



Women as change-makers in the governance of shared waters

Isabelle Fauconnier, Annemiek Jenniskens, Page Perry,
Safa Fanaian, Sucharita Sen, Vishwaranjan Sinha, Lesha Witmer



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Abbreviations

AMCOW	African Ministers' Council on Water
ADB	Asian Development Bank
BRIDGE	Building River Dialogue and Governance
BSWC	Black Sea Women's Club
CBD	Convention on Biodiversity
ccGAP	Climate Change Gender Action Plans
CSO	Civil Society Organisation
EGI	Environmental Gender Index
FAO	UN Food and Agriculture Organization
GAP	Gender Action Plans
GBBC	Goascoran Binational Basin Council
GGCA	Global Gender and Climate Alliance
GGO	IUCN Global Gender Office
GGRETA	Groundwater Resources Governance in Transboundary Aquifers
GIA	Gender Impact Assessment
GReACT	Gender Responsiveness Action Tool
HLPF	High Level Political Forum
HLPW	High Level Panel on Water
ICWE	International Conference on Water and the Environment
IUCN	International Union for Conservation of Nature
Lao PDR	Lao People's Democratic Republic
MSP	Multi-Stakeholder Platform
NGO	Non-Governmental Organisation
OECD	Organisation for European Cooperation and Development
OSCE	Organisation for Security and Co-operation in Europe
SaciWATERS	South Asian Consortium for Interdisciplinary Water Resources Studies
SDC	Swiss Development Cooperation Agency
SDGs	Sustainable Development Goals
SIWI	Stockholm International Water Institute
TWAP	Transboundary Water Assessment Programme
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VNR	Voluntary National Reporting
WANI	Water and Nature Initiative
WASH	Water, Sanitation and Hygiene
WfWP	Women for Water Partnership
WRM	Water Resources Management
WWAP	UN World Water Assessment Programme
WWC	World Water Council



Women farmers in Tete province, Mozambique

Introduction and key messages

Issues of women's participation and gender equality^{1,2,3} in the governance of shared waters have received insufficient attention to date in both the research and practice literature, yet action is happening on the ground. Women play key roles in generating change in the way water is used, shared, and allocated, from local to transnational levels and *in spite of* legal, regulatory and institutional frameworks that provide little space for their participation in planning and decision-making.

This paper targets an audience of policy-makers, practitioners and researchers who are interested in taking action, policy and research further on these topics. It combines a survey of the literature with a collection of case examples describing how women in Asia, Latin America, Europe and Africa are leading change on the ground in governing shared waters. Because the scientific and grey literature on the role of women in transboundary water governance is still scant, this exploratory document also draws on literature and data from the non-transboundary realm to explore the relevant gender-related dimensions of governing and sharing water, from a transboundary perspective. This action-oriented piece takes stock of what we know so far to highlight policy measures that can already be recommended, tested tools and approaches that can be harnessed in practice, while also suggesting topics for further research.

Beginning with a discussion of the reasons why women's roles are overlooked, the paper then tackles the four interlocking elements that make up the significance of women's roles in how water is shared:

- Their deep practical experience and innovation in use and sharing of the resource;
- Their ensuing technical and socio-cultural knowledge about the resource;
- Their ability to disseminate and contribute their knowledge towards cooperative solutions;
- The value of their leadership, and their meaningful role in cooperative planning and decision-making to drive change.

In turn, this yields recommendations for action in the realms of policy and programme interventions, for the use of tested tools and for further analysis needed to enable and expand women's potential as agents of change in transboundary water governance.

1 Gender refers to the socially constructed relationship between the biological sexes, rather than to actual biological differences between men and women. (Sing et al., 2006)) This paper recognises the difference between the subjects of "women" and "gender" and has taken the approach of specifically discussing women's roles in transboundary water governance, which is a subset of the larger set of gender issues relating to this topic.

2 This paper recognises that women do not form a homogenous group. Gender intersects with other axes of social differentiation to shape men and women's differential relationship with water. Caste, age, ethnicity, economic status are other axes of social differentiation that make the analysis of gender meaningful (communication by V. Narain, March 2018).

3 Gender equality does not imply that women and men are treated the same and that gender differences are erased. Instead, gender equality refers to equal opportunities for men and women, so that persons of each sex have equal chances of succeeding. For example, gender equality in tenure rights will allow women and men to have equal rights in access to and ownership of land. In order to reach gender equality, in most settings policies and practices that are equitable (not equal) will be necessary to address imbalances. This means for example that where women start off with fewer advantages/rights/recognition, differentiated policies and practices will be necessary to address their needs. In this paper, both gender equality and gender equity are therefore relevant, and are not used inter-changeably.

Key messages

This paper argues that the under-recognition of women's roles as users and sharers of the resource in effect feeds a vicious circle in which their potential contributions to key governance processes are restricted. There is a circular and self-reinforcing relationship between the constrained roles of women in governance and the under-valuation of their roles in production and resource use, the ensuing underappreciation of their knowledge about the resource, their constrained rights to access resources, which limits their economic opportunities as well as their representation of communities' economic interests, thus perpetuating an under-recognition of their roles in productive activities. This framing points to practical and policy measures that can help break this cycle, and is outlined below.

Without deliberate action to address imbalances in the involvement of women and men within transboundary water management institutions and systems, there is a missed opportunity to reap the benefits of an inclusive water governance for more equitable, as well as technically sound, sharing of water resources for all stakeholders. With improved recognition and understanding of the roles that women fulfil as leaders and change-makers in the governance of shared waters - and understanding of the differences in needs and priorities between women and men- there is potential to accelerate transformations that will lead to a more sustainable resource for both humans and nature. Key messages are the following:

- National and local **water governance frameworks** are not evolving fast enough to genuinely drive gender equality, resulting in **less meaningful participation of women** than men in formal water governance processes, including transboundary ones;
- A conventional framing of transboundary water governance as **a state-to-state matter** underplays the importance of basin-level cooperation processes, in which women tend to have more voice;
- **Stereotypes and cultural norms** about the roles of women impede their meaningful participation in local to transboundary water governance institutions and processes, which overlay already existing gender-unequal governance systems around land, natural resources and economic planning;
- **Land and resource tenure and inheritance laws** that restrict or prohibit women's access to resources – including to water - **curtail productive opportunities for women** as well as their role and visibility in national and transboundary economies.

In spite of the above:

- **Women play a prominent role** in the productive use and management of land and water resources through for example agriculture, forestry, fishery, including across national boundaries, but this is **not well recognised** in many local and national contexts -- let alone at the regional and global levels;
- In their roles as users and managers of water resources, **women are driving innovation**, including in transboundary settings where they are **demonstrating cooperative solutions** and using knowledge in formal and informal resource management processes;
- Women in local to transboundary contexts around the world are demonstrating that they are **key holders of knowledge on water use and sharing**. They play major roles in knowledge dissemination and awareness-raising through their networks and educating the next generation, and in motivation building. Yet be they from the grassroots or professional spheres, women's knowledge, skills and experience about water management are often unrecognised, even by women themselves.

- **Where women were involved** in formal and informal decision-making related to water management, **benefits have been achieved**, from higher policy attention to social and environmental issues to improved economic outcomes for women and their families, to women's empowerment⁴ in other realms, such as participation in local elections;
- **Informal multi-stakeholder transboundary governance** processes provide important spaces in which women's contributions are building pathways to more formalised institutions and benefit-sharing measures that can be more stakeholder-inclusive and gender-equal.

Based on existing evidence and emerging new data, **recommendations** for policy-makers and practitioners include:

- Agenda 2030, and in particular **combining the implementation of SDG 6 and SDG 5**, offers a great opportunity to break the vicious circle of exclusion of women in water management and governance;
- Connect the dots between resource tenure and governance roles: undertake **reforms to give women equal rights to economic resources**, including ownership and control over land and other forms of property, financial services, inheritance and natural resources including water, both for domestic and productive uses;
- Ensure women's effective participation and **equal opportunities for leadership at all levels of decision-making around resources management**, including in transboundary platforms and institutions and facilitate this by e.g., allocation of means, working with women's organisations, setting quotas and ensuring that women's voices are heard and their contributions acknowledged in decision-making processes;
- Create the enabling frameworks that place greater **explicit value on women's knowledge**, competencies and knowledge dissemination capacities, as an essential means to harness change for sustainable development and water resources management;
- Build capacity and ensure vocational **training for women** in all aspects of water management and decision-making, as well as mentoring and learning exchange schemes; Enable and support **women's networks** to build institutional capacity, disseminate knowledge and give peer-to-peer support around water resources management and decision-making;
- Create **job opportunities** for women in national and transboundary river basin authorities, local water management entities and water-related businesses;
- Recognise **the value of traditional and indigenous knowledge**, which women are often well-placed to hold and disseminate, and make use of it alongside "modern" knowledge in policies and projects;
- Generate innovative **informal dialogue spaces** in which women can contribute their ideas for improved joint management of shared waters; in turn these spaces pave the way for the establishment of **more formal stakeholder-inclusive governance** processes and institutions in which their opinions and ideas will be valued over the long term;
- **Incorporate tested tools and approaches** into policy and programme design that will foster greater gender equality in both governance processes and in project and policy outcomes;

⁴ The term *empowerment* can be misunderstood. It is used in this piece with the understanding that women are disempowered in many contexts due to unequal rights and privileges. Empowering women is therefore an objective in policy and practice that aligns consistently with equity, and ultimately with equal rights and privileges, in mind.

- Seek commitment from national government stakeholders to ensure that all water resources management and WASH investments, including transboundary governance initiatives, **undertake gender analysis and planning** from the outset to inform program development and allocate sufficient resources to meet gender equality objectives.

In addition, new **research** is needed to address the following knowledge and data gaps:

- More sex disaggregated data, including both quantitative and qualitative information and analysis, are needed to better characterise the extent and **roles of women as resource users, managers and innovators** across a range of water-related productive sectors, including in transboundary settings;
- Further research is necessary to understand the **proportion of women participating in different spheres of water governance**, from local to transboundary and from informal to formal; their **specific needs and challenges** to effective engagement in water governance; and the correlation of women's participation to other factors, such as the presence of a national gender equality policy or the existence of a water sector gender policy;
- More documentation and analysis is needed on the **benefits of women inclusive approaches** to transboundary water management: investigate the **ways in which women contribute** to transboundary water governance processes and decisions, and how these roles and contributions are different to those of men. More specifically, identify if **more cooperative and inclusive decisions** are made when women are more involved in transboundary water management processes;
- Research is needed to better understand the **links between tenure/resource rights and cooperation**, e.g., whether more equal access to resource rights for women on both sides of a border drives more transboundary cooperation.



BRIDGE Champions workshop on water quality in the Lake Titicaca basin

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1. Women in transboundary water governance: why does this matter?

Good water governance will be a cornerstone of global water security⁵ over the coming decades. A central dimension of water security involves the protection, allocation and *sharing* of increasingly scarce and polluted water resources among humans and the environment. Comprising approximately 50% of the population⁶ and despite their recognised pivotal role in water management since 1992 through the Dublin principles, women remain under-represented in water governance processes in local, national and transboundary settings.⁷ This is problematic not only from a human rights perspective, but also because governance processes are made more effective through inclusion of all stakeholders. Different stakeholders contribute with a variety of perspectives, knowledge and solutions when actively involved. Involving women in water projects has made them more sustainable, more effective⁸ and also up to seven times more efficient (UNDP-SIWI Water Governance Facility, 2017). In addition, inclusive practice will ensure that the benefits of water management are shared more equally and has the potential to reduce inequalities, thereby contributing to economic growth and increased social cohesion (Dabla-Norris et al., 2015).

What is water governance?

Water governance sets the ‘rules of the game’ for the way decisions on water allocation and management are taken, and by whom.⁹ By water governance, we mean the way in which stakeholders organise themselves around a set of formal and informal rules and institutions to allocate, use and protect the resource.¹⁰ New conceptual frameworks explicitly link the role of actors and governance processes with the health of water-related ecosystems, and the ecosystem services that are derived from well-managed watersheds (Vollmer et al., 2017). A helpful distinction is made between water governance and water management: “Management is about planning what is done (the means taken) in pursuit of objectives. Governance is about *who* decides what the objectives are and what to do to pursue them; how those decisions are taken, who holds power, authority and responsibility and who is (or should be) held accountable” (Borrini-Feyerabend et al., 2013).

As we will see in Chapter 3, women are extremely active in water *management* through productive and conservation activities, on account of the *de facto* gender-based division of labour at the household level. However, it is water *governance*, representing the exercise of control, authority and voice or the ability to influence decision-making that presents important gender challenges. In this paper, we explore the linkage between the under-recognition of women’s roles in water management and their restricted positions in water governance.

5 Water security is understood here as “The capacity of a population to safeguard sustainable access to adequate quantities of and acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability.” (UN Water, 2013). In turn, water security feeds into local and global peace and security processes, which can, conversely, affect access to water.

6 But the differences between women are big e.g. in terms of age groups or cultures/countries

7 Women are the main domestic, farming and health care water users world-wide – they manage up to 70% of water use.

8 Effectiveness is measured *inter alia* by the condition of the water system, overall economic benefits, percentages of the population reached, and environmental benefits.

9 In a closely related definition, also supported here, the OECD defines water governance as “the set of rules, practices and processes through which decisions for the management of water resources and services are taken and implemented, and decision-makers are held accountable.” Transboundary governance means water governance across borders (OECD, 2017).

10 See also IUCN’s Natural Resources Governance Framework: “Natural resource governance refers to the norms, institutions and processes that determine how power and responsibilities over natural resources are exercised, how decisions are taken, and how citizens – women, men, indigenous peoples and local communities – participate in and benefit from the management of natural resources.” (IUCN, 2016).

Water governance happens at multiple levels, through a variety of actors. Effective water governance begins at basin and sub-basin levels where local authorities, water managers and water user communities must deal with challenges and solve problems at local and basin scale to ensure the sustainability of their livelihoods, and of the ecosystems that support these. National level water governance processes define and implement policies, water laws or sets of directives that establish nation-wide institutional and regulatory frameworks for the use of water resources (Iza & Stein, 2008). Local and basin-level governance processes are typically rooted in the nationally defined institutional and regulatory frameworks, but may also be layered with more locally relevant formal and informal institutions and rules that reflect the reality and priorities of water users on the ground, including civil society and the private sector.

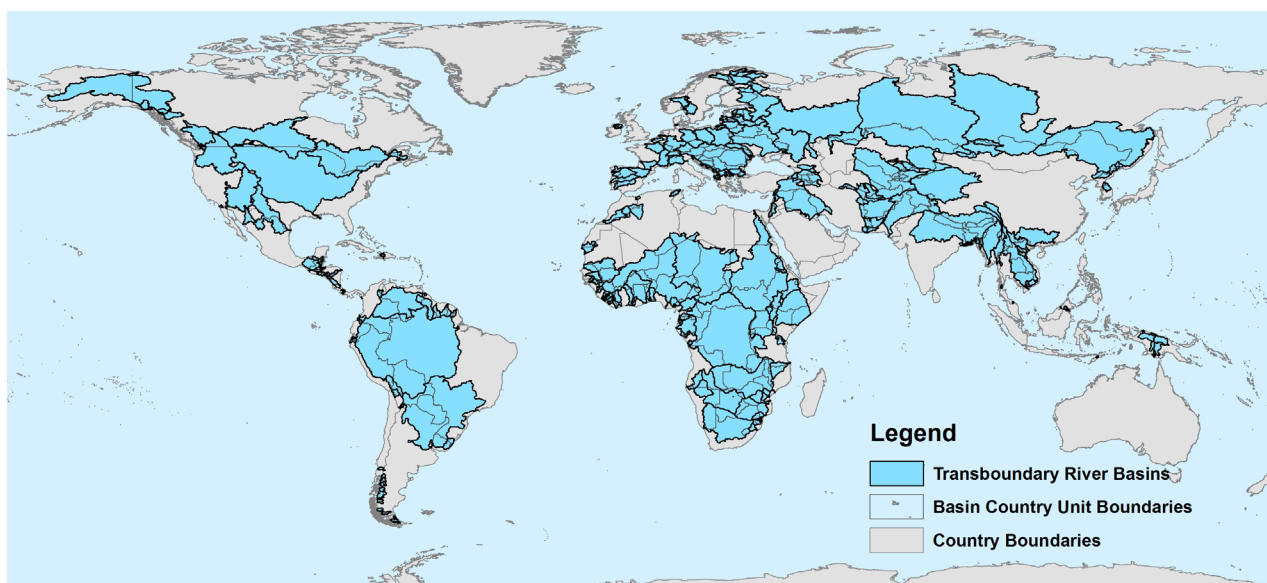


Figure 1. Transboundary river basins across the world

Source: UNEP-DHI and UNEP (2016)

In transboundary basins, formal governance processes are defined at transnational levels, through for example water protocols, charters, conventions and international river basin institutions, with bilateral or multilateral meetings among representatives of States to discuss country priorities, shared or conflicting interests and pathways to joint water security. But local formal and informal institutions, including dialogue platforms and spaces, also contribute to transboundary governance processes, for example by helping to identify shared concerns, challenges and joint solutions. Table 1 provides an overview of the array of institutions, ranging from formal and informal and local to transboundary, that can make up a water governance system.

Table 1. Water governance institutions at different scales and degrees of formality

Level	Formal	Parallel and/or semi-formal	Informal	Multi-level groups and networks, e.g. Champions' networks
Local & sub-basin	<ul style="list-style-type: none"> Water user associations Sub-catchment committees Micro-watershed committees Irrigation associations Natural Resource Management Committees 	<ul style="list-style-type: none"> Ad-hoc committees and working groups, often cross-sectoral CSOs and NGOs Industry and professional water groups 	Neighbourhood committees Local dialogue platforms, Multi-Sectoral Platforms (MSP)	
Basin	<ul style="list-style-type: none"> River basin organisation/authority Basin committee Basin Forum 	<ul style="list-style-type: none"> Cross sectoral/cross-agency working groups CSOs and NGOs Industry and professional water groups 	<ul style="list-style-type: none"> MS Dialogue platforms 	
National	<ul style="list-style-type: none"> Water Commission/Agency Water Ministry + ministries in charge of environment, agriculture, energy Regulatory Agency Water funds and other mechanisms for investment in water 	<ul style="list-style-type: none"> Cross-sectoral/inter-ministerial working groups CSOs and NGOs Industry and professional water groups 	<ul style="list-style-type: none"> Dialogue platforms 	
International/Transboundary/	<ul style="list-style-type: none"> International basin organisation/commission Regional economic commissions with a water department International Agencies focusing on water (e.g. AMCOW, WWC) 	<ul style="list-style-type: none"> Transboundary working groups/committees NGOs and Donor Partners 	<ul style="list-style-type: none"> Local to transboundary Dialogue platforms 	

Source: Fauconnier and Dalton (IUCN, 2018)

Specificities of transboundary water governance

Transboundary water governance is of special importance, as the world's 310 transboundary river basins span more than 150 countries, include at least 40 % of the world's population, and cover 62 million km² (50% of the total land area of the Earth) (TWAP, 2016; Oregon State University database¹¹ and IGRAC¹²). These figures focus on surface waters, and would increase if the 592 shared aquifers (identified so far) were taken into account.¹³ In addition, more than half of the world's population depends upon a daily water resource (see Fig. 1) shared by more than one country (UN-Water, 2012). This includes over half of the women on earth.

Transboundary governance is not merely the sum of water governance processes and institutions at lower levels scaled up at the transboundary level. Transboundary water governance poses a set

¹¹ Oregon State University: <http://transboundarywaters.science.oregonstate.edu/content/transboundary-freshwater-dispute-database>

¹² International Groundwater Resources Assessment Centre: <https://www.un-igrac.org/>

¹³ Global Groundwater Information System: <https://www.un-igrac.org/global-groundwater-information-system-ggis>

of differentiated issues from nationally contained water governance processes, with implications for the meaningful involvement of women, such as:

- Lack of formal agreements and institutions: Two-thirds of transboundary basins around the world do not have a cooperative management framework in place to manage shared water resources (SIWI, 2015), which means that basin-level actors often must find informal ways to cooperate on joint solution-finding and implementation. In cases where cooperation is a priority, informal dialogue platforms can be established to complement existing formal and male-dominated frameworks. This opens up informal spaces in which women can participate, their knowledge and experiences can be valued, can exert greater influence and help to solve the problems. These informal platforms can be a pathway to a more formal gender-inclusive governance structure;
- Stakeholders' involvement: where agreements of any kind do exist, 75% of the countries that have an agreement reported that there is some kind of arrangement in place for the involvement of stakeholders or the public-at-large (UN Water 2018), however many agreements do not involve all riparian states.¹⁴ In most cases sex-disaggregated data and qualitative information on this is lacking (or unknown to the public). Only by exception are existing agreements explicit on responsibilities and roles of local communities;
- Contrasting frameworks: Stakeholders/basin-level actors from neighbouring/riparian countries must contend with often contrasting national legal and institutional frameworks for water management. For example, sub-catchment institutions may exist on one side but not on the other, making it more difficult to identify the right dialogue spaces. Here again, less formal dialogue spaces at multiple levels may offer temporary solutions with greater opportunities for women's voices to be heard. In addition, these spaces may help prepare for establishing transboundary institutions that pay greater attention to gender equality;
- Benefit-sharing and diversity: through cooperation and joint frameworks around sharing of water resources across boundaries, a number of economic, environmental, social and peace and security benefits are derived (Sadoff & Grey 2002; Sadoff 2008); this involves many actors, as in transboundary settings, water users from all sides must identify and agree on ways to equitably distribute benefits from shared waters, not only across water-using sectors, but also across national boundaries, across social/ethnic/linguistic groupings, across generations and across gender lines;
- Conflict: In some cases, stakeholders must deal with cross-border tensions or even open conflict, which creates a climate of non-cooperation. As primary managers and users of natural resources in many conflict-affected contexts, women have a key role to play in building peace (UN Women, 2013);
- Power: In transboundary basins, powerful national and transnational interests may overshadow local challenges and solutions, further underlining the importance of multi-level processes in which local voices, including those of women, are actively sought and integrated.

With these specificities in mind, how can we shift the frame for understanding and supporting women's roles in transboundary water governance? In the next chapter, we begin by exploring the reasons for which women's roles are overlooked and under-recognised in the governance of shared waters.

14 WWF: http://wwf.panda.org/our_work/governance/policy/conventions/water_conventions/un_watercourses_convention/

2. Why women's roles in transboundary water governance are often overlooked

Key messages:

- National and local water **governance frameworks** are not evolving fast enough to genuinely drive gender equality, resulting in **less meaningful participation of women** than men in formal water governance processes, including transboundary ones;
- A conventional framing of transboundary water governance as **a state-to-state matter** underplays the importance of basin-level cooperation processes, in which women tend to have more voice;
- **Stereotypes and cultural norms** about the roles of women impede their meaningful participation in local to transboundary water governance institutions and processes, which overlay already existing gender-unequal governance systems around land, natural resources and economic planning.
- Agenda 2030, and in particular **combining the implementation of SDG 6 and SDG 5**, offers a great opportunity to break the vicious circle of exclusion of women in water management and governance.
- Further research is necessary to understand the proportion of **women participating in different spheres of water governance**, from local to transboundary and from informal to formal, and the correlation of women's participation to other factors, such as the presence of a national gender equality policy or the existence of a water sector gender policy.

Why are the roles and leadership of women – existing and potential – overlooked in the development and implementation of transboundary water governance processes? Indeed, where transboundary cooperative frameworks *are* in place, formal mechanisms have historically overlooked the roles that women play or can play in water governance. One reason for this is that national water governance frameworks, which constitute key building blocks for transboundary processes, are themselves often silent in recognising the roles of women or ineffectual on gender equality issues.

Implementation lagging behind

The release of the Dublin Principles in 1992 facilitated a shift in recognition of the importance of including women in governance (ICWE, 1992). Principle 3 states that:

“Women play a central part in the provision, management and safeguarding of water. This 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. Acceptance 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 programmes, including decision-making and implementation, in ways defined by them.”

Yet, 22 years after the Dublin principles, a survey of 65 countries conducted by IUCN's Global Gender Office in 2013 showed that only 15% of countries had a gender policy in their water ministry, and only 35% of countries had included gender considerations in their water-related policies and programmes. Moreover, as seen in Table 2., on average only 35% of countries had gender focal points in their ministries linked to natural resource management, and among those, the ministries of water resources is recorded the lowest score: 22% (IUCN, 2013). In addition, when gender-responsive sectoral policies have been enacted, as in the case of the Mekong basin countries, they have often come up short in creating meaningful change for women on the ground. Analysis indicates that this is primarily due to low level of capacity of institutions, insufficient practical guidance, tools, and means for implementation (see Box 1), and to the entrenched values and norms about the roles of women and men (UNDP-SIWI Water Governance Facility, 2014; Grant, 2017). The High-Level Panel on Water in 2018 strongly recommended to strengthen water governance and ensure gender and social inclusion alongside the implementation of integrated approaches to water management at local, national and transboundary levels (HLPW, 2018). The panel states that water governance institutions can demonstrate leadership by making gender equality and inclusion a core goal. Further research is necessary to understand the proportion of women participating in different spheres of water governance, as outlined in table 1, from local to transboundary and from formal to informal, and the correlation of women's participation to other factors, such as the presence of a national gender equality policy or the existence of a water sector gender policy.

Table 2. Ministries with Gender Focal Points

<div> <div> 35% of all environmental sector ministries have a gender focal point </div> <div> Ministries of agriculture are the most common ministry to have a gender focal point </div> <div> Ministries of water are the least common ministry to have a gender focal point </div> </div>		
MINISRTY	NUMBER OF COUNTRIES WITH GENDER FOCAL POINT	PERCENTAGE OF COUNTRIES WITH GENDER FOCAL POINT
Agriculture	37	57%
Environment	30	46%
Energy	19	29%
Forestry	17	26%
Fisheries	16	25%
Water	14	22%
Sample Size	65 countries	Average = 35%

Source: IUCN Environmental Gender Index (EGI), (2013)

Box 1. Gaps in gender sensitive policy making in the Mekong basin countries

In the Mekong basin countries, much effort has been put into creating national level policies on broad topics such as development and climate change, which include gender considerations throughout*. At the same time, findings from the region are that these gender mainstreaming policies are not being adopted or functioning as intended, leaving women out of decision-making systems (Chanphengxay, 2014; Kusakabe, 2005; Ongsakul et al., 2012). Evidence points to policies lacking guidance on implementation and in particular not trickling down to the lower levels of government. Moreover, specific national gender equality plans in the Mekong countries remain largely separate and silo-ed. They do not focus on environmental governance and natural resource management as themes for planning and action, but focus on social welfare, employment, political participation, raising awareness on gender equality (Simpson & Simon, 2013b; Resurrección & Boyland, 2017; The Kingdom of Thailand, 2015). Thus, while gender-sensitive policies have been developed, the reality on the ground does not yet reflect their purported objectives to increase the participation and inclusion of women (Andajani-Sutjahjo et al., 2015; Dang, 2017; Huynh & Resurreccion, 2014; Pham et al., 2016; Resurreccion, 2006; Thanh, 2008). Such lessons demonstrate that legal reform on its own is not enough to effect change (Lee, 2014): proactive and practical implementation guidelines, enforcement and monitoring are needed on the ground.

* Government of Cambodia (2010, 2013, 2014); Government of Lao PDR (2007, 2016); Government of the Kingdom of Thailand 2016; Government of the Republic of the Union of Myanmar 2009; Government of the Socialist Republic of Viet Nam (2011, 2016). Source: Compiled by P. Perry, 2017.

Lack of transformative frameworks

Transboundary cooperation frameworks for water resources management rely in large part on existing global, regional, national and basin-level legal and institutional frameworks for water resources management (WRM).¹⁵ International Water Law instruments such as the 1992 Helsinki convention and the 1997 UN Watercourses Convention do not contain explicit provisions regarding gender considerations in the governance and management of shared waters. When these frameworks and basin agreements do not specifically support or enable the active and meaningful voice and participation of women in water governance, it is much more difficult to build robust and sustainable transboundary institutions with a strong female presence. At national level, the cadre of professionals remain dominated by men, which is one of the reasons that, e.g., water stewardship initiatives¹⁶ often forget to include women or women's groups in their collaborative frameworks. There also tends to be very little cross-over from relevant gender equality policy and legal frameworks, where they are indeed applicable to water sector-specific policies and frameworks, because thinking in silos impedes more integrated approaches. One manifestation of this is that the SDG 6 indicators do not contain any gender-specific sub-indicators (UN Women, 2018). Recent consultations and analysis also show the importance of involving institutions with a gender mandate, such as Women's Affairs Ministries, Women's Unions and Civil Society Organizations, in decision-making processes relating to water resources management (IUCN and Oxfam, 2018).

Framing transboundary cooperation as state-to-state

Another reason for the lack of recognition of women's roles relates to the way in which transboundary water governance is traditionally framed and negotiated as a state-to-state matter to be addressed among high-level representatives from ministries of water, public works, river basin authorities and foreign affairs. In these positions women are structurally under-represented: IUCN's Environmental Gender Index (EGI) survey found that across 881 national environmental-sector ministries from the 193 UN Member States, only 12% of Ministers are women.¹⁷

¹⁵ The UN Watercourses Convention, especially combined with provisions of CEDAW and agenda 21/Rio 1992, has been suggested as an international framework from which to base more equal participation of local communities and women (Loures and Rieu-Clarke, 2013).

¹⁶ Water Stewardship is understood here as businesses understanding the risks they face from water scarcity and pollution and taking action to help ensure water is managed sustainably as a shared, public resource.

¹⁷ National ministries spanning environmental sectors develop policies and programmes to manage natural resources, perform several critical roles in environmental governance, oversee project implementation, and develop capacity for environmental conservation, among other functions.

Framing transboundary governance as a state-to state matter also misses the range of scales and nature of the challenges faced: discussions often centre around large infrastructure projects relating to national and strategic interests around energy, irrigation, or navigation, and may overlook the issues encountered by water users at basin level (Earle & Bazilli, 2013; von Lossow, 2015). Where gender considerations in a transboundary context have been identified, measures can be lacking impact due to insufficient budget, political support, or means of implementation, as in the case of the Nile River Basin Initiative (von Lossow, 2015; Nile Basin Discourse, 2015).

Although the need to involve women and men more equally in water management is now better recognised, this has yet to translate to implementation at the transboundary level and at multiple levels of governance. The African Ministers' Council on Water (AMCOW) Policy and Strategy for Mainstreaming Gender in the Water Sector in Africa (AMCOW, 2011) – one of the very few formal political documents that include water resource management explicitly – is still in the phase of being translated this into basin and national plans. The multi-scalar aspects of transboundary water governance – including a focus on basin-level issues and solutions – have begun to raise interest in policy, research and on-the-ground interventions, concomitant with a clearer focus on participatory and socio-culturally aware approaches. IUCN's BRIDGE programme is one example (see Box 2).

Box 2. Multi-level Governance of Shared Waters: Voice and Action from Local to Transboundary Levels

IUCN, through its Building River Dialogue and Governance (BRIDGE) programme and the Water and Nature Initiative (WANI) before it, has emphasised working across scales of water governance as a means of promoting change, empowering local stakeholders and cultivating champions, including women, to facilitate the scaling up of locally successful innovations. With experience across 14 river basins, the BRIDGE programme has witnessed a strengthening of transboundary cooperation when it is conceived of and practiced as a multi-level governance process. Unlike a traditional approach that focuses on national level priorities, and often prioritises strategic economic outcomes, a multi-level governance process allows for water diplomacy to integrate local/basin-level to national to transboundary level economic, social, and environmental priorities into water management. Moreover, by working at the local scale, governance can function more sustainably through addressing local needs in ways consistent with local capacities. These local initiatives can then reverse the traditional flow of information and sometimes inspire national level cooperation. Reframing the dialogue around water diplomacy and water governance as a set of actions and agreements that occur at multiple levels helps to better understand the different scales at which all actors, including women, drive change in water management, and how these actions are interrelated across scales.

Source: Compiled from IUCN BRIDGE documents, 2018: <http://www.waterandnature.org/initiatives/bridge>

Stereotypes and cultural norms

Beyond insufficient gender equality in national governance systems and the lack of multi-scalar framing around transboundary water challenges, the reasons why women are overlooked are also rooted in the complex intermeshing of socio-cultural, economic and political systems that are themselves inequitable, including with respect to gender, and in which transboundary basins are embedded. According to Das and Hatzfeldt (2017) the underlying norms and practices that predicate the value of water as an asset, a service and a space are often deeply gendered, and “water often reflects, and even reinforces, gender inequality”. Persistent values, beliefs and behavioural patterns about gender roles, including at the household level, hinder the engagement of women. Even when equality of women and men in law is achieved, it does not automatically lead to a change on the ground, as inequalities are often deeply rooted in society. The power of stereotypes, stigmas, taboos and gender-assigned roles is such that women sometimes do not claim their legal rights due to lack of information or fear or pressure on them to conform to societal expectations.



Yudy Espinal from La Paz, Honduras, is an active member of the micro-watershed council in the Goascorán River Basin.

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These stereotypes also continue to hinder the careers of girls and women in water-related jobs, despite the fact that higher (professional) educational levels of women are increasing, and that women are slowly moving into more technical fields. Water management “by tradition” has been driven by engineering, technology and hydrology and is still too often perceived as “a male domain.” This is true for dam-building and hydropower development and also for food- and beverage companies that operate in transboundary water basins and are high

consumers of water. The influence and involvement of women in the water management arms of these companies is particularly limited. In the same way, water governance institutions and processes overlay already existing governance systems around land, natural resources and economic planning, themselves interwoven with traditional gendered norms and practices.

Overcoming barriers: joint implementation of SDG 6 and SDG 5

Agenda 2030, and in particular combining the implementation of SDG 6 and SDG 5, offers a great opportunity to break the vicious circle of exclusion of women in water governance. Agenda 2030 as a whole makes it clear that without addressing both water and gender inequality, the SDGs will not be met.¹⁸ For example, SDG 5.5 deals with ensuring women’s full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life. This links with SDG 6b, to support and strengthen the participation of local communities in improving water and sanitation management, as well as to 6.5a about IWRM implementation, and in particular to 6.5b about the existence of transboundary water management institutions. SDG 5.2, which addresses the elimination of all forms of violence against women, is closely related to SDG 6.3 - improving water quality by *inter alia* reducing pollution and dumping - and 6.6 - protecting and restoring water-related ecosystems, including rivers. SDG 5a addresses the necessary 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. As we will see in chapter 3, increasing women’s access to owning land and finance will support their ability to participate in various facets of water resources decision-making, including water allocation programs, and can lead to reduced inequalities.

In the next sections, we discuss how the roles of women in use and sharing of the resource are vital, yet constrained by unequal rights and opportunities, linked in turn to under-recognition of the experience, knowledge and networks that women can bring to solve resource sharing challenges across borders.

¹⁸ There is still much work to do: in the context of the High-level Political Forum (HLPF), an analysis of Voluntary National Reports in 2018 made it clear, that although numerous countries proclaim both water and women’s issues as priorities, only 5 countries mentioned the interlinkages between water and women. Moreover, UN Women does not yet highlight the role of women in water beyond targets 6.1 and 6.2, which relate only to water, sanitation and hygiene.

3. Women changing the way water is used and shared across boundaries

Key messages:

- **Women play a prominent role** in the productive use and management of land and water resources through for example agriculture, forestry, fishery, including across national boundaries, but this is **not well recognised** in many local and national contexts -- let alone at the regional and global levels;
- In their roles as users and managers of water resources, **women are driving innovation**, including in transboundary settings where they are **demonstrating cooperative solutions** and using knowledge as a powerful negotiation tool;

But...

- The under-recognition of women's roles as managers, users and sharers of the resource in effect feeds a vicious circle in which their potential contributions to key governance processes are restricted. Along the way, this has important ramifications for the way in which women's knowledge about the resource is perceived and access to resources is constrained.
- Land and resource tenure and inheritance laws that restrict or prohibit women's access to resources –including to water – **curtail productive opportunities for women** as well as their role and visibility in national and transboundary economies;
- In turn, communities and nations are **overlooking the innovations** that women are developing to adaptively manage transboundary water resources.

Therefore it is recommended to:

- Connect the dots between resource tenure and governance roles: undertake **reforms** to **give women equal rights to economic resources**, including ownership and control over land and other forms of property, financial services, inheritance and natural resources including water, both for domestic and productive uses;
- More sex disaggregated data, qualitative information and analysis are needed to **better characterise the extent and roles of women as resource users**, managers and innovators across a range of water related productive sectors (including transboundary settings). This research and knowledge can be used to underpin targeted interventions to address inequalities in resources management and ownership, especially in relation to land and water resources ownership and/or control;
- Research is needed to better understand the links between tenure/resource rights and cooperation, e.g., whether more equal access to resource rights for women on both sides of a border drives more transboundary cooperation.
- Investigate the **ways in which women contribute** to transboundary water governance processes and decisions, and how these roles and contributions are different from those of men. In particular, ascertain whether **more cooperative and inclusive decisions** are made when women are more involved in transboundary water management processes.

A prominent role

Women have always been heavily involved in multiple dimensions of water use and management, beyond recognised roles in the domestic provision of water, sanitation, hygiene and waste water management (Renner, 2017). Women make daily decisions about how they withdraw, allocate, save, protect and reuse the resource in a variety of productive applications. For example, although farmers tend to be referred to as men, women now make up around 43% of agricultural workers in developing countries (Njie & Ndiaye, 2013), and they grow more than half of the world's food. The same can be said of fishing, an activity in which both men and women participate. Where not involved in fish extraction, women contribute throughout the value chain with e.g., the construction of fishing gears, fish sorting, fish handling, and fish processing (Matthews et al., 2012). Women are also active in conservation and ecosystem protection: there are plenty of initiatives of women's groups planting trees to protect river banks or taking care of waste disposal to decrease pollution of a river. Statistics underestimate the role of women, as in many cases unpaid work is not counted¹⁹. In addition, with international migration a feminisation of agricultural labour has occurred. As men migrate - either on a daily basis, or seasonally - women are left behind to look after agricultural responsibilities. Their involvement in agricultural management increases, while control and authority continue to vest with men.²⁰

Despite their contributions to agriculture, food production and conservation, women's roles in managing land and water resources, be it for other productive use or protection of the source, are often not acknowledged in decision-making processes of water management institutions.

Innovations

In these roles, women are effecting change in the way resources are used and shared, through innovations on water re-use and recycling, and adoption of climate-smart, water-efficient agricultural techniques and crops (see Box 3). In Nepal, access to solar-powered irrigation for women has increased cropped areas by close to 30% and significantly reduced dependency on costly diesel pumps (Paul-Bossuet, 2017). In many developing countries, women are securing more steady supplies of water through small scale water harvesting or grey-water recycling systems combined with simple irrigation systems for home gardens. These systems are fairly drought resilient and have a positive nutritional impact on families as they permit cultivation of vegetables year-round (World Bank et al., 2015).

In Northern Ghana, women tend to favour the less capital-intensive "temporary shallow well" technology, which is well adapted for relatively small plots. The system requires only locally available and affordable technology and can be installed by the farmers themselves, allowing women to perform household duties while managing their plots at the same time (Ofosu, 2010). In Lake Victoria, the Katosi Women Development Trust (KWDT) from Uganda worked with the Environment Management and Economic Development Organisation (EMEDO) in Tanzania to introduce responsible fishing practices aimed at livelihood diversification contributing to conservation of the Lake Victoria ecosystem.²¹

19 The under-valuation of women's work in rural areas in particular is common. For example, collection of water, fodder and fuel, which is typically seen as women's work, is not counted as 'active' work, unless women are doing these tasks only over and above domestic activities, as workers. Women are also in more precarious forms of work, like unpaid family labour without decision making power. However published data does not reflect this nuance, as a male owner of land as well as his female counterpart are both categorized as 'cultivators' (Chen, 2005; Srivastava and Srivastava, 2010).

20 Communication with Vishal Narain, March 2018.

21 Project Descriptions Format Tanzania Regional Conference "Collective Action: Reducing Shared Water Risk to Support Sustainable Growth." Dar es Salaam, May 2013

Box. 3. Women as game changers in climate change adaptation

As an example Sri Lanka oscillates between floods and droughts with extreme weather taking a high toll on communities. Moreover, widespread use of chemical pesticides and herbicides in agriculture has led to the loss of soil fertility. A member organisation of Women for Water Partnership in Sri Lanka, called NetWater, designed a programme to build the resilience of women facing these circumstances and received support from a private company. Across Sri Lanka women community leaders were trained in climate change adaptation, disaster risk resilience, enhanced food security through eco-friendly agriculture and non-toxic gardening and the use of modern and appropriate water conservation and agriculture technologies. It resulted in a year-round supply of food from home gardens through eco-friendly organic agriculture based on best crop selection and user friendly techniques, such as buried pots and drip lines as irrigation methods. The key success factor of the programme was that it built on existing skills and strengths of women leaders; it supported both livelihood development and economic empowerment, and strategies were adapted to the multitude of stakeholders involved. Women became game changers in adapting to climate change in their communities.

Source: Award to WfWP and NetWater given by Women and Gender Constituency during COP 21 – December 2015

Cooperative solutions

In transboundary settings, the importance of women as productive water resource users means that they are key actors and stakeholders when it comes to dealing with challenges – and identifying solutions – around resource-sharing across borders. Emerging evidence shows that women are driving concrete transboundary cooperation around resource use and sharing, especially, at local levels. In some instances, even when there is a history of conflict and lack of support from country governments, they are driving solutions for better welfare. For example on the border between Guinea and Liberia in West Africa, where communities have been in conflict for generations, fisherwomen from each country have worked together to devise a timetable that allows women on each side of the border to fish on certain days and at certain times, thus ensuring more sustainable livelihoods for both groups of women and their families (see Box 4).

In the case of the Goascorán basin shared by Honduras and El Salvador, women are driving change in the way joint economic planning is being carried out between neighbouring communities who happen to live on two sides of a border (see Box 7, Chapter 4). The Nile Basin Discourse offers another example: Women meeting across the river and national boundaries of the Nile basin came to the conclusion that they were all growing the same crops, resulting in an oversupply relative to market demand. The women's platform of the Nile Basin Discourse decided to diversify crops to make better use of water and create a market. In all three cases, women are devising innovative ways to manage the resource and maximise benefits and opportunities across stakeholders. These cases also illustrate how at the transboundary level, a better understanding of the roles of women in resource use and management will allow better assessment of scenarios for cooperative management and resource sharing for communities as a whole, and a better understanding of the impact of water management decisions on women and girls.

These examples also raise a question, relevant for further inquiry, about whether women will focus more than men on cooperative solutions around resource sharing in order to secure and protect livelihoods for their children and future generations. More broadly, research is needed to identify if more cooperative and inclusive decisions are made when women are more involved in transboundary water management processes.



Women selling their fish catch in Vietnam

© Tu Nguyenduc / IUCN

Risks and costs

Under-recognition of women's roles in productive water resource use reinforces socio-cultural practices and governance structures that impede women's secure access to the resource, which in turn yields risks and costs to women and their families. In agriculture and fishing, women can often be pushed into unpaid work such as weeding or cleaning fish (Matthews et al., 2012). In many countries and cultures, women play an important role with regard to water, hygiene, and health in families. The United Nations World Water Assessment Programme (WWAP), (2016 points to examples in Jordan, Tunisia, and Viet Nam, where women carry responsibility for greywater or wastewater use (WWAP, 2016). This is a role that could be advantageous in improving the social acceptance of safe wastewater use and related innovative training approaches, but women's exposure to health risks is a concern. This is particularly the case in indigenous communities, where wastewater management falls heavily on women's shoulders (Renner, 2017). In order to better measure these risks and costs, we need a better understanding of women's overall involvement across the range of productive and domestic activities. This is often underestimated, due to the missing or limited availability of sex-disaggregated data and unaccounted domestic activities (WWAP, 2016).

Box 4. Women fostering cooperation between fishing communities in Guinea and Liberia

In a stretch of the Mano River shared by Guinea and Liberia, fishing is traditionally carried out by women and is essential to the livelihoods of families in this region. However, women from communities on each side of the border were having trouble due to a perceived lack of respect for national boundaries, which led to mutual accusations of fishing in each other's waters. Although this is an area that has been heavily marked by civil war, these women instead chose a cooperative approach to ensure better welfare for their communities. They have set up a system to exchange information between fishing groups across the border, agreeing on fishing days for each community and coordinating their fishing activities so that women from each side are able to obtain their catch without impeding on the others. Representatives from IUCN's BRIDGE project, which works on strengthening water cooperation in the Mano River basin, have attributed this cooperation to solidarity between women who are both trying to feed their families and to earn an income, and who recognised the value of cooperating so that women from both sides can have these opportunities. In turn, such cooperation is seen to lessen the risks of conflict in the area and to promote more peaceful coexistence among communities.

Source: Sandrine Sankara Bassonon, IUCN BRIDGE project, 2018



Girls collecting domestic water from flooded fields, Majuli Island in Brahmaputra River

© SaciWATERS / Mitu Kathaniar

Box 5. Floods and Work Burden on Women: An example from Assam, India in Brahmaputra Valley

Work associated with household chores, such as collecting fuel, drinking and domestic water from the river, is always done by women and sometimes by young girls in Assam, in the Brahmaputra valley. Safe water for domestic uses becomes even scarcer during floods, leading girls to drop out of school because of the increased work burden (Sen, 2018). Preparation for floods involves pounding and storing the rice and other foodstuff, which is done entirely by women, particularly in tribal households. Work burdens become more evenly distributed during floods, with men searching for provisions and women preparing food and managing water. However, childcare becomes particularly challenging in this period, due to the multitude of women's tasks. It is not uncommon for incidents of death of infants and young children to be reported during the flood. The situation of women worsens in the post-flood period, when men search for jobs, leaving women behind to normalise the functioning of the household including many household chores and a heavy care burden.

Source: Sucharita Sen, SaciWATERS (2018)

Unequal rights to resources

Restrictions on women's rights and access to and control of resources including water, land²², and credit create major impediments for resource use and sharing. Land ownership rates are generally very low for women, and lack of land tenure rights often disadvantages women in securing sufficient water for agricultural needs or securing credit to build sanitation facilities. This has a direct impact on the access to and use of water: in Viet Nam, female-headed households report 20% lower rice yields compared to male-headed households, due to limited access to water supplies (Global Gender and Climate Alliance (GGCA), 2014b). Only 28 countries in the world ensure women and men can use, access, and own land equally. As of 2010, only 15% of land in sub-Saharan Africa is managed by women (GGCA, 2014a). Female land ownership rates in Asia are similarly low—only 13% of landholders in India are women, dropping to 11% in the Philippines and 9% in Indonesia (GGCA, 2014b).

22 <http://www.fao.org/gender-landrights-database/en/>

Within the frameworks of government programmes, households are typically seen as the most elementary units of development strategies. Since these households are represented *de jure* or *de facto* by male heads, within these frameworks of policy making, it is not unusual to accord land and property rights to men. To argue in favour of women's land rights essentially challenges such visions of policy making, which assumes that women's economic needs can be accommodated by way of paid work or other income generating activities (Agarwal, 1994).

There is a direct link between the rights afforded to women on access to resources, and the accepted roles of women in decision-making related to water. For example, traditionally in Bhutan the inheritance of land rights was accorded to daughters rather than to sons. Women there shouldered most of the agricultural work, including water management, and decision-making with respect to managing the river for agriculture in times of scarcity was mostly done by women. With some caveats, women's voices are heard articulating their demands, and they appear to be almost as connected to the local level government functionaries as the men in this society (Sen, 2018).

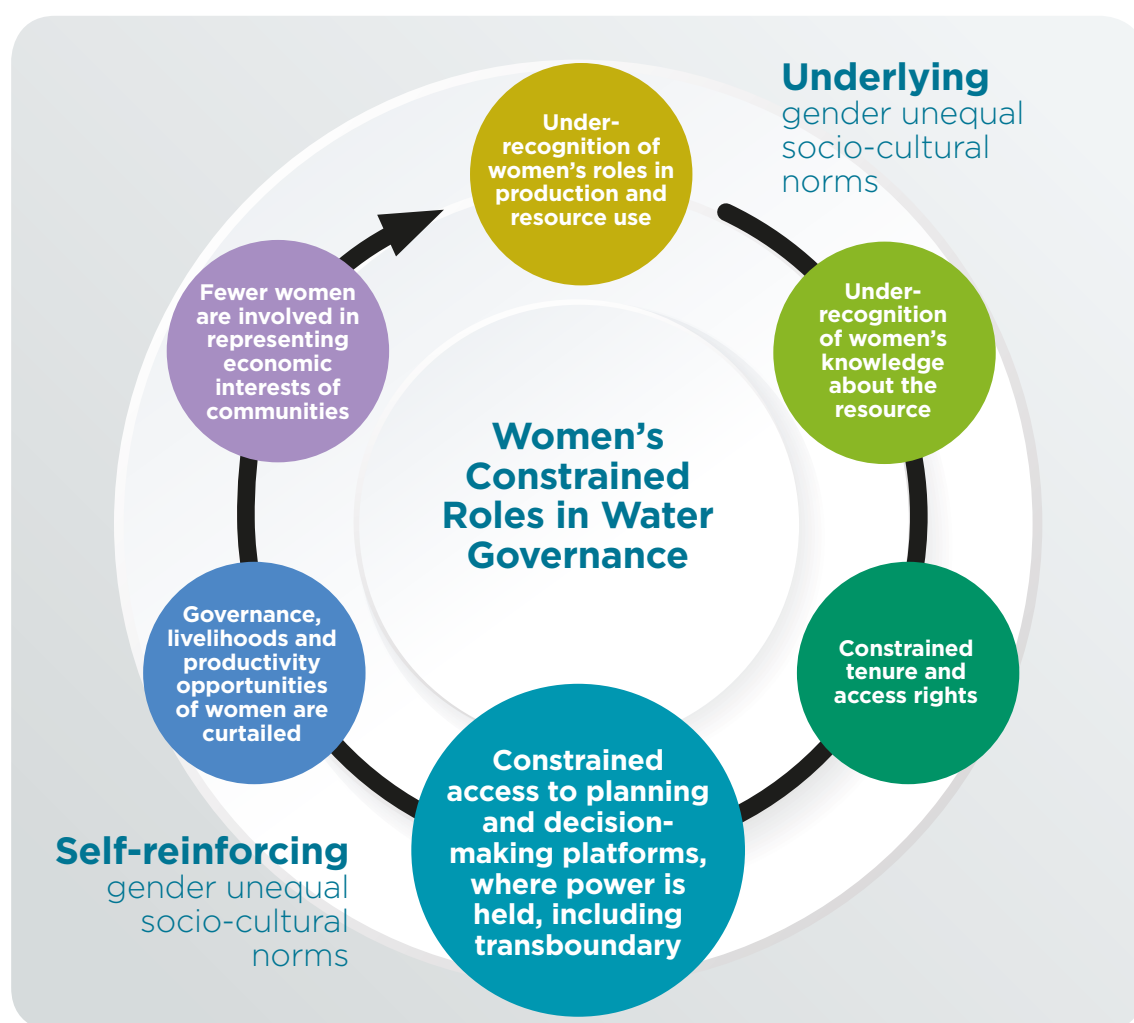
In transboundary settings, the socio-cultural practices and restrictive or prohibitive tenure and rights regimes described above limit opportunities for enhancing benefits through joint management across borders. Key stakeholders whose rights are constrained will be less represented in the fora that make decisions and identify the needs, benefits and costs of transboundary projects. Their voice and interests are effectively discounted, either as potential beneficiaries or as potential cost-bearers from alternative joint management options. Research is needed to better understand the links between tenure/resource rights and cooperation, e.g., whether more equal access to resource rights for women on both sides of a border drives more transboundary cooperation.



Women in Tete province, Mozambique
© ADPP

The above discussion highlights the way in which the under-recognition of women's roles as users and sharers of the resource in effect feeds a vicious circle in which their potential contributions to key governance processes are restricted. There is a circular and self-reinforcing relationship between the constrained roles of women in governance and the under-valuation of their roles in production and resource use, the ensuing underappreciation of their knowledge about the resource, their resulting constrained rights to access resources, which limits their economic opportunities as well as their representation of communities' economic interests, thus perpetuating an under-recognition of their roles in productive activities. The conceptual framing of women's roles in governance as intricately tied to these other dimensions – production, knowledge, rights, and livelihood opportunities, is shown in Figure 1. This framing guides our discussion in the following chapters, and points to practical and policy measures that can help break this cycle.

Figure 2. Explaining Women's Constrained Roles in Water Governance



Source: Fauconnier, IUCN 2018.

Indeed, removing these obstacles and unlocking the rights of women to access resources, as well as recognising the role women play as users and sharers of the resource, can drive more prosperity, within and across borders. If women had the same access to resources as male farmers, farm yields could increase by 20-30 % and the number of hungry people in the world could be reduced by 12-17% (FAO, 2011). Other studies have shown that increasing access to rights and resources for women leads to improved welfare and prosperity outcomes for all (Aguilar et al., 2015). In the context of transboundary basins, such benefits also feed a virtuous circle linking more secure resources with prosperity and peace, within and across borders.

4. Women changing the way knowledge about water is captured and disseminated

” I will continue mobilizing people to stop illegal fishing in the Mekong River. Moreover, I will urge the government to stop the dam construction. I will also mobilize villagers to submit their petitions to the government if new dams are planned, because I don't want any harm to the environment and species in the river, like dolphins and fish.

Chin Sokunthor

Key messages:

- Women in local to transboundary contexts around the world are demonstrating that they are **key holders of knowledge on water use and sharing**. They play major roles in knowledge dissemination and awareness-raising through their networks and educating the next generation, and in motivation building. Yet be they from the grassroots or professional spheres.

But:

- Be they from the grassroots or professional spheres, women's knowledge, skills and experience about water management are often unrecognised, even by women themselves. Women often **do not acknowledge their knowledge and experience themselves**; special measures may be needed to obtain access to their knowledge, such as confidence building and strengthening capacity to speak out in public.²³

Therefore it is **recommended** to:

- Create the enabling frameworks that place greater explicit value on women's knowledge, earlier acquired competencies and knowledge dissemination capacities, as an essential means to harness change for sustainable development and water resources management;
- Recognise the value of traditional and indigenous knowledge, which women are often well-placed to hold and disseminate, and make use of it alongside “modern” knowledge in policies and projects;
- Build **capacity and ensure vocational training for women** in all aspects of water management and decision-making, as well as mentoring and twinning schemes;
- Enable and financially **support women's networks** to build institutional capacity, disseminate knowledge and give peer-to-peer support around water resources management and decision-making.

²³ Lukabma et al., 2018 ; UN Women, 2018 ; Grant et al., 2016

Women's knowledge

Traditionally, women's knowledge has been overlooked in water management and governance processes. With a focus on technical and engineering aspects often dominated by men, women's voices have historically not been sought or heard (Meinzen-Dick & Zwarteveen, 1998; Zwarteveen, 2013; Zwarteveen, 2008). Findings from the Asian Development Bank show that (mis)perceptions of women's skills and experience play an important role in their exclusion from water governance processes. Opacity on appointments and promotions and informal male networks lead to restricted career paths for women (Jalal, 2014; Grant, 2017).

Yet women have extensive knowledge about water resources and related ecosystems, as a result of their deep experience using and managing the resource for productive and domestic needs, as seen in the previous section. For example, women's knowledge about channelising the water from the river as a supplementary source during water shortage for agriculture was essential in Bhutan, along tributaries of Brahmaputra, where accessing this water in deep valleys represented notable challenges (Sen, 2018). Research shows that women's potential to support disaster mitigation and climate resilience planning, based on their knowledge about water for family and community, is vastly underutilised (Grant et al., 2016). "Traditional" knowledge that is passed along generations may be discounted against "modern" knowledge, and the example of Flora in the Bolivian Altiplano (Box 6) illustrates women taking a new handle on spreading that knowledge to help their communities build resilience to climate change. It shows the importance of valuing both types of knowledge and of supporting communities, including women, to treasure it and teach it to the next generations.



Chilmari FDG with women
© Haseeb Md Irfanullah / IUCN

Importantly, the perspectives and preferences of women can differ from those of the men. For instance, a case study in Zimbabwe has found that when multiple sources of water are used for a range of purposes, women and men have different preferences and prioritisations according to how they use water, including for clothes washing, drinking, livestock and gardening (Cleaver, 1998). Failing to capture both male and female views, preferences and knowledge around water resource management will lead to imbalanced and potentially oversimplified decisions, at multiple levels of water planning. Unlocking differentiated needs and preferences across all stakeholders opens new ways of planning, resulting in more informed decisions about water resources, from local to transboundary scales.

Box 6. Flora Nimia Cáceres Cruz's story: women harnessing indigenous knowledge about natural resources

Agua Sustentable, a Bolivian NGO, has been implementing its “Female Action” project in Bolivia since 2013. The project has allowed women, such as Flora Nimia Cáceres Cruz, and other female leaders, to participate in workshops and meetings, with the aim of enhancing their knowledge to develop strengthened action and advocacy plans and projects to counter the effects of climate change in their communities.

Flora lives in a small municipality in the Bolivian Altiplano, at around 3,700 m.a.s.l., where the nights are cold while the days are warm. The town of Andamarca counts around 500 families who live off the exploitation of meat, wool and milk from camelids such as the llama, alpaca and vicugna.

Climate change is having economically adverse effects on the local population in Andamarca. Water is becoming scarce and the sunrays are also becoming increasingly strong, restricting possibilities for sowing seeds in the open fields, leading to smaller harvests and sales of produce. The strong sunlight also causes health issues, with the population suffering from cataracts in their eyes. The strong wind blowing across the lands is known to hurt their ears, and elderly people often complain of pain in their ears.

To raise awareness about the effects of climate change in the community of Andamarca, Flora, together with the local Women's Central, prepared a radio programme in which women acted out the voices of nature and the population, depicting the struggle for both humans and animals to find water, but also emphasising the importance of appreciating the ancient knowledge already present in the communities, through centuries of direct experience with using and managing natural resources. Through the radio programme, the women's voices made their way even to the most isolated corners of the municipality.

Flora has been discovering how powerful her voice can be and she wants to continue to use it to raise awareness in her community, no matter how difficult things become.

Source: Paula Pacheco, Agua Sustentable and Emilio Cobo, IUCN BRIDGE, 2017.

” *Despite having to confront many limitations in our communities and suffering from discrimination for being women, we are always saying that we will give the best of ourselves.*

Flora Nimia Cáceres Cruz

Social connectedness



In addition to holding unique, value-adding knowledge, women often share knowledge differently as well. They may operate in different spheres of influence from men. For example, women's networks and specific reach into their communities mean that when included in processes of water governance, they can contribute not only their own knowledge, but also perspectives from their networks into water planning. Conversely, they can also feed back new knowledge from planning processes to their networks. Agarwal (2000) notes that there are distinct factors such as women's capacity in terms of social connectedness and higher dependence on

commons that form the basis of their collective action. Tapping into women's social connectedness can thus be a powerful way to facilitate change, and to support decision-making in transboundary water management settings that is informed by broader sets of stakeholders.

Chin Sokunthor is an example of this hypothesis in action. Her exposure to other female farmers, as well as opportunities to network more broadly have led to further collective action in her region of Cambodia, along the Mekong River (see Box 7). In another example, a Civil Society Organisation (CSO) in Lao PDR supports women and men to design and implement research into their own priority issues (Thai Baan Research). As part of this process, women have interviewed a range of stakeholders, including government officials and technical experts, and have gained the confidence to speak with others. "Women Talking on Air" is another project that illustrates an informal process driven by women, which provides them a forum to inform and influence their communities (Oxfam, 2017²⁴).

Box 7. Chin Sokunthor's story – spreading knowledge to protect the Mekong river

Chin Sokunthor, a 60-year-old woman from Kratie, Cambodia, offers a vivid example of women changing the way knowledge about water resources is captured and disseminated. Chin has been engaged with the Oxfam Inclusion Project since 2014. The project focuses on empowering women's leadership and promoting inclusive policy dialogue, under the premise that deepening the engagement of civil society in policy and project deliberations and decision making will deliver a more secure future for the Mekong region. Chin was selected as one of 100 "woman farmer champions" from Cambodia to participate in a regional Women's Farmer Forum. Sokunthor used this opportunity to encourage and engage other women farmer champions from different regions to advocate for the sustainability of the Mekong River. She emphasised that this women farmers' network will become a strong platform for debate about social issues and solutions moving forward. Members are encouraged to use the results to inform decision-makers and have their voice heard at higher levels.

Sokunthor has also received training and support from Oxfam and its partners to build her confidence, knowledge and network. One such partner program is Northern Rural Development (NRD), which runs the "Women on Air" program. This program provides a communication platform for women to obtain radio air time to educate and raise awareness on issues related to the Mekong river and environmental and natural resources management. The main issues Chin talks about on the radio are illegal fishing and hydropower.

“I want to be a role model for the next generation. I want to help propose and encourage young people, especially Mekong youth and women, to follow my footsteps for the sake of our environment, natural resources and the river.”

Chin Sokunthor

Sources: Adapted from Savann Oeurn, Oxfam: <https://www.oxfam.org/en/cambodia/river-guardian-one-womans-fight-protect-mekong-river>; <https://cambodia.oxfam.org/mekong-women-farmer-champions-fight-sustainability-mekong-river>

24 Oxfam: <https://cambodia.oxfam.org/brutal-attack-stiffens-cambodian-woman%E2%80%99s-resolve-protect-forest>

Knowledge for diplomacy



Another champion for change is Jesy Barralaga, from the Goascorán river basin, shared between El Salvador and Honduras (See Jesy's Story in Box 8). Like Chin Sokunthor in Cambodia, Jesy has expanded her influence and involvement in water governance issues in her region through her work with conservation and development organisations, which have strengthened her skills and network. Jesy's contributions to improved water governance processes in her region illustrate the gains that can be made when women are encouraged and supported in taking on these challenges. They also reflect the value of diplomatic and negotiation skills, as opposed to confrontation, to achieve consensus about new ways of managing shared resources.

Jesy has openly acknowledged the difficulties that women face as leaders. In her words:

„A colleague of mine, who was more vocal and oppositional, was just assassinated. Despite the personal risks involved, I am committed to fight against the risk to water resources from corporate concessions and hidden deals that are not known by the population. I have learned to work on building consensus, strengthening tolerance, using persuasiveness and “selling the idea” so that our interlocutors see it's in their own interest. It is about having the knowledge and using diplomacy to take best advantage of conditions in place.

Box 8. Jesy Barralaga's Story: negotiation skills for watershed protection

Jesy Barralaga has emerged as a strong leader on water resources protection and economic development in the Goascorán basin - an area of 2,345 km² which hosts 30,000 inhabitants across 16 municipalities in Honduras and around 145,000 in 13 municipalities in El Salvador. She has participated in water governance capacity initiatives working at multiple levels, from the micro watershed to binational basin, promoting the participation of multiple stakeholders and facilitating the inclusion of civil society in decision-making processes. Historically, transboundary cooperation has been a great challenge in the Goascorán basin due to the absence of binational agreements; the infancy of Honduras' Water Law and resulting basin councils that lacked legal status; as well as the absence of water governance structures in El Salvador.

Jesy became a member of the Champions Network of the BRIDGE Programme, and received training on integrated water resources management, basin management, water governance mechanisms, and international water law. She also participated in several learning exchanges about good practices and challenges in other river basins in the region. This has motivated her to become more actively involved in transboundary water governance processes.

Jesy has since played an active role to operationalise the Honduras Water Law through the establishment of sub-basin and basin councils in Goascorán. In dialogue platforms between El Salvador and Honduras, she has advocated for coordinated actions at the binational level to address the social and environmental issues in the basin. She was elected vice-president of the Goascorán Binational Basin Council (GBBC) in Honduras (2015-2017). In this capacity, Jesy played a key role in awareness raising and knowledge sharing with other stakeholders in the basin, motivating them to become involved in water governance processes, strategic planning and to communicate the basin's needs to governmental authorities.

She also became a spokeswoman at different levels: from speaking at the 7th World Water Forum, to communicating with stakeholders within the basin, and also with expatriated Hondurans from the basin now living in Texas. Even though Jesy is no longer vice president of the GBBC, she still participates actively in the council's meetings as a member of the assembly, and advocates for binational cooperation to be mainstreamed in economic planning processes. Furthermore, from her position as general manager of ADED Valle, where she supports small enterprises, she now promotes corporate social responsibility focusing on environment, water resources management and gender.

Source: Nazareth Porras, IUCN BRIDGE Project 2017.

” [At ADED Valle] We support small enterprises providing capacity building on empowerment, business administration, access to credits and other business consulting. Throughout the process we always work to create awareness on good environmental practices and gender equity. We elaborated and obtained financing for a proposal to establish a binational development centre for local economic development, which considers the importance of environmentally friendly practices to protect the Goascorán and Nacaome basins.



Predominance of women labourers harvesting labour intensive wet paddy in Ziro Valley, Arunachal Pradesh, India

© SaciWATERS / Sucharita Sen

Box 9. Women's Expertise in Fishing and Agriculture: Evidence from Arunachal Pradesh, India

Women here are the primary caregivers and are also in charge of collecting resources. Their responsibilities make them acutely aware of signs of scarcity. In times of stress, they are the first to innovate and adapt to changes in land and water availabilities. Hage Tado Nanya **from the Ziro Valley** won the Miss Arunachal title in 2017 at the age of 56, because she developed and profited from innovating fish farming in wet paddy land, increasing the household income manifold. This had a demonstration effect in her village, where many other villagers took up this type of fish farming.

In Pasighat, Iki Tayeng a 33-year-old woman who is a school teacher and a cultivator, says:

” *Our knowledge about cultivation practices is better than that of the men since we do most of the work. In spite of this, we do not get any property. We are also as educated as the men as there is no gender discrimination in our area in educating children. Nevertheless, for most women there is a social restriction in taking up jobs of their choice since this would take them away from agricultural work. Wet paddy cultivation is looked on as social duty in our villages rather than an economic activity, and women primarily bear the burden to carry out this activity.*

Source: Sucharita Sen, SaciWATeRs, 2018

Capacity development

Other organisations like SaciWATeRs are building the case to actively integrating and catalysing women's voices and knowledge. One approach involves recording of concerns of those marginalised women who may not be able to participate in the formal dialogue platforms. The second approach is centred on building capacities in skill and knowledge of women who are willing and able to participate. These two approaches directly speak to the need for multiple voices to be heard and to diversify the viewpoints considered, given that women are not a homogenous group and do not always have coinciding needs or goals.

The examples above show that women hold valuable knowledge and wish to act as champions of change for the governance of the shared water resources upon which they depend. To unlock this knowledge, special measures need to be taken like confidence building, capacity development, training and changes in work place conditions. In addition, both men and women working in water management will benefit from gender responsive training, and recent analysis has led to the recommendation that gender mainstreaming in water governance curricula and research activities be prioritised (IUCN and Oxfam, 2018).

The stories of them demonstrate the impact these women can have when provided with institutional support that values their knowledge, social connectedness and ability to influence. The challenge going forward is to more systematically create spaces and opportunities for women to share their knowledge, voice their preferences and propose their constructive ideas. There is an essential role to be played by in-country decision-makers to create the enabling frameworks that will place greater explicit value on women's knowledge and knowledge dissemination capacities. In turn, this will enable women to take on more prominence in governance processes, contributing to harness change for sustainable development and water resources management. The next section examines in more detail the challenges and potential of women in planning, decision-making and influencing roles for transboundary waters.

5. Women as planners, decision-makers and influencers in transboundary water governance

” *As women, we participate not only from our homes in water management, but now we are involved in governance platforms. We have acquired leading roles; we hold the presidency and the vice-presidency of the Goascorán basin council. We are demonstrating that we are also capable. Everything that has been achieved is through the participation of several women who know that we need water to survive and to have economic sustainability.* Jesy Barralaga

Key messages:

- **Where women were involved** in formal and informal decision-making related to water management, **benefits have been achieved**, from higher policy attention to social and environmental issues to improved economic outcomes for women and their families, to further women's empowerment in other realms, such as participation in local elections;
- **Informal multi-stakeholder transboundary governance processes** provide important spaces in which women's contributions are building pathways to more formalised institutions and benefit-sharing measures that can be more stakeholder-inclusive and gender-equal.

Therefore it is **recommended** to:

- Ensure **women's** effective participation and equal opportunities for **leadership at all levels of decision-making around resources management**, including in transboundary platforms and institutions and facilitate this by e.g., direct allocation of means, working directly with women's organisations, setting quotas and ensuring that women's voices are heard and their contributions acknowledged in decision making processes.^{25,26,27}
- Create **job opportunities** for women in national and transboundary river basin authorities and local water management entities;
- Generate innovative **informal dialogue spaces** in which women can contribute their ideas for improved joint management of shared waters; in turn, these spaces pave the way for the establishment of **more formal stakeholder-inclusive governance** processes and institutions in which their opinions and ideas will be valued over the long term;
- Analyse **women's specific needs and challenges** to their effective engagement in water governance to inform policy making;
- More documentation and analysis is needed on the **benefits of women-inclusive approaches** to transboundary water management: investigate the **ways in which women contribute** to transboundary water governance processes and decisions, and how these roles and contributions are different from those of men.

25 See also Earle & Bazilli, 2013.

26 AGWA & SIWI, 2017.

27 See also: WECF, 2014.

Positive impacts

When women are involved in decision-making, there are positive impacts on social and environmental programmes, including water. As discussed in chapter 2, women continue to be underrepresented in water policy planning at all levels, in both formal and informal processes.²⁸ Yet the UN's 2016 World Water Development Report provides evidence from various economic sectors demonstrating the significant contribution women make in formal positions at the highest levels. For instance, research on women's roles as key policymakers finds that female legislators show preferences for public goods such as drinking water and environment in their decision-making (Chattopadhyay and Duflo, 2004; Clots-Figueras, 2012). In India, women councillors prioritised water and sanitation investments 62% more than their male peers (UNDP-SIWI Water Governance Facility, 2017).

A review of voting patterns of representatives from the United States found female legislators demonstrating a stronger pro-environment voting record as compared to their male counterparts in (Fredriksson & Wang, 2011). It indicates that women's participation in decision-making at higher levels has specifically benefitted environmental policy, such that countries with more women in their parliaments are more likely to set aside protected land areas and ratify international environmental treaties (Pearl-Martinez et al., 2012). Research by UNDP has also revealed that there is a causal relationship between environment and gender equality: when gender inequality is high, forest depletion, air pollution and other measures of environmental degradation are also high (UNDP, 2011). Moreover, qualitative analyses show that women's involvement in the management of water resources and water infrastructure can improve efficiency and increase outputs (WWAP, 2016).



Environmental education workshop in Sixaola Basin

© IUCN / Adriana Faria

Socio-cultural shifts

However, changes to include women in formal decision-making processes must be accompanied with simultaneous efforts to create socio-cultural shifts, in order for women to gain respect, take on leadership roles, and have their voices heard. As an illustration, women surveyed in Northeast Thailand indicated that while they thought they could be leaders, they were concerned that it would take twice the effort for a woman to accomplish the same results as a man due to cultural barriers they would face, and did not want to take on that extra effort for what they perceived as no extra benefit to them (Andajani-Sutjahjo et al., 2015). Entrenched ideas about the roles of men and women, cultural values, and lack of confidence of women contribute to low levels of women's participation at the local level, particularly in mayoral positions (See Box 9). The proportion of women mayors varies widely by region, from 8% in Northern Africa to about 40% in India (Markham, 2013).

²⁸ Formal roles and processes here refer to official government-related positions and processes, at any level from local on up to national or international. Informal roles and processes would then refer to the non-government-sanctioned roles and processes that also exist in various forms.

Box 10. Risky investment: Women's participation in decision-making at local level -- narratives from Assam and Arunachal Pradesh

Women's participation in decision-making at the local level can be a risky investment of their time and effort if returns are low. This happens when their contributions are minimised or discounted, as reflected in the attitude of a local male leader: *"Women participate in panchayat, they speak and the points they raise are considered -- if they make sense. With respect to personal disputes, they should act individually within the domains of the house rather than coming to a public forum to solve their problems."*

Pushpa Devi, a resident from upper Assam, participates in the panchayat meetings and is quite vocal about issues she feels strongly about. However, she believes that while nothing stops women from talking about their problems, interacting with a woman head or a *Gaon Buri* (woman leader), would greatly facilitate matters for women.

The presence of women in public spaces or in the work arena does not automatically provide them with decision-making power in the tribal societies in Arunachal Pradesh. Women from all three sites who were part of a field survey, unanimously responded that they hardly have the time to attend meetings, as their participation is hampered by household responsibilities and they feel that their participation is not expected. Sometimes when specific women's issues come up, their opinions are selectively asked for.

Women are not represented in equal numbers in local associations. For example, in All Apatani Gaon Burah Welfare Association, Ziro-I, 10 out of 60 members are women. In the executive council, there are 8 women out of 20 members in positions as general members or assistants of the general secretaries. Compounding low women's representation, their voices are not encouraged. Even men admitted that these women do not speak out. Most women feel they are not expected to intervene while the men think they do not since they do not have complete understanding of the problems.

Source: Sucharita Sen, SaciWaters, 2018

Enabling measures from government



Ms. Rinku Das

© Aditi Jha / IUCN

India provides an inspiring example of how women at local levels, with enabling measures from government, are occupying leadership positions that allow them to achieve improved management of shared river basins at the local level. Such measures include reserving 50% of seats for women in the Panchayat system of local government. Ms Rinku Das is a young elected leader of Namkhana Panchayat (village cluster) in the Indian Sundarbans. She identified erosion due to passing vessels between Bangladesh and India as a major challenge for the livelihoods of local

people. Acknowledging the equally important roles of women and men in river fishing, she has proactively sought the opinions of both in developing solutions. Her work has contributed to improved basin level outcomes under the Ganga Action Plan. With additional external support, this young woman leader has engaged in bilateral multi-stakeholder dialogues aimed at identifying solutions for the integrated management of inland navigation and fisheries resources in Bangladesh and India. Ms. Das serves as a powerful example of how women taking on formal roles in decision-making can create positive change (see Box 11). As seen in previous cases such as Jesy's, more women are successfully occupying local decision-making positions and helping to transform the way in which transboundary cooperation is unfolding at basin level.

Box 11. Rinku Das' Story: A young woman's leadership in action

The case of Ms Rinku Das illustrates how creating spaces for the inclusion and participation of women in decision making process contributes to more developed, progressive and resilient societies. Rinku Das is a young head of a Namkhana Panchayat (village cluster) in the Sunderbans delta, India. Her community lies close to the International border, on one of the navigation channels used by Bangladesh and India for cross-border trade.

Since 2013, the government of West Bengal introduced a quota of 50% seats for women in the panchayat system. Elected at age 23 in 2013, Ms Das has achieved impressive results in child education and health, women's economic empowerment, sanitation, solid and liquid waste management. The Namkhana Panchayat is now ranked number 2 among the 7 Panchayats (or village units) in the Namkhana block in terms of the achievement on pollution and sanitation targets.

As a young woman leader coming from a modest section of society, Ms Das faced cultural and political opposition. But she the support of her family and a dedicated team of people who believed in her helped her achieve results on the ground.

After taking office, Ms Das launched a massive awareness campaign on pollution control. Wall posters, handbills and communication flyers were distributed at village banks. Meetings were organised with different target groups like the fishermen, boatmen, traders and women's Self Help Groups. These campaigns and meetings created awareness on various pollution control measures and support for participatory approaches for the river basin management. Government subsidies were extended to village households to build toilets at home.

To deal with local challenges, Ms. Das has taken the position that people should be self-reliant in finding solutions. She seeks to foster an environment of accountability and ownership. Ms. Das has also created an open participatory forum in which both men and women from the community are invited to meetings to discuss issues of their concern. Women are invited and allowed to voice their opinions, even negative ones, in the presence of the Pradhan of the panchayat, which is something that is not experienced in other localities within India.

”*People should not expect that an outside party will solve all their problems. Government also has financial and other types of constraints and therefore, everyone in the panchayat is responsible for working towards solving these problems together,*” explains Ms Das.

Supportive state policies for women's leadership development, such as the 50% quota in favour of women in local government, and capacity building of Women Self Help Groups on locally relevant livelihoods issues such as fish stocking, efficient fish breeding were important factors contributing to the mobilisation of women in both the social and economic spheres of the society in the Namkhana Panchayat.

Because of her position, Ms. Das was involved in community consultations undertaken by BRIDGE in April 2017. Inspired by her leadership and efforts over the past four years, the project also facilitated the participation of Ms. Das in the Bangladesh and India joint consultation for the development of a roadmap for sustainable and inclusive management of inland navigation and fisheries sector in Kolkata (India). She spoke about the challenges linked to water management and governance at the local level and appealed to both the countries to devise a suitable roadmap that allows trade and vessel traffic to increase along the river, but at the same time addressing the concerns of the marginalised fisher folks whose lives and livelihoods are linked to the well-being of the forest and the rivers.

Source: V. Sinha, IUCN BRIDGE, 2018.

Multiplier effect

Research indicates that including women in formal rights and decision-making process can bring further empowerment of women across a variety of settings. In Sri Lanka, women who were tasked with developing a community water project to pipe water into homes were surveyed six years later. They were found to have gained improved leadership skills, confidence, self-reliance, and

more power in the community through their successful establishment of the village water supply (Aladuwaka & Momsen, 2010). Similar results were found in studies in Costa Rica (Aguilar, 2005) and in the valley of Mexico outside of Mexico City, where women's increasing participation in water management was found to be central in local efforts to counter the negative effects of economic and political upheaval (Ennis-McMillan, 2005).

The value of informal processes



BRIDGE Champion Marguerite Guilovagui attending platform workshop in Monrovia November 2016

© IUCN / Sandrine Bassonon

With formal governance systems (in water and beyond) historically not representative of both men and women, women have found other ways to become involved in and influence water management decisions. Studies from Nepal and Sri Lanka have uncovered examples of women engaging via a male relative or husband in formal processes; via female networks and relationship-building; and by directly building or influencing relationships with those in power (Meinzen-Dick & Zwarteveen, 1998). A 2012 study

from Cochabamba, Bolivia found that while men control formal water governance, women asserted collective authority over ensuring distribution of water to the more vulnerable members of the community. Decisions made by women on water use were ultimately respected by the formal governing board, which tended to be men (Wutich, 2012).

Box 12. Marguerite Guilovagui's Story: Women triggering behavioural change

Marguerite Guilovagui is the head of the Women's Network of the Mano River for Peace as well as a member of both the National Water Management Platform of the Mano River and Champions of the Water of the Transboundary Basin of the Mano. Marguerite has established herself as an influential negotiator in Guinea. She is known for her involvement in peace negotiations between neighbouring villages (for example participating in negotiations in Monrovia for the establishment of peace with neighbouring villages in Liberia), and is solicited for the resolution of social and religious conflicts in her village.

Marguerite is also heavily focused on village water management and awareness-raising activities around water use, sanitation and hygiene. She has been vocal in supporting the rational use of water in homes, and proper sanitation, including by composing songs and skits to help educate the village population on these subjects. Marguerite focuses on social empowerment actions for women in relation to water resources. Women in her village are overwhelmed by daily tasks and water is often not within their reach for domestic needs. Marguerite, through the channels of women's groups, initiated the system of daily contributions by women for drilling of boreholes to establish water points. The water is provided for a fee paid by individuals. Initially, the women were reluctant to make the individual contributions for drilling and water, but after awareness sessions conducted by Marguerite, the project is on track. The National Service has since drilled the boreholes and set up water points that now constitute the main source of drinking water for villages like Marguerite's. These water points have reduced the incidence of water borne diseases and made water more readily available in the village. The fees paid for the water are used to provide for the maintenance and repair of the water points.

Source: Sandrine Sankara Bassonon, IUCN BRIDGE 2018.

Drawing inspiration from the above evidence, one way of expanding women's contribution to policy and planning is to actively seek out and encourage the voices of women who cannot participate within formal dialogues. The Global Fund for Women has adopted the strategy of tapping into “influencers” in the communities in which they wish to engage. They have found that women who become change agents are able to influence change at various levels and across both formal and informal domains (Global Fund For Women, 2017). The BRIDGE programme adopts a similar approach, through leadership building with water governance champions such as Marguerite Guilovagui, a Guinean leader who champions peace negotiations and improved water management in the Mano River basin (see Box 11).

Through the BRIDGE programme, diverse stakeholders from multiple levels in transboundary basins are convened through new platforms that may precede the establishment of formal institutions for cooperation. These provide valuable dialogue spaces for basin visioning and planning, in which women from government, civil society, academia and the private sector are encouraged to participate actively to shape the future of their basin. This includes working on the design and establishment of more formal stakeholder-inclusive institutional frameworks for transboundary cooperation over the long term.

Water users included



Svetlana Slesarenok from the Black Sea Women's Club
© BSWC

Multi-level stakeholder engagement processes are indeed conducive to bringing women's voices to the fore. A case from the Dniester River Basin, shared between Ukraine and Moldova, is illustrative. The Organization for Security and Co-operation in Europe (OSCE) and United Nations Economic Commission for Europe (UNECE) developed a legal framework for cross-border cooperation and transboundary management and incorporated a regional network of environmental NGOs and women leaders, the Black Sea Women Club (BSWC)²⁹, founded by Svetlana

Slesarenok (see Box 13). Starting in 1999, the group lobbied for the creation of the bilateral Treaty on Cooperation on the Conservation and Sustainable Development of the Dniester River Basin, gathering stakeholder feedback along the way. The resulting legal framework includes a detailed procedure for public participation and stakeholders' engagement in the work of the Dniester commission. The Bilateral Treaty was signed on 29 November 2012. Now that it has been ratified by both countries, the BSWC will work on its implementation and on increasing the formal participation of women in the work of the Dniester Commission.

Examples like those of West Bengal and the Black Sea demonstrate the diverse spheres of influence and the capacity for action that women can have, especially when their voices are encouraged. They also illustrate the considerable change and impact that can be generated from these efforts.

29 Member of the Women for Water Partnership.

Box 13. Svetlana Slesarenok's Story: the Treaty on Cooperation on the Conservation and Sustainable Development of the Dniester River Basin

The Black Sea Women's Club (BSWC) is a regional network of environmental NGOs and women leaders working in the basins of the main rivers (Danube, Dnepr, South Bug, Dniester) which flow into the Black Sea. Women's groups from around the region, discovering that their issues were not unique, began to unite their efforts to undertake common projects based on river basin approaches. They started thematic networks on e. g. protection of water resources, biodiversity conservation, cross-border cooperation, sustainable management of the river's basins, and creating a gender balance in the sustainable development of the Black Sea region.

The persistence of the Black Sea Women's Club, their continued collaboration with other NGOs as well as the vision to work together without borders while avoiding political conflicts were fundamental to their biggest success: the development, signing and ratification of the bilateral Treaty on Cooperation and the Conservation and Sustainable Development of the Dniester River.

The Dniester River is 1,380 kilometres long, originating in the Ukrainian Carpathians, flowing through Moldova and then reaching Ukraine again near the Black Sea. About 12 million people use and depend on the quality of the Dniester waters, including 8.4 million people in the Dniester River basin and another 3.5 million people outside the basin including residents of the cities of Chernivtsi and Odessa. The Dniester is currently facing environmental problems due to pollution and the current water flow regime. The environmental degradation of the Dniester is made worse by the Transnistrian conflict, which negatively impacts the use of existing infrastructure for wastewater treatment, *inter alia*.

BSWC was actively involved in a Dniester basin project led by OSCE and UNECE to develop a Dniester river basin legal framework for cross-border cooperation and transboundary management. They started in 1999 and lobbied for the creation of the bilateral Treaty on Cooperation, Conservation and Sustainable Development of the Dniester River Basin. Together with other river Dniester basin NGOs, BSWC worked on the involvement of Dniester water users and stakeholders to discuss the draft of the Dniester River Basin Bilateral Treaty. They also worked on the development of the Regulation on Public Participation for Dniester Commission and influenced decision-making with regard to the condition of the Dniester River basin. After many years of lobbying, the bilateral Treaty on Cooperation on the Conservation and Sustainable Development of the Dniester River Basin was signed on 29 November 2012 in Rome. The signing ceremony took place in the Italian Parliament during the Meeting of the Parties to the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes. Moldova ratified the bilateral Treaty in January 2013 and Ukraine ratified it in June 2017. The leader of Black Sea Women's Clubs, Svetlana Slesarenok, is a member of the Dniester River Basin Council and she now works on its implementation.

In this instance, women were at the forefront of driving change around cooperation, culminating in the creation of a new international treaty. They built in stakeholder engagement into the process, and are continuing to work towards incorporating the voices of women into the implementation of the treaty.

Another of the BSWC's projects tackled the over-abstraction by local farmers of water from small rivers in the middle and lower part of the Dniester River to maintain an excessive number of fishing ponds. This was destroying the ecosystems of small rivers while community members lost their access to the river, due to a 9 km fence built by the farmers alongside the river. This situation created an explosion of social unrest in 5 villages alongside the river Kuchurgan. Active local women, mainly school teachers, led a protest movement against illegal activities in the riverbed of Kuchurgan River. The BSWC used different methods to remedy the situation, such as awareness raising through media, litigation as well as using their environmental expertise to address the Ministry and Ukrainian Parliament. They succeeded in restoring social justice around the Kuchurgan River: the fence along the river was removed and local people once again enjoyed open access to their river. Later, the leader of Stepanivka, Natalia Scherbina, was elected to become the mayor for 5 villages belonging to the Stepanivka Rural Council, twice in a row.

BSWC built on this experience by conducting an assessment of similar cases across the Dniester river basin. They submitted this analysis to the State Agency of water resources of Ukraine and to the Dniester River Basin Council. This led to the important new legislation for the basin and for Ukraine: environmental and social protection is now part of the Ukrainian legislation to prevent similar cases.

Source: BSWC and WfWP, 2017.

Women's inclusion by design

An increasing number of transboundary water projects are being designed with a gender focus, which can lead to better incorporation of women's voices from informal to formal influencing and decision-making processes. UNESCO's recent project "Groundwater Resources Governance in Transboundary Aquifers" (GGRETA) provides a compelling example not only of how to mainstream gender-specific analysis into the diagnostic phase of a transboundary cooperation initiative, but also how such work then contributes to establishing gender-sensitive governance and planning mechanisms that will be long-lasting (see Box 14).

Box 14. UNESCO's GGRETA Project and Results for Women in Transboundary Water Governance

UNESCO recently completed the "Groundwater Resources Governance in Transboundary Aquifers" (GGRETA) Project. This two-phase project involved three case study areas, including the Stampriet Transboundary Aquifer shared among Botswana, Namibia and South Africa. The project first focused on building recognition of the shared nature of the resource, and mutual trust through joint fact finding and science-based analysis and diagnostics. The phase began with collection and processing of hydrogeological, socio-economic, environmental, legal and institutional data at the national level using a standardised set of variables. Notably, the variables and indicators included a gender component, this was the first time a systematic gender based analysis of the transboundary aquifer was made (Sekwele, 2017). The harmonised data then provided the basis for an integrated assessment of the Stampriet transboundary aquifer, which assisted the riparian countries to set priorities for further collaborative work and to reach consensus on the scope and content of a multi-country consultation mechanism aimed at improving the sustainable management of the aquifer. This phase of the project included training for national representatives in international law applied to transboundary aquifers and methodology for improving inter country cooperation.

As a result of the inputs and planning from the GGRETA project, in November 2016, a more formal incorporation of gender was initiated by the governance team leading the Stampriet. Thus, the inclusion of gender-related data in the original project highlighted the need for further assessment of this aspect of the water governance system. A "Gender & Water Transboundary Team" was established for the Stampriet Transboundary Aquifer. The team plans to conduct a gender analysis of selected water data and indicators, using a methodology that was developed by the World Water Assessment Programme (WWAP) (WWAP, 2016). Moreover, the project, created a means by which the voices of women will be brought in to the transboundary water governance system for this aquifer into the future. Examples like these should serve as a model for other transboundary water projects. Moreover, based on what has been shown to date, incorporating women and gender considerations into the planning of the project should lead to better outcomes for all.

Both local and external organisations, such as donor agencies, have played a role in facilitating the participation of women in water governance in a number of settings, as illustrated in several examples above. In other cases, women leaders have emerged unaided: against difficult odds and unfavourable or non-existent water governance systems, they have been tremendous forces of change, as the examples demonstrate. In all cases, the potential to reach wider scales is clearly visible. The emerging evidence documented here suggests that a collective shift in frame is necessary on several levels:

- Society and its institutions must be better equipped to understand and **recognise the value of women's contributions to decision-making, based on their deep experience and knowledge of resource management**: this can support the broader scale socio-cultural shifts that underpin governance practice;
- Policy makers and other government actors and practitioners must step up efforts to **proactively include more women in formal water governance processes** at local, national and transboundary levels to **enable their substantive contributions** and leadership to come to the fore;

- Civil society, local and national government actors should embrace and generate **innovative** and - when appropriate - **informal dialogue spaces** in which women can contribute their ideas for improved joint management of shared waters; in turn, these spaces **pave the way for the establishment of more formal stakeholder-inclusive governance processes** and institutions in which their voices will be secured over the long term.

In the next section, practical tools and approaches for tackling these challenges are proposed.

” We have faced many challenges; it is more difficult for women to open dialogue spaces. We are stigmatized and people believe that we are not capable or that we are crazy because we assume too much responsibility or commitments. But by defending our rights and being aware of the challenges ahead and the importance of tackling them, we move forward. We have demonstrated that we can lead water governance structures and we have contributed to creating awareness on the importance of the Goascorán binational river basin. Jesy Barralaga



Fishing on the river in the Namkhana Panchayat
© Aditi Jha / IUCN

6. Innovative tools and approaches to support women's roles and leadership in transboundary water governance

Key recommendations

- **Incorporate tested tools and approaches** into policy and programme design that will foster greater gender equality in both governance processes and in project and policy outcomes. **Train and support project managers** to be able to build in these tools and measures;
- Seek commitment from national government stakeholders to ensure that all water resources management and WASH investments, including transboundary governance initiatives, undertake gender analysis and planning from the outset to inform program development and allocate sufficient resources to meet gender equality objectives. This will involve including female stakeholders as well as gender experts throughout the project cycle.

The cases and evidence presented above have highlighted the interlocking elements of women's roles in driving change in transboundary water governance with an eye to examining how policy and practice can more explicitly **recognise, support and enable** women's action and leadership. As seen throughout the paper, women can play key roles in changing the way water is used and shared; sharing knowledge and championing cooperation; and in informal and formal decision-making and influencing. Facilitating women's participation and leadership at different scales requires proactive interventions that can draw on a number of innovative tools and approaches that include project design measures, monitoring indicators and policy influencing approaches. They are presented in this chapter.

WWAP Gender & Water Toolkit for sex disaggregated data collection and analysis

The UN World Water Assessment Programme (WWAP), which is hosted and led by UNESCO to coordinate the work of 31 UN-Water members and partners in the World Water Development Report (WWDR), has developed a Gender & Water toolkit. The toolkit provides a conceptual framework and sex-disaggregated indicators for the monitoring of the SDGs, with particular reference to SDGs 5 (gender) and 6 (water and sanitation), which are interlinked with all the other SDGs. It provides users with a methodological framework and with key indicators to assess the current status of freshwater resources on national, regional and global scale. The gender & water toolkit includes:

- A list of high-priority gender-sensitive water indicators;
- A methodology for collecting sex-disaggregated data on water resources;
- Guidelines for data gathering;
- Questionnaires for field surveys.
- It lists a subset of "Sex-disaggregated Priority Indicators" specifically designed for transboundary water resources management³⁰:

30 The WWAP list of indicators is being updated.

- 4a. Number of M/F staff on transboundary water commissions (sample for pilot countries), disaggregated by job category/level and decision-making capacity (and salary, if available).
- 4b. The extent to which gender outcomes and gender-sensitive accountability indicators are included in M&E/impact statements/benefits analyses of transboundary agreements/activities.
- 4c. The presence and nature of gender-specific objectives and commitments (or gender strategy) in transboundary agreements.
- 4d. Intensity of M/F participation in (sample/representative) meetings of transboundary meetings, including outcomes such as: ratio of contributions in decision-making meetings by women and men; percentage of decisions adopted from women's contributions in meetings.

The methodology proposed for tracking the priority indicators is intended to probe gender equality beyond simply counting the presence of women and men in decision-making bodies and governance structures: several of the indicators include a qualitative assessment of the actual participation and effectiveness of gender representation, such as 4d.

In separate publications, WWAP has also provided guidelines on how to collect sex-disaggregated water data (Pangare, 2015) and a questionnaire for collecting sex-disaggregated water data (WWAP Working Group on Sex-Disaggregated Indicators, 2015). The guidelines clarify how the indicators suggested above can be used by transnational bodies such as transboundary river basin organisations, regional and local river basin organisations, governments and local authorities for policy-making, aligning political commitments with SDGs, and designing monitoring and evaluation systems (for example, for gender sensitive commitments, government schemes, government resolutions).

www.unesco.org/new/en/natural-sciences/environment/water/wwap/water-and-gender/water-and-gender-toolkit/

SaciWATERS – Using genderscape narratives and testimonials to influence policy-makers

SaciWATERS introduced an innovative approach to influence high level policy makers using textured narratives from local women and men facing and solving transboundary water issues on a daily basis. In the project *Transnational Policy Dialogue for Improved Water Governance of Brahmaputra River* (“The Brahmaputra Dialogue”), SaciWATERS has undertaken field research to gather narratives from women and men across Bhutan, India and Bangladesh, who are heavily reliant on the river for their livelihood. This study concerns the ‘governed’, seen through a gendered lens which is of crucial importance to transboundary governance of Brahmaputra. The study bridges the gap between the geo-hydrological characteristics of the river and the social and gendered characterisation of the space through which the river flows.

This study was conducted at two levels: a macro view was used to link the upstream- downstream physicality of the river and the associated genderscape using existing quantitative data. A more detailed analysis, based on qualitative narratives of women and men in selected locations in Bhutan, India and Bangladesh, sketches out a microcosmic view of the social realities around the river. The gendered perspectives collected also included relaying stories through video narratives, in order to share them with a variety of relevant audiences. In this way, SaciWATERS is facilitating the transfer of knowledge and concerns from local levels up to higher levels of policy and decision-making. SaciWATERS is also driving efforts to empower local CSOs to inform decisions, and to habituate decision-makers to listen to concerns and solutions coming from the local level. Through these efforts SaciWATERS seeks to meaningfully contribute towards a larger framework of transboundary river management, bringing to the fore the concerns of those who live ‘with’ the river (Sen, 2018)

Box 15. SaciWATERS and the Brahmaputra Dialogue

The Brahmaputra Basin supports the livelihoods of more than 620 million people from the Himalayas in Tibet, to the fertile agricultural land and aquatic resources in India and Bangladesh. The region is home to more than 166 separate tribes and over 400 other tribal and sub-tribal communities and groups who speak more than 220 languages. Unfortunately, there is a dearth of analysis to reflect the social, economic and cultural facets of the Brahmaputra River communities and their association with available resources. Transboundary discussions and negotiations are mostly techno-centric, and little effort has been made to understand the power imbalances and conflicts among the local communities who rely on the resources directly, such as the water users, the poor, women and the marginalised.

SaciWATERS investigated a working hypothesis that, as a first step to mainstream gender concerns, it is important to have an in-depth understanding on how gender nuances interplay at local levels. This allows the researcher to provide a critical perspective of the multiplicities of suffering across cultures, caste groups and geographical regions of the Brahmaputra River Basin. The study sought to learn from these voices, paying particular attention to people living 'with the river' Brahmaputra, those from marginalised classes and social groups, including women. This report lays a base of socio-economic information that feeds into a successful dialogue. The narratives served to give a glimpse of the gender dimension of the river and linked stories about the impacts and implications of anthropogenic and natural disasters, and how have they adapted to these uncertainties. It resulted in mapping the interactions between policies, practices and ground realities across different political boundaries of the river, illustrating that women and men are not a monolithic groups and that their trajectory of 'vulnerabilities' can differ in managing transboundary rivers. The complete study can be accessed at: <http://www.saciwaters.org/brahmaputradialogue/assets/downloads/Gender%20Narratives%20by%20S%20Sen.pdf>

Gender Responsiveness Action Tool (GReACT!): plan, act and monitor in a gender sensitive way

IUCN's Global Water Programme developed the 'Gender Responsiveness Action Tool' (GReACT!) for two of its key initiatives, 'BRIDGE: Building River Dialogue and Governance' and 'SUSTAIN: Sustainability and Inclusion Strategy for Growth Corridors in Africa', with support from the IUCN Global Gender Office (Fauconnier, 2017). The purpose of this tool is to provide specific guidance to the programme's implementing partners to plan, implement and monitor their interventions in a gender-responsive way, in order to best meet gender equality objectives. This "living tool" is tailored to the types of activities carried out under each initiative, and can be adapted to other projects. For each type of activity, the tool proposes sets of gender-responsive objectives, specific gender-responsive actions for implementation, suggested practical methods for those actions, and guidance for learning and monitoring once the activity is implemented. In the case of BRIDGE, examples of gender-responsive actions include:

- Conducting focus group interviews with women and men to learn about potential obstacles to women's representation in transboundary governance processes;
- Designing workshop interactive sessions to actively encourage women to speak and share their perspectives;
- Developing rules and procedures that ensure women's active participation in planning processes, when supporting transboundary institutional strengthening;
- Using monitoring indicators on gender equality in transboundary water governance that have been adapted from the WWAP toolkit.

Oxfam Gender Impact Assessment Manual hydropower projects

Oxfam has produced a Gender Impact Assessment (GIA) Manual that promotes a step-by-step gender impact assessment process, designed for use by hydropower companies, consultants and

governments involved in social and environmental impact assessment. It provides guidance to business for considering differentiated impacts of hydropower projects on men and women. It provides checklists for developers to help ensure they have assessed gender impacts at different stages of project development; and helps guide companies on ways in which a project can contribute to positive outcomes for women, as well as men. The manual is available in Burmese, English, Khmer, Lao, Mandarin and Vietnamese. Although the initial pilot projects testing the GIA focused on existing hydropower projects, it can be applied at the river basin scale as well as since it includes consideration of transboundary impacts. Oxfam has also developed a mobile app designed to facilitate the collection of baseline data (Step 1 of the manual) from households or community members using mobile phones and/or tablets. The mobile app is not intended to be a stand-alone tool, but rather a first step towards improving companies' understanding of the gender impacts of a project. Use of the app should be followed by participatory engagement with women and men in communities to identify project impacts and agree on mitigation strategies. The app was tested with two hydropower companies in Cambodia and Laos.

<https://www.oxfam.org.au/what-we-do/infrastructure-people-and-environment/save-the-mekong/gia-manual/>

Box 16. Oxfam's Inclusion project and the Gender Impact Assessment Manual in the Mekong Region

The Oxfam Inclusion Project is facilitating a participatory process to assess the gendered impacts of the hydropower sector in the Mekong. This project aims to give a voice to women to express their concerns, needs and aspirations in relation to hydropower. To do this, Oxfam has piloted its Gender Impact Assessment (GIA) Manual in the region, with the aim of making Gender Impact Assessment a formal part of the scoping process, leading to deliberate investment in gender analysis on the part of governments and hydropower developers. The rationale is that if hydropower companies and government understand the differential impacts of hydropower programmes on women and men, they will be equipped to consider how project planning could better support women to meet their existing economic needs and roles, while also extending these roles so that women are heard in the governance of hydropower.

Affected community members can also use the information, as the GIA can provide the supporting evidence needed to help persuade government or hydropower developers when they ought to be doing things differently. Evidence from Oxfam and partners' work to date shows that participation in a GIA process may empower women to speak up about the issues of concern to them (Hill, Phan, Storey, & Vongphosy, 2017). Oxfam and the Centre for Social Research and Development report that many of the women returned from the GIA process in Vietnam, with a better understanding of their rights, including their right to raise their voice and express their opinions in both their family and community. The GIA pilot projects in Vietnam and Lao PDR employ strategies that are specific to the country context, and have also facilitated learning exchange about their respective experiences of conducting GIA of existing hydropower projects, including how to follow up with the responsible companies and government authorities to address the identified impacts.

During the pilot projects in Vietnam and Laos, Oxfam conducted a series of workshops and trainings with government, hydropower companies, individuals and organisations from civil society, and affected community members in the two countries. Background research was also conducted in Laos, with the intent to establish a baseline, build partners' skills to conduct a gender analysis, identify impacts and learn how to use and adapt the tools in the GIA Manual. These assessments uncovered many details about the impacts of hydropower on displaced individuals, especially women: from changes in livelihoods, gendered roles and power relations to changes in cultural and spiritual life. The assessments further confirmed that women were generally left out of the consultation processes leading up to hydropower project development and resettlement. Use of GIA in the planning process is therefore suggested to avoid these differential impacts in the future.

Source: <https://resources.oxfam.org.au/pages/view.php?ref=1210&k=>

See also: <https://www.oxfam.org.au/what-we-do/infrastructure-people-and-environment/save-the-mekong/gia-manual/>

Women for Water Partnership (WfWP): inclusion throughout the project cycle

WfWP has developed a practical suite of recommendations for all phases of a project to be gender-responsive. This includes recommendations for the Pre-design Phase, the Design Phase, the Implementation Phase and the Monitoring Phase.

Box 17. Recommendations from Women for Water Partnership for the inclusion of women in the project cycle

Pre-design Phase

In the pre-design planning phase, WfWP suggests to undertake two steps: 1) to ensure a proper understanding of gender in the project. To this end, WfWP suggests to start liaising with women's organisations and/or universities to obtain a proper overview and the most up-to-date information in the country(ies) where the project will take place. In most countries, gender analyses have been done, but they have not always been published. A further step consists of conducting a gender analysis in the specific project area. Many tools are available to carry out a gender analysis, but any tool should provide insight into the following questions (not exhaustive):

- What are the differences in activities of men and women?
- What resources do they have access to in order to carry out these activities?
- Does a male user have the same needs as a female user?
- What are the implications of the differences between men and women for the approach of your project?
- How is your service expected to impact women, and how is it expected to impact men?

2) The second step involves setting gender objectives or results to enable equal participation of women and men in the project. It helps the project designer to become specific, to reflect upon the implementation tools to be used, and to keep on track.

Design

For the design phase, it is important that women are included as specific stakeholders and that their voices are solicited for advice and in decision-making processes. This may influence the set-up of the programme, the budget allocation and the tools to be used. Past experiences of WfWP have shown that the advice of women is often very efficient and down to earth. Moreover, experience from practice demonstrates that if women's participation reaches a critical mass of 30 - 35%, there is a real impact on the political style and the content of decisions.

Additional recommendations for this phase include:

- Ensuring gender knowledge is present in the project team.
- Generate ideas among project partners on different roles and opportunities for men and women in particular contexts and apply creative thinking to identify opportunities for women to be active participants.
- Develop and include specific approaches and tools for both men and women, while taking into account the outcomes of the gender analysis.
- Allocate sufficient resources in the budget to reach women and/or their organizations, as well as resources that will enable women to participate actively, e.g., through designing specific tools or training.

Implementation

During the implementation phase, WfWP offers the following recommendations based on best practice:

- Adapt tools to local needs: local knowledge, or knowledge gained from the gender analysis, provide valuable information about the needs of men, women and also youth. Take into account (local) cultural differences that can support or hamper the uptake of the tools by stakeholders.
- Location and time: when holding (public) meetings with local stakeholders, ensure that women are invited as well, and that the meeting point and timing fits the schedule of both women and men. For example, organise multiple short trainings instead of full-day ones, hold them at a central and apolitical place. Take into account how seasonal agricultural work influences the agenda of women and men. Ensure that women can join the meetings and have opportunities to speak and use their knowledge/expertise as well.
- Trainers, trainings and outreach: Identify how many women and men work as local trainers. Female trainers can make it easier for women to participate. Hold field demonstrations, role-plays, use radio shows or other methods to reach out and make information more accessible. Include both women and men in the trainings and demonstrations. This enables both to learn about the project, to make decisions together, while taking into account knowledge of both partners, and for both to understand the aims and activities linked to the project.
- Loans, finance, and other resources: Ensure that financial services provided can be accessed by women as well. If it appears few women make use of financial services, find out what prevents them to do so. It can range from necessary approval of their husband, difficulty to provide identification, to traveling among other factors. The same counts for other resources

Monitoring

At the monitoring phase, WfWP recommends collecting gender disaggregated data, both quantitative and qualitative. Without data to set the baseline reality for women when it comes to water resources, it is difficult to argue for inclusive outcomes at higher levels. Qualitative and quantitative data help to paint the picture for decision-makers and establish where and what interventions are necessary, need to be adapted and likely to be successful. For tools, see UNESCO/WWAP above.

Source: Annemiek Jenniskens, WfWP 2018.

IUCN Global Gender Office – Gender Action Plans

One of the flagship methodologies of IUCN's Global Gender Office is the Gender Action Plan. Facilitated via participatory, multi-stakeholder processes, with full support from the requesting/ hosting agency or Government, Gender Action Plans, can serve to unite policies, programmes and stakeholders/staff around a common issue—and, specifically, map steps necessary to meet a goal. GGO has facilitated Gender Action Plans for leading environmental institutions and frameworks, including for the United Nations Environment Programme (UNEP), the UN Convention to Combat Desertification (UNCCD), the Convention on Biological Diversity (CBD), the Hyogo Framework for Action and most recently, the United Nations Framework Convention on Climate Change (UNFCCC). It has also applied the GAP methodology to support, to date, 23 countries and regions to develop national or subnational climate change gender action plans (ccGAPs), which mobilize action across priority sectors with a gender approach—and each includes water. A GAP is primarily used as a planning tool, to develop a series of objectives that the country wishes to meet across various sectors. The GAP then sets out the actions steps necessary to reach the objective, and a set of indicators that will inform on progress. In a transboundary context, this could be a useful methodology for assessing and planning for greater representation of women in transboundary water governance, along with the action steps and indicators to track progress.

<http://genderandenvironment.org/work/gender-action-plans/>
The Art of Implementation - Gender Strategies Transforming National and Regional Climate Change Decision Making'. IUCN Global Gender Office

Gender Equality and Inclusion in Water Resources Management: Action Piece

This document outlines the key actions needed to support gender equality and inclusion in water resources management and sectoral water uses (including WASH). Its overall recommendation is to strengthen the evidence and business case for inclusive water resources management, using data to demonstrate the benefits of inclusion. It is based on a literature review, interviews with 14 global experts, and a high-level workshop with 25 experts in the water management sector. The aim of this Action Piece is to demystify how organisations can take initial and necessary steps towards increasing gender equality. The four main action areas are outlined below (Grant, 2017):

- **Action area 1** – Institutional leadership and commitment: Make gender equality and inclusion a core business goal
- **Action area 2** – Gender and inclusion analysis that drives change: Conduct gender and inclusion analysis at all levels
- **Action area 3** – Meaningful and inclusive participation in decision- making and partnerships: Adopt a ‘nothing about them without them’ approach
- **Action area 2** – Gender and inclusion analysis that drives change: Conduct gender and inclusion analysis at all levels

www.gwp.org/globalassets/global/about-gwp/publications/gender/gender-action-piece.pdf



Woman fishing in the Brahmaputra river

© Sachurita Sen / SaciWATERS

7. A call to action

This is a call to action. The case stories, emerging evidence from the projects on the ground and analysis of the literature presented here, provide fertile ground for policy-makers, practitioners, and researchers to take the necessary steps forward to further recognise, support and enable women as change-makers in the governance of shared waters. Water governance, and transboundary water governance in particular, are embedded in a number of complex intertwined economic, socio-cultural and political processes, in which gender disparities take their root.

This paper argues that the under-recognition of women's roles as users and sharers of the resource in effect feeds a vicious circle in which their potential contributions to key governance processes are restricted. There is a circular and self-reinforcing relationship between the constrained roles of women in governance and the under-valuation of their roles in production and resource use, the ensuing underappreciation of their knowledge about the resource, their resulting constrained rights to access resources, which limits their economic opportunities as well as their representation of communities' economic interests, thus perpetuating an under-recognition of their roles in productive activities. This framing points to practical and policy measures that can help break the cycle.

For proper recognition of the role of women as change-makers in the water governance of shared waters, all actors involved must take the full measure of the importance of women in their economies, in their continual construction of knowledge, and in their planning for a sustainable future. This means equalising tenure rights and access to resources, it means explicitly and actively valuing women's knowledge and experience, it means gathering and analysing sex-disaggregated data and it means ensuring that women are at all of the important tables – from local to national to intergovernmental - when it comes to strategic planning, budgeting and decision-making.

With water security now fully embraced as a top global priority in the 21st century, and with over 50% of the world's population depending on water from transboundary basins, many of those tables will be focused on how to share water across borders. It is in everyone's interest to make sure that women have their significant place around them.

References

- African Ministers' Council on Water (AMCOW). (2011). *AMCOW Policy and Strategy for Mainstreaming Gender in the Water Sector in Africa*. Available at: <http://www.amcow-online.org/images/Resources/24%20June%20AMCOW%20Eng.pdf> (Accessed 17 August 2018).
- Alliance for Global Water Adaptation (AGWA) and Stockholm International Water Institute (SIWI). (2017). *The gender dimension of water and climate change*. Policy Brief. Available at: <http://www.siwi.org/publications/gender-dimension-water-climate-change/> (Accessed 17 August 2018).
- Agarwal, B. (1994). *A field of one's own: Gender and land rights in South Asia*. Volume 58. Cambridge University Press.
- Agarwal, B. (2000). Conceptualising environmental collective action: why gender matters. *Cambridge Journal of Economics*, 24:283-310.
- Aguilar, L. (2005). 'Water as a source of equity and empowerment in Costa Rica'. In: Bennett, V., Davila-Poblete, S. and Rico, M. N. (eds.) *Opposing currents: The politics of water and gender in Latin America*, pp.123-134. Pittsburgh, PA: University of Pittsburgh Press.
- Aguilar, L., Grantat, M. and Owren, C. (2015). *Roots for the future: The landscape and way forward on gender and climate change*. Washington, DC: IUCN & GGCA.
- Aladuwaka, S. and Momsen, J. (2010). Sustainable development, water resources management and women's empowerment: the Wanaraniya Water Project in Sri Lanka. *Gender & Development*, 18:43-58.
- Andajani-Sutjahjo, S., Chirawatkul, S. and Saito, E. (2015). 'Gender and Water in Northeast Thailand: Inequalities and Women's Realities'. *Journal of International Women's Studies*, 16:200-212.
- Beneria, L. (1981). Conceptualizing the labor force: the underestimation of women's economic activities. *The Journal of Development Studies*, 17(3):10-28.
- Borrini-Feyerabend, G., N. Dudley, T. Jaeger, B. Lassen, N. Pathak Broome, A. Phillips and T. Sandwith (2013). *Governance of Protected Areas: From understanding to action*. Best Practice Protected Area Guidelines Series No. 20, Gland, Switzerland: IUCN.
- Chanphengxay, S. (2014). *The assessment of gender mainstreaming: A case study of the Division for the Advancement of Women, Ministry of Agriculture and Forestry in Lao PDR*. 1568752 M.A., University of Oregon.
- Chattopadhyay, R. and Duflo, E. (2004). 'Women as Policy Makers: Evidence from a Randomized Policy Experiment in India'. *Econometrica*, 72:1409-1443.
- Chen, M. (2005). *Progress of the world's women 2005: Women, work, & poverty*. United Nations Publications.
- Cleaver, F. (1998). 'Incentives and informal institutions: Gender and the management of water'. *Agriculture and Human Values*, 15:347-360.
- Clots-Figueras, I. (2012). 'Are Female Leaders Good for Education? Evidence from India'. *American Economic Journal: Applied Economics*, 4:212-244.
- Dang, L. Q. (2017). *Water Management through the Lenses of Gender, Ethnicity and Class: A Comparative Case Study of Upstream and Downstream Sites on the Mekong River in the Mekong Delta of Vietnam*. ASEAN-Canada Research Partnership Working Paper Series No. 6. Singapore: Centre for Non-Traditional Security Studies (NTS Centre) RSIS.
- Das, M. and Hatzfeldt, G. (2017). *The Rising Tide*. Washington D.C.: The World Bank Group.
- Dabla-Norris, E., Kochar, K., Suphaphipha, N., Ricka, F. and Tsounta, E. (2015). *Causes and Consequences of Income Inequality: A Global Perspective*. IMF Staff Discussion Note, June 2015. IMF, Washington, DC. Available at: <https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2016/12/31/Causes-and-Consequences-of-Income-Inequality-A-Global-Perspective-42986>
- Diop, M. (2015). *How Empowering Women Can Help End Poverty in Africa* [Online article]. Available at: <http://blogs.worldbank.org/nasikiliza/how-empowering-women-can-help-end-poverty-africa> (Accessed 5 August 2017).
- Earle, A. and Bazilli, S. (2013). *A gendered critique of transboundary water management*. *Feminist Review*, 103:99.
- Efosu, E.A., Mapedza, E., Van Koppen, B., Van Der Zaag, P. and Namara, R.E. (2010) *Gendered access to shallow wells and riverine dugouts in the Upper East Region of Ghana*. Unpublished report. Available at: <https://cgspace.cgiar.org/bitstream/handle/10568/33613/8.5%20Gender%20issues.pdf?sequence=1> (Accessed 29 January 2018).

- Ennis-McMillian, M. (2005). La vida del pueblo: Women, equity, and household water management in the valley of Mexico. In: Bennett, V., Davila-Poblete, S. and Rico, M. N. (eds.) *Opposing currents: The politics of water and gender in Latin America*: pp. 137-153. Pittsburgh, PA: Pittsburgh University Press.
- Fauconnier, I. (2017). *Gender Responsiveness Action Tool (GReACT!): plan, act and monitor in a gender sensitive way*. (IUCN working document)
- Fauconnier, I. (2018) *Explaining Women's Constrained Roles in Water Governance*. (IUCN working document)
- Fauconnier, I. and Dalton, J. (2018) *Water Governance Institutions at different Scales and Degrees of Formality*. (IUCN working document)
- Food and Agriculture Organization (FAO). (2011). *The State of Food and Agriculture*. Rome: FAO.
- Fredriksson, P. G. and Wang, L. (2011). 'Sex and environmental policy in the U.S. House of Representatives'. *Economics Letters*, 113:228-230.
- Global Fund for Women. (2017). *What does it take to build transformative women's leadership for social change?* [Online article]. Global Fund for Women. Available at: <https://www.globalfundforwomen.org/what-does-it-take-to-build-transformative-womens-leadership-for-social-change/#.WVioiGiGPif> (Accessed 2 June 2017).
- Global Gender and Climate Alliance (GGCA). (2014a). *Gender and Climate Change in Africa. Facts from Gender and Climate Change: A closer look at existing evidence*. Gender and Climate Alliance Factsheets. Available at: http://c40-production-images.s3.amazonaws.com/other_uploads/images/1075_GGCA-RP-Factsheets-FINAL.original.pdf?1489582466 (Accessed 16 August 2018).
- Global Gender and Climate Alliance (GGCA). (2014b). *Gender and Climate Change in Asia. Facts from Gender and Climate Change: A closer look at existing evidence*. Global Gender and Climate Alliance Factsheets. Available at: http://c40-production-images.s3.amazonaws.com/other_uploads/images/1075_GGCA-RP-Factsheets-FINAL.original.pdf?1489582466 (Accessed 16 August 2018).
- Global Gender and Climate Alliance (GGCA). (2014c). *Gender and Climate Change in Latin America. Facts from Gender and Climate Change: A closer look at existing evidence*. Global Gender and Climate Alliance Factsheets. Available at: http://c40-production-images.s3.amazonaws.com/other_uploads/images/1075_GGCA-RP-Factsheets-FINAL.original.pdf?1489582466 (Accessed 16 August 2018).
- Government of Cambodia (2010). *Rural Water Supply, Sanitation and Hygiene Strategy 2010-2025*. In: Development, M. O. R. (ed.).
- Government of Cambodia (2013). *Climate Change Strategic Plan 2014-2023*. In: Cambodia, R. G. O. (ed.).
- Government of Cambodia (2014). *National Strategic Development Plan 2014-2018*. In: Cambodia, R. G. O. (ed.).
- Government of Lao Peoples Democratic Republic (2007). *The National Policy on Environmental and Social Sustainability of the Hydropower Sector*. In: Republic, G. O. L. P. D. (ed.).
- Government of Lao Peoples Democratic Republic (2016). *Five-year National Socio-Economic Development Plan (NSED) 2016-2020*. In: Republic, G. O. L. P. D. (ed.).
- Government of the Kingdom of Thailand. (2016). *12th National Economic and Social Development Plan* [Online]. The Government Public Relations Department (Accessed 2 May 2017).
- Government of the Kingdom of Thailand. (2015). *Gender Equality Act* [Online]. The Government Public Relations Department (Accessed 2 May 2017).
- Government of the Republic of the Union of Myanmar. (2009). *National Sustainable Development Strategy for Myanmar*. In: Myanmar, G. O. (ed.).
- Government of the Socialist Republic of Viet Nam. (2011). *National Strategy on Climate Change 2011-2020*. In: Vietnam, S. R. O. (ed.).
- Government of the Socialist Republic of Viet Nam. (2016). *Five-year Socio-Economic Development Plan from 2016 - 2020*. In: Vietnam, G. O. T. S. R. O. (ed.). Ha Noi.
- Grant, M., Hugget, C and Willetts, J. (2016) *Gender and SDG 6: the Critical Connection*. Canberra, Australia: Australian Water Partnership.
- Grant, M. (2017). *Gender Equality and Inclusion in Water Resources Management*. Global Water Partnership High Level Panel on Water (HLPW). (2018). *Making Every Drop Count: An Agenda for Water Action. HLPW Outcome Document*
- Hill, C., Phan, T., Storey, J., and Vongphosy, S. (2017). 'Lessons learned from gender impact assessments of hydropower projects in Laos and Vietnam'. (C. Sweetman, Ed.) *Gender and Development*, 25(3):455-470.

- Huynh, P. T. A. and Resurreccion, B. P. (2014). 'Women's differentiated vulnerability and adaptations to climate-related agricultural water scarcity in rural Central Vietnam'. *Climate and Development*, 6:226-237.
- International Conference on Water and the Environment (ICWE). (1992). Development issues for the 21st century. *The Dublin Statement Report*. Dublin: ICWE.
- International Union for the Conservation of Nature (IUCN). (2013). *The Environment and Gender Index (EGI) 2013 Pilot*. Washington, D.C.: IUCN.
- International Union for the Conservation of Nature (IUCN). (2016). Natural Resource Governance Framework. Available at: <https://www.iucn.org/commissions/commission-environmental-economic-and-social-policy/our-work/knowledge-baskets/natural-resource-governance>
- IUCN and Oxfam (2018). *Gender and Water Governance in the Mekong Region*, 26 pp. Bangkok:IUCN.
- Iza, A. and Stein, R. (Eds). (2009). *RULE – Reforming Water Governance*. Gland, Switzerland: IUCN
- Jalal, I. (2014). Women, Water and Leadership. *Asian Development Bank Briefs No. 24*. Manila, Philippines: ADB.
- Kusakabe, K. (2005). 'Gender mainstreaming in government offices in Thailand, Cambodia, and Laos: Perspectives from below'. *Gender and Development*, 13:46-56.
- Lal, N. (2016). Indian Women Worst Hit by Water Crisis. Inter Press Service. Available at: <http://www.ipsnews.net/2016/05/indian-women-worst-hit-by-water-crisis/> (Accessed 16 August 2018)
- Lee, M. H. (2014). 'A Pursuit of "False Civilization"? The State-led Modernization Projects on Gender Equality in Post-Colonial Vietnam, Malaysia and Indonesia'. *Journal of Research in Gender Studies*, 4:206-214.
- Loures, F. R. and Rieu-Clarke, A. (2013). *The UN Watercourses Convention in force: strengthening international law for transboundary water management* / edited by Flavia Rocha Loures and Alistair Rieu-Clarke, Abingdon, Oxon: Routledge.
- Lukabma, A., Perez, D., Acquah-Garrison, E., Shang, J., Rizvi, S., Wang, K., Potter, Z. (2018). *A Gendered Approach to the High Level Political Forum 2018*. New York: NGO CSW. Available at: https://www.ngocsw.org/wp-content/uploads/2018/07/A_Gendered_Approach_to_the_HLPF_2018.pdf (Accessed 17 August 2018)
- Markham, S. (2013). *Women as Agents of Change: Having Voice in Society and Influencing Policy*. Women's Voice, Agency, and Participation Research Series 2013 No.5. Washington D.C.: The World Bank.
- Matthews, E., Bechtel, J., Britton, E., Morrison, K. and McClennen, C. (2012). *A Gender Perspective on Securing Livelihoods and Nutrition in Fish-dependent Coastal Communities*. Report to The Rockefeller Foundation from Wildlife Conservation Society. Bronx, NY.
- Meinzen-Dick, R. and Zwartveen, M. (1998). 'Gendered participation in water management: issues and illustrations from water users' associations in South Asia'. *Agriculture and Human Values*, 15:337-345.
- Minelli, L. (2016) Engendering water: WWAP Gender & Water Toolkit in view of the 2030 Agenda for Sustainable Development. World Water Week, 2016 Stockholm. UNESCO World Water Assessment Programme.
- Narayan, D. (1995). *The contribution of people's participation: evidence from 121 rural water supply projects*. Environmentally Sustainable Development occasional paper series no. 1. Washington, DC: World Bank.
- Nile Basin Discourse. (2018). *Egypt National Discourse Forum at National Environment Day 2018*. (Online article) Available at: <https://www.nilebasindiscourse.org/news-blog/community-blog/135-egypt/330-egypt-nile-national-discourse-forum-at-national-environment-day-2018.html> (Accessed 17 August 2018).
- Njie, N.-I. and Ndiaye, T. (2013). 'Women and Agricultural Water Resources Management: A Pathway Towards Obtaining Gender Equality'. *UN Chronicle*, 50:10-15.
- Organisation for European Cooperation and Development (OECD). (2017). *OECD Water Governance Programme* [Online]. Available at: <http://www.oecd.org/env/watergovernanceprogramme.htm> (Accessed 11 July 2017).
- Ongsakul, R., Resurreccion, B. and Sajor, E. (2012). 'Normalizing Masculinities in Water Bureaucracy in Thailand'. *International Journal of Public Administration*, 35:577-586.
- Pangare, V. (2015). Guidelines on how to collect sex-disaggregated water data. In: WWAP (ed.) *Gender and Water Series*. Paris: UNESCO.
- Paul-Bossuet, A. (2017). Can solar pumps give Nepal's women farmers a brighter future? *Thomson Reuters Foundation News*. <http://news.trust.org/item/20170321102609-5y7no/> (Accessed: 29 January 2018)

- Pearl-Martinez, R., Aguilar, L., Rogers, F. and Siles, J. (2012). *The Art of Implementation Gender Strategies Transforming National and Regional Climate Change Decision Making*. Gland, Switzerland: IUCN.
- Pham, P., Doneys, P. and Doane, D. L. (2016). Changing livelihoods, gender roles and gender hierarchies: The impact of climate, regulatory and socio-economic changes on women and men in a Co Tu community in Vietnam. *Women's Studies International Forum*, 54:48-56.
- Renner, M. (2017). Wastewater and jobs: The Decent Work approach to reducing untreated wastewater. *SECTOR Working Paper 314*. Geneva, Switzerland: International Labour Organization (ILO).
- Resurreccion, B. P. (2006). Rules, Roles and Rights: Gender, Participation and Community Fisheries Management in Cambodia's Tonle Sap Region. *International Journal of Water Resources Development*, 22:433-447.
- Resurreccion, B., and Boyland, M. (2017). *Gender equality in renewable energy in the Lower Mekong: Assessment and Opportunities*. USAID Clean Power Asia. Prepared by Stockholm Environment Institute. Available at: https://www.sei.org/mediamanager/documents/Publications/Bangkok/SEI_2017_Report_USAID-CleanPowerAsia-GenderEquality-WhitePaper.pdf (Accessed 20 August 2018).
- Sadoff, C. and D. Grey. (2002). Beyond the River: The Benefits of Cooperation on International Rivers. *Water Policy*, 4:389-403.
- Sadoff, C., Greiber, T., Smith, M. and Bergkamp, G. (2008). *Share – Managing Water Across Boundaries*. Gland, Switzerland: IUCN.
- Seager, J. (2015). Sex-disaggregated indicators for water assessment monitoring and reporting. In: WWAP (ed.) *Gender and Water Series*. Paris: UNESCO.
- Sekwele, R. (2017). *The governance of transboundary aquifers: towards a multi-country consultation mechanism, the case of the Stampriet Aquifer System*. IAHS Scientific Assembly
- Sen, S. (2018). Genderscape of the Brahmaputra River: An Exploratory Exposition, *SaciWATERS, Report*. Available at: <http://www.saciwaters.org/brahmaputra-dialogue/assets/downloads/Gender%20Narratives%20by%20S%20Sen.pdf> (Accessed 16 August 2018)
- Simpson, V. and Simon, M. (2013). *Gender and Hydropower National Policy Assessment Lao PDR* Oxfam. Available at: https://wle-mekong.cgiar.org/download/mk13-gender-in-hydropower/MK13_Lao%20Gender%20and%20Hydropower_Policy%20Assessment.pdf (Accessed 20 August 2018).
- Singh, N., Jacks, G., Bhattacharya, P. and Gustafsson, J. E. (2006). Gender and water management: some policy reflections. *Water Policy*, 8:183-200.
- Srivastava, N., and Srivastava, R. (2010). Women, work, and employment outcomes in rural India. *Economic and Political weekly*, 49-63.
- Stockholm International Water Institute (SIWI). (2015). *Cooperation Over Shared Waters* [Online]. Available at: <http://www.siwi.org/priority-area/transboundary-water-management/> (Accessed 5 August 2017).
- Tanzarn, N. and Guitierrez, M. T. (2015). Public works programmes: A strategy for poverty alleviation. The gender dimension revisited in Employment Intensive Investment Programmes in 30 countries in Africa, Asia, Latin America and the Caribbean. *Employment Working Paper No. 194*. Geneva, Switzerland: International Labour Organization (ILO).
- Thanh, L. C. (2008). Women's Vulnerability and Policy Framework for Climate Change Adaptation – Viet Nam. *The Third Global Congress of Women in Politics and Governance*, October 19-22 2008 Manila, Philippines.
- Transboundary Waters Assessment Programme (TWAP). (2016). *Transboundary Waters Assessment Programme River Basins Component* [Online]. Available at: <http://twap-rivers.org/> (Accessed 5 August 2017).
- UN Department of Economic and Social Affairs (UNDESA). (2014). *International Decade for Action 'WATER FOR LIFE' 2005-2015* [Online]. Available at: <http://www.un.org/waterforlifedecade/gender.shtml> (Accessed 11 July 2017).
- UN Development Programme (UNDP). (2011). *Promoting Climate Resilient Water Management and Agricultural Practices in rural Cambodia*. Available at: http://www.adaptation-undp.org/sites/default/files/downloads/undp-alm_case_study_cambodia_-_november_2011_v3.pdf (Accessed 20 August 2018).
- UN Development Programme (UNDP). (2014). *Human development report 2014: Sustaining human progress: Reducing vulnerabilities and building resilience*. Available at: <http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf> (Accessed 16 August 2018)

- UNDP-SIWI Water Governance Facility. (2014). *Mainstreaming Gender in Water Governance Programmes: From Design to Results*. WGF Report No. 4. Stockholm: SIWI. Available at: <http://www.watergovernance.org/resources/gender-practice-in-water-governance-programmes-from-design-to-results/> (Accessed 5 August 2017).
- UNDP-SIWI Water Governance Facility. (2017). *Gender* [Online]. Available at <http://www.watergovernance.org/focus-area-post/gender/> (Accessed 16 August 2018)
- UNEP-DHI and UNEP (2016). *Transboundary River Basins: Status and Trends*. United Nations Environment Programme (UNEP), Nairobi
- UNESCO World Water Assessment Programme (WWAP). (2016). *New Gender and Water Transboundary Team has been activated for the Stampriet Transboundary Aquifer* [Online]. Available at: http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/display-single-news/news/new_gender_water_transboundary_team_has_been_activated_for/ (Accessed June 9 2017).
- UN Water. (2012). *Water Cooperation: Making it Happen. Final Report UN-Water Zaragoza Conference 2012/2013, 2012 Zaragoza. UN-Water Decade Programme on Advocacy and Communication*. Available at: http://www.un.org/waterforlifedecade/water_cooperation_2013/pdf/water_cooperation_in_action_approaches_tools_processes.pdf (Accessed 16 August 2018).
- UN Water. (2013). *What is water security?* (Infographic) Available at: <http://www.unwater.org/publications/water-security-infographic/> (Accessed 17 August 2018).
- UN Water. (2018). *Sustainable Development Goal 6: Synthesis Report on Water and Sanitation*. New York: United Nations. Available at: http://www.unwater.org/publication_categories/sdg-6-synthesis-report-2018-on-water-and-sanitation/ (Accessed 17 August 2018).
- UN Women. (2013). *Women and Natural Resources: Unlocking the Peacebuilding Potential*. Available at: <http://www.undp.org/content/dam/undp/library/crisis%20prevention/WomenNaturalResourcesPBreport2013.pdf> (Accessed 16 August 2018).
- UN Women. (2018). *Turning promises into action: Gender equality in the 2030 Agenda for Sustainable Development*. Available at: <http://www.unwomen.org/en/digital-library/publications/2018/2/gender-equality-in-the-2030-agenda-for-sustainable-development-2018#view> (Accessed 17 August 2018).
- Vollmer D. et al. (2018). Integrating the social, hydrological and ecological dimensions of freshwater health: The Freshwater Health Index, *Science of the Total Environment*, 627:304–313.
- Von Lossow, T. (2015). Gender in Inter-State Water Conflicts. *Peace Review*, 27:196–201.
- Women and Gender Constituency. (2015). *Gender equality and women's human rights are fundamental to combating climate change*. Available at: <http://womensgenderclimate.org/wp-content/uploads/2015/12/WECEWGCCOP21.07.12.pdf> (Accessed 20 August 2018).
- Women in Europe for a Common Future (WECF). (2014). *The Gender Dimension within the Aarhus Convention*. Available at: <http://www.wecf.eu/download/2014/July/WECFAarhusPositionpaper-Gender.pdf> (Accessed 17 August 2018).
- World Bank, FAO and IFAD. (2015) *Gender in Climate Smart Agriculture*. Available at: <http://documents.worldbank.org/curated/en/654451468190785156/pdf/99505-REVISED-Box393228B-PUBLIC-Gender-and-Climate-Smart-AG-WEB-3.pdf> (Accessed 29 January 2018).
- Wuitch, A. (2012). Gender, Water Scarcity, and the Management of Sustainability Trade-offs in Cochabamba, Bolivia. In: Cruz-Torres, M. L. and McElpee, P. (eds.) *Gender and Sustainability. Lessons from Asia and Latin America*. Tucson: University of Arizona Press.
- UN World Water Assessment Programme (WWAP). (2016). *The United Nations World Water Development Report 2016: Water and Jobs*. Paris: UNESCO.
- WWAP Working Group on Sex-Disaggregated Indicators. (2015) Questionnaire for collecting sex-disaggregated water data. In: *WWAP (ed.) Gender and Water Series*. Paris: UNESCO.
- Zwartveen, M. Z. (2008). Men, Masculinities and Water Powers in Irrigation. *Water Alternatives*, 1:111–175.
- Zwartveen, M. Z. (2013). Seeing women and questioning gender in water management. In: Prakash, A., Singh, S., Gurung Goodrich, S. and Janakarajan, S. (eds.) *Water Resources Policies in South Asia: Analyzing Regional and Country Experiences*. New Delhi, India: Routledge.



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