Gender Equality and Goal 6 – The Critical Connection

An Australian Perspective
AWP Knowledge Framework
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Cover photo: Farming family returning home from a rice paddy, Chiang Mai, Thailand (credit: ThianchaiS).
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1 Introduction

While water resources management has evolved from technical disciplines of engineering, science, water data management, modelling, hydro-economics and the like, it is ultimately a social and political domain. All decisions informed by these technical disciplines are subject to trade-offs, power dynamics, negotiations, and assumptions. Assumptions about who uses and needs water, the value of certain types of uses over others, and how it should be shared, especially in times of scarcity. Given the social and political nature of water management, it is therefore necessary to dig deeper to identify whose interests are being served by processes and decisions related to managing and distributing water. This is where gender equality and inclusion becomes so central in effectively managing water resources. When we talk about ‘community engagement’ in the water resources management sector, who are we talking about? Whose voices are the loudest and most powerful, whose are quiet or not heard? And how have socio-cultural factors shaped existing dynamics? Since 1992 the role of women in managing water resources and the critical knowledge they hold have been internationally recognised (through the Dublin Principles), yet action to truly and meaningfully make water resources management processes and decisions inclusive has lagged (Fauconnier et al., 2018). This publication outlines, drawing on a wide variety of literature, a range of ways that gender equality and inclusion is central to water resources management, and how practitioners can genuinely engage with issues related to inclusion through policy and practice.

Sustainable Development Goal 6 (Goal 6) to ‘ensure availability and sustainable management of water and sanitation for all’ requires explicit attention to gender equality and inclusion. Sustainable management of water resources and universal access to safely managed water, sanitation and hygiene (WASH) will only be achieved if the rights of women and marginalised people are fulfilled (Gross et al., 2000). Inequality, discrimination and social exclusion can be found within water governance and in WASH policies, strategies and access to services. Social exclusion is often experienced by indigenous peoples, women, cultural minorities, youth, people with disabilities, the elderly, sexual and gender minorities, the poorest of the poor, and people considered low-caste. The human right to water and sanitation (UN Resolution 64/292) as well as the Sustainable Development Goals (SDGs), call for the inclusion of all, and equal rights for women, and the elimination of discrimination of people based on their age, gender, disability, race, ethnicity, origin, religion or economic or other status. It also requires attention to multiple dimensions of discrimination, or ‘intersectionality’; for instance, women from a particular ethnic group may experience exclusion due to both their gender and their ethnicity (United Nations, dns).

The integrated SDGs present a timely opportunity for all actors, at all levels, to explicitly address gender discrimination and inequality, to proactively facilitate space for marginalised voices, and take steps to secure their participation and empowerment. As explored in this publication, implementation of Goal 6 can significantly contribute to gender equality in both water resources management and WASH, and by doing so they will contribute to more sustainable and effective water management outcomes for all people, while decreasing the inequalities prevalent in all societies. This publication considers and showcases Australia’s contribution to an understanding of the critical connection between SDG 5 (gender equality) and SDG 6 (water and sanitation for all).

Australia has a lot to contribute to these efforts. Not because we have solved gender discrimination and other inequalities in our own country, because we have not, but because our increasing focus on gender equality and inclusion in aid investments has been associated with significant experience and innovation. Australia’s experience and innovative approaches have been developed through the rights-based approach adopted by many non-government organisations (NGOs), expansion of the evidence base through targeted research, funding from the Australian Government’s Department of Foreign Affairs and Trade, and through proactive leadership such as with the United Nation’s High Level Panel on Water and the Australian Water Partnership.
Our history in considering how we can meaningfully tackle inequalities through water planning and investments in low and middle-income country contexts is several decades old. Research in the Pacific on water and gender equality, the first of its kind and funded by the Australian Government, revealed the ways in which participatory development approaches embedded in water projects contributed to positive gender outcomes at the community level, including increased women’s voice and leadership. The Australian Government then designed the Civil Society WASH Fund, which supported NGOs to integrate gender equality and inclusion into their programming, with many of them utilising guidance developed by Australian researchers at the Institute for Sustainable Futures, University of Technology Sydney. Taking a step further, the current large-scale investment Water for Women Fund, incorporates a dual focus on achieving both outcomes in improving WASH services as well as transforming unequal gender and social relations.

Gender equality in WASH has been a core commitment from Australian NGOs working in international development for over a decade, in part due to the influence of the Australian WASH Reference Group, which is comprised of organisations working on WASH programs, including non-government organisations, academic institutions and consultants. The WASH Reference Group has collective experience in multiple countries across the Asia–Pacific region, undertaking: WASH and water resource management programs; policy design and implementation; monitoring and evaluation; capacity and skills development; and the integration of WASH with intersecting issues, including gender equality, disability inclusion and health system strengthening. One key initiative led by WaterAid Australia, in collaboration with the WASH Reference Group, was the Inclusive WASH project which aimed to provide practical skills and evidence to support practitioners’ implementation of WASH projects in an equitable and inclusive way. The website contains reference material, practical tools, case studies, webinars and archived forums, all with a strong focus on gender as a key dimension of inclusion and equality and has been widely used by Australian and international agencies alike.\(^1\)

In the water resources management sector, there is a growing focus on gender equality and social inclusion. The Australian Water Partnership, through implementation of its Guidance for Gender Equality and Social Inclusion requires explicit consideration of GESI in all its investments from 2019 onwards. Examples of Australia’s contributions internationally include a collaboration between Australia’s Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Nepal’s International Centre for Integrated Mountain Development (ICIMOD), with Australia’s Department for Foreign Affairs and Trade (DFAT) over an eighteen-month period to develop the ‘Mainstreaming gender in a standard results-based M&E framework - a gender-responsive approach to practice’. The framework is being used in the South Asia Sustainable Development Investment Portfolio (SDIP) (Kadel et al., 2017). Another example is found with Australia’s International Centre of Excellence in Water Resources Management (ICEWaRM) who has partnered with TERI University in India to conduct gender equality training for the water resources sector. Such partnerships and commitment to inclusive and integrated water resources management are examples of Australia’s growing commitment to supporting and achieving the Sustainable Development Goals (SDGs), as well as a recognition of the critical connection between SDG 5 (gender equality) and SDG 6 (water and sanitation for all).

This publication presents key issues pertinent to the relationship between SDG 5 and SDG 6, including:

- water governance and gender inequalities;
- climate change, resilience and disaster-risk reduction and gender equality;
- sustainable cities, human settlements and gender;
- water data and gender;
- valuing water and gender; and
- gender and universal access to safe water and sanitation.
Throughout this publication, a range of case studies from Australian based organisations and partners are presented, providing an ‘Australian Perspective’ on the critical connection between gender equality and inclusion, water resources management and WASH in international work.

### 1.1 Key messages

**Inclusion**

Proactive and deliberate meaningful participation of women and gender-discriminated people is needed at all stages of management:

Water governance and WASH issues affect gender-discriminated people differently, and these differences need to be identified and understood at all stages of the management of water resources and WASH. The best way to address the needs of women, men, people who are sexual and gender minorities in all planned actions, including legislation, policies and programs, is to support them to participate in decision-making, so that decisions about water resource management and access to WASH services promote inclusion. Taking this message further would also involve going beyond participation to supporting empowerment of such groups, requiring attention to addressing broader gender and social norms and exclusion, since in the long-term sustaining meaningful participation will require such changes. Meaningful participation is required at all stages of the management cycle.

**Integration**

Integration across the SDGs leads to more equitable and sustainable outcomes: The 17 SDGs call for an integrated approach to strategies, policies and implementation at the global and national levels. There is enormous potential in the WASH and water governance targets of Goal 6 (including domestic access to services, transboundary water management, reducing water pollution, increasing water efficiency and restoring water-related ecosystems) to mutually reinforce positive outcomes of gender equality (Goal 5) and reduce inequality overall (Goal 10). Research demonstrates that projects designed and run to be socially inclusive and gender-sensitive are more sustainable. Increasing gender-discriminated people’s voices at all levels (global, national, local) can help to achieve these integrated SDG targets, serving multiple goals simultaneously.

**Good data**

Good data underpins good practice: Improving data systems of all types underpins good water governance and WASH. Data systems on technical aspects ought not to be ‘gender blind’, and data on gender and social aspects is critical to informing inclusive practice. Sex-disaggregated data can (at a minimum) contribute to gender-inclusive policy formulation. Data on gender inequalities in WASH initiatives and in water governance initiatives is also critical. For example, research and data collection can uncover barriers to women owning land and accessing finance, which may undermine their ability to participate in water allocation programs and integrated water resource management. Similarly, data on the economic and social consequences of women and girls lacking access to improved sanitation and menstrual hygiene facilities, underpins increased and targeted investment in these areas of need.
2 What does success look like?

Gender equality in water resource management, sanitation and hygiene

All global forums dedicated to water resource management and WASH will be socially inclusive and provide platforms for women and gender-discriminated peoples to provide input and influence.

Women will have access to land, water rights and finance at the same level as men.

Gender disparities in each cultural context will be revealed from the outset, and all decisions around water governance and WASH will be made to work through and beyond these constraints.

Women, particularly in developing contexts, will be taking up more places in the fields of engineering, government, law and science to support their engagement in the water and sanitation governance sectors.

All water governance and WASH programming will pay special attention to the most vulnerable people in our societies.

Men will be champions of equality and involved in all levels of gender mainstreaming so that change is owned by men and women alike.

Women and children will no longer bear the burden of carrying heavy water from far away.

Women, children, transgender and intersex people will no longer be raped or suffer sexual harassment as they travel to the toilet outside of the home.

There will be fewer babies dying as a result of mothers giving birth in unhygienic environments.

Every girl and woman will have access to appropriate information about sexual and reproductive health and rights and appropriate menstrual hygiene management products and services.

Prepared by the UTS Institute for Sustainable Futures and WaterAid for the Australian Department of Foreign Affairs and Trade
3 Why is gender equality relevant to Goal 6?

**Gender equality** refers to the *equal rights, responsibilities and opportunities* of women and men, transgender, intersex people, girls and boys. Gender equality implies that the interests, needs and priorities of all people are taken into consideration, recognising the diversity of different groups of women and men (for example, women belonging to ethnic minorities and women with disabilities). Gender equality is both a human rights principle and a precondition for sustainable, people-centred development (adapted from UN Women).

Globally, there is enormous potential for water governance and WASH to better promote equality, and for contributions towards achieving Goal 5 and Goal 6 to be mutually reinforcing. Women are also key to achieving improvements in access to, and sustainability of, water resources management and WASH services. Projects designed and run with the full participation of women (compared to non- or partial participation) have been found to:

- be more sustainable.
- improve women’s and girls’ access to education and work.
- improve gender relations, and position women as role models who can change men’s attitudes.
- improve women’s health outcomes, with flow-on benefits for men, girls and boys.
- promote inclusion when women and men with disabilities are part of decision-making around WASH, which can change attitudes towards disability within communities, as well as address the specific gender-related needs of people with disabilities.

Women are under-represented in technical and managerial water management roles for a variety of reasons linked to limited educational opportunities, and societal norms and expectations. To make the water sector more inclusive, men have important roles to play in how their knowledge, attitudes and behaviours better accommodate women’s specific needs and support women’s full participation.

It’s important for men to champion all aspects of gender mainstreaming so that change is owned by women and men alike.

The human right to water and sanitation requires services to be available in an acceptable, adequate, affordable, appropriate and safe manner to all. Goal 6 to ‘ensure availability and sustainable management of water and sanitation for all’ has explicit gender dimensions. Water and sanitation issues affect women, men and people who are sexual and gender minorities differently; hence all global and national efforts to achieve Goal 6 must explicitly consider and address gender inequality. Applying universal design principles to all WASH facilities ensures that they are accessible to everyone.

Water and sanitation issues disproportionately affect women and girls due to social norms (e.g. responsibility for water collection); particular risks (such as sexual assault when traveling), and biological needs (such as maternal health) (Tarrass and Benjelloun, 2012). For this reason there is explicit mention of women and girls in the Goal 6 Target on sanitation. This target draws attention to the need to enable women to adequately manage their needs with dignity and safety, including in public settings (schools, workplaces and health-care facilities). Globally, women are more likely to live in poverty than men and they are disproportionately affected by HIV. Moreover, girls are less likely to finish school than boys (UN Women, 2013). Disability can affect access to water and sanitation for both women and men, but women with disabilities are often more disadvantaged than their male counterparts.
Yet, gender discrimination and exclusion exist at all levels of water and sanitation policies, strategies and programs. Moreover, women are rarely adequately represented in ministries responsible for decision-making about water resources, and are generally not found in technical water management roles (Maharaj, dns). National water and sanitation policies rarely take account of women-specific water and sanitation needs such as menstrual hygiene management (Winkler and Roaf, 2015), and they seldom consider the needs of women with disabilities.

Acknowledgement of the critical connection between gender and ‘water and sanitation governance’ is gaining traction internationally. For example, in 2016, the Special Rapporteur on the human rights to safe drinking water and sanitation presented a report to the United Nations Human Rights Council on the role of gender equality in the realisation of the human right to water and sanitation (UN, 2016). Nevertheless, the evidence base on the connection between gender and water management is still weak and additional analytical work is required – globally, nationally and locally. There are significant gaps in our understanding of the issues that sexual and gender minorities experience with regards to WASH, and the barriers they may face in participating in water resources management decision-making forums. Data collection and lessons from practical experience on this specific topic are needed.

Two important issues with respect to gender equality are the need for and ways to increase full and effective participation, and recognition of women’s equal right to economic resources as described below.

- **Increasing full and effective participation**: Despite women playing multiple roles in water management, their representation at the domestic, catchment and global levels does not match that of men. Many factors lead to women’s exclusion from decision-making forums. Moreover, research indicates that while quotas and targets are important, it is not only the number of women on committees, boards, community organisations or water management institutions that is important, but also the power dynamics at play within these organisations. Where these dynamics mirror exclusionary socio-cultural norms, they may serve to undermine women’s voices (Nang and Ouch, 2014). Such barriers need to be made explicit, and the involvement of women and people who are sexual and gender minorities in decision-making forums needs to be supported so that their participation is equitable and effective.

- **Equal rights to economic resources**: Women often face barriers to owning land, accessing finance, and generating incomes as a result of discriminatory practices within their communities, or expectations that they will assume traditional family-caring roles. For instance, laws or customs in 102 countries still deny women the same land access rights as men (OECD, 2014). These imbalances in access to economic resources impact on women’s abilities to engage in markets, such as water markets (or allocation regimes) and WASH utilities and enterprises. Such inequalities need to be made evident so that they are not deepened with the advent of pricing and valuing of water, or other water governance decisions.

**Appendix 1** summarises connections between SDG 5 (‘Achieve gender equality and empower all women and girls’) and SDG 6 (‘Ensure availability and sustainable management of water and sanitation for all’).
4 What is gender equality?

Gender affects everyone; it is not just about women. Furthermore, gender identity is not only about ‘men’ and ‘women’, but includes people of all gender identity and expression, and all sexual orientations.

Gender is an acquired and or self/defined identity (as opposed to ‘sex’ which is biological) and refers to the attributes and roles that are assigned to people as part of the society or culture to which they belong. The resulting expectations, roles and relationships lead to unequal power relations, and affect the extent to which different genders enjoy freedom, status and access to resources and assets (Global Water Partnership, 2014).

A useful framework for understanding gender equality’s relationship to water (and its governance) distinguishes between:

• **practical/material** gender needs (e.g. accessible and safely managed water and sanitation facilities); and

• **strategic** gender outcomes (e.g. women having a greater voice and influence in decision-making on water and sanitation issues).

This framework was refined and popularised by Moser (1989). Supporting **practical gender needs** is about changes that assist women (and other gender-discriminated people) within the realm of **existing** gender norms. Contributing to **strategic gender outcomes or interests** is about changing social norms, through changing status or changing power relations, particularly between women and men. It is also about addressing the causes, and not just the consequences, of existing inequality (see Table 1). Simultaneously addressing both Goal 6 and Goal 5 requires a strong emphasis on strategic gender interests and redressing existing inequalities in power and status, not just addressing practical needs.

Table 1. Examples of practical and strategic gender dimensions of Goal 6 (source: authors).

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<th>Practical gender needs (examples)</th>
<th>Strategic gender outcomes (examples)</th>
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<td>• Female small-scale farmers having access to irrigation technology rather than carting water from far away.</td>
<td>• Women have an increased voice and are better listened to in domains where decisions about water resources management are made.</td>
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<td>• Supporting women with safe transport to attend water governance related meetings/workshops/decision-making forums.</td>
<td>• Increased diversity of roles for men and women, including women and sexual and gender minorities gaining higher status roles (at all levels from the household to national to global).</td>
</tr>
<tr>
<td>• The ability to perform existing household chores more easily, for example, through domestic water sources being available within the home.</td>
<td>• Women have increased confidence and gain greater recognition for their contributions and the value of these contributions.</td>
</tr>
<tr>
<td>• Increased safety, dignity and privacy, particularly with respect to access to sanitation facilities.</td>
<td>• Recognition (by women and men) that women have rights and different water and sanitation needs.</td>
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<tr>
<td></td>
<td>• Changes in gender roles as a result of a shift in power relations and ability to negotiate roles and responsibilities.</td>
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<tr>
<td></td>
<td>• Men’s recognition of women’s burdens which results in negotiations and power shifts.6</td>
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Two important areas for consideration are firstly, how to move from an exploitative perspective on involving of women for instrumental reasons to transforming gender relations and secondly, considering how gender intersects with other forms of exclusion and discrimination, both described below.

### 4.1 From exploitative to transformative gender relations

Gender equality cannot be solely achieved by improving water governance decisions and processes or access to water and sanitation facilities alone. However, these domains are critical for gender equality, in that when there is discrimination and exclusion within these sectors, gender inequality is perpetuated. One way of imagining the types of approaches that can be taken to advance gender equality is shown in the following figure which demonstrates a continuum of gender equality.

![Figure 1. Continuum of approaches related to gender equality (adapted from Gupta, dns).](image)

At one end of the spectrum sits programs and policies that **exploit** unequal power dynamics that are prevalent in our society, and deepen or maintain the negative aspects of patriarchal systems, beliefs and attitudes. An example of this would be the intentional diversion of water away from small-scale farmers who are women maintaining kitchen gardens for their families subsistence, and using it for commercial uses (e.g. exploiting an aquifer so that female farmers could no longer irrigate their garden plots).

An example of a **neutral or blind** approach, would be modelling water sources and ecosystem services, without considering all the different uses and needs by all members of the community. A study found that when women and men were asked to map water and ecosystem services in Ethiopia, different features were identified by both groups, and when brought together, created a much more detailed and richer scientific knowledge and understanding of landscapes, adding value to research for development questions (Baker et al., 2015).

A **sensitive or accommodating** approach is demonstrated when women are invited to existing processes, but without much attention being paid to their specific needs (e.g. time availability), existing unequal power dynamics making it hard for women to contribute in forums with men who may have more education or perceived status.

A **transformative** approach involves addressing and changing gender norms to promote and support gender equality. Transformative programming addresses the gender-based causes of unequal access to water resources and WASH, and works to transform harmful gender roles and norms. Gender norms can be transformed when there is respect for women and sexual and gender minorities, and support for them to be leaders.
4.2 Gender and intersectionality

The SDGs call for the recognition of the needs of all people, including women, and a reduction in the disparities between people due to age, gender, disability, race, ethnicity, origin, religion and economic status (SDG 10). The disparities which arise due to all these factors have implications for the ways water resources are managed. One of these implications is the need to give attention to intersectionality, which is the interaction of multiple dimensions of discrimination. For instance, women from a particular ethnic group may suffer exclusion due to both their sex and their ethnicity. In other words, women are not all the same and have varying degrees of power and access to resources and decision-making opportunities, and these nuances need to be considered when pursuing inclusive approaches.

The global prevalence of disability is greater for women than men, standing at 19% and 12%, respectively. In low and middle-income countries, women are estimated to comprise up to three-quarters of persons with disabilities (Browne, 2017). This statistic points to the need to better understand inclusion from multiple perspectives, and in nuanced and contextual ways in order not to be unaware of the rights and interests of people who experience disadvantage in a range of ways.

This publication does not attempt to address every aspect of intersectionality. Instead, it adopts the approach articulated by Gunnarsson (2011) that while gender must be understood in its local variations, it is “possible to think of women as a group on a global level, because although the gender structure looks different in different locations, it possesses so much internal coherence so as to deserve to be thought of as one (differentiated) whole” (Gunnarsson, 2011, p.34). For this reason, many of the examples and case studies within this publication focus on women and water management, while recognising that this is just one aspect of inclusive water resources management and WASH.
5 Water governance and gender inequalities

Sector studies have shown that equal involvement of men and women is positively correlated with improved sustainability of water supplies, as well as improved transparency and governance in management (Narayan, 1995).

Omitting gender-related issues in water governance frameworks and forums undermines the effectiveness of water governance initiatives, reduces efficiency through missed opportunities and knowledge, and can limit trust and engagement with the community as a whole. In support of this understanding, the OECD Water Governance Principles state that ‘There is now an enhanced recognition that bottom-up and inclusive decision-making is key to effective water policies’ (OECD, 2015).

Decision-making must include women and other gender-discriminated people as water managers, knowledge holders, and stakeholders in order to bring about inclusive water governance. The following sections cover gender barriers, indigenous knowledge, gender mainstreaming, tapping expertise, bridging policy-action gaps, and promoting equal access to economic opportunities.

Although women play significant roles in managing water resources at the household and community levels, in farming, and at the catchment scale, their role in water governance has been hindered by gender-related barriers (Water Governance Facility, 2014). Gender considerations have largely been seen as irrelevant or marginal in decisions around ‘big water’ issues such as: large-scale water supply options (dams, desalination, recycling schemes); catchment management; integrated water cycle management; water allocations; and water trading. ‘Big water’ has largely been ‘gender neutral’ or ‘gender blind’ as a result of a range of barriers including women’s lack of access to education (especially in engineering, law, government and science); and women’s lack of access to resources, services and political influence. Women with disabilities can be doubly disadvantaged due to exclusion related to both their gender and their disabilities.

The sections below address a range of key dimensions related to water governance and gender equality, beginning with the basis for a focus on gender equality and human rights in water management and the importance of indigenous perspectives. Following this, illustration of how to mainstream gender equality, its importance in water-sharing and the untapped expertise of women are addressed. Finally, the place of gender and inclusion in hydropower and the relevance of women’s access to economic resources are explained.

5.1 Integrated Water Resources Management, Human Rights and Gender Equality

Barriers to inclusive water management processes, practices and outcomes persist, despite high-level efforts to address them. For instance, the influential 1992 ‘Dublin Principles’ (see Box 1) identify women’s equal participation in water management as constituting a foundational integrated water resource management principle. Likewise, the UN Inter-Agency Task Force on Gender and Water (2003–2009) sought to promote gender mainstreaming in the implementation of the Millennium Development Goals (MDGs) relating to water and sanitation. The 2002 Johannesburg Plan of Implementation at the global, regional, national, local and utility levels also specifically referenced the importance of taking account of gender in achieving sustainable development (UN, 2002). Experts interviewed by the Global Water Partnership found that while high-level commitments are common, implementation is severely lagging (Grant, 2017).
Box 1: Dublin Principles: Setting the agenda for gender in Integrated Water Resource Management

In 1992, the International Conference on Water and the Environment was held in Dublin, Ireland, culminating in a conference report framed around four principles, known as the ‘Dublin Principles’. These principles acknowledge that the pivotal role of women (as providers and users of water and guardians of the living environment) has seldom been reflected in institutional arrangements for the development and management of water resources. Principle 3 states that women play a central part in the provision, management and safeguarding of water, and that ‘[a]cceptance and implementation of this principle requires positive policies to address women’s specific needs and to equip and empower women to participate at all levels in water resources programs, including decision-making and implementation, in ways defined by them’ (Dublin Principles, 1992).

At the centre of considering equality issues within water resources management, is the human rights-based approach (HRBA) which is a framework that aims to ensure that peace, justice, fundamental freedoms, democracy and, in particular, fulfilment of human rights are integrated and mainstreamed into activities and programs (Cap Net et al., 2017). The human rights-based approach to integrated water resources management training manual and facilitator’s guide, developed in 2017 by five global organisations, explains the relevance and necessity of applying HRBA to integrated water resources management:

Against the ‘background of competing uses and water stress, it is crucially important that water resource-related decision-making processes are clear and unambiguous and that prioritizing water uses takes place within a balanced framework, giving due regard to efficiency, equity and sustainability considerations. The human-rights framework, being based on universally accepted conceptions of justice, provides just such a framework. The 2010 international recognition of the right to water and sanitation was a landmark moment in this sense, because it provided both the normative and the legal basis for a balanced decision-making framework’

(Cap Net et al., 2017, p 55).

Research into the role of women in transboundary water dispute resolution found that while women have a multiplicity of roles in transboundary freshwater dispute resolution, few have high levels of influence (de Silva et al., 2018). The literature review conducted by this study found a significant gap in research related to women’s role as decision makers when it comes to water resources and high levels of decision-making (de Silva et al., 2018). Yet while research on the relationship between water resources management and gender equality is limited, particularly in relation to decision-making, some examples can be found, such as a study conducted by the United Nations Development Program in 2014. This study, led by the UNDP Water Governance Facility at the Stockholm International Water Institute, examined 11 water governance programs supported by the Millennium Development Goals Achievement Fund and found that gender mainstreaming in the design of the programs was ‘generally weak; lacking relevant high-level goals and adequate integration in the monitoring framework’ (Water Governance Facility, 2014). It also found that the two most critical factors that led to effective implementation of gender strategies were: (i) high-level leadership in support of gender equality; and (ii) the involvement of people with gender expertise in project design, implementation and evaluation. Gender expertise, in this context, is defined as the integration and promotion and design of gender equality measures from the beginning of a program to its end based on appropriate expertise. Additionally, structural barriers were
found to be challenged more successfully through collaboration with women’s organisations, creating more opportunities for women to affect the processes and outcomes of local water management.

Similarly, research commissioned by the Global Water Partnership, which involved 40 experts from around the world working in the fields of social inclusion, gender, and water identified four priority actions related to leadership, GESI analysis, inclusive participation, and equal control of resources (Box 2).

**Box 2: Global Water Partnership Gender Equality and Inclusion Action Piece**

**Action area 1 – Institutional leadership and commitment:** Make gender equality and inclusion a core business goal.

Inclusive water programs and policies lead to greater economic, environmental, and social sustainability. To make this a reality, organisations must ensure they have the right processes, systems, leadership, and resources. To institutionalise inclusive practices – and to bridge the gap between policy and practice – leadership is needed at all levels of an organisation. Young female leaders, for example, need to be taken seriously and have important roles in organisations.

**Action area 2 – Gender and inclusion analysis that drives change:** Conduct gender and inclusion analysis at all levels.

Quality analysis is necessary to ensure that equality is maximised. Analysis should include the current gender and equality context (to identify issues of exclusion) as well as the projected impacts of any intervention on members of the community (women and men, boys and girls, transgender peoples, people with disabilities, and marginalised people). The analysis must then influence program and project design, legal frameworks, etc. It is also important to draw on gender analysis frameworks to guide monitoring, evaluation, and learning choices.

**Action area 3 – Meaningful and inclusive participation in decision-making and partnerships:**

Adopt a ‘nothing about them without them’ approach.

To include people who will be affected by a water management decision is more than just about numbers, it is about ‘meaningful’ participation. This includes training, financial support, long-term engagement, and working in partnership with organisations such as indigenous, women’s, and disabled people’s organisations.

**Action area 4 – Equal access to and control of resources:**

Create a level playing field with respect to access to and control of resources.

Significant efforts are needed to ensure that access to and control of resources – both land and water – make ownership more inclusive. Legal barriers need to be addressed as well as customary law and cultural practices. Given the sensitivity of these issues, marginalised peoples themselves are best placed to inform strategies around unlocking these barriers to equality (Grant, 2017).
Case study 1: Supporting women's voices in water governance forums in Viet Nam

Oxfam Water Governance Program worked in a long term partnership with Vietnam River Network to build the Vietnam Women's Union women's leadership capacity in the Mekong delta. An opportunity arose to support the first national women's consultation as part of the Procedures for Notification, Prior Consultation & Agreement (PNPCA) on the Don Sahong dam in southern Laos. Women were mobilised and informed on the potential impact and, due to the trust built, were able to fully participate. This provided a platform for the voices of large numbers of women from diverse areas and levels of society and facilitated local women leaders to speak in a regional forum.

Oxfam’s role in facilitating engagement through the Vietnam National Mekong Committee appears to have been one of the contributing factors in Vietnam’s continuing moratorium on further dam construction. Key to the result was flexible programming to take opportunities, a theory of change building women’s confidence and the trust built through long term engagement.

5.2 Indigenous peoples and water resources management

Indigenous people from Australia and around the world have deep connections to, and immense knowledge and wisdom of how to manage water resources sustainably. Yet, in modern water management processes, this is rarely recognised or valued. Indigenous peoples face challenges such as: dispossession from their lands and waterways; customary access and rights to water being seldom recognised by states or corporate actors; pollution of, and extraction from, significant water bodies undermining cultural and spiritual knowledge and connections; and their knowledge not being drawn upon or valued in water management decision-making. The report of the World Commission on Dams in 2000 gave prominence to the land and water rights of indigenous peoples and endorsed the principle that ‘free prior and informed consent’ is essential and the very minimum before people are moved or displaced from their traditional lands and homes (World Commission on Dams, 2000). It is important to build from existing indigenous knowledge and local institutions and leadership, while also taking care to ensure cultural and social norms do not reinforce gender inequality. For example, in sub-Saharan Africa few rural women own land (World Bank, 2018).

Case study 2: Indigenous water knowledge in Australia

Australian Aboriginal people have maintained strong cultural connections to country and to water sources for over 50,000 years (O’Connell et al., 2018), despite being oppressed, marginalised and dispossessed of land, water, knowledge and cultural life. The legacy of the dispossession continues in economic, social and political disadvantage. In the Aboriginal world view, people and Country (including lands, waterways and seas) are interdependent entities that are intrinsically linked in the landscape through cultural and spiritual significance. This means that there is no separation of nature and culture- the health of the natural environment and cultural wellbeing of Aboriginal people is directly influenced by the health of the cultural landscapes, including waterways.

Aboriginal and Torres Strait Islander Peoples’ traditional ecological knowledge and stories are passed down from generation to generation and continue to this day, supporting a symbiotic relationship with land and water. This knowledge and connection to Country is essential to managing rivers in Australia, and increasingly drawn upon to support decision-making about water sharing and management. For example, as a result of advocacy efforts by Aboriginal people in Australia, engagement forums were established, such as the ‘Murray-Lower Darling Indigenous Nations’
5.3 How to mainstream gender equality in water governance

Gender mainstreaming is a process whereby the implications for women and men of any planned action, including legislation, policies and programs in all areas and at all levels, are assessed and addressed, and gender inequalities are not perpetuated (Water and Sanitation Program, 2010).

To achieve inclusive decision-making that takes into account women’s perspectives, the World Bank’s Water and Sanitation Program (WSP) identifies four levels at which gender mainstreaming needs to occur: policy, operational, monitoring and evaluation, and citizen voice (WSP, 2010):

- **Policy:** This will involve establishing goals to reduce gender inequalities, and a plan for how to achieve these goals. To inform policy, a gender analysis of the issues on the ground needs to be conducted, and this analysis needs to be repeated at regular intervals to inform decision-making. Policy-makers should collaborate with gender experts, and allocate resources to a process of continual engagement with these experts including women’s organisations.

- **Operational:** Gender issues will need to be identified and acted upon within sector agencies themselves, and agencies will need to ensure that staff are equipped to mainstream gender throughout project cycles.

- **Monitoring and Evaluation:** Data collection that is disaggregated by sex and disability status should make better information available to assess the positive or negative impacts of programs on women and men. Disaggregated data can be used to inform decisions. Sector gender monitoring should be integrated with national monitoring frameworks rather than separate processes being created.

- **Citizen Voice:** Women and marginalised citizens, including persons with a disability, need to be included in decision-making forums, and they should be supported with the skills and opportunities to shape programs and services so that water governance outcomes are enhanced. Multiple barriers to women’s involvement in decision-making include: being time-poor due to household responsibilities; cultural barriers to women’s participation; and inferior education levels and opportunities. These barriers need to be revealed so that water governance processes and programs can be made more inclusive.

5.4 Water sharing and allocation: whose interests are served?

Water governance involves water sharing arrangements, and the institutions that manage and ensure compliance of these arrangements. None of this is gender neutral, because all decisions related to water resources are privy to power dynamics, and compromises between different interests, especially in situations where water resources are scarce. In many contexts, some actors have more money and power to assert their water needs and preferences, and it may be deemed politically expedient to meet these needs. As a result, marginalised peoples may miss out on

“When water-sharing arrangements are negotiated, there is always a process of identifying for what and why water is needed by different parties, followed by decisions on how water should be distributed among water uses and users. This is where issues of justice surface: both in process and outcome”

(Patrick, 2014).

and the ‘Northern Basin Aboriginal Nations’. Through these forums, Aboriginal Australian’s have discussed water management issues with Murray-Darling Basin bureaucrats and decision-makers, informing and influencing decision-making relevant to the Murray-Darling Basin Authority and the Basin States.
access, or improved access, to safe water for domestic, agricultural, cultural, and economic needs. A key reason that marginalised peoples are not accounted for in water sharing decision-making, is because their knowledge and expertise is overlooked.

5.5 Untapped expertise

In general, women's expertise in water resource management is not utilised or harnessed effectively by water governance institutions. The Asian Development Bank (ADB) found that women are often excluded from water governance realms as a result of: perceived deficiencies in their technical skills and experience; restricted career paths; lack of transparency around promotions and appointments; and informal male networks that exclude female membership (Jalal, 2014). Similarly, a study of female water professionals revealed that in South Asia the percentage of technical posts occupied by women was only 5%, and that almost all women interviewed felt that their skills were highly under-utilised (SaciWATERs, 2009).

One approach to address this imbalance has been to set quotas or implement affirmative action policies to attract more women into decision-making positions (Pande and Ford, 2011). While this is a critical first step, equal representation of women may not be sufficient to shift power dynamics between men and women. Women need to have not only increased visibility but also equal power within decision-making forums (Earle and Bazilli, 2013).

Furthermore, water resource management and WASH-related disciplines can ensure that gender-sensitive awareness and expertise are mainstreamed through school curriculums, which would provide opportunities for boys and men to be involved and trained, as well as women. An example of a program which supports emerging water sector leaders, funded by Australia is the Australian Young Water Professionals in Myanmar (Case Study 3).

Case study 3: Australian Water Partnership Young Water Professionals Program

The Myanmar Young Water Professionals (YWPs) is a rolling one-year program in which young people from government, civil society and private sector in Myanmar receive mentoring and training in various water-resources related technical subjects. For many, the YWP Program is the first opportunity to collaborate between key Government sectors and different stakeholders in solving complex problems in water resources management.

Now in its fifth batch, the program is designed to create the next generation of water leaders in Myanmar by exposing them to a wide range of issues and disciplines that make up the complex picture of water resources management and river basin planning in Myanmar. The program in 2018-19 was managed and coordinated by WaterAid Australia and included the following highlights:

- supporting the YWPs to participate in the Emerging Water Professionals Program as part of the 2018 International Riversymposium in Sydney;
- an ‘Introduction to Integrated Water Resources Management (IWRM)’ short course delivered by the International WaterCentre; and
- participation of YWPs in the Ayeyarwady Basin Exploratory Scoping Study (BEES) policy course conducted by the CSIRO.
Workplaces can often reproduce the context of inequality, exclusion or discrimination in which they operate. To achieve gender transformative change through IWRM and WASH programming and policy, it is important that organisational practice, attitudes and behaviours do not reinforce gender inequality or social exclusion. In order to act as an agent of change and champion inclusion and gender equality, IWRM and WASH actors need to examine their own capabilities, systems and cultural attributes on gender. Upskilling sector actors to challenge our own biases and norms through training, gender audits, workplace policies is critical to improving gender equality programming outcomes.

Research indicates that it is not only the number of women on committees, boards, community organisations or water management institutions that is important, but also the power dynamics at play within these organisations. Where these dynamics mirror exclusionary socio-cultural norms, they may serve to undermine women’s voices. Such barriers need to be made explicit, and the involvement of women and people who are sexual and gender minorities in decision-making forums needs to be supported so that their participation is equitable and effective (Cummins, 2011).

### Case study 4: Gender equality and inclusion in water resources management, India

The TERI School of Advanced Studies (India) and ICE WaRM (Australia) have partnered to deliver training on gender, equity and water management, targeting mid to senior career professionals in government agencies and NGOs.

Training sessions were delivered through expert presentations, interactive group problem solving and action planning, on issues such as conceptualising gender equity and water management and mainstreaming gender equality in policy and planning. The program takes a focussed look at the status of female water professionals in South Asia, by looking at the challenges faced by women in the sector, as well as the benefits of increased participation and what is needed to support this. The course looks deeply at the role of institutions, and how institutions shape access to water resources and how gender dimensions impact on this access.

River basin planners require a combination of technical and social skills in order to meet competing social and environmental demands with a variable water supply. A strong understanding of gender issues, along with other forms of disadvantages such as class, caste and poverty are necessary to ensure that river basin planning processes are sound, as well as the needs of all members of society met by water resources management decisions. The training program is supported by the Sustainable Development Investment Portfolio of the Australian Government.

### 5.6 Hydropower, gender and inclusion

Hydropower is a sector that has not considered gender and social inclusion as a high priority, as the links have not well been understood until recently. One example which demonstrates the relevance of gender and social inclusion to the hydropower sector can be found in the Lesotho Highlands Water Project (Earle and Bazilli, 2013). The construction and community displacement resulting from the building of a dam led to women experiencing: increased poverty; higher rates of infection from HIV through sexual contact with construction workers; and loss of garden plots used to sustain their families. These impacts were gendered in that they were not experienced equally by men and women, and an understanding of these potential impacts on women from the outset could have led to a mitigation of impacts through a reduction of sexual violence and improvements in women’s livelihoods which would in turn have improved their nutrition and that of their families.
Improving policies to make them sensitive to gender differences requires actions and resources to deliver and track progress on these policies. Research conducted on transboundary water management in the Mekong has found that there is a critical gap between policy and implementation (MRC, 2013). Supported by the Australian Aid Program, Oxfam Australia’s ‘Balancing the Scales’ initiative promotes the use of gender impact assessment in hydropower schemes in the Mekong region (Simon, 2013). An understanding of how hydropower development differently impacts women and men helps developers ensure their projects minimise harm, and potentially enables them to see how they can play a positive role in addressing gender inequality. The Gender Impact Assessment Manual produced by this initiative includes a step-by-step gender impact assessment process for hydropower dam development. The manual is designed to be used by hydropower and consulting companies involved in social and environmental impact assessment. It also gives guidance to business for considering gender across the project cycle. Research on the impact of implementing the manual with the hydropower industry in Viet Nam is presented in Case study 5.

Case study 5: Balancing the scales – gender impact assessment in hydropower schemes

Despite the water security and supply benefits that large dams have had in many contexts, they have also resulted in widespread displacement of communities and associated altered or destroyed environments and livelihoods. It has been estimated that between 40-80 million people have been forcibly displaced by large dams globally (Hill et al., 2017). A study looking at the outcomes of the application of Oxfam’s Gender Impact Assessment (GIA) for hydropower manual in Viet Nam and Lao PDR found that there were no existing drivers to ensure that hydropower developers assess the gender impact of their projects. The application of gender impact assessment in two contexts, found that some women experienced greater levels of domestic violence as a result of changes to livelihoods resulting from resettlement. It also found that some women reported that their income generating opportunities changed, often in a detrimental way as a result of fewer opportunities available to them (Hill et al., 2017).

The study found that widespread uptake of gender impact assessment process is unlikely without governments and communities demanding this standard of practice in hydropower developments, along with supportive legislation. In Lao PDR and Viet Nam, this could be enabled, for example, by amending existing legal instruments that currently require hydropower developers to conduct an Environmental and Social Impact Assessment or Environmental Impact Assessment (Hill et al., 2017).

5.7 Equal rights to economic resources

In many societies, women experience reduced opportunities to acquire economic resources. Land ownership and financial management systems and customs, and differences in education and employment opportunities, all impact on women’s abilities to access economic resources (FAO, 2012). The laws or customary practices of 102 countries still deny women the same rights to access land as men (OECD, 2014). This also has significant impacts on women’s ability to use and manage water resources for small-scale farming and other agricultural activities. Women are a critical component of agriculture in developing countries, comprising an average of 43% of the agricultural labour force (FAO, 2011), and yet their access to, and control of water and land resources is not equal to that of men. As noted by Das (2017:1), ‘[w]ater is an arena where gender relations play out in ways that often mirror inequalities

The laws or customary practices of 102 countries still deny women the same rights to access land as men

Source: OECD (2014).
between the sexes. For instance, women’s lower access to land is mirrored in their lower access to water-related natural resource assets’. Equal rights to natural, and economic resources are fundamental ways that gender inequalities can be advanced by the water resources sector.

5.8 Recommendations for policy and practice

The following recommendations are provided to guide policy and practice to improve gender equality and inclusion outcomes in water governance:

- Ensure application of existing research and evidence on achieving gender equality outcomes in water governance policies and programs. Research has found that the most critical actions are:
  - engaging gender expertise at all stages of a program’s development.
  - strong leadership driving gender equality.
  - collaboration with women’s and inclusion-focussed organisations.
- Inclusive participation processes are needed for engaging communities in water governance policy and programs; this involves ensuring opportunities to influence, and support for marginalised peoples to be leaders.
- Countries can consider adopting a quota system for female professionals, managers or decision-makers in ministries and water-managing institutions in order to increase female participation in these influential water governance realms. It is critical that quota systems also provide leadership skill building and support to women to ensure their participation is meaningful.
- Tools (such as Oxfam’s Gender Impact Assessment Manual or other related tools such as the World Bank Group’s gap analysis process) can be utilised in ‘big water’ projects, including river basin planning, and integrated water resource management.
- As part of the gender analysis stage, it is critical for differences in control over resources to be understood (e.g. land and water), so that inequalities are not inadvertently deepened through water sharing/allocation/trading arrangements.
6 Climate change, economic resilience and gender equality

Systemic inequities and gender biases in land ownership, inheritance rights, access to resources, and social norms of participation in natural resources management will be exacerbated with worsening ecological change from climate change (Sultana, 2018).

People use, manage and make decisions about water resources in different ways, stemming from gender norms and roles, so when these water resources are disrupted or limited, the impacts are also felt differently. Such is the case with respect to the different experiences that men, women, the poorest, ethnic minorities and people with disabilities when, for example, a flood or drought is experienced.

Climate change is exacerbating existing water insecurity globally, with significant gender consequences including increasing vulnerabilities and marginalisation of people, especially those who are already marginalised (Sultana, 2018; World Health Organization, 2011). At the same time, the knowledge, skills, and understanding of resilience held by women needs to be harnessed to adapt to climate change impacts and build community and national resilience. To bypass or underestimate this knowledge, threatens attempts to manage climate change impacts, and will result in greater threats to water resources and the people who depend on them (Figueiredo and Perkins, 2013). Australian based organisations working to bring a gender equality and inclusion approach to climate change adaptation have used gender analysis to identify different needs of community members in Vanuatu (Case study 6), including ensuring female leadership and representation on community committees. Research in the Solomon Islands revealed that communities rely on multiple water sources during periods of water stress and have included gender and social inclusion analysis to inform programming (Case study 7).

**Case study 6: Gender equality, water management, climate change and resilience**

Extreme drought caused by El Nino in 2015-1016 created significant challenges for the people of Vanuatu accessing safe drinking water, especially affecting women and children. Women and girls were spending significant amounts of time collecting water from the ocean located three hours from their community. Community consultation highlighted that women carry the largest burden during a drought, collecting water for themselves, their children and household duties. Unlike men who could bathe publically, women were unable to maintain basic hygiene due to cultural and safety concerns. Gender equality and social inclusion training highlighted the need for water distribution to consider gender appropriate water management strategies. CARE initiated central distribution of water to women, children and people living with disabilities. In response, CARE actively ensured female leadership and representation on community committees. This resulted in increased local knowledge regarding gender equality and highlighted the importance of introducing gender focused water management.
Case study 7: Unequal decision-making limits resilience

In Solomon Islands a baseline survey of more than 350 people conducted by Plan International Australia and Live & Learn Environmental Education as part of the Department for Foreign Affairs and Trade (DFAT) supported Water for Women Fund, found that over 80% of men and women said that they always participate in decision-making about WASH at household level. In contrast, at community level, over 50% of women said that they didn’t participate in community WASH decision-making because it wasn’t the role of women (or men do not permit it). Research by Griffith University found that Solomon Islands communities rely on as many as nine different water sources during periods of water stress. Plan Australia engaged the International Water Centre to contextualise and combine UNICEF’s Climate Resilient WASH guidelines and WHO’s Equitable Water Safety Planning guidelines for use in the Water for Women Fund project. These approaches aim to equitably strengthen inherent community resilience and to capitalise on the opportunity to transform gender and power dynamics at community level.

6.1 Resilience and gender and social inclusion

While there is no universally agreed definition of ‘resilient economies’ in economics or social science (Simmie and Martin, 2010), the term can be understood to refer to the ability of the economy to cope, recover and reconstruct following a shock or disaster (Hallegatte, 2014). The traditional water management roles that women play in many societies have strong links to economic resilience, or lack thereof, making such societies more vulnerable to economic shocks resulting from climate change and natural disasters. Figure 2 illustrates the cumulative effects of water insecurity for rural women as a result of limited access to resources (water, land, and technology, etc.), compounded by climatic events, resulting in women experiencing a range of negative short-term impacts leading to limited livelihoods, food insecurity, and lower incomes. Research has shown that disasters affect women and men differently because of women’s roles in crop and livestock management, their involvement in carrying water during drought, and their family hygiene roles (Tripathi et al., 2012).

![Figure 2. Conceptual framework for rural women’s water insecurity (Parker et al., 2016).](image-url)
Resilient economies are underpinned by safely managed water and sanitation, with between US$3 and US$6 gained annually for every dollar invested (global average) (Hutton, 2015). Access to safely managed water and sanitation also underpins economic resilience, since significant losses are incurred through reduced productive time, health-care costs and mortality. The World Bank’s Water and Sanitation Program found that 18 African countries lose around US$5.5 billion every year due to poor sanitation (primarily as a result of health impacts and lost productivity), with annual economic losses of between 1% and 2.5% of GDP (Water and Sanitation Program, dns). Women’s economic resilience is undermined by their unpaid work managing water and sanitation services within the home, especially in carrying water which can take over two hours per day (United Nations, 2015). Additionally, time lost at school by girls who do not have access to adequate menstrual hygiene management facilities reduces the girls’ education and therefore their economic potential (Jasper and Bartram, 2012).

### 6.2 Recommendations for policy and practice

The following recommendations are provided to guide policy and practice to improve gender outcomes in response to climate change, and improving resilience and disaster-risk reduction.

- The impacts of disasters, including those associated with droughts, floods and climate change, are experienced by men, women and sexual and gender minorities differently, and the economic impacts of these events have severe flow-on effects for women, including health impacts and decreased educational and economic opportunities. This needs to be better understood, and taken into account in disaster-risk reduction interventions.

- A resilient economy is one that invests adequately in universal access to safely managed water and sanitation, with economic benefits being between three and six times the investment.

- Investment decisions are improved when men and women are included using gender-sensitive participatory tools, and when data is gender-disaggregated to provide an understanding of how investments affect men and women differently.

- Global estimates of the benefits of improvements in water access must track benefits and burdens which are gender-disaggregated in order to better understand how investments in resilience, including investments in major assets, affect men and women differently.
7 Sustainable cities, human settlements and gender

Urban spaces are used differently by men and women – and this needs to be taken into consideration in water management and services, especially around issues of utility and safety. Among the urban poor, women tend to have the lower-paid, less secure jobs, while men may retain more of the decision-making power within households and take on only a small share of domestic tasks (UN Women, 2015). This leaves women both cash- and time-poor, and means that their workload, both paid and unpaid, is generally heavier than men’s (IIED, 2012). Differences in workloads and types has implications for the extent to which women can participate in engagement initiatives in support of planning and designing urban spaces; therefore, urban planning may not capture the needs of women in the urban environment. Human settlements need to be developed on an inclusive basis, not only to account for these aspects of women’s experiences, but also to account for the diverse needs of the community, including people with disabilities.

7.1 Equality dimensions of ‘leapfrogging’ from the drainage city to the water sensitive city

The quality of life that a city offers varies greatly for different social groups (Herington, 2006). Within an urban environment, individuals and social groups are disaggregated along many divisions including gender, ethnicity, class and age. Disaggregation also occurs according to ways in which they use the city (e.g. different modes of transport) and a person’s geographical location with respect to the city. Leapfrogging, in this context, is the process whereby a city/town may draw from the lessons and experiences of other jurisdictions and ‘leapfrog’ to the latest technologies, knowledge and understandings in total water cycle management rather than repeating the mistakes of the past (Brodnik et al., 2017; Brown et al., 2017). However, without an understanding of the differences in ways that people live in, and use urban environments, leapfrogging will not contribute to reducing inequalities.

Johnstone et al., (2012) point out that in order to ensure equity and social justice, there needs to be an even geographical distribution of water planning and management benefits and access to these benefits across society, in order to avoid marginalisation or exclusion. Socio-economic factors can have a major influence on equity if access to the benefits of integrated water management, such as water sensitive urban design features and benefits, are purely user pays. This can result in the poor being excluded from water-sensitive design infrastructure, especially in the context of informal settlements. In addition, geographic characteristics can cause some contexts to be more vulnerable to poor performance or system failures – for example, elevated areas may be more dependent on pumping for water supply while low-lying areas may present challenges to effective drainage (Johnstone et al., 2012). The Australian funded and managed RISE project is trialling water sensitive urban design in informal settlements in three countries, to address issues of vulnerability and marginalisation with water sensitive and co-design practices (Case study 8).
Informal settlements characteristically have insecure dwellings and lack WASH services, and as a result they face a range of health and safety challenges. Gender-discriminated people face additional dangers with respect to accessing toilets safely, carrying and managing water resources, and menstrual hygiene management in unclean environments. Research has demonstrated that inadequate access to water and sanitation is linked to psychosocial stress, especially among women, forcing them to navigate social and physical barriers during their daily sanitation routines (Hulland et al., 2015). Issues of accessibility are likely to have a greater impact on women with disabilities.

More broadly, urban sanitation is one of the most significant issues for urban areas in developing contexts, and it is one that presents major issues of safety, vulnerability and distress for women (Hulland et al., 2015) The SDGs focus on the full service chain (beyond simply attention to toilet installation) is very important for reducing health risks to both women and men in informal settlements where exposure to untreated domestic waste is often high. The Goal 6 target around water reuse (halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally; Target 6.3) presents a strong policy driver for cities to ‘leapfrog’ towards the creation of water sensitive cities. However, women’s safety in informal settlements is a problem that also needs immediate attention (Case study 9).

Case study 9: Gender-based violence in informal settlements suffering lack of services

In its Safe Cities report, ActionAid notes that ‘In Cambodia, poor informal settlements in the capital Phnom Penh, home to hundreds of thousands of the city’s poorest inhabitants, are routinely cleared out and residents pushed further out to the edges of the city. In the last 20 years, hundreds of thousands of people have been forcibly evicted to make way for shopping malls, cafes and apartment buildings. This ‘beautification’ of the city and the massive construction that follows it, leads to an ever increasing displacement of poor women and men. This in turn leaves them starved of access to even the most basic of services – it is estimated that over 70% of all relocation sites have poor or non-existent infrastructure and 43% have no access to utilities such as water and sanitation. This leaves women stuck in poorly serviced areas and exposed to higher levels of violence and insecurity’ (Action Aid, 2014).
7.3 **Recommendations for improving policy and practice**

The following recommendations are provided to guide policy and practice to improve gender outcomes through water and sanitation management initiatives in human settlements.

- **The needs of women and children in urban environments must be prioritised along with water management planning to enable cities to ‘leapfrog’ and become safe and inclusive water sensitive cities. Urban planners, local governments and city authorities must mainstream the inclusion of all people (women, men people who are sexual and gender minorities) to inform and shape urban development to ensure that all public spaces, including streets and parks, are safe for all.**

- **Public and private investments in water and sanitation services in informal settlements must consider the safety and security needs of women and girls (and all users). This can be achieved by allocating resources to privacy features (good lighting, lockable doors) and consultation with girls and women about the location and design of all facilities. Accessibility features, such as ramps, handrails and spacious cubicles, can improve access for a greater number of people, including pregnant women, people with disabilities and elderly or chronically ill people.**

- **Sanitation is a major issue for growing cities. The SDG 6 target for improving water quality by reducing pollution, eliminating dumping and minimising the release of hazardous chemicals and materials (Target 6.3) should act as an additional policy driver for improving urban waterways and surrounding environments. This could have positive implications for women who currently rely on these water sources, or care for unwell family members exposed to water-borne disease.**

- **Informal settlements could benefit substantially from water sensitive design principles and practices, along with improved water and sanitation services. When considering WASH infrastructure and planning, the total water cycle should be considered and planned for wherever possible so that infrastructure is integrated, and benefits are maximised.**
8 Water, data and gender

Water users are not a homogenous group, and are made up of women, men, children, people with disabilities, youth, the elderly, etc. All these water users have slightly different water needs and responsibilities with respect to water management (Winterford et al., 2014). This can be better understood through quantitative and qualitative data collection and analysis processes. Disaggregated data (by sex and disability status) is therefore required to understand how water management decisions affect men, women, boys and girls differently (Caruso et al., 2015). For example, women’s access to and ownership of land has strong links to water rights and access to water, yet is not well understood or measured. This is a data gap that needs to be filled in order to understand how water trading schemes may affect men and women differently.

The power, value and influence of good quality and timely data for water management decision-making processes is well recognised. And yet, sex-disaggregated data on global access to water and sanitation has never been reported in a standardised fashion (UNICEF and WHO, 2015). Additionally, the economic benefits of providing women and girls with safely managed WASH services and facilities globally have never been calculated. As well as the need for disaggregated data, national-level monitoring could include collecting data on access to water and sanitation by female-headed households; and impacts of more women being involved in governance of WASH and water, in a range of capacities.

Monitoring and evaluation (M&E) processes are becoming increasingly comprehensive and prioritised, in part due to donor requirements, the influence of global initiatives such as the SDGs and the associated indicators and reporting processes, and the increased awareness that feedback loops are needed in order to learn, adapt, and avoid making mistakes (Grant and Willetts, 2019). Resources are available to guide gender focussed monitoring and evaluation in water resources management, including a special focus on irrigation projects, from the International Water Management Institute (IWMI) and UNESCO (Seager, 2015; Pangare, 2015; Lefore et al., 2017). The Australian CSIRO has also developed a resource to support gender focussed monitoring and evaluation in the South Asia Sustainable Development Investment Portfolio program (Case study 10).

Case study 10: Making Gender Count

The South Asia Sustainable Development Investment Portfolio (SDIP) is a twelve-year strategy implemented through four-year funding commitments by the Australian Government. Gender issues in South Asia are complex and require both qualitative and quantitative indicators to track and measure gender impacts. In keeping with the water–energy–food focus of the SDIP, the CSIRO, with ICIMOD and DFAT developed a sample ‘picklist’ of indicators for each sector. The guidance document titled: Making Gender Count: Leveraging M&E to mainstream gender was designed as an entry point for thinking differently and to support partners to refine and improve engagement with gender issues in practice. The initiative uncovered three important lessons:

1. It was critically important to find solutions that empower all staff, and not just gender and M&E specialist staff to engage with gender issues in their work.

2. There was a need for the SDIP partners to better understand and position their networks of influence within the complex social and political systems of the region. Only then could partners understand how best to achieve improved outcomes for women and girls when engaging at higher scales of intervention.

3. Input from SDIP partners confirmed that every indicator has a cost— whether a resource, staffing, opportunity cost or otherwise. More data does not always translate into better outcomes, so it is vital that partners choose indicators carefully, focusing on those that are most relevant to their work and will allow the most effective tracking of gender outcomes over time (Kadel, 2017).
Intra-household variation in water use and access is another area not yet well understood. Current national monitoring initiatives, such as those supported by the WHO/UNICEF Joint Monitoring Program (JMP), focus at the household level, but not the individual level. New approaches to examining intra-household deprivation will be needed in the future to identify inequalities between household members. This is currently being explored by the JMP in relation to indicators developed for the SDGs (WHO/UNICEF, 2016). Under the Australian Water for Women fund, the Institute for Sustainable Futures at University of Technology Sydney is developing a ‘gender equality measure’ to assess changes in gender equality associated with WASH interventions (Case study 11).

**Case study 11: A measure for gender equality in WASH**

The Institute for Sustainable Futures at the University of Technology Sydney, supported by the Water for Women Fund, is developing a multi-dimensional gender equality measure and complementary qualitative methodologies to assess attributable impacts of WASH on gender equality.

The measure comprises five domains that draw on contemporary gender and development literature and debate, namely: Agency, Critical Consciousness, Resources, Structures and Well-Being. As a relative measure, it assesses change over time associated with WASH interventions, brings together both female and male perspectives on gender roles and relations and can reveal both intended and unintended outcomes. A related measure has been developed in the agricultural sector to examine women’s empowerment in agriculture programs. The measure will be piloted through engagement with iDE in Cambodia and SNV Development Organisation in Nepal.

A measure that relies on quantitative data is useful for understanding scale and scope of change, but is limited in exploring and explaining why and how changes have happened. As such, complementary qualitative methodologies are also needed to ensure the complex process of social change can be understood and also used to inform program improvements. The latter provide space to ensure that monitoring and evaluation itself can also be transformative in approach (Willetts et al., 2013).

Data can be a tool for empowerment, but it can also hide disparities when data is not disaggregated. These nuances need to be considered so that data collected truly assists in the fulfilment of multiple SDGs, including those aimed at ending gender-based inequalities and assessing whether basic human needs are being met. The UNESCO World Water Assessment Program has initiated a project on gender-sensitive water monitoring, assessment and reporting. The report on sex-disaggregated indicators for water assessment monitoring and reporting includes guides to support this process (Seager, 2015). There is a need for improved qualitative data on lessons learned in efforts to increase gender mainstreaming in water governance institutions and in water-related services and systems, in order to inform evidence-based practice.

**8.1 Recommendations for policy and practice**

The following recommendations are provided to guide policy and practice to improve gender outcomes for improving water, data collection and management.

- Data is needed on lessons learned to increase gender mainstreaming in water governance institutions and water-related services and systems.
- Monitoring of Goal 6 requires data disaggregated by sex and disability, and it requires sex-specific indicators and dedicated impact assessment methods to assess whether improvements in access to water truly benefit women and girls. The UNESCO ‘Sex-disaggregated indicators for water assessment, monitoring and reporting’ is a tool which can be used to guide this process.
- In support of Goal 6 and the emphasis on ‘safely managed’ services, data is needed not only on the existence of infrastructure and systems but also on how these services are used and by whom.
- In support of Goal 5, measures and methodologies that can capture the influence of water-related programs on gender equality can assist in revealing both intended and unintended gender outcomes.
9 Valuing water and gender

Understanding the value of water for a variety of uses, as well as the costs of pollution, can support more transparent and better informed decision-making through an understanding of the full costs and benefits of using water resources for different purposes, including domestic supply, agriculture, industry and services.

The valuation of water and pollution expressed in financial terms needs to be considered in light of the Human Right to Water and Sanitation8, to ensure that basic human needs are met for all people. By placing an economic value on water and sanitation for health, agricultural output, economic productivity, environmental services and educational opportunities, we can obtain a better understanding of the total value of water and sanitation to inform investments and water allocation regimes.

Three common mechanisms for revealing the value of water utilised in Australia have included: cost-reflective pricing of water-related services and infrastructure; pricing of pollution; and secure tradable water rights (Pohlner et al., 2016). These three mechanisms each have significant and different implications for women and men. They highlight the need for gender-sensitive thinking and assessment in order to reveal the true value of water for all. Each of these is discussed below.

9.1 Cost-reflective pricing of water-related services and infrastructure

Cost-reflective pricing can signal the costs of water provision to the end user, thereby supporting water conservation behaviours (OECD, 2010). The price of water is usually passed on to the end user to pay in a monthly tariff. However, in some contexts, user-pays and full cost recovery mechanisms put in place by operators have resulted in people not being able to afford increased water bills, and as a result, other essential services (such as food, health and education) may have to be sacrificed in order to access water and sanitation services (Bakker, 2001). This can have particular impacts on women who may prioritise the health and needs of other family members at the expense of their own needs. People with disabilities may have increased need for water (e.g. for washing due to incontinence or use of hands for mobility), leading to higher water costs, further impacting on women within these households. Research conducted by ISF-UTS has explored upfront finance and other ‘lumpy’ finance mechanisms for initial investment or replacement of sanitation assets, and has suggested that there is little scope in developing countries for utilities to charge high enough tariffs to achieve full cost recovery, and that government and donor funding is an essential component (ISF-UTS, 2014).

9.2 Pricing of pollution

In many countries women bear the primary burden of collecting water for household use, and this is often from untreated surface-water sources such as rivers and streams. Women engage in washing clothes in these water bodies and come into contact with the water which is often of very poor quality. As a result, and because women during pregnancy are immune-suppressed, they are more susceptible to water-borne diseases (Lemanski and Marx, 2015). Women therefore have a lot to gain from reduced pollution in waterways. Putting a price on pollution, forcing polluters (industry, business, individuals) to consider the negative value (i.e. costs) of surface and groundwater degradation, is therefore a measure that would sit alongside gender mainstreaming if it decreased overall levels of pollution and resulted in potential health improvements for people coming into contact with surface water.
9.3 Secure and equitable water allocations

In situations where water rights are attached to land rights, gender-discriminated people are at a disadvantage given their unequal access to land ownership due to long-term discriminatory practices and cultural traditions. At the same time, women are a critical component of agriculture in developing countries, comprising an average of 43% of the agricultural labour force (FAO, 2011). The number of women responsible for farming and food production for the family is increasing with the shift from agriculture-based economies to those based on remittances as men move to cities to find employment (Craven and Gartaula, 2015). This ‘feminisation’ of agriculture is resulting in additional farming responsibilities being placed upon women who are managing their families and caring for children (Sugden, 2014). Therefore, women have a huge stake in the valuing of water, and they have intimate knowledge of water security issues in relation to agriculture, yet they are excluded from decision-making forums related to water security (Jalal, 2014). Water user associations (which are self-governed organisations of farmers who pool their financial, technical and human resources for the use and maintenance of a defined watershed (or catchment), including irrigation agriculture, livestock production and fisheries can be a good entry point to encourage balanced participation and decision-making for both men and women (Guo, Zhao, and He, 2011). Women’s limited access to water resources and membership of agricultural and water user associations can be closely tied to their limited access to land. Any water allocation scheme must therefore: understand existing inequalities in resource ownership, including land and access to finance/capital (Cleaver, 1998); and the extent to which women are meaningfully participating in water user associations and relevant industries (such as mining, agriculture and manufacturing). It is critical that water allocation schemes take steps to ensure that existing inequalities are not deepened.

9.4 Recommendations for policy and practice

The following recommendations are provided to guide policy and practice to improve gender outcomes related to valuing water.

- Cost-reflective pricing needs to take into account the specific impacts on the poor, including women and marginalised people, who are not able to afford water connection fees and tariffs.
- Pricing of pollution could have a positive impact on women who perform water-related duties in untreated surface water bodies (such as cleaning clothes and collecting water) if total levels of pollution were reduced.
- Women’s access to finance and land must be understood prior to water allocation schemes being implemented so that existing inequalities and discrimination are not perpetuated by water allocation and/or trading schemes or pricing policies.
10 Gender and universal access to safe water and sanitation

The human rights to water and sanitation entitles everyone, without discrimination, services which are available in an acceptable, adequate, affordable, appropriate and safe manner. In support of the human rights to water and sanitation, the SDGs provide a shared vision for leaders, policy-makers and advocates to deliver gender-transformative water, sanitation and hygiene (WASH) interventions.

Goal 5 of the SDGs has a target of ensuring ‘women’s full and effective participation and equal opportunities for leadership’ (Target 5.5), which is deemed critical for addressing gender inequalities in WASH. There is increasing evidence of the ways in which WASH offers a strategic entry point to empower women and girls and increase gender equality (Willetts et al., 2010). Since WASH-related work such as water collection are closely associated with social norms based on gender, WASH programs and policies can provide fertile ground to promote women’s voices, participation and leadership and at the same time shift men’s attitudes (Carrard et al., 2013). This can begin a process of change in gender relations and roles both at the community level and in government. In Bangladesh, a WASH program deliberately went beyond the standard aspiration of having at least 50% of WASH management committee roles filled by women: findings from a review of this program showed increases in women’s skills, confidence in leadership roles, and capacity to advocate on their own behalf with decision-makers (Wilbur and Huggett, 2015). Research on gender outcomes in WASH programs in Vanuatu and Fiji found positive gender-equality outcomes went beyond the practical level (improved access to services) and led to changes in women’s power and status (Case study 12) (Willetts et al., 2009). This work was systematised into a widely adopted framework for exploring gender equality outcomes across dimensions of individuals and relationships, and across household, community and public spheres (Carrard et al., 2013).

**Case study 12: Inclusive and participatory engagement processes applied in Fiji**

Research across communities in Fiji and Vanuatu sought to identify positive gender outcomes as a result of WASH programs. The research found key positive outcomes included: an increased sense of community unity through women and men working together; women’s efforts to increase community sanitation are recognised; women are working together and supporting each other; women are more respected by men and feel more valued; women have an increased voice at the community level and men participate more in household water collection duties. Enablers of positive gender outcomes included: community engagement processes that utilise inclusive learning circles; holding the meetings at times and places that suited women; and encouraging meaningful participation by women. The project used water as an entry point to discuss broader issues of leadership, governance and inclusion. This work was developed into a Resource Guide for practitioners that offers four simple but powerful principles.

**Principle 1:** Facilitate participation and inclusion - Focus on ways of working that enable women, men, girls and boys to be actively involved in improving their water, sanitation and hygiene situation.

**Principle 2:** Focus on how decisions are made - Use decision-making processes that enable women’s and men’s active involvement, within the project and in activities.

**Principle 3:** See and value differences - See, understand and value the different work, skills and concerns of women and men related to water, sanitation and hygiene.

**Principle 4:** Create opportunities - Provide space and support for women and men to experience and share new roles and responsibilities (Willetts et al., 2009).
Case study 13: Integrating gender and social inclusion training in water management programming in Vanuatu

CARE International in Vanuatu provided training to 17 communities in Aniwa, Erromango and Tanna focusing on local water security, sanitation and meeting the gender sensitive hygiene needs of both men and women. Gender equality and social inclusion (GESI) training formed a key component of this program in attempt to challenge cultural gender norms and to empower women to contribute to water usage. Women in Vanuatu typically utilise more water completing household duties, including child care, washing, cooking and gardening. Consequently, poor hygiene practices relating to hand hygiene, limited access to water resources and marginalisation of women from critical decision-making have detrimental impacts on the health and wellbeing of families. As a result of GESI training, communities have implemented a gender balanced approach which is reported to have led to the inclusion of women leaders on community committees, and improved equality in decision-making, specifically in relation to water resource use.

Case study 14: Gender equality and leadership

Plan International Australia’s multi-country program under the DFAT Civil Society WASH Fund, placed strong emphasis on building women’s technical knowledge of WASH and increasing opportunities for them to participate in and lead WASH activities at community level. An evaluation of the program found that women’s increased confidence and participation in community WASH activities had flow on effects for improved WASH access in the community, with examples of positive changes taking place in relation to WASH issues with a particular impact on women.

“Equality between men and women in the village has become more evident. The women are more courageous to speak up, they have been involved in several events, and their inputs are heard”

(Female, Indonesia).

“In the past, when we complain ... that the bridge we cross to fetch water has caved in... there was no action. Now that women were given a chance to lead [on WASH Committees], the bridge has been fixed, making our lives easier”

(Female, Malawi).

(Plan International Australia, dns)
Case study 15: Supporting and drawing on women's technical skills, Timor-Leste's Women in Engineering Group

The Engineers without Borders Feto Enginhera group works in Timor-Leste to advocate for women in engineering through capacity building, outreach, and partnerships with similarly-minded organisations working towards women’s empowerment. Their work takes many forms, from their high school outreach programs dedicated to exposing young adults to female engineering professionals, to providing inclusive training workshops focused on personal, professional, and technical skill development.

Feto Enginhera supports Plan International female consultants and fieldworkers who manage water distribution systems and analyse water quality in rural communities. Barriers for female engineers, particularly in water and sanitation fieldwork, have spurred discussions in Feto Enginhera towards better understanding what these barriers are and how the organisation can overcome them to provide equal opportunities across genders. An upcoming research project will map barriers for female inclusion in WASH. Considerations will include transportation to remote sites, as well as sleeping and hygiene conditions for researchers on assignment.

Case study 16: Supporting women's technical skills and knowledge in the water and sanitation sectors

Challenging gender norms and social injustices are key components of CARE’s program approach, ensuring women and girls have equal rights and opportunities. In November 2016, CARE International Vanuatu constructed and rehabilitated sanitation facilities and water systems across the islands, specifically in Tafea. CARE’s local engagement with women and girls, paved a new opportunity for two women to develop their technical skills and knowledge in plumbing and construction, partaking in sanitation facilities improvements, working alongside local men. Female program participants received on the job technical skills training and mentoring. This led to them contributing to the construction work that took place in Tanna schools, building latrines and handwashing stations among other projects. The women involved became role models for other women and girls, whilst challenging stereotypical occupational norms. Providing women with equal opportunities has provided a gender balanced approach to local water and sanitation sector recruitment.

10.1 Reproductive and sexual health outcomes and WASH

The newly passed global resolution to address and improve WASH in healthcare facilities highlights the importance of WASH for achieving universal health coverage and improving quality of care (World Health Assembly, 2019). This is essential for improving women’s sexual and reproductive health outcomes and ensuring births occur at health-care facilities that have sufficient safe water and where unsafe sanitation and hygiene practices no longer exist. Women and their newborns are at risk of life-threatening infections when their only option is delivery in facilities with unsafe WASH. According to the JMP global baseline report in 2019, one in four health care facilities (26%) lacked basic water services, while one in five (21%) had no sanitation service (World Health Organization and the United Nations Children’s Fund, 2019). Rural, remote health centres are the worst affected. They pose potentially deadly infection risks for staff working at the facilities. Female nurses, midwives and community health workers are often the frontline

38% of health-care facilities in low- and middle-income countries have no access to safe water.

health workers in such facilities. Addressing the water, sanitation and hygiene services at health centres not only improves the health of mothers and newborns by providing safe and dignified places to give birth but also supports safe work conditions for female health workers, thus contributing to gender equality.

**Case study 17: WASH in health care facilities**

In Cambodia, WaterAid commissioned a situational analysis of policies, standards and monitoring for WASH in healthcare facilities. The results showed a worrying lack of data on the status of WASH coverage in healthcare facilities. Since 2016, WaterAid Cambodia has worked in partnership with WHO Cambodia, UNICEF and Emory University, USA, to address these gaps in collaboration with the Cambodian Ministry of Health. A working group was created and is taking action in several areas, including: securing WASH facility improvements; integrating WASH into new and existing guidelines, standards and strategies; and training health centre staff on WASH as it relates to Infection Prevention Control. WaterAid Cambodia has supported the group to focus on ensuring WASH improvements are female-friendly, accessible and improve quality of maternal care (WaterAid, 2018).

Menstrual hygiene management is a key element of meeting women’s and girls’ practical WASH needs, as well as their sexual and reproductive health rights. Neglecting menstrual hygiene management is a missed opportunity for safely supporting a vital element of women’s and girls’ development and reproductive health (Huggett and Macintyre, 2016).

**10.2 Eliminating violence against women and girls**

Evidence shows that poor access to water and sanitation facilities increases exposure to risks of violence for women and girls (WaterAid, 2013, House et al., 2014), and people with disabilities have even greater risk of experiencing violence (Hughes et al., 2012). Increased stresses linked to poor water and sanitation access have been found to increase domestic violence and beatings for which the women are then blamed (WaterAid, 2013). When women with disabilities are unable to fulfil socially-prescribed water and sanitation roles (based on their gender) such as collecting water, or when they take longer to perform these tasks, they can become targets of domestic violence. To date the society has not addressed issues of violence related to water and sanitation access and roles particularly well. While this is starting to change, concerted effort is required to build capacity in the sector. Efforts by WaterAid to introduce gender equality training and facilitated discussions with communities, has been found to have positive impacts on gender relations within communities, increasing the value of the WASH programs overall (Case study 18).

**Case study 18: Household harmony increases from improved WASH**

In Timor-Leste, WaterAid works with communities to bring about more equal sharing of WASH-related household work, and to promote women’s leadership, as part of rural Community-Led Total Sanitation WASH activities. A 2019 review of the approach found it was effective in helping men and women recognise the workload and roles of each other, with men in particular reporting newfound understanding of the work that women did in the home. Positive changes were reported by women and men in communities, such as women taking up new roles including in WASH leadership structures, and technical and construction roles. Communities reported an increased status of women within in the community, and increased decision-making opportunities (Grant and Megaw, 2019).
10.3 Unpaid care and domestic work

Improvements in WASH can reduce the burden for women and girls and encourage men and boys to share household work (a target of Goal 5). As described above, socially constructed norms position women and girls as being responsible for household water collection. Women are also primarily responsible for the care of children and of sick, disabled and elderly family members – roles that are generally unpaid. This burden is often exacerbated during natural disasters or humanitarian emergencies, and risks to personal safety are heightened due to the chaos and disorder that follows such events. Well-designed WASH programs and policies can help to shift these gender norms and create a more shared division of labour between women and men.

10.4 WASH entrepreneurs and inclusion

One area of increasing attention is the extent to which women are able to become entrepreneurs in the water and sanitation sector (Case study 19). Research has found that women and men have different perceptions about the possibility that women could take up roles such as becoming sanitation masons. One study found that women thought it would be easy for them to take up such roles, but men thought it would be difficult for them to do so because of their housework and family duties (Gero et al., 2015). This research illustrates why women, and people who are sexual and gender minorities, should be represented at all levels of decision-making and specific efforts are needed to ensure equality of opportunity. Another challenge faced by women who want to become masons was that they often had less access to capital and were more economically stressed than men, which was an obstacle to entrepreneurship (Gero et al., 2015). This aligns with research which found that in Viet Nam women face challenges accessing finance if land is only registered in their husband’s name, rather than jointly (Gero et al., 2105; Hampel-Milagrosa, 2010). To address barriers like these, organisations such as WaterSHED Cambodia are recruiting rural Cambodian women to be supported in water and sanitation entrepreneurship, through a series of training workshops and a system of mentorship and peer coaching (WaterSHED, 2018).

Studies conducted in Cambodia and Indonesia by the Institute for Sustainable Futures, University of Technology Sydney about the extent to which women were empowered through their involvement in, and leadership of, WASH enterprises found a range of gender related barriers that make engaging in WASH enterprises, such as small-scale piped water systems and sanitation businesses more challenging for women. In Cambodia, it was found that key barriers to establishing successful water enterprises were influenced by local gender norms and expectations. The majority of entrepreneurs reported managing enterprise finances, but had concerns about access to finance, their freedom of movement, and their need for additional technical training. High interest rates, the double burden of work (such as housework and running a business) were reported by several entrepreneurs (Grant et al., 2017). Female entrepreneurs reported three key enablers which helped them to establish and manage water supply schemes: 1) social enablers, 2) economic enablers and 3) program support. Social enablers included receiving encouragement and practical help from family members and friends, as well as seeing other women succeed in the sector. Economic enablers included access to finance, including loans from financial institutions or family members (Grant et al., 2017).

In Indonesia, women’s experiences in WASH enterprises were highly varied. Women mostly believed they had equal capabilities to men due to their communication, negotiation and managerial skills. However, socio-cultural gender norms, particularly concerning women’s reproductive roles, meant that only few participants experienced support from close relationships enabling their decision-making, leadership and financial independence. Similar to Cambodia, access to finance and mobility presented common problems for female WASH entrepreneurs (Indarti et al., 2019).
Recommendations for policy and practice

The following recommendations are provided to guide policy and practice to improve gender outcomes in water quality, health, and sanitation.

• Create the space for women’s decision-making, ownership, and leadership, including through women-only spaces and by building women’s and girls’ capacity in leadership roles.

• Create opportunities for women to take on economic roles in informing and managing WASH infrastructure, with ongoing support to mitigate backlash and negotiate new gender roles.

• WASH and health sectors must collaborate to eliminate preventable maternal and newborn mortality and morbidity.

• Menstrual hygiene management should be integrated into education systems, including as part of plans, budgets, services, and performance monitoring, and as part of delivering an inclusive educational service to all children and adolescents, including girls with disabilities.

• Apply existing resources and tools to integrate gender into WASH programming, monitoring, and practice.

• Women’s empowerment outcomes can be achieved through their leadership of and involvement in WASH enterprises. However, gender norms were also limiting women’s empowerment in WASH markets in terms of mobility, household, and family duties, and traditional views about women and men’s domains. As such, targeted strategies are needed to address such constraints.

Alda-Vidal et al., (2017) also investigated the normative-cultural associations between gender and water provisioning in small-scale water businesses, and found that due to existing gender norms, women’s importance as water providers was under-recognised. They conclude that there is a need for strategies to effectively support small-scale water businesses while creating more space and power for women involved in the business. This requires explicit recognition and re-conceptualization of water provisioning as a household business (Alda-Vidal et al., 2017).

Case study 19: WASH entrepreneurs and inclusion

Plan International Australia recognises that supporting women’s involvement in market-based solutions can help to challenge discriminatory social norms. Building women’s confidence through increasing their technical knowledge and skills assists in empowering them to make decisions, earn an income, and create the opportunity for WASH products and services to better meet women’s needs.

In Indonesia, Plan has supported female entrepreneurs such as ‘Jenie’, mother of two children from Oebobo Sub-district, Kupang District, NTT Province (East Nusa Tenggara). Having sold over 2,000 latrines, Jenie now employs two staff and is improving her family’s livelihood. Moreover, her business is helping communities in NTT Province eliminate open defecation and to access improved sanitation.

Village Savings and Loans groups supported by Plan in Malawi and Vietnam provided another forum for women to discuss WASH, while also increasing their confidence and economic power to influence household WASH improvements.

“...women have the power to change their household welfare for the better was a new idea and hard to practice, but interacting with other women in the village savings and loans and participating in sensitisation meetings has given me confidence to participate more in decision-making at home.”

(Female, Malawi). (Plan International Australia, dns).
## Appendix 1: Key intersection points between SDGs 5 and 6

<table>
<thead>
<tr>
<th>SDG 5: Achieve gender equality and empower all women and girls (selected Goal 5 targets)</th>
<th>Critical intersections with SDG 6: Ensure availability and sustainable management of water and sanitation for all</th>
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| **End all forms of discrimination against all women and girls everywhere.** | • Women are not given the same opportunities as men to participate in water governance-related institutions, and are therefore, not equally represented.  
• Inequalities exist with respect to access to water and sanitation facilities and services, resulting in detrimental health impacts for those without safe and secure supplies/services, undermining of dignity, and gender-based violence which in some instances leads to physical disabilities.  
• Women take on most of the water carrying and water management work within the home, resulting in unequal work burdens between men and women, lost productive time, and health impacts. These challenges have a greater impact on women with disabilities when compared to women in general.  
• Girls and women lack adequate menstrual health and hygiene management facilities and products in many countries, and experience discrimination during the time of menstruation, sometimes resulting in time lost from schooling.  
• Women are excluded from a range of water and sanitation management decisions, resulting in gender inequalities being further entrenched.  
• People who are sexual and gender minorities experience harassment when appropriate toilet facilities are not available to them.  
• Women, especially those in poverty, are more vulnerable in the face of natural disasters. Yet women also have huge potential to support disaster mitigation and climate-resilience planning, given their knowledge and expertise related to managing water and sanitation services and resources. This knowledge is largely untapped. |
| **Eliminate all forms of violence against all women and girls in the public and private spheres.** | • Sexual and gender minorities face increased dangers and risks of violence in informal settlements as a result of inadequate WASH facilities.  
• Women and children are at greater risk of experiencing sexual violence when appropriate toilet facilities are not available and they have to go to the toilet in the open.  
• Women have reported greater levels of harmony within the home (and lower levels of violence) when gender imbalances were addressed through shared roles in water, sanitation and hygiene (WASH) between women and men in Timor-Leste. |
<table>
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</tr>
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| **Recognise and value unpaid care and domestic work** through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household. | Women bear the burden of water management in the home, including collecting water and managing household hygiene in many contexts.  
• Women play significant unpaid roles in recovery efforts following natural disasters and climate-change-related disasters, especially within the home.  
• Female small-scale farmers have less access to irrigation and farming technologies, tools and training than their male counterparts, resulting in significant impacts on livelihoods and health in the face of climate-change-related changes and disasters. |
| **Ensure women’s full and effective participation** and equal opportunities for leadership at all levels of decision-making in political, economic and public life. | • Women are excluded from decision-making forums related to water and sanitation governance as a result of time constraints (related to family caring roles), different education opportunities, and socio-cultural barriers.  
• Research has found that while increasing the number of women involved in boards and committees is a first step, the ways in which women are able to participate and influence are of critical importance. |
| **Ensure universal access to sexual and reproductive health** and reproductive rights. | • A lack of menstrual hygiene health education, products and services has been found to lead to infections which impact on the reproductive health of women and girls.  
• At least 38% of health-care facilities in developing countries lack access to even rudimentary levels of water, sanitation and hygiene (WASH). This has an impact on maternal mortality rates, and newborn sepsis which, along with other severe infections, are estimated to cause 430,000 deaths annually (WHO and UNICEF, 2015). |
| Undertake reforms to give women [equal rights to economic resources](#), as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws. | • Barriers to women owning land and accessing finance could undermine their ability to participate in water trading schemes and lead to greater inequalities.  
• Women comprise 43% of the agricultural workforce in developing countries, but do not have an equivalent share of ownership of land or water, and nor do they have an equal voice in the decisions governing these resources.  
• Barriers to accessing finance limit women’s involvement in water and/or sanitation enterprises. |
End notes

1. Inclusive WASH initiative, developed by the Australian WASH Reference Group website can be accessed at: https://www.inclusivewash.org.au/

2. Gender-discriminated people are those who are treated unequally based upon their gender. Gender-discriminated people include women, girls, transgender, intersex, and non-gender-defining people.

3. On 28 July 2010, through Resolution 64/292, the United Nations General Assembly explicitly recognised the human right to water and sanitation and acknowledged that clean drinking water and sanitation are essential to the realisation of all human rights. For more information, see: http://www.un.org/waterforlifedecade/human_right_to_water.shtml/

4. ‘Universal Design’ makes water and sanitation infrastructure safer, easier and more convenient for everyone. Universal Design evolved from Accessible Design, a design process that addresses the needs of people with disabilities. Universal Design goes further by recognising that there is a wide spectrum of human abilities. Everyone, even the most able-bodied person, passes through childhood, periods of temporary illness, injury and old age. By designing for this human diversity, products can be designed so they are more inclusive and easier for all people to use. For more information, see: http://www.universaldesign.com/

5. Target 6.2 states: ‘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. It should be noted that sometimes men doing more work may come from a practical need rather than a strategic shift, for example if a woman is ill or has just given birth.

7. Target 6.3 states: ‘By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally’.


9. On 28 July 2010, through Resolution 64/292, the United Nations General Assembly explicitly recognised the human right to water and sanitation and acknowledged that clean drinking water and sanitation are essential to the realisation of all human rights. For more information, see: http://www.un.org/waterforlifedecade/human_right_to_water.shtml/
References


Australia
water partners for development

The Australian Water Partnership is an Australian Government international cooperation initiative helping developing countries in the Indo-Pacific region, and beyond, work towards the sustainable management of their water resources.