she must often wait even when the need to defecate is urgent.

The text and tables that follow further define the framework domains and dimensions, providing examples of WASH-specific considerations and applicability at various levels (Household, Health Care Facility, School, Workplace), and provide support for integration of those domains. Citations and examples are not exhaustive, but illustrative. They are also intended to be descriptive of existing gendered needs, roles, responsibilities, and challenges, rather than normative or prescriptive. While we build on academic theoretical frameworks, the examples included highlight findings of both qualitative and quantitative research conducted on the lived experiences of women, girls, and sexual and gender minorities, aiming to integrate their voices to identify specific gendered needs and considerations.

We then link domains from the broader framework that we identified and described in the tables to SDG Targets 6.1 and 6.2. These domains represent the gendered considerations that may be most relevant to the goals of the JMP.

Key Considerations for the Conceptual Framework

While gender considerations apply to individuals of all genders — men, women, and others — this conceptual framework will primarily focus on the specific needs of women, girls, and sexual and gender minorities given historical inequalities they have faced. It is also important to consider how gendered needs and challenges may vary across life stages, ability status, and other intersectional characteristics.

Gender-sensitive considerations include both the biological and the social needs of individuals throughout the life course. Biological needs – those needs relating to sex – include needs during menstruation, pregnancy, post-natal care, etc. These needs are important to consider both for women and for those born female who continue to menstruate and may experience pregnancy. Social needs – those relating to gender – include the roles and responsibilities expected of individuals because of their gender, and may include water collection and management of child feces, among other behaviors and practices. These gender-sensitive considerations incorporate key elements of the human right to safe water as defined by the UN Office of the High Commissioner for Human Rights (OHCHR), which highlights sufficient and continuous water supply, safety, and acceptability of water for personal and domestic use, physically accessible and safe water, sanitation, and hygiene facilities, and affordability of water services.¹

GENDER EQUALITY IN WASH: FRAMEWORK DOMAINS & DIMENSIONS

ABILITY TO MEET BASIC WASH NEEDS

Ability to meet WASH needs refers to women and men, boys and girls, and sexual and gender minorities experiencing equity of access to water, sanitation, and hygiene facilities, with their different needs and vulnerabilities accounted for and addressed.

The overarching goal of incorporating gender-sensitive considerations into WASH is to enable women and men, boys and girls, and sexual and gender minorities to enjoy the ability to meet their basic WASH-related needs equitably, with dignity, and at all stages of the life course. This includes physically accessible sources and facilities that provide sufficient, safe, affordable, and acceptable water for drinking⁴, hygiene, and other purposes, sanitation options for urination, defecation, and menstruation, and hygiene resources and environments. These facilities must accommodate personal needs and support the behaviors that individuals need to perform because of their sex and are expected to perform because of their gender. Even if programs and initiatives aim to be transformative, the roles and responsibilities individuals are expected to perform *in their context* need to be monitored as a means of determining if norms are shifting and transformational change is occurring, and for whom.

While equity is the goal, assessing equality or inequality may be more feasible for monitoring efforts.

However, the measurement of equality/inequality can inform assessment of equity if done thoughtfully. For example, in many cases, an equal number of toilets for men and women might be constructed. However, thoughtful consideration to gendered needs points to some potential issues: women have biological differences (e.g. menstruation and pregnancy) and gendered social roles (e.g. being the primary caregivers for small children or other dependent family members) that may necessitate using toilets more frequently, for more diverse needs, and/ or for longer periods. In this case, while the number of toilets for men and women may be *equal*, access remains *inequitable*.

A more *equitable* solution might be constructing an *unequal* number of toilets, with more toilets constructed for women than for men in order to avoid long wait times and ensure that women can meet their needs and responsibilities without feeling rushed. In such a case, a monitoring target might focus on the number of toilets while considering how an unequal number contributes to greater equity in ability to meet WASH needs. It is also crucial to think beyond the numbers and consider issues related to design, location, and access, pointing to the importance of including qualitative and participatory approaches whenever possible.

⁴ While we recognize that water serves an array of purposes, including water for agriculture and gardening, we focus primarily on drinking water in this document given the focus of the SDGs.

Some of the gendered considerations for equitably meeting basic WASH needs include:

Female-friendly design of sanitation locations and/or water collection sites or water points. Female-friendly design involves taking women's priorities into consideration when designing facilities to ensure that they meet women's needs.² It is important to note that sanitation locations may be used for purposes beyond urination and defecation, including menstrual hygiene management, washing, bathing, caring for others (including changing infants or breast feeding), and hand-washing, so these specific uses should be considered when evaluating appropriateness of these locations. For example, women have reported that their sanitation locations lack resources like disposal bins, soap, sufficient water, and buckets for washing or bathing, which are especially needed during menstruation.⁴⁷⁻⁵⁶

At the same time, it is important to consider whether designing WASH facilities to be female-friendly will reinforce gender norms. For example, water points designed to be female-friendly might reinforce the norm that women alone are responsible for water collection, or only putting changing stations in women's toilet facilities might reinforce the norm that women alone are responsible for caregiving. Female-friendly design requires considering the heterogeneous experiences of women and girls, including women and girls with disabilities, at various life stages, etc., and designing facilities that meet those varied needs.^{57,58}

- The ability for women, girls, and sexual and gender minorities to tend to WASH needs when those needs arise. Women should be able to use sanitation facilities or access water when they need to do so. In the face of WASH challenges, women may withhold food or water, consume less desirable water, suppress urination or defecation, or use insufficient hygiene practices. For example, numerous studies have found that women report limiting food and water⁵⁹⁻⁶⁵, suppressing urges to defecate or urinate^{52,66-69}, delaying changing menstrual materials^{65,70} when sanitation conditions are inadequate, and bathing, drinking water, cooking, washing hands, clothes, and bathrooms less often when water is scarce.⁷¹⁻⁷⁸
- Consideration should be given to the cisgender women and girls and sexual and gender minorities (such as transgender men and those with masculine gender identities) who menstruate. Transgender and masculine of center men surveyed in the U.S. noted feeling uncomfortable and avoiding public restrooms during menstruation.⁷⁹
- Consideration should be given to the specific needs of individuals with disabilities. Individuals with physical disabilities experience greater difficulty using the same sanitation locations as other household members, especially avoiding coming into contact with feces while doing so. 80,81 For example, support bars are often missing in latrines and pose problems for individuals who have difficulties holding themselves in squatting positions, especially women. 57,58 In addition to consideration of physical disabilities, visual impairment, and other disabilities that may make accessing WASH facilities more challenging, incontinence should also be considered. Incontinence is a major issue, affecting an estimated one in four women over age 35 and one in ten men; this leads to specific WASH needs related to the increased need to bathe and use sanitation facilities. 81
- Consideration should be given to other intersectional characteristics, such as life stage, pregnancy, etc. Pregnant women in India, for example, reported more frequent urination and defecation and greater difficulties reaching their preferred sanitation locations. The same study found that women reported difficulties post-pregnancy related to pumping well water and

carrying water buckets.⁸² Homelessness presents challenges to meeting WASH needs around the world – in both the Global North and the Global South, and may differentially affect women, girls, and sexual and gender minorities;⁸³⁻⁸⁵ for example, a 2017 report found that U.S. youth who identify as LGBTQ+ had a 120% higher risk of reporting homelessness compared to youth who identify as heterosexual and cisgender,⁸⁶ indicating that the burden unmet WASH needs for homeless individuals in the United States rests heavily on the LGBTQ+ community.

Further, it is also possible to assess if individuals are **not** able to equitably meeting basic WASH needs by considering the behaviors they may practice when their needs are not met.

- Coping mechanisms to minimize WASH needs may be an indication if inequitable access. In the face of inequitable access, individuals may:
 - Suppress urination or defecation, for example to prevent the need to urinate or defecate in unpreferred locations or due to expectations.^{52,66-69}
 - Withhold food or water, for example to prevent the need to urinate or defecate in unpreferred locations.⁵⁹⁻⁶⁵ Caregivers for persons with disabilities have reported limiting that individual's consumption of food and water in order to reduce the number of times they need to urinate and to manage weight gain.⁸¹
 - Avoid the use of certain sanitation locations⁷⁹ and/or urinate or defecate in unpreferred locations, for example because a preferred locations is not private, or is inaccessible, costly, too far, has long lines and takes too much time, is dangerous, etc.^{81,87,88}
 - Avoid going to certain places, such as schools,⁸⁹ to inadequate sanitation facilities or, in the case of sexual and gender minorities, the presence of gender-segregated sanitation facilities.⁹⁰
 - Consume less desirable water, for example because a preferred water is inaccessible, costly, too far, has long lines and takes too much time, is dangerous, etc.^{71,91,92}
 - Use insufficient hygiene practices, like delaying bathing or changing menstrual materials^{65,70} and washing hands, clothes, and bathrooms less often, for example when water is scarce ⁷¹⁻⁷⁸ or because they lack access to soap, privacy, etc.

ACCESS TO RESOURCES

Access to resources refers to individuals; control over and access to all of the basic requirements to meet their WASH-related needs, including health, privacy, safety and freedom from violence, and tangible and intangible assets such as time, labor, financial resources and physical assets, social capital, and knowledge and information.

Individuals require resources to equitably meet their water, sanitation, and hygiene needs and to achieve SDG targets 6.1 and 6.2. Resources include everything individuals require to experience "universal and equitable access to safe and affordable drinking water for all" (6.1)⁵ and "access to adequate and equitable sanitation and hygiene for all" (6.2).

Resources individuals require include components related to bodily integrity including *health*, *privacy*, and *safety and freedom from violence*, and tangible and intangible assets such as their *time*, *labor*, *financial resources and physical assets*, *social capital*, and *knowledge and information* that directly influence their ability to exercise agency. Each of these resources are defined⁹³ and discussed below and summarized in Table 1, which outlines key considerations at the household, healthcare facility, school, and workplace levels. It is important to note that these resources are interrelated; privacy and safety, for example, are inherently tied to one another as individuals may seek more private sanitation or bathing locations at the expense of their physical safety or vice versa.

Bodily Integrity

Bodily integrity – individuals' control over their own bodies – is an essential resource. Control over one's body allows one the freedom and dignity to make other choices and is necessary to their participation in society and social life. As the KIT framework states, without bodily integrity "women and girls cannot obtain control over their lives and futures." In this framework, we identify three core elements of bodily integrity: health – how WASH affects individuals' physical and mental well-being; safety – individuals' freedom from experiences of WASH-related verbal, physical, and sexual violence; and privacy – individuals' ability to obtain sufficiently private WASH conditions. These three aspects of bodily integrity are critical to individuals meeting their basic WASH needs and experiencing dignity and control.

Health

Informed by the WHO definition of health, health as defined by this framework includes both physical and mental well-being as affected by WASH options and conditions; it extends beyond simply the absence of disease or infirmity. Health can be viewed as both an outcome of WASH – such as illness linked to unsafe water consumption – and as a resource for accessing WASH – such as the physical ability to walk to water points or sanitation facilities. In the context of WASH, some of the considerations for health include:

Freedom from illness related to water, sanitation, and hygiene access, water insecurity, or sanitation and hygiene experiences and conditions. Numerous studies have also documented fear of and experience of illness and disease associated with consumption of polluted water^{71,95-101}, hygiene limitations in times of water scarcity, ^{51,73,76,100} and poor sanitation conditions. ^{60,82,100,102-104} While not all WASH-related illness is gender-specific, individuals' gendered needs, responsibilities,

⁵ While we recognize that water serves an array of purposes, we focus primarily on water for consumption given the focus of SDG 6.1.

and physiologies may make them more vulnerable to WASH-related illness. Women, girls, and sexual and gender minorities experience specific health-related needs for water for hydration, sanitation, and hygiene while menstruating, during pregnancy, and while breastfeeding, which should be considered, and WASH conditions within healthcare facilities can dramatically affect the health of individuals.¹⁴

WASH-related illness and poor health outcomes also vary across life stage. A study from rural India found that women using open defecation was significantly associated with adverse pregnancy outcomes, and another study found that women who did not have access to a toilet within the house had a higher risk of APOs. 105,106 Another Indian study found that a water facility outside of the household, unimproved sanitation facilities, and lack of soap use after defecation was significantly associated with poor nutritional status in adolescent girls. Menstruating individuals without private indoor locations to change their materials or hygienic places to dry reusable materials may experience illnesses such as bacterial vaginosis and urinary tract infections. In addition, women in some contexts are only able to urinate or defecate after dark to avoid social stigma and may be at heightened risk of experiencing urinary tract infections as a result, a particular concern for women with certain disabilities who are already at increased risk of these infections. 111,112

- Freedom from injury related to water, sanitation, and hygiene access, water insecurity, or sanitation and hygiene experiences and conditions. Women have reported pain and injury related to water collection, ^{14,18,23,60,76,92,101,113-117} meeting sanitation needs, including specific concerns for injury among pregnant and older women, ^{51,60,62,63,67,82,103,118} and related to restriction to spaces outside the home due to menstrual status, as is practiced in Nepal. ¹¹⁹ As with illness, injury can be a concern for both women and men; however, women face specific risks of injury related to their roles such as water collection and biological needs.
- Freedom from stress or anxiety experienced by women related to water insecurity and/or water
 quality and quantity. Women in Bolivia, India, Kenya, and Uganda have reported stress, anxiety,
 and fear related to water insecurity. Men also experience stress related to water
 insecurity, although these experiences of stress may differ for women and men. 123
- Freedom from stress or anxiety experienced by women related to sanitation conditions, options, and accessibility. Women have reported sanitation-related stress related to perceived risk of assault, quarrels about sanitation, rising sanitation-related costs, lack of privacy, and concerns about being seen by others, especially men, while openly defecating. 66,67,70,82,120,124,125 Sexual and gender minority individuals who experience menstruation have also reported anxiety around using public restrooms. 79
- Freedom from stress or anxiety experienced by women related to hygiene conditions, options, and accessibility. Individuals may experience stress and anxiety when they lack access to appropriate hygiene. In particular, women experience stress and anxiety related to inadequate menstrual hygiene conditions and options, such as inadequate disposal options and inadequate places for washing and drying menstrual materials. 109 More information is needed about women's experiences managing other forms of bleeding, including post-partum bleeding. 126 One study from Ghana found that when pads and education were provided to schoolgirls, shame, lack of confidence, insecurity, and difficulty concentrating improved. 127

Freedom from stress, anxiety, or illness related to coping mechanisms employed by individuals (such as suppression and withholding) due to inadequate WASH. Women have reported suffering urinary tract infections, headaches, constipation, diarrhea, and other illnesses when they have suppressed urination and defecation when lacking access to safe, clean latrines.^{60,62,63,66,124,125} Transgender and gender non-conforming individuals in Washington, D.C. reported health problems such as dehydration, UTIs, and kidney infection as a result of avoiding gender segregated public restrooms.⁹⁰

Safety and Freedom from Violence

Safety requires freedom from interpersonal and gender-based violence, including individuals' freedom from both violent acts and threats of violence – both physical and sexual, coercion, harassment, or force when accessing and using sanitation locations, water collection points, or hygiene locations. Safety can be considered both an outcome of WASH – for example, freedom from violent experiences when accessing sanitation – and a resource to enable access to WASH – for example, women may utilize buckets or bags in the home when they do not feel safe accessing their sanitation facilities at night. In the context of WASH, some of the considerations for safety include:

- Freedom from interpersonal violence when accessing water, sanitation, hygiene facilities. Individuals may experience interpersonal violence including harassment, physical violence, and sexual violence when accessing water, sanitation, and hygiene facilities. 14,23,47,51,62-64,66-71,76,82,90,92,96-101,103,104,115,117,118,125,128-153 In a U.S.-based study, 68% of transgender and gender non-conforming survey participants reported experiencing verbal harassment and 9% reported experiencing physical assault when accessing gender-segregated public restrooms. 90 In Vanuatu, women and men with disabilities have reported feeling less safe than those without disabilities when collecting water. 81 Some interventions have been shown to reduce women's exposure to violence when accessing these facilities. 50,118,154,155
- Freedom from violence related to WASH responsibilities or norms, including harassment, verbal abuse, or scolding. This violence may be perpetrated by spouses, mothers-in-law, employers, and others when women fail to complete their responsibilities such as providing water for their husbands and households^{64,101,146}, preparing food on time when water collection responsibilities take too long¹⁵⁰, or attending water-related community meetings.¹⁴⁹ When women are perceived to be challenging gendered norms, such as those regarding participation in community-level decision-making and meetings, they may suffer violence and other forms of backlash.^{153,156-158}
- Freedom from sexual exploitation (or "sextortion") as it relates to WASH. Sexual exploitation occurs when women seek to access WASH; for example, a study in Zimbabwe found that male water vendors sometimes ask for sexual favors from women seeking to access water. To Other evidence from Kenya, South Africa, and Colombia suggests that the exchange of sex for water access is a widespread problem. Schoolgirls and other women have reported engaging in transactional sex in order to purchase pads. Schoolgirls

Privacy

As informed by a systematic review by Sclar et al (2018),¹⁶⁸ privacy refers to an individual's ability to feel free from observation or disturbance by others when accessing and utilizing sanitation locations and water sources, including for hygiene (e.g. bathing, menstruation) purposes. Privacy is considered a resource because it is a basic requirement for meeting one's WASH needs in a satisfactory, safe, and dignified way. In the context of WASH, privacy refers to:

• Individuals' access to and use of a sufficiently private sanitation location, bathing area, and other hygiene spaces. For example, women in various countries in South Asia and sub-Saharan Africa have described challenges attaining privacy for bathing, post-defecation cleansing, and washing their bodies and washing, drying, and storing menstrual materials. 51,67,82,96,109,144,169 Numerous studies have documented privacy challenges that women face when accessing sanitation due to poor construction, missing doors or locks, shared facilities, or insufficiently private locations. 67,70,82,104,143,170 Transgender and masculine of center individuals in the U.S. reported concerns about others hearing them changing their menstrual pads while using public restrooms. 79

Assets

Another important element of resources are assets. Assets include both material assets – financial and physical assets including money, land, equipment, credit, and savings – but also intangible assets such as time and labor – the level of control individuals exert over their time and labor, knowledge and information – individuals' access to and ability to utilize WASH-related information, and social capital – the social networks and connections that affect individuals' ability to access or improve WASH. Assets are critical not only for enabling individuals' access to WASH facilities and services, but also for enabling individuals' to exercise their voice and participate in public and private decision-making around WASH.

Time and Labor

Time and labor refers to individuals' time and labor spent on WASH-related tasks and activities and meeting their own WASH-related needs, as well as control over that time and labor. Labor may be unpaid or paid with cash or in-kind contributions, In the context of WASH, workload and time considerations include:

- Time spent collecting water, which may include the time individuals responsible need to walk to or queue at a water collection point. Numerous studies have documented the time burden placed on women as the primary water collectors for households, schools, and other institutions. 14,16,17,21,69,71-74,92,96,98-101,115,116,120,123,138,149,169,171-182 When women save time related to water collection, they have reported spending more time on leisure, 23,176,183 rest, 184 other domestic chores, 23,185 income-generating activities, 22,186,187 and participation in the community. 131 Time savings has also been reported to improve familial and marital relations. 23,182
- Time spent treating water. Individuals also need sufficient time to treat their water to ensure that
 it is safe for consumption; time limitations can bar women from accessing the resources they need
 to treat their water or boiling water to ensure it is safe.¹⁸⁸
- Time spent accessing sanitation or water for personal needs. Individuals need time to meet their
 personal water, sanitation, and hygiene needs, which can be time-consuming when, for example,
 sanitation sites are located far from their homes. 102,133 Since women in many parts of the world

juggle domestic responsibilities – and often income-generating or community-focused activities as well – their time available for meeting their WASH-related needs may be limited. When sanitation conditions are improved, women have reported spending time on rest,¹⁴² incomegenerating activities, and domestic chores.^{62,63}

- Time spent building or maintaining their sanitation facilities and/or water supplies. For
 example, studies have documented that cleaning toilets and latrines consumes a great deal of
 women's time and may require waking up earlier than preferred.^{189,190}
- Time spent caring for the sanitation needs of others. At the household level, this may include caring for the needs of dependents, such as children or the elderly, including time spent accompanying or queuing with dependents. Women also spend time caring for those who become sick from water-related illnesses. 17,151,191
- Unpaid labor exerted to meet the WASH needs of their household. Women frequently bear the
 burden of unpaid labor and exert inequitable energy and have greater caloric expenditure
 meeting household WASH needs. 16,17 In addition to domestic chores such as household water
 collection households are often expected to make a cash or labor contribution towards the costs
 of constructing or maintaining new water and sanitation facilities. Poorer households often opt
 for labor contributions, with the burden of that labor falling largely on women.
- Time spent on the hygiene needs of their households, healthcare facilities, schools, or workplaces.^{51,178}
- Time available to participate in WASH-related initiatives. Because women are frequently responsible for numerous domestic, income-generating, and other activities, they may have limited time available to engage in community-level WASH initiatives like water management committees. 169,192-195

Financial Resources and Physical Assets

Financial resources and physical assets refers to individuals' control over economic resources and long-term stocks of value, such as land, for the purposes of meeting individual and household WASH needs. In the context of WASH, considerations may include:

- Access to sufficient financial resources to access preferred water, water treatment methods, sanitation, and hygiene materials (such as soap and menstrual materials) for individuals in their households and if there are costs associated at healthcare facilities. When women lack income and asset control, it can be difficult for them to access their preferred sanitation locations^{47,60,62,63,69,70,103,104,117,130,158,196,197} or water sources^{71,96,113,120}, quantities^{59,71}, and water treatment methods.^{71,188,198} In some contexts, women need to access pay-per-use toilets for both urination and defecation, whereas men only access these toilets for defecation.¹⁰³
- Access to sufficient financial resources and physical assets to improve WASH conditions for households. Insufficient access to financial resources or assets, like land and housing, can also limit women's decision-making about things like latrine construction.^{62,196,197} While poverty in general can be a barrier to some improvements, even where households to have sufficient economic resources to make such improvements, women may have very limited control over

those resources and financial decisions. It is important also to consider women's access to credit – including microcredit, subsidies, cash transfers, and other sources of financial access.

- Control over financial resources and physical assets for WASH access and improvements. Even
 where financial resources and physical assets are available, gendered barriers to utilization and
 control over those resources may exist. For example, women in India typically do not inherit
 property and require permission from male land-owners to build latrines. 62,199 Women's lack of
 control over land can also lead to underrepresentation in water committees and other community
 decision-making bodies. 157,200
- Access to digital, information, and communication technology. Digital inequality between higher income and lower income countries and between different genders is an emergent area of research. A 2020 report found that, across low and middle income countries (LMICs), women were 8% less likely than men to own a mobile phone, and 20% less likely to use the internet on a mobile phone therefore, 300 million fewer women than men are able to use mobile internet.²⁰¹ As mobile phones especially smartphones become more common tools for payment and access to information, this gender gap in access to technology can pose barriers for women, who may, in some cases, stand to benefit the most. A study from Kenya, for example, found that women benefit more than men from time savings related to mobile water bill payment.²⁰²

Social Capital

Social capital refers to individuals' membership in trusting and cooperative social networks that provide tangible and intangible (i.e., economic, emotional, and instrumental) support.²⁰³ This includes relationships or social ties with individuals or groups that help individuals access water, sanitation, and hygiene and complete WASH-related tasks and activities. Social capital can refer to trusting and cooperative relationships among individuals/groups that are similar to each other such as family members or close friends (i.e., bonding social capital), individuals/groups whose social identities differ in some important way such as groups from different racial, ethnic, religious, or occupational backgrounds (i.e., bridging social capital), and individuals/ groups with various levels of authority such as vertical connections to leaders and those in power (i.e., linking social capital). 204 Women, men, and sexual and gender minorities may have different opportunities to build various types of social capital; for example, in some contexts women primarily stay within or near their homes, allowing them to build bonding capital among family members and close neighbors but preventing them from building bridging or linking capital with leaders, service providers, and others outside of the domestic sphere.²⁰⁵ Women also tend to have fewer resources available to them through formal mechanisms than men do; therefore, women may rely more heavily than men on the resources and support they receive through social networks.^{206,207} In the context of WASH, considerations include:

• Social support to facilitate accessing water, sanitation, and hygiene or completing WASH-related chores. Social support can play an important role in ensuring that women are able to access sufficient quantities of safe drinking water. The support women receive from family, friends, and broader social networks can help them to access water, sanitation, and hygiene to meet their needs or to make improvements to their WASH conditions^{50,52,60,62,63,66,82,125,142-144,148,178,198,208-211}. For example, women commonly rely on social capital to help them collect water when queues are long or water is scarce.^{64,153,178,181,211,212}. Women may also use social ties to help them get access to improved water at their homes.²¹³ Social support can also help women achieve privacy and safety when accessing sanitation.^{51,67,82,117,125,141,142} Those with disabilities may need

additional support to access sanitation; for example, 38% of people with disabilities surveyed in a Vanuatu study required assistance to use the toilet.⁸¹

• Social support to participate in WASH-related decision-making and/or leadership for individuals at the household level and to participate in WASH-related leadership within schools or workplaces. For example, women needed or sought family support in Vietnam to take on public water management roles¹⁹³, in Nepal to take on roles as masons and water technicians²¹⁴, and in Peru to gain water user association membership.²⁰⁰ Transgender and gender non-conforming individuals in the U.S. reported avoiding public events if there would be no friends at the event who could help them navigate gender-segregated restrooms.⁹⁰

Knowledge and Information

Knowledge and information refers to individuals' knowledge and access to information related to water, sanitation, and hygiene, including WASH improvements and maintenance. In the context of WASH, considerations include:

- Knowledge related to maintaining and improving their water, sanitation, and hygiene conditions at the household level, including knowledge of service providers. For example, in India, women emphasized the need for knowledge about processes in order to be listened to by village councils to get toilet subsidies.⁶² While women may be provided with knowledge and skills through trainings, they may not have the opportunity to utilize that knowledge or may face backlash for doing so. In Brazil, for example, women trained as cistern builders had difficulty finding work due to community distrust of women in this role.²¹⁵
- Access to WASH-related information. Individuals need access to WASH information in order to make informed decisions or alter behaviors. Knowledge of water treatment options and linkages to reduced disease burdens contributes to greater use of point-of-use treatment.²¹⁶ Individuals sometimes lack adequate information and knowledge about their own bodies related to WASH. For example, women in India have reported concerns about fearing infection if they urinate on someone else's urine; adolescent girls in India have reported beliefs that physical activity may aggravate dysmennorhea;²¹⁷ and women in Pakistan have reported a belief that bathing on certain days during menstruation may cause irregular menstrual flow.²¹⁸ These examples highlight a need for accurate and accessible information concerning WASH needs and risks.
- Awareness of human rights related to water, sanitation, and hygiene. When individuals possess
 an awareness of their right to water, sanitation, and hygiene they may be more equipped to take
 action to demand the realization of those rights; in Bolivia, for example, women expressed
 awareness of their right to water and participated in protests demanding water for their
 communities.²¹⁹
- Financial literacy to facilitate WASH access and WASH-related income-generating activities. Both formal education and experiential learning can help individuals develop financial literacy that facilitates WASH access and opportunities related to WASH enterprises; in Indonesia, women developed financial literacy through experience managing WASH enterprises. ²²⁰ The World Bank's Red River Delta Water and Sanitation Project in Vietnam incorporated training for women on financial literacy, management, and business development as well as providing credit to help promote women's economic opportunities in the water sector. ²²¹

• Utilization of knowledge and information held by various gender groups. The knowledge of certain marginalized groups – both gender groups and others, such as Indigenous people – is often missing from formal decision-making, academic, and other spheres. For example, a 2018 study found that while women in transboundary water contexts globally are often key holders of knowledge related to water use and sharing, playing critical roles in awareness raising and knowledge dissemination, these contributions are often unrecognized. This study explicitly calls for strengthening and creating frameworks that value women's knowledge, enabling and financially supporting women's networks to build institutional capacity, and building capacity and providing vocational training for women to play a greater role in water management.

Table 1: Gendered Considerations related to Access to WASH Resources

Access to Resources Bodily Integrity - Stress/anxiety related to water insecurity and/or water quality and quantity - Stress/anxiety related to sanitation conditions/options/accessibility - Stress/anxiety related to coping mechanisms employed due to inadequate WASH - Illness and injury related to water and sanitation access, water insecurity, or sanitation and hygiene conditions Privacy - Access to a sufficiently private sanitation location/bathing area/hygiene spaces - Safety and - Freedom from threats of interpersonal violence when accessing water, sanitation, and hygiene facilities - Freedom from threats of interpersonal violence when accessing water, sanitation, and hygiene facilities - Freedom from wiolence related to WASH responsibilities/norms (including harassment/verbal abuse/scolding) - Time spent on water treatment - Time spent accessing sanitation - Time spent accessing sanitation - Time spent taring for sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) - Time spent on hygiene needs of household (e.g. bathing and other washing) - Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. - Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. - Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) - Ownership of/control over land or housing necessary to improve WASH conditions - Access to sufficient financial resources to improve WASH conditions - Social support to facilitate accessing water/sanitation or completing WASH-related chores	Tuble 1. dellaele	Household	Healthcare	School	Workplace
Stress/anxiety related to water insecurity and/or water quality and quantity			Facility		
Stress/anxiety related to water insecurity and/or water quality and quantity Stress/anxiety related to sanitation conditions/options/accessibility Stress/anxiety related to coping mechanisms employed due to inadequate WASH Illness and injury related to water and sanitation access, water insecurity, or sanitation and hygiene conditions Privacy Access to a sufficiently private sanitation location/bathing area/hygiene spaces Safety and Freedom from threats of interpersonal violence when accessing water, sanitation, and hygiene facilities Freedom from violence related to WASH responsibilities/norms (including harassment/verbal abuse/scolding) **Time spent collecting water (including walking, queuing)** Time spent accessing sanitation Time spent accessing sanitation Time spent caring for sanitation related needs Time spent caring for sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) Time spent on hygiene needs of household (e.g. bathing and or household (e.g. bathing and or household (e.g. bathing and workplaces) Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. **Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) **Access to sufficient financial resources to improve WASH conditions **Access to sufficient financial resources to improve WASH conditions **Access to sufficient financial resources to improve WASH conditions **Access to sufficient financial resources to improve WASH conditions **Social support to facilitate accessing water/sanitation or completing WASH-related chores	Access to Reso	urces			
Stress/anxiety related to sanitation conditions/options/accessibility Stress/anxiety related to coping mechanisms employed due to inadequate WASH Illness and injury related to water and sanitation access, water insecurity, or sanitation and hygiene conditions Privacy Access to a sufficiently private sanitation location/bathing area/hygiene spaces Safety and Freedom from threats of interpersonal violence when accessing water, sanitation, and hygiene facilities Freedom from violence related to WASH responsibilities/norms (including harassment/verbal abuse/scolding) Assets Time spent collecting water (including walking, queuing) Time spent on water treatment Time spent accessing sanitation Time spent caring for sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) Time spent on hygiene needs of household (e.g. bathing and other washing) Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. Prinancial Resources and Physical Assets Social support to facilitate accessing water/sanitation or completing WASH-related chores **Companying and other washing washing washing and other washing washing and other washing washing and other washing wa	Bodily Integrity				
Stress/anxiety related to coping mechanisms employed due to inadequate WASH		 Stress/anxiety related to water 	insecurity and/or wat	er quality and quantity	1
Illness and injury related to water and sanitation access, water insecurity, or sanitation and hygiene conditions Privacy		 Stress/anxiety related to sanita 	tion conditions/option	ns/accessibility	
Privacy	Health	 Stress/anxiety related to coping 	g mechanisms employ	ed due to inadequate \	WASH
Privacy		 Illness and injury related to was 	ter and sanitation acce	ess, water insecurity, o	r sanitation and
Freedom from threats of interpersonal violence when accessing water, sanitation, and hygiene facilities Freedom from violence related to WASH responsibilities/norms (including harassment/verbal abuse/scolding) Time spent collecting water (including walking, queuing) Time spent on water treatment Time spent accessing sanitation Time spent caring for sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) Time spent on hygiene needs of household (e.g. bathing and other washing) Labor women exert to meet the WASH needs of the HCF the school Time spent or hygiene needs of the HCF the school Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Financial Resources and Physical Assets Assets Freedom from threats of interpersonal violence when accessing water, sanitation, and hygiene facilities Freedom from threats of interpersonal violence when accessing water, sanitation, and hygiene facilities, fincluding harassment/verbal abuse/scolding) Time spent collecting water (including walking, queuing) Time spent on water supply Time spent caring for caring for for students' sanitation-related needs Time spent on hygiene needs Time spent on hygiene needs of the HCF the school Time spent on hygiene needs of the HCF the school Time spent on hygiene needs of the HCF the school Time spent on hygiene needs of the HCF the school Time spent on or time spent on hygiene needs of the workplace Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Access to sufficient financial resources to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Access to su					
Freedom from Violence Freedom from violence related to WASH responsibilities/norms (including harassment/verbal abuse/scolding)					
Freedom from violence related to WASH responsibilities/norms (including harassment/verbal abuse/scolding) Assets Time spent collecting water (including walking, queuing) Time spent on water treatment Time spent accessing sanitation Time spent accessing sanitation Time spent accessing sanitation Time spent caring for sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) Time spent on hygiene needs of household (e.g. bathing and other washing) Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Ownership of/control over land or housing necessary to improve WASH conditions Access to sufficient financial resources to accessing water/sanitation or completing WASH-related chores	-		personal violence whe	n accessing water, sani	tation, and hygiene
Violence					,
Assets Time spent collecting water (including walking, queuing)	_		to WASH responsibili	ties/norms (including h	iarassment/verbal
Time spent collecting water (including walking, queuing) Time spent on water treatment Time spent accessing sanitation Time spent maintaining sanitation facility and/or water supply Time spent caring for sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) Time spent on hygiene needs of for soutents' sanitation-related needs Time spent on hygiene needs of hygiene needs of the HCF Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Ownership of/control over land or housing necessary to improve WASH conditions Access to improve WASH conditions		abuse/scolding)			
Time and Labor Time and Labor Time spent caring for sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) Time spent on hygiene needs of hygiene needs of household (e.g. bathing and other washing) Time spent ometate the WASH needs of their households, healthcare facilities, schools, and workplaces. Pinancial Resources and Physical Assets Assets Time spent on water treatment of acility and/or water supply Time spent caring for for students' sanitation-related needs Time spent on hygiene needs Time spent on hygiene needs Time spent on hygiene needs of the HCF Time spent on hygiene needs of the workplace of the wor	Assets		.1 .12	1	
Time and Labor Time spent caring for sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) Time spent on hygiene needs of household (e.g. bathing and other washing) Time spent on hygiene needs of the HCF Time spent on hygiene needs of the HCF Time spent on hygiene needs of the school Time spent on hygien		•		ing)	
Time and Labor Time spent caring for sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) Time spent on hygiene needs of household (e.g. bathing and other washing) Time spent on hygiene needs of the HCF Time spent on hygiene needs of the HCF Time spent on hygiene needs of the school Time spent on on hygiene needs of the school Time spent on hyg		•			
Time and Labor Time and Labor Time and Labor Time spent caring for sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) Time spent on hygiene needs of household (e.g. bathing and other washing) Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. Time spent on hygiene needs of the WASH needs of their households, healthcare facilities, schools, and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Ownership of/control over land or housing necessary to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores		•			
Time and Labor Sanitation needs of dependents (including CFM, queuing with/accompanying dependents, etc.) Patients' sanitation-related needs		•			
dependents (including CFM, queuing with/accompanying dependents, etc.) Time spent on hygiene needs of household (e.g. bathing and other washing) Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Assets dependents (including CFM, patients' sanitation-related needs related needs Time spent on hygiene needs of hygiene needs of the workplace the HCF the school of the workplace the school of the workplace the school of the workplace schools, and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Ownership of/control over land or housing necessary to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores		, -	•		
queuing with/accompanying dependents, etc.) Time spent on hygiene needs of household (e.g. bathing and other washing) Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Ownership of/control over land or housing necessary to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores			_		
dependents, etc.) Time spent on hygiene needs of household (e.g. bathing and other washing) Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Ownership of/control over land or housing necessary to improve WASH conditions Assets Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Assets Social support to facilitate accessing water/sanitation or completing WASH-related chores	Labor	_	•		
Time spent on hygiene needs of household (e.g. bathing and other washing) Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Ownership of/control over land or housing necessary to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores					
of household (e.g. bathing and other washing) Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Financial Resources and Physical Assets Access to sufficient financial resources to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores			Time spent on	Time spent on	Time spent on
and other washing) Labor women exert to meet the WASH needs of their households, healthcare facilities, schools, and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Financial Resources and Physical Assets Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Access to sufficient over land or housing necessary to improve WASH conditions Access to sufficient financial resources to improve WASH conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores			· ·	1	
and workplaces. Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Financial Resources land or housing necessary to improve WASH conditions Assets Access to sufficient financial resources to improve WASH conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores		and other washing)	the HCF	the school	of the workplace
Access to sufficient financial resources to access preferred water/water treatment methods/sanitation locations/hygiene needs (including MHM) Ownership of/control over land or housing necessary to improve WASH conditions Assets Access to sufficient financial resources to improve WASH conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores					
methods/sanitation locations/hygiene needs (including MHM) • Ownership of/control over land or housing necessary to improve WASH conditions Assets • Access to sufficient financial resources to improve WASH conditions • Social support to facilitate accessing water/sanitation or completing WASH-related chores					
Financial Resources and Physical Assets - Access to sufficient financial resources to improve WASH conditions - Conditions - Social support to facilitate accessing water/sanitation or completing WASH-related chores					atment
Resources and Physical Assets Access to sufficient financial resources to improve WASH conditions Conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores	Einancial		nygiene needs (includi	ng MHM)	
and Physical Assets Access to sufficient financial resources to improve WASH conditions conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores					
Assets Access to sufficient financial resources to improve WASH conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores					
resources to improve WASH conditions Social support to facilitate accessing water/sanitation or completing WASH-related chores	-				
conditions • Social support to facilitate accessing water/sanitation or completing WASH-related chores					
Social support to facilitate accessing water/sanitation or completing WASH-related chores		·			
Social support to participate Social support to participate in	Casial Canidal		,		
Social Capital in WASH-related decision-	Social Capital			1.1	· ·
making and/or leadership		making and/or leadership			
Knowledge • Knowledge related to maintaining/ improving water/ sanitation conditions, including knowledge	Knowledge				
and of service providers	and	of service providers			
Information • Access to WASH-related information	Information	Access to WASH-related information			

ABILITY TO EXERCISE AGENCY

The ability to exercise agency refers to individuals' ability to participate in decision-making around WASH issues, including at the leadership level, and to move freely to access WASH facilities and attend WASH-focused meetings and activities.

Individuals' agency can shape their ability to enjoy equitable access to safe and affordable drinking water, sanitation, and hygiene. While individuals may have intrinsic agency or self-efficacy, individuals may still face barriers to the exercise of that agency. Individuals' ability to participate in *decision-making* around WASH issues can affect their ability to access or improve their water, sanitation, and hygiene conditions. At the community, healthcare facility, school, and workplace level, women, girls, and sexual and gender minorities may or may not have opportunities to engage in *public participation* around WASH. Finally, individuals' *freedom of movement* has a direct impact on their ability to access their preferred water, sanitation, and hygiene locations. There is also evidence to suggest that women's involvement in decision-making and leadership around WASH-related issues such as sanitation can positively affect outcomes. ^{14,223} Select dimensions related to agency are particularly relevant to 6a and 6b. Gender-specific considerations for each of these three dimensions are described in detail below and summarized in Table 2, which outlines considerations at the household, healthcare facility, school, and workplace levels.

Household Decision-Making

Decision-making refers to individuals' opportunities to influence and make decisions about water, sanitation, and hygiene within their homes and elsewhere. In the context of WASH, considerations include:

- Control over decisions related to small WASH purchases such as soap or water treatment products – for their households. Women often lack the ability to make decision regarding daily household purchases, including those necessary to manage household hygiene and sanitation and those related to gender-specific WASH needs such as menstrual hygiene management.^{188,197}
- Control over WASH-related chore allocation within their households. For example, older women sometimes have greater decision-making power over things like household water collection.²¹¹
- Control over decisions regarding water source and sanitation facility access and improvement in their households. Women are often excluded from decisions requiring large expenditures, such as a latrine construction. 62,75,76,140,170,196,197,224 Women's exclusion in these decisions can have consequences, such as latrines that do not accommodate women's privacy needs and, therefore, cannot be used. 76,140,170,193 Studies in India have shown that men make decisions about water source access without accounting for women's priorities. 92,196

Public Participation

Public participation refers to individuals' ability to influence decisions at a public level, participate in committees, and assume both formal (e.g. elected) and informal (e.g. positions of influence) leadership positions. In the context of WASH, some of the considerations for leadership include:

 Individuals' ability to attend and participate in WASH-related activities and initiatives outside their homes. In various parts of the world, women participate in village-level meetings,^{225,226} water user committees, ¹³¹ and other water and sanitation projects . ¹⁹⁰ However, in some cases women face restrictions on their attendance or ability to speak up and participate in meetings and public activities. ^{149,158,169,181,192,227} For example, studies in India and Kenya have documented prohibitions against women speaking to men, limiting their ability to participate in village-level water and sanitation committees. ^{153,158,228} The absence of WASH facilities can in and of itself be a barrier to public participation; for example 30% of transgender and gender non-conforming respondents in one U.S.-based study reported that they have chosen not to attend an event because of restroom issues and access. ⁹⁰

• Representation and participation in WASH-related committees or leadership bodies and governance processes. For women at the household level, these may be community-level bodies such as water and sanitation committees. 132,155,200,213,228-232 There may also be leadership bodies in which women can have representation within healthcare facilities, schools, and workplaces. Leadership should extend beyond nominal representation to consider women's ability to effectively participate in leadership. Women's leadership involvement can at times be tokenistic or at lower levels than male peers, and women have reported feeling unable to influence decisions even where they hold leadership positions. 147,148,153,157,183,185,191,192,194,195,229,233,234 A 2018 study of transboundary water management found that there is less meaningful participation of women than men in formal water governance processes despite the fact that women are driving innovation, participating in informal transboundary governance, and demonstrating benefits where they have been involved in formal and informal water management decision-making. 222 Lack of land ownership can also pose a barrier to women's representation in decision-making bodies. 157,200

In leadership and governance processes, it is also crucial that intersectional identities are represented so that that those at the center of specific WASH issues and challenges are positioned to help address them; Ugandan parliamentarian and disability rights advocate Hon Nalule Safia Juuko stated with regard to WASH programming, "You can't expect people who have no experience of disability to understand what disabled people need. We are the experts." 235

- Girls' ability to participate in formal education without barriers posed by WASH-related responsibilities or inadequate WASH access. Research suggests that inadequate water and sanitation access at schools can pose a barrier to girls' education whether because girls face a heavier burden for water collection than boys do²³⁶ or because girls' may not attend school, especially during menstruation, if they lack access to adequate sanitation. ^{48,49,54,89,128,132,237-241} Children with disabilities may be prevented from attending school if the schools lack accessible toilets. ^{242,243} Outside of school, inadequate water access has been linked to girls' absenteeism and drop out due to heavier household level responsibilities for water collection. ^{244,245}
- Participation in WASH-related income generating activities. Women work in a variety of waterand sanitation-related enterprises and gain numerous intrinsic and extrinsic benefits from such work, but norms-based barriers – such as those that prohibit women from engaging in technical work – can prevent women from engaging in certain aspects of the WASH value chain.^{215,220}
 Women may also work in voluntary, unpaid WASH-related labor such as cleaning handpumps or collecting payments, rather than paid labor.²⁴⁶
- Participation in income-generating activities without WASH-related barriers. Reducing the amount of time women spend on unpaid household labor like water collection can increase

women's time available to spend on income-generating activities.^{22,176,182,186,187,247}-The jobs and income-generating activities that individuals are able to pursue may or may not offer access to adequate sanitation facilities, water sources, or locations to manage personal hygiene. Certain jobs performed by women lack access to WASH, which is often related to the company or employer but sometimes based on physical location or other barriers.^{53,61,63} Menstruation can be a challenge in the workplace for a variety of social and environmental reasons, including normative restrictions and a lack of adequate changing and disposal faciltiies.^{248,249}

Freedom of Movement

Freedom of movement relates to individuals' autonomy to move freely both to access water, sanitation, and hygiene facilities, including accessing resources to meet menstrual needs, and without hindrance as a result of limited WASH access. Freedom of movement is inherently linked to other elements, such as safety, since individuals' movements may be restricted by perceived or real safety concerns. In the context of WASH, considerations include:

- Individuals' ability to access water at their preferred source without restrictions. Restrictions
 may include an inability to access sources at certain times or at all or requirements to ask
 permission or be accompanied to the site.^{92,147}
- Individuals' ability to access their preferred sanitation location without restrictions. Similarly, women and girls can face restrictions on their movement when attempting to access sanitation locations^{63,82,142} and women and girls may use bags, buckets, or open defecation when their movement is restricted.^{104,141} Eighteen percent of transgender and gender non-conforming individuals surveyed in Washington, D.C. reported being denied access to at least one gender-segregated public restroom.^{76,90,97,117,146,182,234,239}

Table 2: Gendered Considerations related to the Ability to Exercise Agency

	Household	Healthcare Facility	School	Workplace	
Ability to Exercise Agen	icy				
Household Decision- Making	Control over decisions related to WASH purchases (soap, water treatment products, sanitary napkins, etc.) Control over decisions				
	regarding water source and sanitation facility access				
Public Participation	 Women's ability initiatives outside Representation on WASH-related committees or leadership bodies 	"1	i	Representation in leadership bodies that make decisions regarding WASH for the	
Freedom of	Ability to access	healthcare facility	rce without restriction	workplace	
Movement	•	 Ability to access water at preferred source without restrictions Ability to access preferred sanitation location without restrictions 			

MULTI-LEVEL ENABLING ENVIRONMENT

The multi-level enabling environment refers to the social, political, physical, and market-based factors that shape individuals' experiences, behaviors, and access to resources, opportunities, and WASH facilities.

Finally, we acknowledge that individuals do not live in a vacuum; their lives, experience, and access are shaped by broader contextual factors at multiple levels of the social ecology. The UN states: "an enabling environment may be interpreted as a set of interrelated and interdependent systemic conditions such as policies, laws, institutional mechanisms, resources, etc., which facilitates the promotion of gender equality." Understanding and improving the enabling environment has been identified as a crucial aspect of improving WASH services, as demonstrated by UNICEF's publication of a guidance note on the enabling environment for WASH, thich outlines elements of the WASH services enabling environment, focusing on government and public and private partners. Similarly, our focus on the enabling environment for all gender groups to access and utilize WASH identifies some of the key factors that shape experiences of these groups and may either facilitate or constrain their agency, resources, and ability to meet their basic WASH needs. The enabling environment is multi-level; it includes contextual factors within the household, in the community, and within the broader regional and national sphere. It is also important to note that the factors described below can serve as either facilitating factors or barriers. Select considerations related to the supportive social context are particularly relevant to 6a and 6b. Factors related to the enabling environment within which women live include:

Social Context

The social context – the relationships that individuals have with one another or with groups and the sense (or lack thereof) of social cohesion – has a direct impact on individuals' ability to exercise their agency, access resources, and meet their basic WASH needs. In particular, it is worth considering *power relations* at both the individual and group level. Individuals in power – whether those are family members or local leaders – may have the ability to serve as either gatekeepers or change agents. Power dynamics between groups – such as dynamics between specific class, ethnic, or racial groups – can dramatically shape the lived experiences of individuals. Gendered norms – a critical piece of the social context – are addressed separately, below, as they merit specific attention and consideration. Elements of the social context that must be considered in assessing the enabling environment for gender equality in WASH include:

- Interactions between individuals that shape access to and utilization of WASH facilities, as well as participation in WASH-related activities and decision-making. Individual relationships and interactions can affect the ability to access and use WASH facilities; for example, adolescent students in the U.S. reported that teachers, security guards, and hall monitors limit students' access to restrooms while in school. Women in many parts of the world may need permission from in-laws or husbands to participate in activities outside the home, such as water user groups and water management committees. Interactions between individuals and water or sanitation service providers can involve conflict or, as noted previously, sexual exploitation. Tensor as a need for greater research into the ways in which men and boys can serve as partners, supporting women and the transformation of gendered WASH issues, but emergent research suggests that WASH initiatives can play a role in promoting gender equality. Sec. 256, 257
- Inter-group dynamics that affect WASH access and utilization, as well as safety and comfort. For example, women belonging to a majority community in Indian slums reported feeling reduced risk

of male harassment and violence than those in minority groups, ⁶³ and Dalit women may face scolding or punishment if they attempt to bathe in the same area as upper-caste women. ⁸² Intergroup dynamics are a particularly salient concern for those from historically marginalized or oppressed groups, including sexual and gender minorities.

A very specific aspect of the social context, gendered norms – social expectations tied to the appropriate roles and behaviors of women or men – structure the way in which women operate. Some of the gendered considerations related WASH norms include:

- WASH-related social norms, including norms related to decision-making, leadership, and freedom of movement. Norms can dictate individuals' gendered roles and responsibilities in terms of water collection and sanitation-related responsibilities, including for their households or family members. 16,17,23,64,76,92,95,103,115,117,123,131,134,140,148,150,151,157,158,178,179,183,191,197,211,213,228,229 Norms can also structure individuals' access to water, sanitation, and hygiene, due to restrictions on freedom of movement, menstruation-related restrictions, responsibility for unpaid domestic and care work, or other reasons. 109,136 Gender norms can either enable or serve as a barrier to individuals' participation in decision-making and leadership. 131,153,156-158,197,199,228 Breaking with gendered norms such as not collecting sufficient water or failing to perform other household chores due to time spent on water collection can result in gender-based and domestic violence, which may be considered acceptable punishment for norms violation. 23,64,92,101,146,149,209,211,255,258
- Norms that govern behaviors related to menstruation, including restrictions. Around the world, there are various norms associated with menstruation that govern acceptable behaviors. These norms differ by geography, religion, ethnic group, and other characteristics. 67,259-264 Restrictions related to movement governing where menstruating individuals are and are not allowed to go²⁶⁵— and hygiene such as requirements and restrictions related to washing 109,266,267 are intimately linked to the WASH needs of women, girls, and other individuals who menstruate.

Political Context

Legal structures, including laws and policies, can influence the realization of individuals' WASH-related rights and access. These laws can either enshrine or ignore non-discrimination on a formal level, but may not contribute to *substantive equality* unless they are budgeted for, supported, implemented, and enforced. A commitment to substantive equality requires that governments go beyond writing laws and policies with a gender lens and demonstrate the political will to build meaningful understanding and awareness of women's needs, implement policies that take these needs into consideration, and hold government bodies accountable. In the context of WASH, some gendered legal considerations include:

• The passage and implementation of laws and policies that either support or restrict women and sexual and gender minorities WASH-related rights, including related issues like land and water rights. It is critical to ensure that WASH issues are a part of national gender policies and that gender issues, including menstrual hygiene management and gender-based violence, are integrated into national WASH policies. In some cases, though gender-sensitive policies exist, they may not be enforced. For example, a review of education policies found some countries mandate sex-segregated toilets, but schools do not consistently adhere.⁵³ In the U.S. and elsewhere, scholars and women's rights advocates have called for the elimination of "pink taxes" on menstrual hygiene materials and other sex-specific items as well as supportive policies like expanding welfare benefits to cover menstrual hygiene materials; as one such article argues "the 'tampon tax'...illustrates how deeply embedded gender is in legal structures such as the tax

system that are thought to be neutral". ²⁶⁸⁻²⁷¹ Laws and policies may affect opportunities for women and sexual and gender minorities to work in the WASH sector; even when not explicitly prohibited, laws may fail to make acquiring WASH sector jobs accessible and there may be an absence of protective measures such as penalties for bias and discrimination in hiring or hiring quotas. Further research is needed.

- Budgeting at various levels, including governmental, local, institutional, and service providers, uses gender-sensitive budgeting tools. The enforcement of gender-sensitive laws and policies requires the budget to enable implementation.²⁷²
- The capacity to implement gender-sensitive WASH at various levels, including governmental, local, institutional, and service providers. This includes technical skills, awareness, and clear responsibilities. Lack of clarity regarding responsibility may be a cause of policy or guidance failure; for example, in refugee camps in Myanmar, a lack of detailed guidelines and clarity about responsibility affected government actors' ability to provide sufficient water, sanitation, and hygiene for female refugees, particularly to support menstruation-related needs.²¹⁰
- Governance structures that prioritize local and diverse knowledge and participation. In some
 cases women have been intentionally included in decision-making structures around WASH
 issues^{153,157,195,229,233}, though that involvement can run the risk of being tokenistic. ^{153,195,233}

Environmental Context

The environmental context in which individuals move and operate can be enabling in that it can provide individuals with safe, accessible conditions, or can pose a barrier to individuals' WASH access. Some of the specific considerations related to the physical environment include:

- Climactic factors and seasonality can affect individuals' ability to safely and comfortably meet
 their WASH-related needs. For example, open defecation becomes more challenging for some
 women during monsoon season.^{62,67} In the Philippines, women are typically the ones to stay home
 and wait for water deliveries; during the dry season, water delivery can be less predictable and
 thus disruptive to women's schedules.⁷⁵
- The natural environment can also make meeting WASH needs more challenging in some circumstances. Women going to access sanitation may step on rocks, thorns, or brambles⁸² or slip on muddy paths^{51,82}. Challenging terrain can make water access particularly difficult for the elderly or people with disabilities.²⁷³ In other cases, women rely on the natural environment, such as dense vegetation, to provide privacy for meeting sanitation needs.¹⁴⁸
- The built environment can also determine whether individuals are able to safely, privately, and comfortably meet their WASH-related needs, and people of all genders should be involved in the design of the built physical environment. Women have reported that poor construction of latrines^{70,104,143,144}, broken doors⁸², and lack of lighting^{47,70,130} provide inadequate safety and privacy for them when accessing sanitation. Thoughtful consideration needs to be given to the built environment to avoid negative externalities. For example, displaced women and girls living in Myanmar expressed security concerns about using toilets at night so lights were installed around the toilets; their installation, however, resulted in groups of men gathering near the toilets

at night to discuss politics, making women and girls even less comfortable using the toilets.²⁷⁴ Women have also reported injury and even death due to accidents when open defecating along highways or train tracks⁶⁰, falling in in canals, trenches, or even latrines when going for sanitation^{104,124}, and risks when lowering oneself into wells to collect water.²³

Thoughtful consideration should be given to the built environment; for example, some argue that the installation of gender neutral toilets – in an effort to be inclusive of the needs of sexual and gender minorities – through relabeling existing toilets, rather than redesigning or constructing additional toilets, may ultimately be detrimental to women.²⁷⁵ Likewise, sector recommendations for binary sex-segregated toilets that do not meet the needs of sexual and gender minorities are insufficient. As noted previously, WASH facilities should be designed with intersectional identities in mind; characteristics, such as disability, age, and pregnancy, affect individuals' ability to safely access and use water, sanitation, and hygiene facilities and the build infrastructure can enhance access through accommodations, such as adding support bars into latrines.¹¹²

Economic Context

The economic context – both physical market places and market systems – can be an enabling environment in which individuals can access the goods and services that they need for WASH, as well as participate for economic benefit.

- Markets that may either provide or prevent access to gender-specific WASH needs. Individuals need to purchase various goods to meet their water, sanitation, and hygiene needs soap, buckets, materials to construct or improve latrines or water sources, sanitary napkins, and others. Sexual and gender minorities who menstruate may experience discomfort purchasing menstrual hygiene products branded as feminine.²⁷⁶ Larger water and sanitation expenses such as latrine building sometimes require access to subsidies or loans, which may require membership to community groups or access powerful individuals to gain.^{62,186}
- Cost barriers to addressing sex-specific menstruation needs. Menstrual hygiene materials may be cost prohibitive for many individuals. For example, a 2019 study in St. Louis, Missouri, USA found that 64% of women surveyed were unable to afford needed menstrual hygiene supplies during the previous year. A so-called "pink tax" or "tampon tax" on menstrual hygiene materials exacerbates financial disparities between men and women. Products needed to manage incontinence can also be costly and those costs may differ for men and women, who may have different experiences of incontinence or prefer different materials; for example, a 2001 U.S.-based study found that the annual direct cost of urinary incontence was approximately \$12.4 billion for women and \$3.8 billion for men.
- Market structures that protect individuals working in WASH-related fields. Policies and market structures may impact individuals of various gender groups differently. For example, a study of waste management in South Africa found that women workers suffer most during privatization as a result of exclusion from collective bargaining.²⁸⁰

Men, Boys, and Sexual and Gender Minorities

As noted previously, while much of the focus of gender-specific monitoring for WASH is on women and girls, due to the relative neglect of their gender-specific needs and their particular gendered vulnerabilities, any rigorous WASH-focused gender analysis must also consider the needs of men, boys, and sexual and gender minorities. A few of the specific gendered considerations for these groups are listed below; this list is by no means exhaustive and gendered WASH issues for these groups are relatively under-researched compared to such issues for women and girls. In particular, engagement of SGM populations has been extremely limited in the WASH sector, with focus almost exclusively on transgender populations.²⁸¹

Men and Boys

- Men may be less likely to use a household toilet in order to slow the rate of pit filling or due to high demand, since it is more acceptable for men to practice open defecation than for women to do so, may have more freedom of movement, and may face normative prohibitions about sharing toilets with female family members.²⁷⁻³¹
- In various parts of the world, men are less likely than women to wash their hands after using the toilet²⁸²⁻²⁸⁴ and when working in healthcare settings.^{285,286} Boys, too, are often less likely than girls to practice proper hand hygiene, even after interventions.²⁸⁷
- Men, like women, experience psychological distress when faced with water insecurity, though findings from Bolivia suggest this psychological distress may be expressed differently in men and women.¹²³

Sexual and Gender Minorities

- Transgender individuals may be verbally harassed or physically assaulted when seeking to access sanitation.²⁸⁸
- Transgender individuals may be arrested or expelled for using the toilets that match their gender, rather than their sex.²⁸⁹
- Trans men may have difficulty managing menstruation, since sex-segregated male restrooms are often not equipped with menstrual hygiene management supplies or disposal options.²⁸¹
- The sanitation needs of gender-variant populations have been overlooked during disaster response, such as response to the 2014 tsunami in Tamil Nadu, India.²⁹⁰

LINKING THE GENDER IN WASH CONCEPTUAL FRAMEWORK TO SDG 6

The conceptual framework outlined above highlights gender-specific WASH considerations in the household, healthcare facility, school, and workplace broadly. SDG 6, however, is more specific, with the following specific targets as the primary focus of this project:

- **SDG Target 6.1:** By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
- **SDG Target 6.2:** By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and those in vulnerable situations.

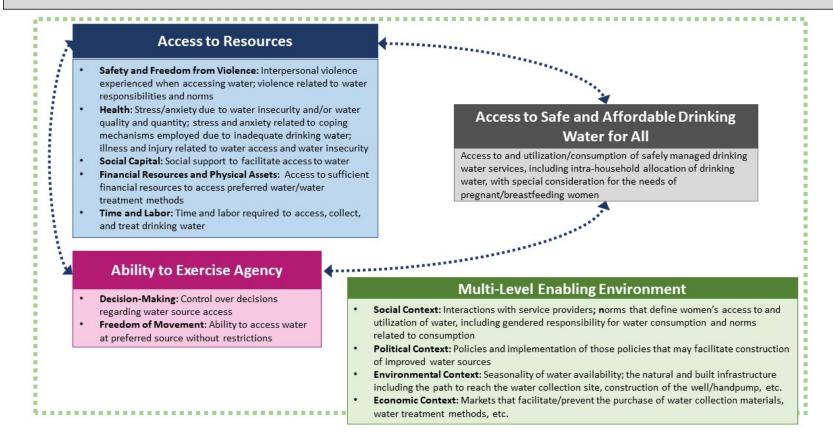
With these two targets, and their associated indicators, in mind, the following models (Figures 5 and 6) present specific considerations from the broader conceptual framework that link most explicitly to targets 6.1 and 6.2. Within these models, we point to specific elements of the conceptual framework that should be considered in relation to these targets. Criteria used to help build these models include:

- Relevance of gender considerations to the SDG target. For example, while women's public
 participation and leadership may affect women's water access, this linkage is neither guaranteed
 nor linear; therefore, the SDG 6.1 model focuses on those Agency-related gender considerations
 that are most explicitly linked to equal access to water.
- Appropriateness for monitoring, understanding that not all of the identified gender considerations lend themselves to monitoring and data collection.

These models informed an extensive review of existing datasets and data collection instruments to identify gaps and opportunities for strengthening global monitoring efforts related to gender and WASH.

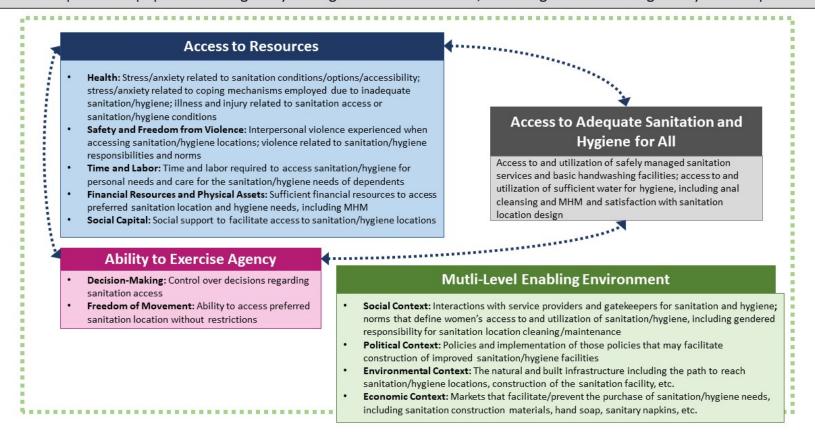
Figure 5: Gender-Specific Considerations for SDG Target 6.1

SDG 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all **6.1.1** Proportion of population using safely managed drinking water services



SDG 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water



Gender Data Gaps for Global Monitoring

As noted above, gender is intended to be cross-cutting across all goals and targets within the 2030 Agenda. To this end, the Global Gender Statistics Programme has been mandated by the UN Statistical Commission to advance gender data globally, with the goal of informing gender-related policies. The Programme is coordinated by the Inter-Agency Expert Group on Gender Statistics (IAEG-GS), for which UN Statistics Division serves as Secretariat.²⁹¹ One primary task of the IAEG-GS has been to establish a Minimum Set of Gender Indicators, which consists of 52 quantitative indicators that are aligned to the SDGs, to improve global coordination for gender data collection. However, these 52 indicators apply to only five SDGs: SDG 3, 4, 5, 8, and 17.²⁹² Gaps remain in the coordination and collection of gender data globally, particularly for SDG 6.

It is important, when discussing gaps in gender data, to acknowledge the challenges of collecting these data. The SDG that is most explicitly focused on gender is SDG 5 (Achieve gender equality and empower all women and girls). SDG 5 has nine targets and 14 indicators. Of the indicators, ten are classified, like SDG 6.1 and 6.2, as Tier 2, meaning that the indicator "is conceptually clear, has an internationally established methodology and standards are available, but *data are not regularly produced by countries.*" Only four of the SDG 5 indicators are classified as Tier 1, meaning that the indicator "is conceptually clear, has an internationally established methodology and standards are available, and data are regularly produced by countries for at least 50 per cent of countries and of the population in every region where the indicator is relevant."²⁹³ Thus, even for SDG 5, collecting gender data remains a challenge.

Other international efforts to gather gender data have similarly overlooked or otherwise been unable to collect meaningful data to respond to gender issues related to SDG 6, specifically. For example, UN Women's Making Every Woman and Girl Count initiative recently launched an SDG Indicator Dashboard that collates gender data to respond to gender-related targets from multiple SDGs.²⁹⁴ While the Dashboard includes data from multiple countries for SDGS 1, 2, 3, 4, 5, 8, and 16, SDG 6 is not included. According to UN Women, this gap exists not due to an oversight, but due to insufficient data or insufficient regularity of data collection.²⁹⁵ Where gender data for SDG 6 are presented, they tend to be limited to either responsibility for water collection or menstrual hygiene management.

As this review has aimed to illustrate, there are more gender issues related to WASH than assessing burden of water collection and menstruation practices. Global monitoring tools, such as DHS and MICS, that are not explicitly designed for measurement of gender equality in WASH, are already capturing data that can be analyzed in such a way as to provide new insights on gender and WASH. Further, there are a number of promising measurement tools that have been deployed at the sub-national level and focus on capturing experiences or perceptions at the nexus of gender equality and WASH (e.g., the Agency, Resources, and Institutional Structures for Sanitation-Related Empowerment (ARISE) scales, Sanitation Insecurity Measure, Empowerment in WASH Index, Household Care Survey Questionnaire, etc.). These tools may offer candidate items to be tested for inclusion in global monitoring tools, if deemed suitable.

There is ample opportunity to leverage existing data as well as to make informed proposals for new global-level data collection to fill gaps in global monitoring of gender equality in WASH. There is a need to assess available tools and identify what may be leveraged for analysis now and what should be prioritized for future measurement development or adaptation.

Table 3: Examples of WASH Linkages with Other SDG Targets

Related SDG Link to WASH Targets Women and girls may experience TARGET 5.2 interpersonal and gender-based violence (verbal, physical, and sexual) when accessing water, sanitation, and hygiene Women and girls may experience interpersonal and gender-based violence in attempting to participate in WASH decision-making or otherwise violating WASH-related gender norms Women and girls frequently provide 5.4 TARGET unpaid labor including water collection, maintenance and cleaning of sanitation facilities, and caring for the WASHrelated needs of dependents RESPONSIBILITIES TARGET 5.5 Women and girls should have opportunities to participate in decisionmaking around WASH issues both within and outside the home and to participate in formal and informal leadership for WASH issues in the community. **ENSURE FULL** LEADERSHIP AND Women and girls may face constraints TARGET 5 · A on their control of financial resources for meeting water, sanitation, and hygiene needs or making WASH-related improvements. Women's land ownership (or lack thereof) has implications for their ability to make improvements to their water, sanitation, and hygiene conditions (e.g. constructing latrines). Images from https://opendevelopmentmekong.net/topics/sdg-5-gender-

Next Steps

This team of researchers has reviewed available tools that might be leveraged to enhance gender integration in global monitoring efforts for SDG 6. Informed by this conceptual framework, review involved identifying available tools and data pertaining to each of the domains and dimensions of gender equality in WASH defined in this framework. This review will be presented in a series of briefs, summarizing findings by domain and dimension, and will be used to facilitate a stakeholder convening out of which recommendations for enhancement of global monitoring efforts may be generated. These recommendations - such as those involving utilization of existing data sources or novel analyses of existing data - may be taken up by the JMP to enhance SDG 6 monitoring efforts.

APPENDIX A: RELEVANT DEFINITIONS

Focus	Term	Definition	Source
Defining Sex	Sex	The biological categorization of a person as male, female, or intersex.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Defining Sex	Sex	Refers to the biological and physiological reality of being males or females.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Defining Sex	Sex	Sex refers to the biological characteristics that define humans as female or male. While these sets of biological characteristics are not mutually exclusive, as there are individuals who possess both, they tend to differentiate humans as males and females.	Gender and Human Rights, WHO ²⁹⁷
Defining Sex	Sex	The different biological and physiological characteristics of males and females, such as reproductive organs, chromosomes, hormones, etc.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Defining Sex	Sex	An individual's biological status as male, female, or something else. Sex is assigned at birth and associated with physical attributes, such as anatomy and chromosomes.	Adolescent and School Health, Terminology, CDC ²⁹⁸
Defining Gender	Gender	The socially and culturally constructed ideas of what it is to be male or female in a specific context.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Defining Gender	Gender	A social and cultural construct, which distinguishes differences in the attributes of men and women, girls and boys, and accordingly refers to the roles and responsibilities of men and women. Gender-based roles and other attributes, therefore, change over time and vary with different cultural contexts. The concept of gender includes the expectations held about the characteristics, aptitudes and likely behaviors of both women and men (femininity and masculinity). This concept is useful in analyzing how commonly shared practices legitimize discrepancies between sexes.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Defining Gender	Gender	Gender refers to the roles, behaviors, attributes and opportunities that any society considers appropriate for girls and boys, and women and men. Gender interacts with, but is different from, the binary categories of biological sex.	Health Topics, WHO ²⁹⁹

Defining Gender	Gender	Refers to the socially constructed characteristics of women and men - such as norms, roles, and relationships of and between groups of women and men. It varies from society to society and can be changed. The concept of gender includes five important elements: relational, hierarchical, historical, contextual and institutional. While most people are born either male or female, they are taught appropriate norms and behaviors - including how they should interact with others of the same or opposite sex within households, communities and work places. When individuals or groups do not "fit" established gender norms they often face stigma, discriminatory practices or social exclusion - all of which adversely affect health.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Defining Gender	Gender	Refers to socially constructed differences in attributes and opportunities associated with being female or male and to the social interactions and relations between women and men. Gender determines what is expected, allowed and valued in a woman or a man in a given context. In most societies, there are differences and inequalities between women and men in roles and responsibilities assigned, activities undertaken and access to and control over resources, as well as in decision-making opportunities. These differences and inequalities between the sexes are shaped by the history of social relations and change over time and across cultures.	Integrating a Gender Perspective into Statistics, UN, 2016 ³
Defining Gender	Gender roles	Social and behavioral norms that, within a specific culture, are widely considered to be socially appropriate for individuals of a specific sex. These often determine the traditional responsibilities and tasks assigned to men, women, boys, and girls.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Defining Gender	Gender	The cultural roles, behaviors, activities, and attributes experienced by people based on their sex.	Adolescent and School Health, Terminology, CDC ²⁹⁸
Equality, Equity, and Gender Issues	Gender equality	The state of being equal in status, rights and opportunities, and of being valued equally, regardless of sex or gender identity and/or expression.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Equality, Equity, and Gender Issues	Gender equality	The concept that women and men, girls and boys have equal conditions, treatment and opportunities for realizing their full potential, human rights and dignity, and for contributing to (and benefitting from) economic, social, cultural and political development.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶

Equality, Equity, and Gender Issues	Gender equality	Refers to equal chances or opportunities for groups of women and men to access and control social, economic and political resources, including protection under the law (such as health services, education and voting rights). It is also known as equality of opportunity - or formal equality. Gender equality is often used interchangeably with gender equity but the two refer to different, complementary strategies that are needed to reduce gender-based health inequities.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Equality, Equity, and Gender Issues	Gender equality	Equal opportunities, rights and responsibilities for women and men, girls and boys. Equality does not mean that women and men are the same but that women's and men's opportunities, rights and responsibilities do not depend upon whether they are born female or male. It implies that the interests, needs and priorities of both women and men are taken into consideration. While gender equality is an important goal in itself – an issue of human rights and social justice – steps towards greater equality can also contribute to the achievement of other social and economic objectives	Integrating a Gender Perspective into Statistics, UN, 2016 ³
Equality, Equity, and Gender Issues	Equality	The absence of disparities in the access to improved water between, but not limited to, urban and rural residency, wealth quintiles, gender, ethnicity, religion, health status, and sexual orientation	Equity in water and sanitation: Developing an index to measure progressive realization of the human right, Lush, Bau,. & Bartram, 2013 ³⁰⁰
Equality, Equity, and Gender Issues	Substantive equality	Substantive equality does not mean that all persons receive equal treatment; rather, States are required to treat vulnerable and marginalized groups differently to ensure an equitable outcome.	Equity in water and sanitation: Developing an index to measure progressive realization of the human right, Luh, Bau,. & Bartram, 2013 ³⁰⁰
Equality, Equity, and Gender Issues	Substantive equality	This requires a focus on all groups in society experiencing direct or indirect discrimination, and the adoption of targeted measures to support these groups when barriers persist, including affirmative action or temporary special measures.	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Equality, Equity, and Gender Issues	Substantive equality	This focuses on the outcomes and impacts of laws and policies. Substantive equality goes far beyond creating formal legal equality for women (where all are equal under the law) and means that governments are responsible for the impact of laws. This requires governments to tailor legislation to respond to the realities of women's lives.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Equality, Equity, and Gender Issues	Gender equity	Fairness in treatment of all people regardless of sex or gender identity and/or expression.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Equality, Equity, and Gender Issues	Gender equity	The process of being fair to men and women, boys and girls, and importantly the equality of outcomes and results. Gender equity may involve the use of temporary special measures to compensate for historical or systemic bias or discrimination.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶

Equality, Equity, and Gender Issues	Gender equity	More than formal equality of opportunity, gender equity refers to the different needs, preferences and interests of women and men. This may mean that different treatment is needed to ensure equality of opportunity. This is often referred to as substantive equality (or equality of results) and requires considering the realities of women and men's lives.	Gender mainstreaming for health managers: A practical approach, WHO, 2016 ³³
Equality, Equity, and Gender Issues	Gender equity	The process of being fair to women and men, girls and boys, by taking into account the different needs of women and men, cultural barriers and past and present discrimination against a specific group. Gender equity may involve the use of temporary special measures of differential treatment to compensate for historical or systemic bias or discrimination against one sex in order to obtain equality of outcomes and end results. It is a means to ensure that women and men, girls and boys, have an equal chance not only at the starting point but also when reaching the finish line	Integrating a Gender Perspective into Statistics, UN, 2016 ³
Equality, Equity, and Gender Issues	Equity	Equity is the absence of avoidable, unfair, or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically or by other means of stratification.	Health Topics, WHO ²⁹⁹
Equality, Equity, and Gender Issues	Equity	The moral imperative to dismantle unjust differences, based on principles of fairness and justice. It requires a focus on the most disadvantaged and the poorest individuals and groups. From a human rights perspective, relying on equity carries risks because its definition is malleable and not legally binding. Equity may dilute rights claims if considered separately from equality and non-discrimination.	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Equality, Equity, and Gender Issues	Gender discrimination	Any distinction, exclusion or restriction made on the basis of a person's sex and/or gender identity, rather than on a person's skill or merit.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Equality, Equity, and Gender Issues	Gender discrimination	Any distinction, exclusion or restriction made on the basis of sex, which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on the basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil, or any other field."	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Equality, Equity, and Gender Issues	Gender-based discrimination	Any distinction, exclusion or restriction (such as unfair or unequal treatment) made based on gender norms, roles and relations that prevents women and men of different groups and ages from enjoying their human rights. It perpetuates gender inequality by legitimizing stereotypes about men and women of different ages and groups.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³

Equality, Equity, and Gender Issues	Discrimination	Any distinction, exclusion or restriction which has the purpose or the effect of impairing or nullifying the recognition, enjoyment or exercise, on an equal basis with others, of human rights and fundamental freedoms in the political, economic, social, cultural, civil, or any other field	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Equality, Equity, and Gender Issues	Non-discrimination	Prohibits the less favorable or detrimental treatment of one individual or group based on a prohibited ground, such as ethnicity, sex, or religion.	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Equality, Equity, and Gender Issues	Formal discrimination	Requires ensuring that a State's constitution, laws and policy documents do not discriminate on prohibited grounds	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Equality, Equity, and Gender Issues	Substantive discrimination	Eliminating discrimination in practice requires paying sufficient attention to groups of individuals which suffer historical or persistent prejudice, instead of merely comparing the formal treatment of individuals in similar situations. States parties must therefore immediately adopt the necessary measures to prevent, diminish and eliminate the conditions and attitudes which cause or perpetuate substantive or de facto discrimination.	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Equality, Equity, and Gender Issues	Direct discrimination	Occurs when an individual is treated less favourably than another person in a similar situation for a reason related to a prohibited groundDirect discrimination also includes detrimental acts or omissions on the basis of prohibited grounds where there is no comparable situation.	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Equality, Equity, and Gender Issues	Indirect discrimination	Refers to laws, policies or practices which appear neutral at face value but have a disproportionate impact on the exercise of Covenant rights as distinguished by prohibited grounds of discrimination.	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
	Prohibited grounds	The grounds on which basis States are prohibited from differentiating among different individuals and groups. Several grounds are explicitly listed in the ICESCR, including race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status. "Other status" has been interpreted to include grounds such as disability, age, health status and economic and social situation.	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Equality, Equity, and Gender Issues	Gender gap	A disparity between women and men's and boys' and girls' condition or position in society based on gendered norms and expectations.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Equality, Equity, and Gender Issues	Gender gap	Disproportionate difference between men and women and boys and girls, particularly as reflected in the attainment of development goals, access to resources, and levels of participation. A gender gap indicates gender inequality.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶

Equality, Equity, and Gender Issues	Gender disparities	Statistical differences (often referred to as "gaps") between men and women, boys and girls that reflect an inequality in some quantity.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Equality, Equity, and Gender Issues	Practical gender needs	Needs defined by women (or men) that respond to immediate necessities such as adequate living conditions, water provision, health care and employment.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Equality, Equity, and Gender Issues	Strategic gender needs	Requirements of women and men to improve their position or status. Addressing these needs allows people to have control over their lives beyond socially-defined restrictive roles.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Equality, Equity, and Gender Issues	Strategic gender needs	Needs identified through an analysis of gender inequality and its impact on women and men of different groups. Addressing strategic gender needs challenges predominant gender systems such as the gender-based division of labour.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Equality, Equity, and Gender Issues	Structural barriers/causes	Gender inequalities in social structures, based on institutionalized conceptions of gender differences.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Equality, Equity, and Gender Issues	Men and boys' engagement	An approach that works with men and boys in the context of gender equality programming.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Equality, Equity, and Gender Issues	Menstrual hygiene management (MHM)	Programming that helps girls and women manage their monthly periods safely and with dignity, focusing on the fact that menstruation is a normal biological process and an important facet of reproductive health. Improving girls' and women's access to knowledge about menstruation and to appropriate and hygienic sanitary facilities and materials in schools and homes. Programmes may include addressing cultural taboos, increasing access to affordable and hygienic sanitary materials, facilitating disposal options, access to safe and private toilets and provision of clean water and soap for personal hygiene.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Equality, Equity, and Gender Issues	Gender norms	The collectively held expectations and beliefs about how people should behave and interact in specific social settings and during different stages of their lives based on their sex or gender identity.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Equality, Equity, and Gender Issues	Gender norms	Accepted attributes and characteristics of male and female gendered identity at a particular point in time for a specific society or community. They are the standards and expectations to which gender identity generally conforms, within a range that defines a particular society, culture and community at that point in time. Gender norms are ideas about how men and women should be and act. Internalized early in life, gender norms can establish a life cycle of gender socialization and stereotyping.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶

Equality, Equity, and Gender Issues	Gender norms	Refer to the beliefs about women and men, boys and girls that are passed from generation to generation through the process of socialization. They change over time and differ in different cultures and populations. Gender norms lead to inequality if they reinforce: a) mistreatment of one group or sex over another; b) differences in power and opportunities.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Equality, Equity, and Gender Issues	Gender-based violence	Violence directed at an individual based on their biological sex, gender identity, gender expression or failure to adhere to socially defined norms of masculinity and femininity.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Equality, Equity, and Gender Issues	Gender-based violence (GBV)	An umbrella term for any harmful act that is perpetrated against a person's will and that is based on socially ascribed (gender) differences between females and males.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Equality, Equity, and Gender Issues	Gender relations	Socially constructed power relations between people based on their gender identity and/or expression.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Equality, Equity, and Gender Issues	Gender relations	A specific sub-set of social relations uniting men and women as social groups in a particular community.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Equality, Equity, and Gender Issues	Gender relations	Refers to social relations between and among women and men that are based on gender norms and roles. Gender relations often create to hierarchies between and among groups of men and women that can lead to unequal power relations, disadvantaging one group over another.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Equality, Equity, and Gender Issues	Gender roles	Refers to what males and females are expected to do (in the household, community and workplace) in a given society.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Defining Empowerment	Empowerment	Increasing the personal, political, social or economic strength of individuals and communities. Empowerment of women and girls concerns women and girls gaining power and control over their own lives. It involves awareness-raising, building self-confidence, expansion of choices, increased access to and control over resources and actions to transform the structures and institutions which reinforce and perpetuate gender discrimination and inequality.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶

Defining Empowerment	Empowerment	Empowerment is a multidimensional social process that enables people to gain control over their lives. Strategies for empowerment therefore often challenge existing power allocations and relations to give disadvantaged groups more power. With respect to women's health, empowerment has often meant, for example, increasing education opportunities and access to relevant information to enable women to make informed decisions about their health, improve self-esteem, and equip them with communication and negotiation skills. Such skills are known to influence, for example, safer sex practices, treatment adherence and timely health-seeking behavior.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Defining Empowerment	Empowerment of women and girls	Concerns women and girls gaining power and control over their own lives. It involves awareness-raising, building self-confidence, the expansion of choices and increased access to and control over resources and actions to transform the structures and institutions which reinforce and perpetuate gender discrimination and inequality. Statistics on the empowerment of women and girls should cover the following dimensions: (a) equal capabilities for women and men (such as education and health); (b) equal access to resources and opportunities for women and men (such as land, employment and credit); and (c) women's agency to use these rights, capabilities, resources and opportunities to make strategic choices and decisions in all areas of life (such as political participation, decision-making in communities and intrahousehold decision making).	Integrating a Gender Perspective into Statistics, UN, 2016 ³
Defining Empowerment	Women and girls' empowerment	The expansion of choice and the strengthening of voice through the transformation of power relations so that women and girls have more control over their lives and futures.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Approaches to Gender in Programming and Policies	Gender bias	Prejudiced actions or thoughts that affect a person or a group of people based on their perceived gender.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Approaches to Gender in Programming and Policies	Gender bias	Making decisions based on gender that result in favoring one gender over the other which often results in contexts that are favoring men and/or boys over women and/or girls.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Approaches to Gender in Programming and Policies	Gender unequal	Level 1 of the WHO Gender Responsive Assessment Scale: Perpetuates gender inequality by reinforcing unbalanced norms, roles and relations and often leads to one sex enjoying more rights or opportunities than the other.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Approaches to Gender in Programming and Policies	Gender blind	Level 2 of the WHO Gender Responsive Assessment Scale: Ignores gender norms, roles and relations and very often reinforces gender-based discrimination. By ignoring differences in opportunities and resource allocation for women and men such policies are often assumed to be "fair" as they claim to treat everyone the same.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³

Approaches to Gender in Programming and Policies	Gender blindness	The failure to recognize that the roles and responsibilities of men/boys and women/girls are given to them in specific social, cultural, economic and political contexts and backgrounds. Projects, programmes, policies, and attitudes which are gender blind do not take into account these different roles and diverse needs, maintain status quo, and will not help transform the unequal structure of gender relations.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Approaches to Gender in Programming and Policies	Gender neutral	Anything - a concept, an entity, a style of language - that is unassociated with either the male or female gender. The nature of systemic and embedded or internalized bias is such that, unfortunately often, what is perceived to be gender neutral is in fact gender blind.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Approaches to Gender in Programming and Policies	Gender-neutral programming and policies	Programming and policies that do not centre gender concerns or distinguish between genders in their design, interventions and monitoring	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Approaches to Gender in Programming and Policies	Gender lens	A perspective that pays particular attention to how gender differences and relations are relevant for investments and projects.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Approaches to Gender in Programming and Policies	Gender responsive	A policy or programme that considers gender norms, roles and inequality with measures taken to actively reduce their harmful effects.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Approaches to Gender in Programming and Policies	Gender-responsive programming and policies	Intentionally employing gender considerations to affect the design, implementation, and results of programmes and policies. Gender-responsive programmes and policies reflect girls' and women's realities and needs, in components such as site selection, project staff, content, monitoring, etc. Gender-responsiveness means paying attention to the unique needs of females, valuing their perspectives, respecting their experiences, understanding developmental differences between girls and boys, women and men and ultimately empowering girls and women.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Approaches to Gender in Programming and Policies	Gender accomodating	Similar to the concept of gender sensitivity, gender accommodating means not only being aware of gender differences but also adjusting and adapting to those differences. However, gender accommodating does not address the inequalities generated by unequal norms, roles and relations (i.e. no remedial or transformative action is developed).	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Approaches to Gender in Programming and Policies	Gender sensitive	Level 3 of the WHO Gender Responsive Assessment Scale: Indicates gender awareness, although no remedial action is developed.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³

Approaches to Gender in Programming and Policies	Gender-sensitive programming and policies	Programmes and policies that are aware of and address gender differences.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Approaches to Gender in Programming and Policies	Gender specific	Level 4 of the WHO Gender Responsive Assessment Scale: Considers women's and men's specific needs and intentionally targets and benefits a specific group of women or men to achieve certain policy or programme goals or meet certain needs. Such policies often make it easier for women and men to fulfil duties that are ascribed to them based on their gender roles, but do not address underlying causes of gender differences.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Approaches to Gender in Programming and Policies	Gender transformative	Level 5 of the WHO Gender Responsive Assessment Scale: Addresses the causes of gender-based health inequities by including ways to transform harmful gender norms, roles and relations. The objective of such programmes is often to promote gender equality and foster progressive changes in power relationships between women and men.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Approaches to Gender in Programming and Policies	Gender-transformative programming and policies	Programming and policies that transform gender relations to achieve gender equality.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Approaches to Gender in Programming and Policies	Stand-alone gender programming and policies	Programming and policies that explicitly address gender inequality to achieve gender equality.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Approaches to Gender in Programming and Policies	Gender mainstreaming	The process of integrating a gender lens into all aspects of an organization's strategies and initiatives, and into its culture, systems, and operations.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Approaches to Gender in Programming and Policies	Gender mainstreaming	The process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Approaches to Gender in Programming and Policies	Gender mainstreaming/integrating	A strategy to accelerate progress on women's and girls' rights and equality in relation to men and boys.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶

Approaches to Gender in Programming and Policies	Gender balance	This is a human resource issue calling for equal participation of women and men in all areas of work (international and national staff at all levels, including at senior positions) and in programmes that agencies initiate or support (e.g. food distribution programmes).	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Approaches to Gender in Programming and Policies	Gender balance	Commonly used in reference to human resources and the equal participation of women and men in all areas of work, projects or programmes. In a scenario of gender equality, women and men are expected to participate in proportion to their shares in the population. In many areas, however, women participate less than what would be expected according to the sex distribution in the population (underrepresentation of women) while men participate more than expected (overrepresentation of men).	Integrating a Gender Perspective into Statistics, UN, 2016 ³
Approaches to Gender in Programming and Policies	Human rights-based approach (HRBA)	This entails consciously and systematically paying attention to human rights in all aspects of programme development. This approach is a conceptual framework for the process of human development that is normatively based on international human rights standards and operationally directed to promoting and protecting human rights. The objective of the HRBA is to empower people (rights-holders) to realize their rights and strengthen the State (duty-bearers) to comply with their human rights obligations and duties. States' obligations to human rights require them to respect, protect and fulfill women's and girls' rights, along with the rights of men and boys.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Intersectionality and Vulnerability	Intersectionality	A perspective that acknowledges the concrete experiences of inequality that result from the interaction of gender with other social markers of difference.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Intersectionality and Vulnerability	Intersectionality	A feminist sociological theory first coined by American civil rights advocate Kimberle Crenshaw in 1989. Intersectionality refers to overlapping social identities and the related systems of oppression, domination and/or discrimination. The idea is that multiple identities intersect to create a whole that is different from the component identities.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Intersectionality and Vulnerability	Marginalization	The process that systematically denies people opportunities and resources that are available to other members of society, and which would otherwise serve to promote social integration.	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Intersectionality and Vulnerability	Exclusion	The most extreme form of marginalization.	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Intersectionality and Vulnerability	Vulnerability	Refers to individuals or groups under threat of physical or mental harm, for example, at times of conflict, abuse, rape, or neglect, and perhaps because of their disadvantaged social or economic status.	Realising the human rights to water and sanitation: A handbook by the UN

			Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Intersectionality and Vulnerability	Disadvantaged individuals and groups	Term to refer to all people who are discriminated against, experience inequalities or inequities, or are marginalized, vulnerable, or stigmatized.	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Intersectionality and Vulnerability	Stigma	The process of dehumanizing, degrading, discrediting, and devaluing people in certain population groups; it is often based on a feeling of disgust. Stigma attaches itself to an attribute, quality or identity that is regarded as 'inferior' or 'abnormal."	Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur, Catarina de Albuquerque, 2014 ⁷
Gender Expression and Sexual Orientation	Sexual orientation	A person's emotional, romantic, physical, and/or sexual attraction to others.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Gender Expression and Sexual Orientation	Sexual orientation	Refers to a person's sexual and emotional attraction to another person and the behavior and/or social affiliation that may result from this attraction (lesbian, gay, bisexual, etc.)	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and Sexual Orientation	Sexual orientation	Sexual orientation refers to a person's physical, romantic and/or emotional attraction towards other people. Everyone has a sexual orientation, which is part of their identity. Gay men and lesbians are attracted to individuals of the same sex as themselves. Heterosexual people are attracted to individuals of a different sex from themselves. Bisexual (sometimes shortened to "bi") people may be attracted to individuals of the same or different sex. Sexual orientation is not related to gender identity and sex characteristics.	Definitions, United Nations Free & Equal ⁵
Gender Expression and Sexual Orientation	Gender identity or expression	A person's own sense of being male, female, or another identity beyond this binary, and how they choose to appear.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Gender Expression and Sexual Orientation	Gender expression	How an individual chooses to present their gender to others through physical appearance and behaviors, such as style of hair or dress, voice, or movement.	Adolescent and School Health, Terminology, CDC ²⁹⁸

Gender Expression and Sexual Orientation	Gender expression	Gender expression is the way in which we express our gender through actions and appearance. Gender expression can be any combination of masculine, feminine and androgynous. For a lot of people, their gender expression goes along with the ideas that our societies deem to be appropriate for their gender. For other people it does not. People whose gender expression does not fit into society's norms and expectations, such as men perceived as 'feminine' and women perceived as 'masculine' often face harsh sanctions, including physical, sexual and psychological violence and bullying. A person's gender expression is not always linked to the person's biological sex, gender identity or sexual orientation.	Definitions, United Nations Free & Equal ⁵
Gender Expression and Sexual Orientation	Gender identity	An individual's sense of their self as man, woman, transgender, or something else.	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and Sexual Orientation	Gender identity	Gender identity reflects a deeply felt and experienced sense of one's own gender. Everyone has a gender identity, which is part of their overall identity. A person's gender identity is typically aligned with the sex assigned to them at birth. Transgender (sometimes shortened to "trans") is an umbrella term used to describe people with a wide range of identities – including transsexual people, cross-dressers (sometimes referred to as "transvestites"), people who identify as third gender, and others whose appearance and characteristics are seen as gender atypical and whose sense of their own gender is different to the sex that they were assigned at birth. Trans women identify as women but were classified as males when they were born. Trans men identify as men but were classified female when they were born. Cisgender is a term used to describe people whose sense of their own gender is aligned with the sex that they were assigned at birth. Gender identity is distinct from sexual orientation and sex characteristics.	Definitions, United Nations Free & Equal ⁵
Gender Expression and Sexual Orientation	LGBTQ+	Umbrella term for all persons who have a non-normative gender or sexuality. LGBTQ stands for lesbian, gay, bisexual, transgender, and queer and/or questioning. Sometimes a + at the end is added to be more inclusive.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Gender Expression and Sexual Orientation	LGBTQ	Acronym that refers to the lesbian, gay, bisexual, transgender, and queer/questioning community.	Adolescent and School Health, Terminology, CDC ²⁹⁸

Gender Expression and Sexual Orientation	LGBT/LGBTI	LGBT stands for "lesbian, gay, bisexual and transgender"; "LGBTI" for "lesbian, gay, bisexual, transgender and intersex". While these terms have increasing resonance, different cultures use different terms to describe people who have same-sex relationships or who exhibit non-binary gender identities (such as hijra, meti, lala, skesana, motsoalle, mithli, kuchu, kawein, travesty, muxé, fa'afafine, fakaleiti, hamjensgara and two-spirit).	Definitions, United Nations Free & Equal ⁵
Gender Expression and Sexual Orientation	Cisgender	Individuals whose current gender identity is the same as the sex they were assigned at birth,	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and Sexual Orientation	Gay	A person who is attracted primarily to members of the same gender.	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and Sexual Orientation	Gender minority	Individuals whose gender identity (man, woman, other) or expression (masculinate, feminine, other) is different from their sex (male, female) assigned at birth)	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and Sexual Orientation	Gender nonbinary	Individuals who do not identify their gender as man or woman. Other terms to describe this identity include genderqueer, agender, bigender, gender creative, etc.	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and Sexual Orientation	Gender nonconforming	The state of one's physical appearance or behaviors not aligning with societal expectations of their gender (a feminine boy, a masculine girl, etc.)	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and Sexual Orientation	Heterosexual or straight	A man who is attracted primarily to women or a woman who is primarily attracted to men.	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and Sexual Orientation	Queer	An umbrella term sometimes used to refer to the entire LGBT community.	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and Sexual Orientation	Questioning	For some, the process of exploring and discovering one's own sexual orientation, gender identity, or gender expression.	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and	Sexual minority	Individuals who identify as gay, lesbian, or bisexual, or who are attracted to or have sexual contact with people of the same gender.	Adolescent and School Health, Terminology, CDC ²⁹⁸

Sexual Orientation			
Gender Expression and Sexual Orientation	Transgender/Trans	Transgender (sometimes shortened to "trans") is an umbrella term used to describe a wide range of identities whose appearance and characteristics are perceived as gender atypical —including transsexual people, cross-dressers (sometimes referred to as "transvestites"), and people who identify as third gender. Transwomen identify as women but were classified as males when they were born, transmen identify as men but were classified female when they were born, while other trans people don't identify with the gender-binary at all. Some transgender people seek surgery or take hormones to bring their body into alignment with their gender identity; others do not.	Definitions, United Nations Free & Equal ⁵
Gender Expression and Sexual Orientation	Transgender	Individuals whose current gender identity differs from the sex they were assigned at birth.	Adolescent and School Health, Terminology, CDC ²⁹⁸
Gender Expression and Sexual Orientation	Intersex/Sex Characteristics	Intersex people are born with physical or biological sex characteristics, such as sexual anatomy, reproductive organs, hormonal patterns and/or chromosomal patterns, which do not fit the typical definitions of male or female. These characteristics may be apparent at birth or emerge later in life, often at puberty. Intersex people can have any sexual orientation and gender identity.	Definitions, United Nations Free & Equal ⁵
Gender Expression and Sexual Orientation	Homophobia	Homophobia is an irrational fear of, hatred or aversion towards lesbian, gay or bisexual people.	Definitions, United Nations Free & Equal ⁵
Gender Expression and Sexual Orientation	Transphobia	Transphobia is an irrational fear, hatred or aversion towards transgender people.	Definitions, United Nations Free & Equal ⁵
Gender Expression and Sexual Orientation	Biphobia	Biphobia is an irrational fear, hatred or aversion towards bisexual people.	Definitions, United Nations Free & Equal ⁵
Sex and Gender in Data	Gender analysis	A critical and systemic examination of differences in the constraints and opportunities available to an individual or group of individuals based on their sex and gender identity.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Sex and Gender in Data	Gender analysis	A critical examination of how differences in gender roles, activities, needs, opportunities and rights/entitlements affect men, women, girls and boys in certain situations or contexts.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶

Sex and Gender in Data	Gender analysis	Gender analysis identifies, assesses, and informs actions to address inequality that come from 1) different gender norms, roles and relations; 2) unequal power relations between and among groups of men and women; and 3) the interaction of contextual factors with gender such as sexual orientation, ethnicity, education or employment status.	Gender mainstreaming for health managers: A practical approach, WHO, 2011 ³³
Sex and Gender in Data	Gender analysis	A critical examination of how differences in gender roles, activities, needs, opportunities and rights/entitlements affect women, men, girls and boys in certain situations or contexts. Gender analysis examines the relationships between females and males and their access to and control of resources and the constraints they face relative to each other. Gender analysis may be conducted on the basis of qualitative information and methods and/or on the basis of quantitative information provided by gender statistics.	Integrating a Gender Perspective into Statistics, UN, 2016 ³
Sex and Gender in Data	Gender data	Factual information about people based on their gender.	Gender Equality Lexicon, BMGF, 2018 ²⁹⁶
Sex and Gender in Data	Sex disaggregated data	Data that is cross-classified by sex, presenting information separately for men and women, boys and girls. When data is not disaggregated by sex, it is more difficult to identify real and potential inequalities. Sex-disaggregated data is necessary for effective gender analysis.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Sex and Gender in Data	Sex-disaggregated statistics	Data collected and tabulated separately for women and for men. They allow for the measurement of differences between women and men in various social and economic dimensions and are one of the requirements for obtaining gender statistics. Gender statistics are more than data disaggregated by sex, however. Disaggregating data by sex does not guarantee, for example, that concepts, definitions and methods used in data production are conceived to reflect gender roles, relations and inequalities in society	Integrating a Gender Perspective into Statistics, UN, 2016 ³
Sex and Gender in Data	Sex bias in data collection	The underreporting or misreporting of demographic, social or economic characteristics associated with one of the sexes. Some examples of sex bias in data collected include the underreporting of women's economic activity, the undercounting of girls, their births or their deaths and the underreporting of violence against women.	Integrating a Gender Perspective into Statistics, UN, 2016 ³
Sex and Gender in Data	Gender statistics	Statistics that adequately reflect differences and inequalities in the situation of women and men in all areas of life. Gender statistics are defined by the sum of the following characteristics: (a) data are collected and presented disaggregated by sex as a primary and overall classification; (b) data reflect gender issues; (c) data are based on concepts and definitions that adequately reflect the diversity of women and men and capture all aspects of their lives; and (d) data collection methods take into account stereotypes and social and cultural factors that may induce gender biases	Integrating a Gender Perspective into Statistics, UN, 2016 ³

Sex and Gender in Data	Gender indicators	Criteria used to assess gender-related change in a condition and to measure progress over time toward gender equality. Indicators used can be quantitative (data, facts, numbers) and qualitative (opinions, feelings, perceptions, experiences).	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶
Sex and Gender in Data	Gender indicators	A useful tool in monitoring gender differences, gender-related changes over time and progress towards gender equality goals. In general, indicators are statistics with a reference point (a norm or a benchmark) against which value judgments can be made. Indicators have a normative nature, in the sense that a change from the reference point in a particular direction can be interpreted as "good" or "bad". In the case of gender statistics, the status of women in a particular country is usually evaluated by reference to (comparison with) the situation of men in that country. In a few cases, such as for maternal mortality or access to antenatal services, the norm is the situation of women in other countries.	Integrating a Gender Perspective into Statistics, UN, 2016 ³
Sex and Gender in Data	Gender parity	A numerical concept concerning relative equality in terms of numbers and proportions of men and women, girls and boys. Gender parity addresses the ratio of female-to-male values (or males-to-females, in certain cases) of a given indicator.	Gender Equality: Glossary of Terms and Concepts, UNICEF Regional Office for South Asia, 2017 ⁶

REFERENCES

- 1. UN General Assembly. Transforming our World: The 2030 Agenda for Sustainable Development, 2015.
- 2. United Nations Statistics Division (UNSD). Gender Statistics Manual: Integrating a gender perspective into statistics. 2015. https://unstats.un.org/unsd/genderstatmanual/What-are-gender-stats.ashx (accessed 11 August 2020).
- 3. United Nations Statistics Division (UNSD). Integrating a gender perspective into statistics: Department of Economic and Social Affairs, 2016.
- 4. UNICEF. Every child counts: Using gender data to drive results for children, 2020.
- 5. United Nations Human Rights Office. United Nations Free and Equal: Definitions. https://www.unfe.org/definitions/ (accessed September 1, 2020.
- 6. UNICEF. Gender Equality: Glossary of Terms and Concepts. Nepal: UNICEF Regional Office for South Asia, 2017.
- 7. de Albuquerque C. Monitoring compliance with the human rights to water and sanitation. Realising the human rights to water and sanitation: A Handbook by the UN Special Rapporteur Catarina de Albuquerque. Portugal; 2014.
- 8. Criado Perez C. Invisible women: Exposing data bias in a world designed for men. New York: Abrams Press; 2019.
- 9. Ray I. Women, water, and development. Annual Review of Environment and Resources 2007; 32: 421-49.
- 10. Seager J. The state of gender-disaggregated data in water and sanitation: Overview and assessment of major sources. Paper, Expert Group Meeting on Gender-Disaggregated Data on Water and Sanitation, United Nations, New York; 2008; 2008.
- 11. Caruso BA, Sinharoy SS. Gender data gaps represent missed opportunities in WASH. *The Lancet Global Health* 2019; **7**(12): e1617.
- 12. Oxfam. Achieving Sustainable Development Goals 5 and 6: The case for gender-transformative water programmes, 2020.
- 13. Fisher J, Cavill S, Reed B. Mainstreaming gender in the WASH sector: Dilution or distillation? *Gender & Development* 2017; **25**(2): 185-204.
- 14. Kayser GL, Rao N, Jose R, Raj A. Water, sanitation and hygiene: Measuring gender equality and empowerment. *Bulletin of the World Health Organization* 2019; **97**: 438-40.
- 15. Burt Z, Nelson K, Ray I. Toward gender equality through sanitation access: UN WOMEN, 2016.
- 16. Graham JP, Hirai M, Kim S. An analysis of water collection labor among women and children in 24 sub-Saharan African countries. *PloS One* 2016; **11**(6): e0155981.
- 17. Sorenson SB, Morssink C, Campos PA. Safe access to safe water in low income countries: Water fetching in current times. *Social Science & Medicine* 2011; **72**(9): 1522-6.
- 18. Geere J, Bartram J, Bates L, et al. Carrying water may be a major contributor to disability from musculoskeletal disorders in low income countries: A cross-sectional survey in South Africa, Ghana and Vietnam. *Journal of Global Health* 2018; **8**(1).
- 19. Mbatha T. Addressing girls' challenges of water and sanitation in a rural schooling context in Swaziland. *Agenda* 2011; **25**(2): 35-42.
- 20. Varickanickal J, Bisung E, Elliott SJ. Water risk perceptions across the life-course of women in Kenya. *Health Promotion International* 2019.
- 21. Nerkar SS, Tamhankar AJ, Johansson E, Lundborg CS. Improvement in health and empowerment of families as a result of watershed management in a tribal area in India-a qualitative study. *BMC International Health and Human Rights* 2013; **13**(42).
- 22. Arku FS. Time savings from easy access to clean water: Implications for rural men's and women's well-being. *Progress in Development Studies* 2010; **10**(3): 233-46.
- 23. Van Houweling E. "A good wife brings her husband bath water": Gender roles and water practices in Nampula, Mozambique. *Society & Natural Resources* 2016; **29**(9): 1065-78.
- 24. Moser CON. Gender planning in the Third World: meeting practical and strategic gender needs. *World development* 1989; **17**(11): 1799-825.

- 25. UN Women. Turning promises into action: Gender equality in the 2030 Agenda for Sustainable DEvelopment. New York: UN Women, 2018.
- 26. Silva BB, Sales B, Lanza AC, Heller L, Rezende S. Water and sanitation are not gender-neutral: Human rights in rural Brazilian communities. *Water Policy* 2020; **22**: 102-20.
- 27. Chambers R, Myers J. Norms, knowledge and usage, 2016.
- 28. Coffey D, Gupta A, Hathi P, et al. Revealed preference for open defecation: Evidence from a new survey in rural North India. *Economic and Political Weekly* 2014; **49**(38).
- 29. Hanchett S, Krieger L, Kahn MH, Kullmann C, Ahmed R. Long-term sustainability of improved sanitation in rural Bangladesh. Washington DC: World Bank, 2011.
- 30. SNV. Learning brief: Realizing sanitation access and usage at any time, for everyone and everywhere. Nepal, 2017.
- 31. Thys S, Mwape KE, Lefevre P, et al. Why latrines are not used: Community perceptions and practices regarding latrines in a Taenia Solium endemic rural area in eastern Zambia. *PLoS Neglected Tropical Diseases* 2015; **9**(3).
- 32. Schmidt-Traub G, Karoubi Ed, Espey J. Indicators and a monitoring framework for the Sustainable Development Goals: Launching a data revolution for the SDGs: Sustainable Development Solutions Network, 2015.
- 33. World Health Organization. Gender mainstreaming for health managers: a practical approach. Geneva: World Health Organisation, 2011.
- 34. de Albuquerque C. Principles. Realising the human rights to water and sanitation: A handbook by the UN Special Rapporteur Catalina de Albuquerque. Portugal; 2014.
- 35. Fredman S. Substantive equality revisted. *International Journal of Constitutional Law* 2016; **14**(3): 712-38.
- 36. Contributions to the 2030 Agenda for Sustainable Development. UN Sustainable Development Knowledge Platform; 2016.
- 37. van Eerdewijk AHJM, Wong F, Vaast C, Newton J, Tyszler M, Pennington A. White paper: A conceptual model on women and girls' empowerment. Amsterdam: Royal Tropical Institute (KIT), 2017.
- 38. UN Women. Turning promises into action: Gender equality in the 2030 Agenda for Sustainable Development. New York: UN Women; 2018.
- 39. Pederson A, Greaves L, Poole N. Gender-transformative health promotion for women: a framework for action. *Health promotion international* 2014; **30**(1): 140-50.
- 40. Raj A, McDougal L, Trivedi A. EMERGE project report: Theoretical and definitional basis for identification of measures of gender equality and empowerment. San Diego: Center on Gender Equity and Health (GEH), UC San Diego School of Medicine, 2017.
- 41. Kabeer N. Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and Change* 1999; **30**(3): 435-64.
- 42. Kabeer N. The conditions and consequences of choice: Reflections on the measurement of women's empowerment. Geneva: United Nations Research Institute for Social Development (UNRISD), 1999.
- 43. Kabeer N, Subrahmanian R. Institutions, relations and outcomes: Framework and tools for gender-aware planning. Brighton: Institute of Development Studies, 1996.
- 44. Alsop R, Bertelsen MF, Holland J. Empowerment in practice: From analysis to implementation. Washington DC: World Bank Publications, 2006.
- 45. Wu D. Women's Empowerment Overview Brief. Atlanta: CARE, 2009.
- 46. Miletto M, Pangare V, Thuy L. Tool 1-Gender responsive indicators for water assessment, monitoring and reporting. Paris: UNESCO, 2019.
- 47. Belur J, Parikh P, Daruwalla N, Joshi R, Fernandes R. Perceptions of gender-based violence around public toilets in Mumbai slums. *International Journal of Comparative and Applied Criminal Justice* 2017; **41**(1-2): 63-78.
- 48. Ellis A, Haver J, Villasenor J, et al. WASH challenges to girls' menstrual hygiene management in Metro Manila, Masbate, and South Central Mindanao, Philippines. *Waterlines* 2016; **35**(3): 306-23.
- 49. McMahon SA, Winch PP, Caruso BA, et al. 'The girl with her period is the one to hang her head' Reflections on menstrual management among schoolgirls in rural Kenya. *BMC International Health and Human Rights* 2011; **11**(7).
- Nalugya R, Tanton C, Hytti L, et al. Assessing the effectiveness of a comprehensive menstrual health intervention program in Ugandan schools (MENISCUS): Process evaluation of a pilot intervention study. *Pilot and Feasibility Studies* 2020; **6**(51): 1-15.

- 51. Reddy BS, Snehalatha M. Sanitation and personal hygiene: what does it mean to poor and vulnerable women? *Indian Journal of Gender Studies* 2011; **18**(3): 381-404.
- 52. Singh KK, Mishra P. Understanding women's access to sanitation: A study of the slums in Delhi. *Journal of Social Inclusion Studies* 2019; **5**(2): 200-9.
- 53. Sommer M, Ackatia-Armah N, Connolly S, Smiles D. A comparison of the menstruation and education experiences of girls in Tanzania, Ghana, Cambodia and Ethiopia. *Compare: A Journal of Comparative and International Education* 2015; **45**(4): 589-609.
- 54. Trinies V, Caruso BA, Sogoré A, Toubkiss J, Freeman MC. Uncovering the challenges to menstrual hygiene management in schools in Mali. *Waterlines* 2015; **34**(1): 31-40.
- Wall LL, Teklay K, Desta A, Belay S. Tending the 'monthly flower:'a qualitative study of menstrual beliefs in Tigray, Ethiopia. *BMC Women's Health* 2018; **18**(1): 183.
- 56. Whale K, Cramer H, Joinson C. Left behind and left out: The impact of the school environment on young people with continence problems. *British Journal of Health Psychology* 2018; **23**(2): 253-77.
- 57. Jones H, Fisher J. Why should water and sanitation consider disabled people? Leicestershire: WELL Water, Engineering and Development CENTR (WEDC), 2005.
- 58. Snider H, Takeda N. Design for all: implications for bank operations: Disability & Development, Social Protection & Labor, Human Development Network, Social Development Department, Urban Development, Sustainable Development Network, 2008.
- 59. Aihara Y, Shrestha S, Sharma J. Household water insecurity, depression and quality of life among postnatal women living in urban Nepal. *Journal of Water and Health* 2016; **14**(2): 317-24.
- 60. Bapat M, Agarwal I. Our needs, our priorities; women and men from the slums in Mumbai and Pune talk about their needs for water and sanitation. *Environment and Urbanization* 2003; **15**(2): 71-86.
- Bora S, Chatterjee A, Rani P, Chakrabarti D. On-the-job stress: Interventions to improve the occupational well-being of policewomen in Assam, India. *Journal of International Women's Studies* 2016; **18**(1): 260-72.
- 62. Khanna T, Das M. Why gender matters in the solution towards safe sanitation? Reflections from rural India. *Global Public Health* 2016; **11**(10): 1185-201.
- 63. Kulkarni S, O'Reilly K, Bhat S. No relief: Lived experiences of inadequate sanitation access of poor urban women in India. *Gender & Development* 2017; **25**(2): 167-83.
- 64. Pommells M, Schuster-Wallace C, Watt S, Mulawa Z. Gender violence as a water, sanitation, and hygiene risk: Uncovering violence against women and girls as it pertains to poor WaSH access. *Violence Against Women* 2018; **24**(15): 1851-62.
- 65. Rajagopal S, Mathur K. 'Breaking the silence around menstruation': Experiences of adolescent girls in an urban setting in India. *Gender & Development* 2017; **25**(2): 303-17.
- 66. Caruso BA, Clasen T, Yount KM, Cooper HLF, Hadley C, Haardörfer R. Assessing women's negative sanitation experiences and concerns: the development of a novel sanitation insecurity measure. *International Journal of Environmental Research and Public Health* 2017; **14**(7): 755.
- 67. Caruso BA, Clasen TF, Hadley C, et al. Understanding and defining sanitation insecurity: Women's gendered experiences of urination, defecation and menstruation in rural Odisha, India. *BMJ Global Health* 2017; **2**(4): e000414.
- 68. Caruso BA, Cooper HLF, Haardörfer R, et al. The association between women's sanitation experiences and mental health: A cross-sectional study in Rural, Odisha India. *SSM-Population Health* 2018; **5**: 257-66.
- 69. Joshi D, Fawcett B, Mannan F. Sanitation for the urban poor: Gender matters. In: Zwarteveen M, Ahmed S, eds. Diverting the Flow: Gender Equity and Water in South Asia. New Delhi: Zubaan; 2012: 175-202.
- 70. Corburn J, Karanja I. Informal settlements and a relational view of health in Nairobi, Kenya: Sanitation, gender and dignity. *Health Promotion International* 2016; **31**(2): 258-69.
- 71. Chipeta L. Water crisis in Blantyre City and its impact on the women: A case of Mbayani and Ntopwa Area. *Journal of International Women's Studies* 2009; **10**(4): 17-33.
- 72. Crow B, Odaba E. Access to water in a Nairobi slum: Women's work and institutional learning. *Water International* 2010; **35**(6): 733-47.
- 73. Krumdieck NR, Collins SM, Wekesa P, et al. Household water insecurity is associated with a range of negative consequences among pregnant Kenyan women of mixed HIV status. *Journal of Water and Health* 2016; **14**(6): 1028-31.

- 74. Mandara CG, Niehof A, van der Horst HM. Does women's representation in local water management lead to better meeting women's domestic water needs? *International Journal of Social Sciences and Humanity Studies* 2014; **5**(1): 43-62.
- 75. Mason LR. Gender and asset dimensions of seasonal water insecurity in urban Philippines. *Weather, Climate, and Society* 2012; **4**(1): 20-33.
- 76. Remigios MV. Women–water–sanitation: The case of Rimuka high-density suburb in Kadoma, Zimbabwe. *Agenda: Empowering Women for Gender Equity* 2011; **25**(2): 113-21.
- 77. Stevenson EGJ, Ambelu A, Caruso BA, Tesfaye Y, Freeman MC. Community water improvement, household water insecurity, and women's psychological distress: An intervention and control study in Ethiopia. *PloS One* 2016; **11**(4): e0153432.
- 78. Wutich A, Ragsdale K. Water insecurity and emotional distress: Coping with supply, access, and seasonal variability of water in a Bolivian squatter settlement. *Social Science & Medicine* 2008; **67**(12): 2116-25.
- 79. Chrisler JC, Gorman JA, Manion J, et al. Queer periods: Attitudes toward and experiences with menstruation in the masculine of centre and transgender community. *Culture, Health & Sexuality* 2016; **18**(11): 1238-50.
- 80. Mactaggart I, Schmidt W-P, Bostoen K, et al. Access to water and sanitation among people with disabilities: results from cross-sectional surveys in Bangladesh, Cameroon, India and Malawi. *BMJ open* 2018; **8**(6).
- 81. International Centre for Evidence in Disability (ICED). Water, Women and Disability Study Report. London School of Hygiene & Tropical Medicine, 2020.
- 82. Sahoo KC, Hulland KRS, Caruso BA, et al. Sanitation-related psychosocial stress: a grounded theory study of women across the life-course in Odisha, India. *Social Science & Medicine* 2015; **139**: 80-9.
- 83. Frye EA, Capone D, Evans DP. Open defecation in the United States: perspectives from the streets. *Environmental Justice* 2019; **12**(5): 226-30.
- 84. Neves-Silva P, Martins GI, Heller L. "We only have access as a favor, don't we?" The perception of homeless population on the human rights to water and sanitation. *Cadernos de saude publica* 2018; **34**: e00024017.
- 85. Speer J. The right to infrastructure: A struggle for sanitation in Fresno, California homeless encampments. *Urban Geography* 2016; **37**(7): 1049-69.
- 86. Morton MH, Dworsky A, Samuels GM. Missed opportunitites: Youth homelessness in America. National estimates. Chicago: Chapin Hall at the University of Chicago, 2017.
- 87. Datta A, Ahmed N. Intimate infrastructures: The rubrics of gendered safety and urban violence in Kerala, India. *Geoforum* 2020; **110**: 67-76.
- 88. Winter SC, Barchi F, Dzombo MN. Neighborhood disorganization and women's sanitation utilization practices in Mathare Valley, Kenya. *Environment and Behavior* 2019; **51**(5): 530-60.
- 89. Tegegne TK, Sisay MM. Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia. *BMC Public Health* 2014; **14**(1): 1118.
- 90. Herman JL. Gendered restrooms and minority stress: The public regulation of gender and its impact on transgender people's lives. *Journal of Public Management & Social Policy* 2013; **19**(1): 65.
- 91. Chew JF, Corlin L, Ona F, et al. Water source preferences and water quality perceptions among women in the eastern region, Ghana: a grounded theory study. *International Journal of Environmental Research and Public Health* 2019; **16**(20): 3835.
- 92. Mehta PK, Saxena N. Unleashing the gender differentials in water management: The rural milieu. In: Cronin AA, Mehta PK, Prakash A, eds. Gender Issues in Water and Sanitation Programmes: Lessons from India: SAGE Publications Pvt. Ltd; 2015: 139-54.
- 93. United Nations Office of the High Commissioner for Human Rights (UN OHCHR). The Right to Water and Sanitation Toolkit, 2020.
- 94. World Health Organization. Preamble to the Constitution, adopted by the International Health Conference held in New York 19 June to 22 July 1946. *The First Ten Years of the World Health Organization* 1946.
- 95. Buor D. Water needs and women's health in the Kumasi metropolitan area, Ghana. *Health & Place* 2004; **10**(1): 85-103.
- 96. Crow B, Sultana F. Gender, class, and access to water: Three cases in a poor and crowded delta. *Society & Natural Resources* 2002; **15**(8): 709-24.

- 97. Faisal IM, Kabir MR. An analysis of gender–water nexus in rural Bangladesh. *Journal of Developing Societies* 2005; **21**(1-2): 175-94.
- 98. Fonjong LN, Ngekwi MA. Challenges of water crisis on women's socio-economic activities in the Buea Municipality, Cameroon. *Journal of Geography and Geology* 2014; **6**(4): 122.
- 99. Gabrielsson S, Ramasar V. Widows: Agents of change in a climate of water uncertainty. *Journal of Cleaner Production* 2013; **60**: 34-42.
- 100. Oluyemo CA. Women's empowerment as determinant for maintanance and sustainability of portable water and sanitation facilities in Ekiti State, Nigeria. *International Journal of Interdisciplinary Social Sciences* 2012; **6**(4).
- 101. Thompson JA, Gaskin SJ, Agbor M. Embodied intersections: Gender, water and sanitation in Cameroon. *Agenda* 2017; **31**(1): 140-55.
- 102. Baker KK, Padhi B, Torondel B, et al. From menarche to menopause: A population-based assessment of water, sanitation, and hygiene risk factors for reproductive tract infection symptoms over life stages in rural girls and women in India. *PloS One* 2017; **12**(12): e0188234.
- 103. Kwiringira J, Atekyereza P, Niwagaba C, Günther I. Gender variations in access, choice to use and cleaning of shared latrines; experiences from Kampala Slums, Uganda. *BMC Public Health* 2014; **14**(1): 1180.
- 104. Winter SC, Barchi F, Dzombo MN. Drivers of women's sanitation practices in informal settlements in sub-Saharan Africa: A qualitative study in Mathare Valley, Kenya. *International Journal of Environmental Health Research* 2018; **28**(6): 609-25.
- 105. Padhi BK, Baker KK, Dutta A, et al. Risk of adverse pregnancy outcomes among women practicing poor sanitation in rural India: a population-based prospective cohort study. *PLoS Medicine* 2015; **12**(7): e1001851.
- 106. Patel R, Gupta A, Chauhan S, Bansod DW. Effects of sanitation practices on adverse pregnancy outcomes in India: a conducive finding from recent Indian demographic health survey. *BMC Pregnancy and Childbirth* 2019; **19**(1): 1-12.
- 107. Chattopadhyay A, Sethi V, Nagargoje VP, et al. WASH practices and its association with nutritional status of adolescent girls in poverty pockets of eastern India. *BMC Women's Health* 2019; **19**(1): 1-13.
- 108. Das P, Baker KK, Dutta A, et al. Menstrual hygiene practices, WASH access and the risk of urogenital infection in women from Odisha, India. *PloS One* 2015; **10**(6): e0130777.
- 109. MacRae ER, Clasen T, Dasmohapatra M, Caruso BA. 'It's like a burden on the head': Redefining adequate menstrual hygiene management throughout women's varied life stages in Odisha, India. *PloS one* 2019; **14**(8): e0220114.
- 110. Torondel B, Sinha S, Mohanty JR, et al. Association between unhygienic menstrual management practices and prevalence of lower reproductive tract infections: a hospital-based cross-sectional study in Odisha, India. *BMC Infectious Diseases* 2018; **18**(1): 1-12.
- 111. Cairncross S, Valdmanis V. Water supply, sanitation and hygiene promotion. In: Jamison DT, Breman JG, Measham AR, et al., eds. Disease Control Priorities in Developing Countries. 2 ed. Washington DC: International Bank for Reconstruction and Development/The World Bank; 2006.
- 112. Groce N, Bailey N, Lang R, Trani J-F, Kett M. Water and sanitation issues for persons with disabilities in low-and middle-income countries: a literature review and discussion of implications for global health and international development. *Journal of Water and Health* 2011; **9**(4): 617-27.
- 113. Acey C. Gender and community mobilisation for urban water infrastructure investment in southern Nigeria. *Gender & Development* 2010; **18**(1): 11-26.
- 114. Aguilar L. Water as a source of equity and empowerment in Costa Rica. In: Bennett V, Dávila-Poblete S, Rico MN, editors. Opposing Currents The Politics of Water and Gender in Latin America. Pittsburgh: University of Pittsburgh Press; 2005. p. 123-34.
- 115. Asaba RB, Fagan H, Kabonesa C, Mugumya F. Beyond distance and time: Gender and the burden of water collection in rural Uganda. *wH2O: Journal of Gender and Water* 2013; **2**(1): 31-8.
- Devasia L. Safe drinking water and its acquisition: Rural women's participation in water management in Maharashtra, India. *International Journal of Water Resources Development* 1998; **14**(4): 537-46.
- 117. Nallari A. "All we want are toilets inside our homes!" The critical role of sanitation in the lives of urban poor adolescent girls in Bengaluru, India. *Environment and Urbanization* 2015; **27**(1): 73-88.
- 118. You J, Staddon C, Cook A, et al. Multidimensional Benefits of Improved Sanitation: Evaluating 'PEE POWER®'in Kisoro, Uganda. *International Journal of Environmental Research and Public Health* 2020; **17**(7): 2175.

- 119. Robinson H. Chaupadi: the affliction of menses in Nepal. *International Journal of Women's Dermatology* 2015; **1**(4): 193.
- 120. Bisung E, Elliott SJ. 'Everyone is exhausted and frustrated': Exploring psychosocial impacts of the lack of access to safe water and adequate sanitation in Usoma, Kenya. *Journal of Water, Sanitation and Hygiene for Development* 2016; **6**(2): 205-14.
- 121. Siddiqui RN, Pandey J. Coping with environmental stressors by urban slum dwellers. *Environment and Behavior* 2003; **35**(5): 589-604.
- 122. Tsai AC, Kakuhikire B, Mushavi R, et al. Population-based study of intra-household gender differences in water insecurity: Reliability and validity of a survey instrument for use in rural Uganda. *Journal of Water and Health* 2016; **14**(2): 280-92.
- 123. Wutich A. Intrahousehold disparities in women and men's experiences of water insecurity and emotional distress in urban Bolivia. *Medical Anthropology Quarterly* 2009; **23**(4): 436-54.
- Hirve S, Lele P, Sundaram N, et al. Psychosocial stress associated with sanitation practices: Experiences of women in a rural community in India. *Journal of Water, Sanitation and Hygiene for Development* 2015; **5**(1): 115-26.
- 125. Joshi N. Low-income women's right to sanitation services in city public spaces: A study of waste picker women in Pune. *Environment and Urbanization* 2018; **30**(1): 249-64.
- 126. Sommer M, Phillips-Howard PA, Mahon T, Zients S, Jones M, Caruso BA. Beyond menstrual hygiene: Addressing vaginal bleeding throughout the life course in low and middle-income countries. *BMJ Global Health* 2017; **2**(2).
- Dolan CS, Ryus CR, Dopson S, Montgomery P, Scott L. A blind spot in girls' education: Menarche and its webs of exclusion in Ghana. *Journal of International Development* 2014; **26**(5): 643-57.
- 128. Abrahams N, Mathews S, Ramela P. Intersections of 'sanitation, sexual coercion and girls' safety in schools'. *Tropical Medicine & International Health* 2006; **11**(5): 751-6.
- 129. Bangdiwala SI, Ramiro L, Sadowski LS, Bordin IAS, Hunter W, Shankar V. Intimate partner violence and the role of socioeconomic indicators in WorldSAFE communities in Chile, Egypt, India and the Philippines. *Injury Control and Safety Promotion* 2004; **11**(2): 101-9.
- 130. Corburn J, Hildebrand C. Slum sanitation and the social determinants of women's health in Nairobi, Kenya. *Journal of Environmental and Public health* 2015; **2015**.
- 131. Das P. Women's participation in community-level water governance in urban India: The gap between motivation and ability. *World Development* 2014; **64**: 206-18.
- 132. Girod C, Ellis A, Andes KL, Freeman MC, Caruso BA. Physical, social, and political inequities constraining girls' menstrual management at schools in informal settlements of Nairobi, Kenya. *Journal of Urban Health* 2017; **94**(6): 835-46.
- 133. Gonsalves GS, Kaplan EH, Paltiel AD. Reducing sexual violence by increasing the supply of toilets in Khayelitsha, South Africa: a mathematical model. *PLoS One* 2015; **10**(4): e0122244.
- 134. Hanrahan M, Mercer N. Gender and water insecurity in a subarctic Indigenous community. *The Canadian Geographer* 2019; **63**(2): 211-24.
- 135. Hassan F, Sadowski LS, Bangdiwala SI, et al. Physical intimate partner violence in Chile, Egypt, India and the Philippines. *Injury Control and Safety Promotion* 2004; **11**(2): 111-6.
- 136. Hulland KRS, Chase RP, Caruso BA, et al. Sanitation, stress, and life stage: A systematic data collection study among women in Odisha, India. *PloS One* 2015; **10**(11): e0141883.
- 137. Jadhav A, Weitzman A, Smith-Greenaway E. Household sanitation facilities and women's risk of non-partner sexual violence in India. *BMC Public Health* 2016; **16**(1): 1139.
- 138. Karim KMR, Emmelin M, Resurreccion BP, Wamala S. Water development projects and marital violence: Experiences from rural Bangladesh. *Health Care for Women International* 2012; **33**(3): 200-16.
- 139. Mohankumar A. Narrating the Stench Testimonies of Women Engaged in Manual Scavenging in Udaipur, Rajasthan. *Indian Journal of Dalit and Tribal Social Work* 2015; **3**(2): 45-68.
- 140. O'Reilly K. Combining sanitation and women's participation in water supply: An example from Rajasthan. *Development in Practice* 2010; **20**(1): 45-56.
- 141. Rheinländer T, Gyapong M, Akpakli DE, Konradsen F. Secrets, shame and discipline: School girls' experiences of sanitation and menstrual hygiene management in a peri-urban community in Ghana. *Health Care for Women International* 2019; **40**(1): 13-32.

- 142. Routray P, Schmidt W, Boisson S, Clasen T, Jenkins MW. Socio-cultural and behavioural factors constraining latrine adoption in rural coastal Odisha: An exploratory qualitative study. *BMC Public Health* 2015; **15**: 880.
- 143. Scorgie F, Foster J, Stadler J, et al. "Bitten by shyness": Menstrual hygiene management, sanitation, and the quest for privacy in South Africa. *Medical Anthropology* 2016; **35**(2): 161-76.
- 144. Shiras T, Cumming O, Brown J, Muneme B, Nala R, Dreibelbis R. Shared latrines in Maputo, Mozambique: Exploring emotional well-being and psychosocial stress. *BMC International Health and Human Rights* 2018; **18**(30).
- 145. Sommer M, Munoz-Laboy M, Wilkinson Salamea E, et al. How narratives of fear shape girls' participation in community life in two conflict-affected populations. *Violence Against Women* 2018; **24**(5): 565-85.
- 146. Stevenson EGJ, Greene LE, Maes KC, et al. Water insecurity in 3 dimensions: An anthropological perspective on water and women's psychosocial distress in Ethiopia. *Social Science & Medicine* 2012; **75**(2): 392-400.
- 147. Sultana F. Community and participation in water resources management: Gendering and naturing development debates from Bangladesh. *Transactions of the Institute of British Geographers* 2009; **34**(3): 346-63.
- 148. Thuita W, Conn C, Wilson K. The role of marginalised women in sanitation initiatives: Somali women in northern Kenya. *Development in Practice* 2017; **27**(1): 16-25.
- 149. Torri MC. Power, structure, gender relations and community-based conservation: The Cawswe Study of the Sariska Region, Rajasthan, India. *Journal of International Women's Studies* 2010; **11**(4): 1-18.
- 150. Van Houweling E. Gendered water spaces: A study of the transition from wells to handpumps in Mozambique. *Gender, Place & Culture* 2015; **22**(10): 1391-407.
- 151. Willetts J, Halcrow G, Carrard N, Rowland C, Crawford J. Addressing two critical MDGs together: Gender in water, sanitation and hygiene initiative. *Pacific Economic Bulletin* 2010; **25**(1): 162-76.
- 152. Winter SC, Barchi F. Access to sanitation and violence against women: Evidence from Demographic Health Survey (DHS) data in Kenya. *International Journal of Environmental Health Research* 2015; **26**(3): 291-305.
- 153. Yerian S, Hennink M, Greene LE, Kiptugen D, Buri J, Freeman MC. The role of women in water management and conflict resolution in Marsabit, Kenya. *Environmental Management* 2014; **54**(6): 1320-30.
- 154. Hennegan J, Zimmerman L, Shannon AK, et al. The relationship between household sanitation and women's experience of menstrual hygiene: Findings from a cross-sectional survey in Kaduna State, Nigeria. *International Journal of Environmental Research and Public Health* 2018; **15**(5): 905.
- 155. Pardeshi G. Women in total sanitation campaign: a case study from Yavatmal district, Maharashtra, India. *Journal of Human Ecology* 2009; **25**(2): 79-85.
- 156. Coulter JE, Witinok-Huber RA, Bruyere BL, Dorothy Nyingi W. Giving women a voice on decision-making about water: barriers and opportunities in Laikipia, Kenya. *Gender, Place & Culture* 2018.
- 157. Naiga R, Penker M, Hogl K. Women's crucial role in collective operation and maintenance of drinking water infrastructure in rural Uganda. *Society & Natural Resources* 2017; **30**(4): 506-20.
- 158. Scott K, George AS, Harvey SA, Mondal S, Patel G, Sheikh K. Negotiating power relations, gender equality, and collective agency: Are village health committees transformative social spaces in northern India? *International Journal for Equity in Health* 2017; **16**(84).
- 159. UNDP-SIWI Water Governance Facility. Women and corruption in the water sector: Theories and experiences from Johannesburg and Bogota. Stockholm: SIWI, 2017.
- 160. Avello P. Sex for water is sextortion, and it is a crime. siwi.org: SIWI; 2018.
- 161. Kenya Water and Sanitation Civil Society Network (KEWASNET), African Civil Society Network on Water and Sanitation (ANEW). Sex for water project: Promoting safe space for girls and young women in Kibera project. Final baseline survey report. Kenya Water and Sanitation Civil Society Network (KEWASNET), African Civil Society Network on Water and Sanitation (ANEW),, 2020.
- 162. Amornkul PN, Vandenhoudt H, Nasokho P, et al. HIV prevalence and associated risk factors among individuals aged 13-34 years in Rural Western Kenya. *PloS One* 2009; **4**(7): e6470.
- 163. Juma M, Askew I, Alaii J, Bartholomew LK, van den Borne B. Cultural practices and sexual risk behaviour among adolescent orphans and non-orphans: a qualitative study on perceptions from a community in western Kenya. *BMC Public Health* 2014; **14**(1): 1-9.
- 164. Oruko K, Nyothach E, Zielinski-Gutierrez E, et al. 'He is the one who is providing you with everything so whatever he says is what you do': A Qualitative Study on Factors Affecting Secondary Schoolgirls' Dropout in Rural Western Kenya. *PloS One* 2015; **10**(12): e0144321.

- 165. Phillips-Howard PA, Otieno G, Burmen B, et al. Menstrual needs and associations with sexual and reproductive risks in rural Kenyan females: a cross-sectional behavioral survey linked with HIV prevalence. *Journal of Women's Health* 2015; **24**(10): 801-11.
- 166. Wamoyi J, Wight D, Plummer M, Mshana GH, Ross D. Transactional sex amongst young people in rural northern Tanzania: an ethnography of young women's motivations and negotiation. *Reproductive Health* 2010; **7**(1): 1-18.
- 167. Mason L, Nyothach E, Alexander K, et al. 'We keep it secret so no one should know'—A qualitative study to explore young schoolgirls attitudes and experiences with menstruation in rural Western Kenya. *PloS One* 2013; **8**(11): e79132.
- Sclar GD, Penakalapati G, Caruso BA, et al. Exploring the relationship between sanitation and mental and social well-being: A systematic review and qualitative synthesis. *Social Science & Medicine* 2018; **217**: 121-34.
- 169. Yuerlita. Women's participation in a rural water supply and sanitation project: A case study in Jorong Kampung Baru, Solok, West Sumatra, Indonesia. In: Febriamansyah R, Yonariza, Ullah R, Shivakoti GP, eds. The Reciprocal Relationship between Governance of Natural Resources and Socio-Ecological Systems Dynamics in West Sumatra, Indonesia: Elsevier; 2017: 89-102.
- 170. O'Reilly K. "Traditional" women, "modern" water: Linking gender and commodification in Rajasthan, India. *Geoforum* 2006; **37**(6): 958-72.
- 171. Bisung E, Elliott SJ. Improvement in access to safe water, household water insecurity, and time savings: A cross-sectional retrospective study in Kenya. *Social Science & Medicine* 2018; **200**: 1-8.
- 172. Boateng GO, Collins SM, Mbullo P, et al. A novel household water insecurity scale: Procedures and psychometric analysis among postpartum women in western Kenya. *PloS one* 2018; **13**(6): e0198591.
- 173. El Katsha SE, White AU. Women, water, and sanitation: Household behavioral patterns in two Egyptian villages. *Water International* 1989; **14**(3): 103-11.
- 174. Fiasorgbor DA. Water and sanitation situation in Nima and Teshie, Greater Accra region of Ghana. *Journal of Toxicology and Environmental Health Sciences* 2013; **5**(2): 23-8.
- 175. Harris L, Kleiber D, Goldin J, Darkwah A, Morinville C. Intersections of gender and water: Comparative approaches to everyday gendered negotiations of water access in underserved areas of Accra, Ghana and Cape Town, South Africa. *Journal of Gender Studies* 2017; **26**(5): 561-82.
- 176. Ilahi N, Grimard F. Public infrastructure and private costs: Water supply and time allocation of women in rural Pakistan. *Economic Development and Cultural Change* 2000; **49**(1): 45-75.
- 177. Kher J, Aggarwal S, Punhani G. Vulnerability of poor urban women to climate-linked water insecurities at the household level: A case study of slums in Delhi. *Indian Journal of Gender Studies* 2015; **22**(1): 15-40.
- 178. Narain V. Shifting the focus from women to gender relations: Assessing the impacts of water supply interventions in the Morni–Shiwalik hills of northwest India. *Mountain Research and Development* 2014; **34**(3): 208-13.
- 179. Ramanaik S, Collumbien M, Prakash R, et al. Education, poverty and purity in the context of adolescent girls' secondary school retention and dropout: A qualitative study from Karnataka, southern India. *PLoS One* 2018; **13**(9): e0202470.
- 180. Van Houweling E, Hall R, Diop AS, Davis J, Seiss M. The role of productive water use in women's livelihoods. Evidence from rural Senegal. *Water Alternatives* 2012; **5**(3): 658.
- 181. Wutich A. Gender, water scarcity, and the management of sustainability tradeoffs in Cochabamba, Bolivia. In: Cruz-Torres ML, McElwee P, eds. Gender and Sustainability: Lessons from Asia and Latin America: University of Arizona Press; 2012: 97-120.
- Zolnikov TR, Salafia EB. Improved relationships in eastern Kenya from water interventions and access to water. *Health Psychology* 2016; **35**(3): 273.
- 183. Prasad S, Acharya S, Basu S. Leadership and participation: Role of gender. In: Cronin AA, Mehta PK, Prakash A, eds. Gender Issues in Water and Sanitation Programmes: Lessons from India: SAGE Publications Pvt. Ltd.; 2015: 190-208.
- 184. Crow B, Swallow B, Asamba I. Community organized household water increases not only rural incomes, but also men's work. *World Development* 2012; **40**(3): 528-41.
- 185. Clement F, Karki E. When water security programmes seek to empower women–a case study from Western Nepal. In: Fröhlich C, Gioli G, Cremades R, Myrttinen H, eds. Water Security Across the Gender Divide: Springer; 2018: 151-69.

- 186. Aladuwaka S, Momsen J. Sustainable development, water resources management and women's empowerment: the Wanaraniya Water Project in Sri Lanka. *Gender & Development* 2010; **18**(1): 43-58.
- 187. Sijbesma C, Verhagen J, Nanavaty R, James AJ. Impacts of domestic water supply on gender and income: Results from a participatory study in a drought-prone region in Gujarat, India. *Water Policy* 2009; **11**: 95-105.
- 188. Halvorson SJ. Women's management of the household health environment: Responding to childhood diarrhea in the Northern Areas, Pakistan. *Health & Place* 2004; **10**(1): 43-58.
- 189. Reddy BS. Appropriate sanitation: Perceptions and experiences amongst a heterogeneous group of the urban poor. *ICFAI Journal of Public Administration* 2008; **4**(3): 52-68.
- 190. Sijbesma C, Mathew K, Nishshanka R, et al. Adopting a gender approach in a water and sanitation project: The case of the 4WS Project in coastal communities in South Asia. In: Zwarteveen M, Ahmed S, Gautam SR, eds. Diverting the Flow: Gender Equity and Water in South Asia. New Delhi: Zubaan; 2012.
- 191. Andajani S, Chirawatkul S, Saito E. Gender and water in Northeast Thailand: inequalities and women's realities. *Journal of International Women's Studies* 2015; **16**(2): 200-12.
- 192. Bastidas EP. Women and water in the northern Ecuadorean Andes. In: Bennett V, Dávila-Poblete S, Rico MN, eds. Opposing Currents The Politics of Water and Gender in Latin America. Pittsburgh: University of Pittsburg Press; 2005: 154-69.
- 193. Lebel L, Lebel P, Sriyasak P, Ratanawilailak S, Bastakoti RC, Bastakoti GB. Gender relations and water management in different eco-cultural contexts in Northern Thailand. *International Journal of Agricultural Resources, Governance and Ecology* 2015; **11**(3-4): 228-46.
- 194. Prokopy LS. Women's participation in rural water supply projects in India: Is it moving beyond tokenism and does it matter? *Water Policy* 2004; **6**(2): 103-16.
- 195. Singh N. The changing role of women in water management: Myths and realities. In: Kalnická Z, ed. Water & Women in Past, Present, and Future; 2006: 94-113.
- 196. Jha N. Reducing a community's water and sanitation burden: Insights from Maharashtra. In: Zwarteveen M, Ahmed S, eds. Diverting the Flow: Gender Equity and Water in South Asia. New Delhi: Zubaan; 2012: 203-39.
- 197. Routray P, Torondel B, Jenkins MW, Clasen T, Schmidt W. Processes and challenges of community mobilisation for latrine promotion under Nirmal Bharat Abhiyan in rural Odisha, India. *BMC Public Health* 2017; **17**: 453.
- 198. Trinies V, Freeman MC, Hennink M, Clasen T. The role of social networks on the uptake of household water filters by women in self-help groups in rural India. *Journal of Water, Sanitation and Hygiene for Development* 2011; **1**(4): 224-32.
- 199. Routray P, Torondel B, Clasen T, Schmidt W. Women's role in sanitation decision making in rural coastal Odisha, India. *PloS One* 2017; **12**(5): e0178042.
- 200. Delgado JV, Zwarteveen M. The public and private domain of the everyday politics of water: the constructions of gender and water power in the Andes of Perú. *International Feminist Journal of Politics* 2007; **9**(4): 503-11.
- 201. Rowntree O, Shanahan M. The Mobile Gender Gap Report 2020: GSM Association, 2020.
- 202. Foster T, Hope R, Thomas M, Cohen I, Krolikowski A, Nyaga C. Impacts and implications of mobile water payments in East Africa. *Water International* 2012; **37**(7): 788-804.
- 203. Putnam RD. Bowling alone: America's declining social capital. Journal of Democracy 1995: 65-78.
- 204. Sretzer S, Woolcok M. Health by association? Social capital, social theory and the political economy of public health. *International Journal of Epidemiology* 2003; **33**.
- 205. Moore G. Structural determinants of men's and women's personal networks. *American Sociological Review* 1990; **55**: 726-35.
- 206. Carpenter JP, Daniere AG, Takahashi LM. Social capital and trust in Southeast Asian countries. *Urban Studies* 2004; **41**(4).
- 207. Elgar FJ, Davis CG, Wohl MJ, Trites SJ, Zelenski JM, Martin MS. Social capital, health, and life satisfaction in 50 countries. *Health & Place* 2011; **17**(5).
- 208. DeVries K, Rizo A. Empowerment in action: Savings groups improving community water, sanitation, and hygiene services. *Enterprise Development & Microfinance* 2015; **26**(1): 34-44.
- 209. Mushavi RC, Burns BFO, Kakuhikire B, et al. "When you have no water, it means you have no peace": A mixed-methods, whole-population study of water insecurity and depression in rural Uganda. *Social Science & Medicine* 2020; **245**: 112561.

- 210. Schmitt ML, Clatworthy D, Ratnayake R, et al. Understanding the menstrual hygiene management challenges facing displaced girls and women: Findings from qualitative assessments in Myanmar and Lebanon. *Conflict and Health* 2017; **11**(19).
- 211. Sultana F. Fluid lives: Subjectivities, gender and water in rural Bangladesh. *Gender, Place and Culture* 2009; **16**(4): 427-44.
- 212. Kernecker M, Vogl CR, Meléndez AA. Women's local knowledge of water resources and adaptation to landscape change in the mountains of Veracruz, Mexico. *Ecology and Society* 2017; **22**(4).
- 213. Leder S, Clement F, Karki E. Reframing women's empowerment in water security programmes in Western Nepal. *Gender & Development* 2017; **25**(2): 235-51.
- 214. Rautanen S, Baaniya U. Technical work of women in Nepal's rural water supply and sanitation. *Water International* 2008; **33**(2): 202-13.
- 215. de Moraes AFJ, Rocha C. Gendered waters: the participation of women in the 'One Million Cisterns' rainwater harvesting program in the Brazilian Semi-Arid region. *Journal of Cleaner Production* 2013; **60**: 163-9.
- 216. Wood S, Foster J, Kols A. Understanding why women adopt and sustain home water treatment: insights from the Malawi antenatal care program. *Social Science & Medicine* 2012; **75**(4): 634-42.
- 217. Garg S, Anand T. Menstruation related myths in India: strategies for combating it. *Journal of Family Medicine and Primary Care* 2015; **4**(2): 184.
- 218. Ali SA, Baloch M, Riaz L, et al. Perceptions, Practices, and Challenges Regarding Menstrual Hygiene Among Women in Karachi, Pakistan: A Comparison Between General Population and Healthcare Workers. *Cureus* 2020; **12**(8).
- 219. Bustamente RR, Peredo E, Udaeta ME. Women in the "water war" in the Cochabamba Valleys. Opposing Currents The Politics of Water and Gender in Latin America. Pittsburgh: University of Pittsburgh Press; 2005: 72-89.
- 220. Indarti N, Rostiani R, Megaw T, Willetts J. Women's involvement in economic opportunities in water, sanitation and hygiene (WASH) in Indonesia: Examining personal experiences and potential for empowerment. *Development Studies Research* 2019; **6**(1): 76-91.
- 221. Bhatnagar B, Rop R. How countries can improve access to water for women. The Water Blog: World Bank Blogs; 2015.
- Fauconnier I, Jenniskens A, Perry P, et al. Women as change-makers in the governance of shared waters. Gland, Switzerland, 2018.
- 223. Mommen B, Humphries-Waa K, Gwavuya S. Does women's participation in water committees affect management and water system performance in rural Vanuatu. *Waterlines* 2017; **36**(3): 216-32.
- 224. Simiyu S, Swilling M, Cairncross S. Decision-making on shared sanitation in the informal settlements of Kisumu, Kenya. *International Journal of Environmental Health Research* 2017; **27**(5): 377-93.
- 225. Assaad M, El Katsha S, Wins S. Involving women in water and sanitation initiatives; an action/research project in an Egyptian village. *Water International* 1994; **19**(3): 113-20.
- 226. Pardeshi G, Shirke A, Jagtap M. SWOT analysis of total sanitation campaign in Yavatmal district of Maharashtra. *Indian Journal of Community Medicine* 2008; **33**(4): 255-9.
- Ali R. Women's participation in the water, sanitation and hygiene program at community level in Bangladesh. *Journal of Third World Studies* 2013; **30**(1): 193-208.
- 228. Scott K, George AS, Harvey SA, et al. Beyond form and functioning: Understanding how contextual factors influence village health committees in northern India. *PLoS One* 2017; **12**(8): e0182982.
- 229. Boateng JD, Brown CK, Tenkorang EY. Gender and water management practices in Ghana. *Journal of Environment and Earth Science* 2013; **3**(5): 88-103.
- 230. Ennis-McMillan MC. Women, equity, and household water management in the valley of Mexico. In: Bennett V, Dávila-Poblete S, Rico MN, eds. Opposing currents: The politics of water and gender in Latin America. Pittsburgh: University of Pittsburgh Press; 2005: 137-53.
- 231. Makoni FS, Manase G, Ndamba J. Patterns of domestic water use in rural areas of Zimbabwe, gender roles and realities. *Physics and Chemistry of the Earth, Parts A/B/C* 2004; **29**(15-18): 1291-4.
- 232. O'Reilly K, Louis E. The toilet tripod: Understanding successful sanitation in rural India. *Health & place* 2014; **29**: 43-51.
- 233. Bastola A. Gender and governance: a case of Jalswarajya Project. In: Cronin AA, Mehta PK, Prakash A, eds. Gender Issues in Water and Sanitation Programmes: Lessons from India: SAGE Publications Pvt. Ltd; 2015: 120-38.

- 234. Varua ME, Ward J, Maheshwari B, Dave S, Kookana R. Groundwater management and gender inequalities: The case of two watersheds in rural India. *Groundwater for Sustainable Development* 2018; **6**: 93-100.
- Nath P, Juuko HNS, Zengeta MT. An accessible future: three key changes for disability inclusive water, sanitation and hygiene. Equality, inclusion, and human rights: WaterAid; 2019.
- 236. Devnarain B, Matthias CR. Poor access to water and sanitation: Consequences for girls at a rural school. *Agenda* 2011; **25**(2): 27-34.
- 237. Agol D, Harvey P, Maíllo J. Sanitation and water supply in schools and girls' educational progression in Zambia. *Journal of Water, Sanitation and Hygiene for Development* 2018; **8**(1): 53-61.
- 238. Boosey R, Prestwich G, Deave T. Menstrual hygiene management amongst schoolgirls in the Rukungiri district of Uganda and the impact on their education: a cross-sectional study. *Pan African Medical Journal* 2014; **19**(253).
- 239. Dreibelbis R, Greene LE, Freeman MC, Saboori S, Chase RP, Rheingans R. Water, sanitation, and primary school attendance: A multi-level assessment of determinants of household-reported absence in Kenya. *International Journal of Educational Development* 2013; **33**(5): 457-65.
- 240. Ngila WM, Role E, Makewa LN. Safety, sexual harassment, sanitary facilities, and household chores as threats to girl child in mixed secondary schools. *Journal of Internatinal Forum of Researchers in Education (JIFORE)* 2014; **1**(1): 36-53.
- Sanyal A, Muthukrishnan S. Does sanitation influence upper primary educational outcomes? Quantitative evidence from DISE data of Gujarat state. *IASSI-Quarterly* 2017; **36**(2): 192-215.
- 242. Bah OM. Enabling Education: special section on water, sanitation and hygiene in schools. In: Lewis I, Miles S, editors.: EENET; 2010. p. 16-7.
- 243. Bannister M, Menya C, Safu KS, M E. Water and Sanitation for all: practical ways to improve accessibility for disabled people. Maximising the benefits from water and environmental sanitation: Proceedings of the 31st WEDC International Conference, Kampala, Uganda; 2005: cc WEDC, Loughborough University; 2005. p. 383.
- Dhital RP, Ito T, Kaneko S, Komatsu S, Yoshida Y. Household access to water and education for girls: The case of mountain villages in Nepal. *IDEC DP2 Series* 2018; **7**(5): 1-19.
- Nauges C, Strand J. Water hauling and girls' school attendance: Some new evidence from Ghana. World Bank Group eLibrary; 2013.
- 246. Boateng JD, Brown CK, Tenkorang EY. Socio-economic status of women and its influence on their participation in rural water supply projects in Ghana. *International Journal of Development and Sustainability* 2013; **2**(2): 871-90.
- 247. James AJ, Verhagen J, Van Wijk C, Nanavaty R, Parikh M, Bhatt M. Transforming time into money using water: A participatory study of economics and gender in rural India. Natural Resources Forum; 2002: Wiley Online Library; 2002. p. 205-17.
- 248. Rajaraman D, Travasso SM, Heymann SJ. A qualitative study of access to sanitation amongst low-income working women in Bangalore, India. *Journal of Water, Sanitation and Hygiene for Development* 2013; **3**(3): 432-40.
- 249. Sommer M, Chandraratna S, Cavill S, Mahon T, Phillips-Howard P. Managing menstruation in the workplace: an overlooked issue in low-and middle-income countries. *International Journal for Equity in Health* 2016; **15**(1): 1-5.
- 250. UN DftAoW. Enhancing participation of women in development through an enabling environment for achieving gender equality and the advancement of women. Expert Group Meeting; 2005; Bangkok; 2005.
- 251. UNICEF. Strengthening enabling environment for water, sanitation and hygiene (WASH), 2016.
- 252. Camenga DR, Brady SS, Hardacker CT, et al. US adolescent and adult women's experiences accessing and using toilets in schools, workplaces, and public spaces: A multi-site focus group study to inform future research in bladder health. *International Journal of Environmental Research and Public Health* 2019; **16**(18): 3338.
- 253. Abu TZ, Bisung E, Elliott SJ. What if your husband doesn't feel the pressure? An exploration of women's involvement in WaSH decision making in Nyanchwa, Kenya. *International Journal of Environmental Research and Public Health* 2019; **16**(10): 1763.
- 254. Asteria D, Herdiansyah H, Ni'mah NL. Gender sensitive education in watershed management to support environmental friendly city. IOP Conference Series: Earth and Environmental Science; 2018: IOP Publishing; 2018. p. 012146.
- 255. Thai NV, Guevara JR. Women and water management: A policy assessment—A case study in An Giang Province, Mekong Delta, Vietnam. *Asia-Pacific Journal of Rural Development* 2019; **29**(1): 77-97.

- 256. Cavill S, Mott J, Tyndale-Bisco P, Bond M, Huggett C, Wamera C. Engaging men and boys in sanitation and hygiene programmes. CLTS Knowledge Hub: Institute of Development Studies, 2018.
- 257. Leahy C, Winterford K, Nghiem T, Kelleher J, Leong L, Willetts J. Transforming gender relations through water, sanitation, and hygiene programming and monitoring in Vietnam. *Gender & Development* 2017; **25**(2): 283-301.
- 258. Collins SM, Mbullo Owuor P, Miller JD, et al. "I know how stressful it is to lack water!' Exploring the lived experiences of household water insecurity among pregnant and postpartum women in western Kenya. *Global Public Health* 2019; **14**(5): 649-62.
- 259. Guterman M, Mehta P, Gibbs M. Menstrual taboos among major religions. *The Internet Journal of World Health and Societal Politics* 2008; **5**(2): 2.
- 260. MacLean K, Hearle C, Ruwanpura KN. Stigma of staining? Negotiating menstrual taboos amongst young women in Kenya. Women's Studies International Forum; 2020: Elsevier; 2020. p. 102290.
- 261. Mohamed Y, Durrant K, Huggett C, et al. A qualitative exploration of menstruation-related restrictive practices in Fiji, Solomon Islands and Papua New Guinea. *PloS One* 2018; **13**(12): e0208224.
- 262. Prasanna CK. Claiming the public sphere: Menstrual taboos and the rising dissent in India. *Agenda* 2016; **30**(3): 91-5.
- Van Eijk AM, Sivakami M, Thakkar MB, et al. Menstrual hygiene management among adolescent girls in India: a systematic review and meta-analysis. *BMJ Open* 2016; **6**(3).
- White LR. The function of ethnicity, income level, and menstrual taboos in postmenarcheal adolescents' understanding of menarche and menstruation. *Sex Roles* 2013; **68**(1): 65-76.
- 265. Amatya P, Ghimire S, Callahan KE, Baral BK, Poudel KC. Practice and lived experience of menstrual exiles (Chhaupadi) among adolescent girls in far-western Nepal. *PloS One* 2018; **13**(12): e0208260.
- 266. El-Gilany A-H, Badawi K, El-Fedawy S. Menstrual hygiene among adolescent schoolgirls in Mansoura, Egypt. *Reproductive Health Matters* 2005; **13**(26): 147-52.
- 267. Riley AH, Slifer L, Hughes J, Ramaiya A. Results from a literature review of menstruation-related restrictions in the United States and Canada. *Sexual & Reproductive Healthcare* 2020; **25**: 100537.
- 268. Crawford BJ, Spivack C. Tampon taxes, discrimination, and human rights. Wis L Rev 491 2017.
- Bennett J. The tampon tax: Sales tax, menstrual hygiene products, and necessity exemptions. *The Business, Entrepreneurship & Tax Law Review* 2017; **1**(Spring): 183-215.
- 270. Hartman V. End the bloody taxation: Seeing red on the unconstitution tax on tampons. *112 Nw U L Rev* 313 2017.
- 271. Ooi J. Bleeding women dry: Tampon taxes and menstrual inequity. 113 NW U L Rev 109 2018.
- 272. World Health Organization. National system to support drinking-water, sanitation and hygiene: Global status report 2019, 2019.
- 273. Wrisdale L, Mokoena MM, Mudau LS, Geere J-A. Factors that impact on access to water and sanitation for older adults and people with disability in rural South Africa. *Journal of Occupational Science* 2017; **24**(3): 259-79.
- 274. Sommer M, Schmitt ML, Clatworth D. A toolkit for integrating Menstrual Hygiene Management (MHM) into humanitarian response. In: Columbia University MSoPHaIRC, editor. New York; 2017.
- 275. Greed C. Join the queue: Including women's toilet needs in public space. *The Sociological Review* 2019; **67**: 908-26.
- 276. Frank SE. Queering menstruation: Trans and non-binary identities and body politics. *Sociological Inquiry* 2020; **90**(2): 371-404.
- 277. Kuhlmann AS, Bergquist EP, Danjoint D, Wall LL. Unmet menstrual hygiene needs among low-income women. *Obstetrics & Gynecology* 2019; **133**(2): 238-44.
- Wilson L, Brown JS, Shin GP, Luc K-O, Subak LL. Annual direct cost of urinary incontinence. *Obstetrics & Gynecology* 2001; **98**(3): 398-406.
- 279. Fader M, Cottenden AM, Getliffe K. Absorbent products for moderate-heavy urinary and/or faecal incontinence in women and men. *Cochrane Database of Systematic Reviews* 2008; (4).
- 280. Samson M, Hurt K. Dumping on women: Gender and privatisation of waste management. IDRC Digital Library
- Municipal Services Project: IDRC-CRDI, 2003.
- 281. Benjamin C, Hueso A. LGBTI and sanitation: What we know and what the gaps are. 40th WEDC International Conference. Loughborough, UK; 2017.

- 282. Johnson HD, Sholcosky D, Gabello K, Ragni R, Ogonosky N. Sex differences in public restroom handwashing behavior associated with visual behavior prompts. *Perceptual and Motor Skills* 2003; **97**(3): 805-10.
- 283. Mariwah S, Hampshire K, Kasim A. The impact of gender and physical environment on the handwashing behaviour of university students in Ghana. *Tropical Medicine & International Health* 2012; **17**(4): 447-54.
- 284. Monk-Turner E, Donald E, Broadstone J, Hummel R, Lewis S, Wilson D. Another look at hand-washing behavior. *Social Behavior and Personality* 2005; **33**(7): 629-34.
- 285. Sharir R, Teitler N, Lavi I, Raz R. High-level handwashing compliance in a community teaching hospital: A challenge that can be met! *Journal of Hospital Infection* 2001; **49**(1): 55-8.
- van de Mortel T, Bourke R, McLoughlin J, Nonu M, Reis M. Gender influences handwashing rates in the critical care unit. *American Journal of Infection Control* 2001; **29**(6): 395-9.
- 287. Day RA, St. Arnaud S, Monsma M. Effectiveness of a handwashing program. *Clinical Nursing Research* 1993; **2**(1): 24-40.
- 288. Mallikarjunan P. For almost 5 Lakh Indians, using a public toilet means abuse and harassment. 2016. https://www.youthkiawaaz.com/2016/11/no-public-toilets-for-transgender-people/ (accessed September 2.
- 289. GALZ: Gays and lesbians of Zimbabwe. Statement on the arrest of transgender activist, Ricky Nathanson. Zimbabwe: OutRight Action International; 2014.
- 290. Pincha C. Indian Ocean tsunami through the gender lens: Insights from Tamil Nadu, India. Mumbai: Oxfam America and Nanban Trust, 2008.
- 291. UN Statistics Division. Gender Statistics. https://unstats.un.org/unsd/gender/about.html (accessed September 1 2020).
- 292. United Nations Statistics Division. The UN Global Gender Statistics Programme. 7th Global Form on Gender Statistics; 2018; 2018.
- 293. Sustainable Development Goals. IAEG-SDGs: Tier Classification for Global SDG Indicators. 2020. https://unstats.un.org/sdgs/iaeg-sdgs/tier-classification/ (accessed September 2 2020).
- 294. UN Women. SDG Indicator Dasbhoard.
- 295. UN Women. Making women and girls visible: Gender data gaps and why they matter. New York: UN Women.
- 296. Quiroga L, McCleary-Sills J. Gender Equality Lexicon: Bill & Melinda Gates Foundation, 2018.
- 297. World Health Organization. Gender and human rights. 2002.
- https://www.who.int/reproductivehealth/topics/gender_rights/sexual_health/en/ (accessed September 3, 2020.
- 298. CDC Health Prevention. School Health Index. https://www.cdc.gov/healthyschools/shi/glossary.htm (accessed September 3, 2020.
- 299. World Health Organization. Health topics. https://www.who.int/health-topics (accessed September 3, 2020.
- 300. Luh J, Baum R, Bartram J. Equity in water and sanitation: Developing an index to measure progressive realization of the human right. *International Journal of Hygiene and Environmental Health* 2013; **216**(6): 662-71.