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# Sex-disaggregated indicators for water assessment, monitoring and reporting

Joni Seager



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This paper comprises:  
tool no.1, “Indicators”  
tool no.2, “Methodology”  
of the WWAP Gender Toolkit

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Readers are encouraged to send comments, feedback and suggestions to Francesca Greco, [f.greco@unesco.org](mailto:f.greco@unesco.org), Project Coordinator.

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## List of acronyms

GLAAS	Global analysis and assessment of sanitation and drinking-water
JMP	WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation
M&E	Monitoring and evaluation
M/F	Male/Female
MDGs	Millennium Development Goals
NGOs	Non-governmental organizations
SEAGA	Socio-economic and gender analysis
TWM	Transboundary water management
UN DESA	United Nations Department of Economic and Social Affairs
UNICEF	United Nations Children's Fund
WASH	Water, sanitation and hygiene
WWAP	World Water Assessment Programme
AMCOW	African Ministers' Council on Water
UNESCO-IHP GGRETA	United Nations Educational, Scientific, and Cultural Organization- International Hydrological Programme Groundwater Resources Governance in Transboundary Aquifers
CLISAP	Cluster of Excellence Integrated Climate System Analysis and Prediction



# Foreword

Irina Bokova  
Director-General of UNESCO

Sharp data is essential for effective policy.

This is why disaggregated data is so important for the success of the new global sustainable development agenda – to assess current needs and monitor future progress. We need an accurate picture of reality in all of its dimensions, in order to be able to shape it for the benefit of all women and men.

Governments and development agencies are committed to promoting equity and non-discrimination in their actions and policies – we need to match this commitment with action. In the water sector, this means developing sex-disaggregated data, whose absence is a major obstacle to the production of scientific evidence on gender-related inequalities. The lack of data means that policy-oriented information cannot be corroborated, that comparative analysis among countries and regions cannot be performed and that concrete solutions for tackling gender and water cannot be formulated on solid foundations.

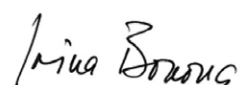
At the 2014 Commission on the Status of Women, I joined other leaders of the United Nations in highlighting the need to tackle all forms of discrimination against women and girls. While there has been progress across the world, inequality persists with regard to who participates in, contributes to and benefits from water resource management. This must change.

Gender equality is essential for more inclusive and sustainable development, and this stands also for water resource management – to strengthen social inclusion, to eradicate poverty, to advance environmental sustainability and food security. As a driver and enabler of sustainable development, water access, availability and management can determine the way in which individuals and communities plan, envisage and shape their future.

Gender equality is a human right that is vital for the success of all of these endeavours.

Prepared by the United Nations World Water Assessment Programme, this Report seeks to tackle information gap on water and gender, by exploring a series of indicators and methodologies on how to collect sex-disaggregated water data. Together, our future goal will be to provide the first-ever global information stock on sex-disaggregated water data.

This Report embodies the commitment we share to advancing human rights and sustainable development as a single agenda – to lay the foundation for a gender-equal water future for all. This has never been so important.



# Preface

Michela Miletto  
Coordinator a.i. of WWAP

Women constitute distinctive key stakeholders in water policy and programmes – and are treated as such, in declarations of interest and in most major policy platforms in current development agendas. The gender and water link is usually addressed in environmental projects, socio-economic development projects and, most specifically, in water projects. However, the need for sex-disaggregated water accounting shows the importance of understanding gendered roles in safeguarding water resources and sharing water among humankind.

The key message is vibrant – we need to recognize women and girls as agents of change within their communities, and value their achievements. This must include water decision-making, where we can draw on the leadership of women in building peace and in forging equitable water policies. Building a better future for all requires the full and equal participation of all women and men in the water realm.

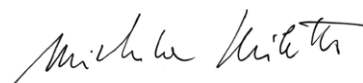
As we move forward, every society must support the empowerment of all of its citizens as wellsprings for innovation and dynamism. In this spirit, this technical paper provides a first global effort to promote the collection of sex-disaggregated water data. This will serve as a basis to lay out the first overview of the status of gender equality with regard to access, participation in and contribution to water resource management around the world.

Focusing on UNESCO's mandate in the field of science, the publication builds on the global monitoring, assessment and reporting work of UN WWAP UNESCO, and expands its view as a result of the collaboration of many world experts in the fields of gender equality, agriculture, sanitation, social science, anthropology and geography, transboundary water.

UN WWAP UNESCO has been a leader in mainstreaming gender into all of its projects and publications. Starting from the 2012 edition of the World Water Development Report (WWDR) "Managing Water Under Uncertainties and Risks", all the subsequent WWDRs "Water and Energy" (2014) and "Water for a Sustainable World" (2015) have mainstreamed gender. In addition, to reiterate its commitment to the gender and water link, an ad hoc addendum to the WWDR 2012 was published on the occasion of Rio+20 summit.

WWAP now breaks new ground with a project on gender-sensitive water assessment, monitoring and reporting, of which these indicators and methodology are just a first output. The priority indicators and methodological approaches described comprise the first and second parts of the toolkit developed by WWAP, which also includes guidelines on how to collect sex-disaggregated data and a field questionnaire. These four form the complete toolkit which is available on the WWAP website.

It is with great pleasure that I invite you all to read and make these indicators and methodology alive in further water projects and water assessment works.



# Introduction



The “Sex-disaggregated indicators for water monitoring, assessment and reporting” provides a groundbreaking path for professionals, researchers, development practitioners and government ministries to mainstream gender in their statistics on water. This technical paper is the first tool and output of a broader WWAP-financed project called “Gender-sensitive water monitoring, assessment and reporting”.

The project consists of four phases: Phase I – Production of the Toolkit for gender sensitive water monitoring; Phase II – Pilot projects in the field; Phase III – Validation of results and Dissemination; and Phase IV – Capacity development.

An international Working Group assisted WWAP in implementing Phase I of the project. Through regular meetings and teleconferences, the members contributed professional and updated information, review and expert advice on theoretical considerations and methodologies for preparing a toolkit for gender-sensitive water monitoring, assessment and report. The toolkit consists of priority indicators and methodology, as described in this technical paper, a working paper on the guidelines, and a questionnaire on how to collect sex-disaggregated water data. From April to July 2014, the main task of the Working Group was to identify a list of priority indicators for field piloting. The methodology was prepared after the theoretical conclusions of the first workshop of the Working Group, which was held in June 2014 in WWAP’s premises. A second workshop was held in December 2014, where the guidelines and the questionnaire for field enquiry took shape. These outputs together now form the “WWAP Toolkit for Gender Sensitive Water Assessment, Monitoring and Reporting”. A list of indicators, a methodology, a set of guidelines and a questionnaire completed the list of instruments in order to start Phase II of the project, which is pilot testing in the field.

No water assessment can be realistic without a gender perspective. And no decision-making is inclusive unless both women and men participate in the process. The gender toolkit for collection of sex-disaggregated data will provide the first step towards initiating a transformative process in the way water is managed in the future. It reinforces WWAP’s commitment to promoting gender equality in the water sector.

Recognizing that inequality lines across gender, ethnicity, age and minorities need to be addressed in post-2015 development goals, this technical paper only bridges one gap in one sector: the gender-gap in water monitoring, assessment and reporting. There are thousands of other gaps that need to be filled.

# 1 The missing half



## 1.1 The importance of sex-disaggregated data

Over the past three decades, academic, policy and practitioner assessments have forged a common understanding about the imperative of bringing sex-disaggregated analyses into the water sector. It is now widely understood that women are primary stakeholders in the water and sanitation sectors and that men and women typically express different priorities, uses, and needs for water and sanitation. Furthermore, there is general acknowledgement that the gendered dynamics of water and sanitation both reflect and reinforce the inter-linkages between poverty, gender and sustainable development. Overall, gender analysis is an essential lens for understanding the provision, management, and conservation of the world's water resources.

The pivotal role of women in water resource management and sanitation is increasingly recognized at all levels of development activity. Among other things, it is widely recognized that women and men typically have different household responsibilities for health, hygiene, sanitation and other productive activities, and that women's management of household sanitation and hygiene is central to both the safeguard of public health and private dignity. Likewise, there is ample evidence that lack of access to water and sanitation directly diminishes women's and girls' health, education, employment, income and empowerment in ways that are distinct from their male counterparts (Sommer, 2010; UN DESA, n.d.; UNICEF, n.d.; Water.org, n.d.). Women represent at least half of the workforce in agriculture and food production, and if they are unable to acquire or control adequate water to do so, both local and global food production are put at risk (WWAP, 2012).

## 1.2 Official commitments to using a gender lens

Interest in the gendered nature of water and sanitation has been on international institutional agendas since at least the early 1990s (Fong et al., 1996; Rathgeber, 1996; UN, 1990). At the level of policy formation, there is a plethora of declarations of support from government agencies and state officials for gender inclusion in water and sanitation sector assessment and planning. Almost all of the key global frameworks, commitments, declarations and action plans on water and sanitation mention the importance of including gender considerations in their overall field of vision. From the Dublin commitments in 1992<sup>1</sup> to the Johannesburg Plan of Implementation<sup>2</sup> in 2002, through the United Nations Committee on Economic, Social and Cultural Rights statement on the right to water (UNCESCR, 2002), to the 2008 UNICEF declaration on water and sanitation in the MDGs,<sup>3</sup> gender – in principle – appears to be on the international water agenda. Nevertheless, these commitments have yet to influence the real practice of policy-making and priority-setting (UN DESA/ UNW-DPC, 2009; Seager, 2010; Fletcher and Schonewille, 2015).

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<sup>1</sup> <https://www.wmo.int/pages/prog/hwarp/documents/english/icwedece.html#p3>

<sup>2</sup> [http://www.un.org/esa/sustdev/documents/WSSD\\_POI\\_PD/English/WSSD\\_PlanImpl.pdf](http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf)

<sup>3</sup> [www.unicef.org/wes/index\\_womenandgirls.html](http://www.unicef.org/wes/index_womenandgirls.html)

### 1.3 Status of sex-disaggregated data in the UN system

One of the key stumbling blocks to achieving a more robust gender-integrated international policy regime is the astonishing lack of comparable international data on gender-sensitive water indicators. International policy mechanisms are driven first and foremost by data. Without sex-disaggregated data, it is not possible to fully measure progress towards Sustainable Development Goals (SDGs). Without data, it is difficult to make effective analytical assessments of the comparative situation of women and men in different communities or parts of the world (UN DESA, 2009). If data are not available on a topic, no informed policy will be formulated; if a topic is not evident in standardized databases, then, in a self-fulfilling cycle, it is assumed to be unimportant. Getting gender to “count” – literally - has long been a core feminist project (Seager, 2010).

In 2008, the United Nations Department of Economic and Social Affairs (UN DESA) convened an Expert Group Meeting to assess the state of sex-disaggregated data. The meeting highlighted the pressing need for sex-disaggregated data in the water and sanitation sector, and identified a lengthy list of “Gender-disaggregated water and sanitation indicators currently unrepresented or under-represented” (UN DESA/UNW-DPC, 2009). Echoing the UN DESA call for gendered disaggregated data, scholars and practitioners have reinforced the case for prioritizing the collection of sex-disaggregated data on water and the identification of priority indicators. The Gender and Water Alliance, for example, identifies gender-disaggregated data collection as a key component of a “minimum agenda” for making a difference in water management (CA/ GWA/BE, n.d.). The International Fund for Agricultural Development (IFAD) identifies the “unavailability of sex-disaggregated data” as one of the main reasons for the gap between policy commitments on water and gender and actual practice (IFAD, 2007). Economist Isha Ray, in her article on women, water and development, concludes that: “Impact evaluation, process documentation, and success or failure analysis are all ultimately dependent on disaggregated data ... the lack of sex-disaggregated data on the impacts of water policies, and underlying disagreements on how gender and development should be theorized, makes it difficult to reach robust conclusions on which policies can best assure poor women reliable access to water for their lives and livelihoods” (Ray, 2007, p. 441).

Despite the urgency conveyed by these assessments of the consequences of the lack of sex-disaggregated data, it is not an exaggeration to say that there is virtually no sex-disaggregated data on water or sanitation sectors collected by the main international agencies and groups responsible for global data compilation. Indeed, a recent study prepared for the United Nations World Water Assessment Programme (WWAP) (Fletcher and Schonewille, 2015) reveals that the gender focus in major international surveys is actually *declining*. The two major water data collection entities, the UN-Water/WHO Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS) and the WHO/UNICEF Joint Monitoring Programme (JMP) have both stopped including sex-disaggregated data in their main statistical reports. The reports of JMP from 2008, 2010 and 2012 included sex-disaggregated data on water collection, but gender is absent from the JMP 2013 update and the newly released 2014 statistical table<sup>4</sup>.

<sup>4</sup> <http://www.wssinfo.org/documents/>

although the 2011 GLAAS survey collected sex-disaggregated data on women in public water institutions and provisioning for women in water programmes, this gender focus has disappeared in the 2013-2014 GLAAS survey instrument.<sup>5</sup>

In 2013, a report of the Statistical Commission of the United Nations Economic and Social Council (ECOSOC) on the state of gender statistics platforms that are gathered by national governments around the world revealed that sex-disaggregated water statistics are amongst the least available (see Table 1):

**Table 1. Percentage of countries “regularly” producing sex-disaggregated statistics on specific issues**

	%
Mortality	<i>85 (highest)</i>
Labour force	83
Education and training	81
Poverty	71
Agriculture	44
Access to sanitation	39
<b>Access to clean water</b>	<b>37</b> ( <i>4<sup>th</sup> lowest % of 22 indicators</i> )
Informal employment	37
Media	15

*Overall, 45.2% of countries do not produce any gender statistics related to water.*

Source: Adapted from UN (2013).

<sup>5</sup> [http://www.who.int/water\\_sanitation\\_health/glaas/en/](http://www.who.int/water_sanitation_health/glaas/en/)



## 2 Conceptual and methodological foundations: Challenges and desiderata in developing and working with meaningful gender data



The analysis in this section is informed by the work of feminist methodologists and theorists who have grappled over the past 30 years with the challenges of collecting and using sex-disaggregated data. Five main high-level feminist conceptual and methodological approaches are directly relevant to this analysis are listed.

## 2.1 Valuing social knowledge as well as physical-system based information

Conventionally, technical, technological, infrastructure/engineering and biophysical perspectives dominate the water/sanitation sector, and policy-makers are accustomed to looking first to the physical sciences for advice and information. Anton Earle and Susan Bazilli (2013, p. 99) recently explored this dynamic in an analysis of transboundary water management: "... most of the international transboundary water management (TWM) processes taking place globally are driven by 'the hydraulic mission' – primarily the construction of mega-infrastructure such as dams and water transfer schemes ... such heroic engineering approaches are essentially a masculinized discourse, with its emphasis being on construction, command and control. As a result of this masculinized discourse, the primary actors in TWM processes have been states – represented by technical, economic and political elites operating in what generally gets termed 'the national interest'. Left out are the local communities relying on the resource directly ...".

Because of the privileging of technical and technological perspectives in this sector, water experts are often especially isolated from colleagues who may be undertaking social analyses. Gender experts – as *social* experts – are usually excluded from policy-level discussions on water; often they may exclude themselves, imagining that they have little to contribute to a "biophysical" field such as water. The gulf between water experts and gender experts is wide and only now being tenuously bridged.

Thus, the first conceptual 'flip' that is required for this new perspective to succeed is to unequivocally reposition water and related resource relationships within the context of social relationships and human economic activities, rather than defining water resources primarily in their physical or engineering forms. This also necessitates reimagining the expert structure: the insights and expertise of social scientists and gender experts must be given equal prominence as the insights and information from experts from the physical sciences in any water sector processes, including, importantly, in decision-making and policy-making.

Within a wide band of practitioner and academic activity, this shift has largely been made: water is no longer considered to be the primary intellectual or policy domain of physical scientists or hydrological engineers. Interest in the gendered dynamics of water (particularly its use, management and access) is conceptually rooted in two interrelated subfields: gender and development, and gender and environment. Since the early 1970s, both practitioners and scholars have been making the case for the importance of scrutinizing the gendered dimensions of development projects, development discourses, and development processes and practices (for example, see foundational works such as Boserup, 1970 and Wellesley Editorial Committee, 1977). Simultaneously, emerging interests in women, nature and ecology sparked what is now a robust subfield of inquiry into the gendered dimensions of resources and environment (Ortner, 1974; Shiva, 1989; Leach, 1992; Mies and Shiva, 1993; Carney, 2004; Elmhirst and Resurreccion, 2008). Out of the overlapping interests of feminist development and

feminist environmental analyses, feminist political ecology emerged, strongly shaped by an interest in the material relations of gender and environment (Agarwal, 1992; Rocheleau et al., 1996; Schroeder, 1999; Seager 1993; Sturgeon, 1997).

Contemporary practitioner and academic interest in gender and water draw on all of these intellectual origins. A political economy approach to resources has helped to focus attention on water as a strategic, increasingly scarce and deeply socially-embedded resource around which class, gender and globalization struggles pivot (Shiva, 2002; Barlow and Clarke, 2003; Sultana, 2007). Human development discourses focusing on water and sanitation draw out the human rights and equity dimensions of access, ownership and control of both (UNDP, 2006; Harris, 2009). Recent attention to the “hydrosocial cycle” (Swyngedouw, 2006; Budds, 2008; Hawkins and Seager, 2010; Linton and Budds, 2014) contributes to and draws on a prior literature on the gendered nature of environmental and resource relationships, including water.

At policy-making levels, however, reluctance to take gender analysis seriously in what is seen as a ‘scientific’ field remains a problem across all environmental domains, not just in the water sector. The incremental but slow progress towards establishing a place for gender analysis at the policy table will be accelerated by WWAP’s project on “Gender-Sensitive Water Assessment, Monitoring and Reporting”, reinforced by WWAP’s prior commitment to mainstream gender equality in all its water activities and products, including the most recent editions of the *World Water Development Report* (WWAP, 2012, 2014 and 2015; Greco, 2013).

## 2.2 Combining quantitative and qualitative information

Although the term “indicators” connotes a quantitative approach, many of the gendered aspects of water and sanitation that are widely viewed as important to encompass are not reducible, sensibly, to a single (or even a few) quantitative indicator. Various dimensions of “empowerment” are particularly hard to capture quantitatively. Empowerment measures often are boiled down to “counting heads” – an undeniably important indicator, but not the same as “empowerment” in the real world. Many women attend meetings or sit on councils but never speak; or, if they speak, they are seldom listened to or are ridiculed for their presumptuousness or perceived lack of expertise. It is manifestly evident that women are not necessarily “empowered” by merely being appointed to a council or authority body. This may be a necessary step, but it is not sufficient.

It is difficult to use quantitative methods alone to capture the nuances of gender power relations and the interactive processes that create and sustain inequalities – or through which women strive to change power dynamics. Nepali economist, Bina Pradhan (2003, p. 54) writes: “... quantitative socio-economic measures of empowerment are useful indicators, [but] they are not sensitive enough to capture the nuances of gender power relations. This is because quantitative methods alone are unable to capture the interactive processes through which those in a weaker position strategize ways of gaining from unequal relationships in order to, for example, secure better nutritional status, raise their age at marriage, have fewer children, access health services and better living conditions, and reduce their work burden.” Box 1 provides an example of the richness of information gleaned from sex-disaggregated and intra-household enquiry.

### Box 1. Example of sex-disaggregated enquiry

In a recent study by Coates et al. (2010), women and men in the same households in Bangladesh were surveyed about their experiences of food insecurity. Women and men reported considerably different views on and experiences of food insecurity – to the extent that if men alone or women alone had been interviewed, nearly one-third of the households would be in different categories of food security. The authors concluded that the notion of “household” food insecurity is not particularly useful, given the findings that “certain food insecurity-related manifestations are not collectively or similarly shared by members of the same living space” (p. 81). Some of the high-discordancy differences between reports by adult male and adult female householders include experiences such as:

	<b>% women reporting “yes”</b>	<b>% men reporting “yes”</b>
Personally could not buy snacks for family	66.8	20.5
Personally took food on credit from a local shop	20.8	41.5
Personally borrowed food from neighbours	31.1	13.4
Reporting the family did not eat meat	54.3	38.0
Personally ate less food	45.8	37.2

On the other hand, there was little discordance between men and women in the same households on questions such as these:

Personally ate broken rice	10.4	11.9
Personally received or sought charity	8.2	6.8

Feminist approaches to the field are informed by the concern that a search for data and indicators should represent the realities of women and men’s lives – as they are experienced. Information about socio-economic processes and power are often best elicited through qualitative approaches. Because the dominant paradigm of the water sector is as a technical-scientific rather than social field, there is an erroneous, although widespread, perception that qualitative data are less serious, less reliable, less relevant, anecdotal, or ad hoc. Despite this scepticism, robust participatory and interview-based methodologies have been developed, many through feminist lenses, to capture qualitative, experiential or “lived” realities. Those methods usually yield rich narratives, subjectively oriented and sometimes distinctly personal.

This immediately raises the problem of how qualitative narrative and quantitative indicators can be combined into a coherent, useful whole. A 2006 “Both ENDS” Working Paper (CA/GWA/BE, 2006, pp. 13-14) summed up the dilemma in this way: “At the same time, however, precise figures to establish the extent of gender gaps between rights and responsibilities, and to quantify the masculinity of water education and professions, are often lacking. Within water analyses, the information about gendered divisions in labour, rights and voice [in water] and about numbers of students and professionals is often not routinely collected. Regular water databases likewise do

not normally include this type of information. On the other hand, most gendered water information is available in the form of anthropological case studies which provide in-depth accounts of gendered divisions of labour, rights and responsibilities as linked to gendered identities and structures, and that allow for nuanced understandings of the shifting and contested meanings of gender. The knowledge and information generated through such gender analyses are often not in a format and form that is easily used by water researchers. There is, in other words, a lack of congruence between the information that water analysts and policy-makers need and the type of knowledge produced by gender analysts.”

This is a philosophical as well as a methodological problem. It is not fully intractable, although it often seems so. Many researchers use qualitative information to validate and ‘flesh out’ quantitative data. For example, the Women’s Empowerment in Agriculture Index is premised on complementing quantitative data with qualitative methods for meaning and interpretation (Alkire et al., 2013). One new technique still being explored, is a “methodological participatory assessment” approach that, in effect, quantifies qualitative information. Christine van Wijk-Sijbesma (2001) and her colleagues have been at the forefront of developing this approach, especially for gender and water. Various other methodologies (van Wijk-Sijbesma, 2001; Nightingale, 2002; van Koppen, 2002; Postma et al., 2003), some of which are focused on measuring “intensity” of participation and others on developing qualitative ordinal scales or ranked scales, are emerging and should provide guidance in developing the specific methodologies for the second phase of the WWAP Gender-sensitive Water Assessment, Monitoring Evaluation and Reporting Project in 2015.

### 2.3 Combining macro and micro data

The virtues of small-scale data are well known. As the 2008 UN DESA Expert Group on Sex-disaggregated Data affirmed, the smaller scale often provides the most appropriate and fruitful information. Data on local and small-scale interventions (and their outcome and impact) with respect to gender provide a concrete knowledge base on the effectiveness of water-sector policies and processes. Local data provides the basis of most of the current knowledge that we have on gender in water and sanitation.

In order to inform policy and increase capacity at the local or regional level it is not necessarily desirable to collect globally-uniform data, which can erase important locally-differentiated information. Despite this, it largely remains the case that policy progress typically rests on a foundation of “generalizable” and summary information. “Translating” between scales or integrating data collected at varying scales is complex and needs further attention and methodological work. Large-scale data collection efforts get bogged down at the small scale. An aggregation of small-scale data results does not necessarily (or always) add up to a generalizable view. Nonetheless, it is often the case that small-scale efforts can inform and validate survey methods and techniques that then may be applied at a larger scale.

### 2.4 The incomparability of inequality

An issue related to the qualitative/quantitative conundrum is the comparability dilemma in measuring “inequality” or “empowerment.” These are almost inherently relative terms. “Injustices” or “inequalities” usually emerge from several dimensions of specific cultural

and economic positionalities. UNECLAC's Gender Equality Observatory, for example, offers this cautionary note: "In order to define a policy as 'fair' from the gender perspective, it is necessary to consider what justice and for whom. In the case of gender, the demands for justice are not made from a single place (see the key contribution by Nancy Fraser on this matter). Gender is not a social class or a status. Gender injustice cannot be attributed to a single factor, and this is why gender demands are based on economic injustice but also injustices of recognition and in relation to the organization of political action and decision-making... it is possible to analyse three dimensions of the current social order in which justice must be done: redistribution, recognition and representation. Although these dimensions are clearly interlinked, they can also be analysed separately." (UNECLAC, 2012, p. 4)

The experience of inequality and discrimination – and, in obverse, of empowerment – is also excruciatingly local and personal. The Women's Empowerment in Agriculture Index offers some guidance on developing indicators that navigate a path through the particularities of empowerment (Alkire et al., 2013).

Even without embracing a postmodern nihilistic assertion<sup>6</sup> that there is no such thing as 'truth' or shared reality, any time the question of using indicators to capture the realities of women's lives is approached, people start to engage in a debate on universalism versus relativism. Philosophically, it could be concluded that there is no single measure or set of measures that will capture aspects of water-based gender inequality in the same way in Fiji as in Gabon, in Canada or in Iran. Methodologically, however, we can move to develop best-practice data surrogates – which, in everyday use, are rather the prevailing practice.

For example, the "masculinization" of the water sector at formal levels (in education tracks, engineering, big-water developments, etc.) is well known and immediately recognizable to women who work in this sector. Measuring "masculinization" (both an institutional and cultural phenomenon) in itself is almost impossible. In this case, surrogate ('points-to') data stands in for broad cultural concepts such as "masculinization": information on the percentage of women and men in university degree programmes, or of women and men in positions of authority in water boards, and the like. Similarly, bridging national identities and cultures to measure a force such as "inequality" is in itself almost impossible, but careful deployment of surrogate data here, too, can yield powerful insights that then, once analyzed, can be expanded with nuanced narrative analysis.

## 2.5 Lifting the roof off the household

The household is conventionally viewed as a single decision-making unit in the water sector, as elsewhere. This "unitary" view has been soundly critiqued by feminist scholars (see, for example, Alderman et al., 1995; Carloni, 1981; Folbre, 1986; Guyer, 1997 and Ray, 2007), whose work reveals that the household far from operating as a single unit is a collection of adults and non-adults of different ages and sexes who have different priorities, needs and power within that household. How (and whether) members of households negotiate decisions, priorities and allocation of resources and benefits is not

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<sup>6</sup> A phrase borrowed from the work of Nadjé Al-Ali and a concept she especially uses in her book *Iraqi Women: Untold Stories From 1948 to the Present* (Al-Ali, 2007).

a secondary characteristic: it is integral to the nature of a “household,” and it reflects the gendered-power relations and norms of that household. For purposes of sex-disaggregated data collection, such intra-household processes *are* the primary focus.

Household-level information is often valuable and sometimes represents the most sensible unit of data. There *are* circumstances in which “the household” does act as a unit, and “household strategies” may well be in play under some circumstances. Nonetheless, the starting presumption for a gender-based project should be that the household is itself a socially constructed form that has little agency<sup>7</sup> beyond the individual members who comprise the household – and that deploying a household-level analysis masks critical gendered information. Gender dynamics do not simply “take place within” households; households are places where gender roles are constructed, defined, maintained and challenged.

Another compelling reason to keep a steady analytical focus at the inside-the-household level is because the public/private division is one of the key social and economic structures that maintains and reproduces gender inequality. To the extent that the private sphere is considered to be less important economically, environmentally and politically than the public sphere, then the gendered association of women:private/ men:public has tremendous salience. Given that much of women’s work occurs *inside* the household – and is usually unpaid – breaking down the walls of privacy that surround the household allows a clearer view of the economic and often uncouted economic contributions of women.

Moreover, the assumption that households are fixed units with defined boundaries has also been proven unrealistic. Individuals may belong to several households at the same time. The social and asset boundaries of households are permeable and changeable. Often, the negotiation of women’s place’ (notionally and literally) is central to the reshuffling of household definitions. Identifying intra-household dynamics and processes, however, is a complicated and often slow and laborious undertaking. In the international statistical regime, this is a costly approach deemed to be ‘inefficient’. In our view, attention to intra-household water relationships should be a methodological hallmark for any water-related development action.

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<sup>7</sup> “Agency” means the capacity of individuals/institutions to take meaningful action or produce meaningful outcomes. Thus, one might say “Children have less agency than their parents.” Or “In some customary law, women have less agency than men.” A “household” does not have agency, but it is often referred to as though it does. Thus, a statement such as “59% of households approved the new Constitution” is, in fact, a meaningless statement because “households” do not have “agency” apart from the men and women within those households”.





### 3 Identifying priority indicators



Faced with an open-ended question of 'what information about water and sanitation should be (or could be) sex-disaggregated,' the rhetorical answer is 'all of it'! Feminists and gender specialists have been working for at least three decades on gender disaggregated water indicators, and, in reality, there is no shortage of recommended indicators. Analysis and synthesis of recommendations from a wide range of key water-sector gender specialists yield a comprehensive demand-list of more than 100 possible indicators, which are described in the Annex of this paper.

There is less guidance available to assist in whittling down this 100+ indicator long-list into a smaller subset of priority sex-disaggregated indicators. In the absence of any systematic data collection, all indicators can assume priority.

### 3.1 Previous examples of sex-disaggregated data priorities

Advice from SEAGA (Socio-economic and Gender Analysis) approach points to these priorities (Curry, 2002):

In analysing gender relations in rural settings, SEAGA and other frameworks ... ask basic questions in order to arrive at an understanding of the structure and dynamics of the rural farm household or agricultural holding:

- Who does what?
- Who owns what?
- Who has access to/controls what (e.g. productive assets)?
- Who knows what?
- Who benefits?
- Who should be included in development programmes (and how)?

Several of these questions, particularly the first three, can be structural in nature and used to guide the identification of gender-sensitive indicators for agricultural sector structure and trends.

The "Both ENDS" Working Paper (CA/GWA/BE, 2006) underscores the political and contested nature of water as follows:

Full gender mainstreaming efforts are likely to be more successful when they recognize:

- The dynamic inter-linkages between physical water resource systems, farming systems and the larger social, economic and institutional context within which they are managed ... the large variety of actors whose individual or collective decisions influence water use patterns and, ultimately, water management needs and options;
- The centrality of the question of the balance of power to water management, as the balance of power within society is weighted against those most affected by water problems and determines management strategies ... the necessity of questioning the division of the costs and benefits of water investments, priorities for water allocation, how these priorities come about and the legitimacy of water authorities; and

- That water management is intrinsically political and therefore contested, because it deals with the allocation of (public) resources.

### 3.2 Guidelines and principles

The 2008 UN DESA Expert Group Meeting on sex-disaggregated data in the water and sanitation sectors also provides the following guidance on priorities and approaches (UN DESA/UNW-DPC, 2009):

- In establishing priorities for data collection, it is possible and important to distinguish between what is 'nice to know' and what is 'necessary to know.' Simply increasing the quantity of data available, without rooting this in a gendered understanding of priorities, would not be a sound use of resources;
- The quantity and quality of sex-disaggregated data on smaller scales is considerably better than at the global scale, and is available for a wide range of topics, including actual water use and priorities for use within households, women's participation in formal decision-making and policy-setting institutional structures, girls' access to sanitary facilities at school, and links between water collection and sanitation access and transportation, among other topics;
- The smaller scale may often be the most appropriate and fruitful. Data on local and small-scale interventions (and their outcome and impact) with respect to gender provide a concrete knowledge base on the effectiveness of water and sanitation interventions;
- Non-governmental organizations (NGOs) and small community-based groups are essential partners in identifying and developing indicators that will most productively draw out the gendered realities of water and sanitation, and NGOs and grassroots groups are also the most likely to succeed at assembling information about gender and water and sanitation;
- The emphasis on demonstrating national progress in WASH sectors against global "targets" (such as MDGs) often works against real progress in this sector. For example, governments may be encouraged to inflate reports of progress or may reduce "progress" to simple quantitative measures;
- The search for data and indicators should be guided by a concern for representing the realities of women's and men's lives – as they are experienced;
- "Second-effect" indicators may be particularly useful in filling out a gender-sensitive view of the implications of limited quality of water and sanitation. For example, indicators of the quality of drinking water and the hygiene levels of sanitation can point to labour burdens that fall on women; if people fall ill from polluted water, it is women who are responsible for looking after them. It is possible that the time spent by women on family members ill from bad water and sanitation might, worldwide, be much higher than time spent on gathering water; and
- The conventional measure of progress most used in the sanitation sector is the presence of a toilet, but this is an inadequate indicator. In this sector, qualitative assessments on the state of maintenance and hygiene of facilities must be taken into account to get a clearer picture of access and use; in this case, threshold indicators need to be developed on whether sanitary facilities are "safe and appropriate."

## WWAP Sex-disaggregated Priority Indicators (as of November 2014)

### 1. WATER GOVERNANCE

**1a.** Number of male and female (M/F) paid staff in public water-governance agencies, disaggregated by job category/level and decision-making capacity (and salary, if available), at:  
- national level;  
- county/province/state levels; and  
- town/village levels (sample).

**1b.** Number of M/F in **paid** and **unpaid** positions in **local** water governance formally-structured entities (water users associations, etc.) at town/village level (sample); disaggregated by nature of relationship to the entity (e.g. "member", "board", "executive", "leadership," decision-making group, etc.) and types of tasks.

**1c.** Intensity of M/F participation in (sample/representative) meetings of public entity bodies sampled at national, sub-national, and local levels, 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.

**1d.** M/F perceptions of gender discrimination (or equality) regarding women's participation in decision-making entities.

**1e.** Number of M/F staff responsible for water issues (disaggregated by job level) in **gender ministry**/lead agency.

**1f.** Number of M/F staff responsible for gender issues (disaggregated by job level) in lead agency for the **water sector**.

**1g.** Designated ministerial responsibility for gender in relation to water policies; the extent to which gender-specific agencies are included in water sector decision-making.

**1h.** Presence and nature of gender-sensitive training within responsible ministries/lead agencies; Participation of M/F staff.

**1i.** The extent to which gender outcomes and gender-sensitive accountability indicators are included in M&E/impact statements/benefits analyses of national-level water-sector projects (project proposals and/or outcomes assessments). Sample projects.

**1j.** The presence and nature of gender-specific objectives and commitments (or gender strategy) in national- and sector-level water policies.

**1k.** The nature and extent of sex-disaggregated data related to water and sanitation collected by responsible public entities at national and local levels (in relation to the totality of social indicators on water and sanitation collected).

### 2. SAFE DRINKING WATER, SANITATION AND HYGIENE

**2a.** Percentage of households without water on premises, by sex of main person responsible for collecting drinking water and by type of household (using rural/urban samples).

**2b.** Unpaid time spent by individual household members in supplying water, making it safe for use and managing it (M/F informants).

**2c.** M/F perceptions of the adequacy of current water supply/availability in both quality and quantity in the household.

**2d.** Percentage of households with access to 'improved' sanitation facility, by household structure and by nature of the 'improved' facility.

**2e.** Intra-household M/F use of/access to improved sanitation facilities.

**2f.** M/F prioritization of gaining access to improved sanitation facilities; willingness to allocate household budgets for such access.

**2g.** M/F perceptions of the safety of sanitation facilities that are located outside the house; identified particular safety concerns.

### **3. DECISION-MAKING AND KNOWLEDGE PRODUCTION**

**3a.** M/F participation in past decade of two major global international water meetings (and nationally-significant comparable meetings):

- World Water Week (Stockholm)
- World Water Forum (World Water Council)

**3b.** M/F inclusion on nationally and internationally convened scientific panels and advisory boards.

**3c.** Gender audit of WHO/UNICEF JMP (could be topic specific or region specific).

**3d.** M/F perceptions of/knowledge of current total household use of water, by category of use and by primary user.

**3e.** Household member primarily responsible for managing the household water:

- M/F perceptions of the nature of their household decision-making process for water priorities and use;
- M/F perceptions of the primary decision-maker on water issues within the household (if any); and
- M/F perceptions of how intra-household conflicts related to water (if any) are resolved.

**3f.** M/F expressed priorities for water use within households.

**3g.** M/F perceptions of household gender equality in water decisions.

### **4. TRANSBOUNDARY WATER RESOURCES MANAGEMENT**

**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.

## **5. WATER FOR INCOME GENERATION FOR INDUSTRIAL AND AGRICULTURAL USES, INCLUDING UNACCOUNTED-FOR LABOUR**

**5a.** Percentage of irrigated farms in region under survey; percentage of irrigated farms managed by/owned by M/F.

**5b.** Average size of irrigated farms run by/owned by women/men.

**5c.** Gendered division of labour related to irrigated farming:

- gender-specific tasks related to irrigated crops, by nature of tasks; and
- gender-differentiated daily time-use of household members involved in irrigated farming work.

**5d.** Decision makers and participants in household-based decision-making process regarding:

- irrigation (M/F informants/perceptions);
- decisions re allocation of time and financial resources; and
- crops to be irrigated.

**5e.** Decision-makers and participants in community-based decision-making process (if any) regarding:

- irrigation (M/F informants/perceptions);
- decisions re allocation of time and financial resources; and
- crops to be irrigated.

**5f.** M/F perceptions of gender discrimination (or equality) regarding women's participation in decision-making in relation to irrigation.

**5g.** M/F access to support services for irrigation:

- participation in technical training;
- M/F access to bank loans/credit; and
- incentives for the development of irrigated agriculture.

**5h.** M/F membership in and intensity of participation in community-based irrigation committees.

**5i.** Percentage of directly water-related industries managed by/owned by M/F.

**5j.** Percentage of M/F employees in water-related industries.

**5k.** Presence of women's cooperatives in water-related industries.

Broad methodological toolkits on gender analysis, such as the “Harvard Framework” (Overholt et al., 1984), underscore the importance of collecting information on the interrelationships of gendered activities with gendered access and control over resources, and includes:

- The socio-economic activity profile: Who does what, when, where and for how long?;
- The access and control profile: Who has access to resources (example: land, equipment, capital etc.); who has access to benefits (example: education, health services, political power etc.); who has control over resources and benefits; and
- Factors that determine the gender differences identified in the profiles: Past and present influences; opportunities and constraints.

### 3.3 WWAP process towards prioritization of sex-disaggregated indicators

As a starting point for identifying a prioritized list of sex-disaggregated indicators, the Working Group on Sex-disaggregated Indicators met at a WWAP-sponsored workshop and developed preliminary principles to guide their work.

The prioritized indicators should:

- be applicable and relevant across all (or at least most) regions;
- be feasible to collect – i.e., within reasonable resource limits and congruent with current data collecting capacity;
- support goals of enhancing women’s empowerment, promoting gender equality and advancing women’s empowerment in policy-making;
- reflect diverse sectoral and thematic concerns, among them: governance, decision-making and policy-making; water use, consumption and priorities in agriculture; household water use, consumption and priorities;
- be thematically aligned with, and positioned, to contribute to the post-2015 development agenda; and
- transform gender relations towards a more equitable state, and not just to account for current inequities. A pivotal way to do this is to develop data priorities that reveal the ways in which masculinity(ies) and femininity(ies) are constructed and the ways in which these normative forces operate in everyday life.

The WWAP slate of priority indicators was developed over several months through several processes including intensive literature and project reviews (Fletcher and Schonwille, 2015), methodological guidance provided by the WWAP experts, iterative processes of collaboration with and guidance from the Working Group through workshops, teleconferencing and feedback offered at presentations of the work in progress at the Stockholm Water Week conference (September 2014) and the Gender, Development and Water conference in South Africa (November 2014).

The result is Toolkit No. 1 of the WWAP project, a five-theme list of priority indicators, each consisting of several components (see Box 2),





## 4 Methods



## 4.1 Methodological approaches for the field testing of priority indicators

Testing the indicators in the field will require at least six types of methodological approaches and expertise:

1. Analyzing official (government and quasi-government) records and fact-finding interviews;
2. Individual perceptual interviews (official/public activities);
3. Analyzing official community-level (perhaps not “government”) records;
4. Participant-observer studies of group/public activities (intensity measures);
5. Intra-household (individual) and household-level surveys (“ordinary people”); and
6. Desk study/audits.

## 4.2 Fact-finding interviews and official records

Interviews are among the most common social science methods to solicit information (Parsons, 2008). Formally, interviews tend to follow one of three forms: unstructured, semi-structured and structured. As the names suggest, these interview types reflect a range from relatively free-flowing conversation that is only loosely tied to a predetermined script or questionnaire (“unstructured”), to a tightly-scripted, fact-finding instrument (“structured”).

To gather information on the wide range of sex-disaggregated water topics for these pilot projects will require interviews with a variety of people, including key informants and respondents. Structured interviews might be conducted with Ministers or their staff in order to get at “factual” information about matters such the presence and nature of gender-specific objectives and commitments (or gender strategy) in national- and sector-level water policies or what budget allocations (if any) are made at the national level for gender mainstreaming in water and sanitation. Sometimes, this kind of information is available from written official records, but even in that case there is value in having prior interviews with officials: they might be able to identify the appropriate written source(s) or provide contextual information for those sources.

Examination of official records will also provide some of the sex-disaggregated information sought by this project. For example, two data sets that might be gathered from official records are:

1. Number of M/F paid staff in public water-governance agencies, disaggregated by job category/level and decision-making capacity (and salary, if available); and
2. Percentage of households with access to “improved” sanitation facility, by household structure and by nature of the “improved” facility.

Analysts, especially feminist analysts, should approach official records with a critical eye. Official records, although often considered to be among the most reliable sources of data, are just as subject to error, misinterpretation, incompleteness and perhaps even active manipulation, especially in terms of gender representation. One of the

advantages of conducting an extended pilot study is that “ground-truth” data can be compared with the official accounts.

### 4.3 Participant-observer studies of group/public activities

The methodology for testing the priority indicators is intended to probe gender equality beyond counting the presence of women and men in decision-making bodies and governance structures. Several of the indicators (see Box 2) include assessment of the actual participation and effectiveness of gender representation, such as:

**1c. Intensity** of M/F participation in (sample/representative) meetings of public entity bodies sampled at national, sub-national and local levels, 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.

**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.

**5h.** M/F membership in and intensity of participation in community-based irrigation committees.

These indicators are intended to reveal the gendered power relations within groups. Assessing these dimensions of gender equality requires several methodological approaches, such as:

- A multi-encounter study (i.e. a single meeting is not a sufficient basis for judgment);
- Semi-structured interviews with women and men participating in the meetings/committees to assess their experiences of participation; and
- Participant observation: sending an observer to attend several sessions of the board meetings.

Gender participation-intensity methodologies are relatively new and still under development, but examples of similar efforts and guidance on methodology is increasingly available (Nightingale, 2002; Postma et al., 2003; van Wijk-Sijbesma, 2001). At its heart, “gender-equity intensity” assessments are based on direct observation by a skilled observer. Direct observation is a powerful and well-established technique. As with semi-structured interviews, the observer typically is prepared with an advance slate of observation points to record, but s/he must also be on the alert for dimensions of behaviour and activity that might not be included in the script. An observer of meetings, for example, might know in advance that s/he should look for dynamics such as :

#### **During an organizational, program, or project meeting:**

- Is anyone dominating the meeting? Who is speaking more? Women or men?
- Does everyone seem to be comfortable participating?
- Does it appear that everyone’s opinions and insights are respected when they speak?

- Who plays a leadership role within the community or speaks at village gatherings and who does not?
- Who attends community gatherings and who does not?
- Where and at what time is the village gathering held? Is the time and location accessible to everyone?
- Who is treated with respect? Who is not?

Source: Adapted from Meyers and Jones, 2012

#### 4.4. Household-level and intra-household surveys

Most household and personal surveys are conducted as “semi-structured” interviews. Essentially, this means that the interviewer follows a script or predefined set of questions, but will also ask additional follow-up questions as they naturally arise in the conversation. Those follow-up turns in the conversation cannot be anticipated or scripted. As a general information-gathering approach, feminist methodologists tend to encourage “unstructured” or “semi-structured” interviews, as these resemble more natural conversations and encourage a rapport between the interviewee and interviewer. There have also been a number of studies of gendered responses to various interview settings, and women respondents tend to prefer and to provide more information, and more nuanced information, through semi-structured or unstructured approaches (DeVault and Gross, 2012; Oakley, 1981).

Household and personal surveys require a considerable commitment of time and tact. There is substantial methodological literature on gender-sensitive household surveying, including directives about facilitating techniques, such as matching the sex of the respondent and the interviewer (i.e. men interview men, women interview women), maintaining confidentiality, and setting enabling conditions that give women opportunities to speak freely (ICF International, 2012a and 2012b; IHSN, n.d.). When attempting to elicit (perhaps sensitive) information from female household respondents, it is particularly important that a husband or male family member not attend or participate in the interview. One of the gender pitfalls of many household surveys is that a single respondent – typically male – is assumed to speak “for” the entire household. In piloting the use of the indicators, this would yield entirely useless results.

Another way that women are often made invisible in statistics is the use of the concept of “head of household.” Often, the characteristics of the entire household have been identified as those of the head, and the head has been assumed the oldest man in the household. This practice can easily obscure a number of gender-relevant dynamics. For example, the highest earning of a two-earner household may be the woman or the household may be made up of several adults of various relationships, not always connected in a straight line to the (male) “head.”

There is an extensive methodological literature on ways to categorize households and intra-household relationships other than by the sex of the household head (UNECE/ World Bank Institute, 2010). Many of these require a substantial reconceptualization of census and survey forms, retraining survey-takers, and developing new conceptual frames. However, the rich rewards of doing so can be seen in those studies that do take an intra-household approach, such as the example in Box 1 (page 20).

## 5. Conclusion



The WWAP proposal to identify, test, and validate a priority set of sex-disaggregated water sector indicators is conceptually ambitious and methodologically complex. Necessarily so: the stakes are high. For decades, UN agencies, governments, NGOs and water experts have called for the development of sex-disaggregated data. To date, this call has been largely ignored.

UN WWAP UNESCO aims to set the paradigm for further global sex-disaggregated data projects and influence the post-2015 development agenda. It will demonstrate the value of gender-disaggregated data and make the case (to national leaders and policy-makers) for gender mainstreaming. It will create baseline knowledge, from which gender progress could later be evaluated, help to develop capacity for national gender-sensitive data-gathering projects and serve as a basis for advocating change (in policy and elsewhere) towards gender equality and women's empowerment.

# ANNEX I      The ‘long list’ of possible sex-disaggregated water sector indicators

## A. Household water collection, use and use-priorities

### 1. Percentage of households with access to different sources of drinking water, by demographic structure of household (M/F-headed, etc.)

#### **Responsibility for accessing and collecting water:**

2. Who is primary collector (by sex and age); labour and time burden (time spent).  
*Note: This is the most common indicator mentioned and, to a limited extent, already collected*
3. Proportion of unpaid work in the household that involves using/collecting/making safe water, by sex and age
4. Daily time/labour by season (?); *total* time, including waiting at wells, etc.
5. Percentage of households without water on premises, by sex of main person responsible for collecting drinking water by rural/urban
6. Distances travelled to collect safe domestic water (by age, sex)

#### **The social/individual costs of the labour and time-burden of the responsibility for accessing domestic water:**

7. A qualitative assessment of the trade-offs and losses of the time/labour water burden (people who put x hours into water collecting every day are unable to participate in other activities)
8. Time-poverty outcomes, individual and community

#### **Effects of introducing improved water/sanitation:**

9. If improved water/sanitation is available/introduced, time/labour saved by using improved water/sanitation.
10. Privatization (if occurring) in relation to costs/benefits.

#### **Collection of water as an income-generating activity:**

11. M/F participation

#### **The health and safety costs of water collecting:**

12. Incidence of violence or threat of violence against female water-collectors (often in isolated locations); the ripple-effect social costs of that violence, or of fear of violence
13. Women’s and men’s preceptions of the safety of the path/road/access to the water collection site or sanitation facility
14. Health costs associated with carrying water
15. Health costs associated with close contact with (sometimes) unsafe water supplies; gender/age incidence of water-borne diseases

#### **Means (vehicle//animal//manual) of water collecting:**

16. Relationship of gender to means: e.g. does gender balance shift if water is collected by motorized vehicle?

### **Intra-household use of water (drinking, hygiene, cooking, agriculture, etc.)**

17. Use-budgets; what purposes in household do M/F use water for?
18. M/F expressed priorities for water use for household activities
19. Who can use the water? who decides on its use?
20. Perceptions of disagreements/conflict over water use
21. Perceptions of equality in access, use, management

### **Perceived health//safety of drinking water (used in the household)**

22. Labour required and person(s) responsible to make water safe (boiling, etc), by M/F
23. Prevalence of water-related illnesses

### **Satisfaction with water:**

24. M/F levels of satisfaction with water availability, distribution, and access
25. In relationship to source of water (privatization; public)
26. M/F perceptions of causes of changes (if any) in water supply
27. Perceived links (if any) between water availability and safety and food security (M/F)

## **B. Economics of household water**

### **Costs (financial) of acquiring household water**

28. Variants in cost by type of household
29. Household member who has responsibility to pay for water
30. Costs of water in relation to total household budget; percent of income (variability by geographic region)
31. Privatization (if occurring); costs and benefits

### **32. The gendered dimensions of profit//economic gain and costs from privatization of water and sanitation**

### **33 Nature of the primary source of drinking water, cross-tabbed with type of household** (collected/piped/well: f-headed, m-headed, etc.)

### **Affordability of drinking water:**

34. M/F perceptions of affordability of drinking water
35. perceptions of recent changes (if any) in affordability, and causes of those changes

### **36. Benefits: Percentage increase in income (M/F) from productive uses of water**

## **C. Governance, decision-making and political participation**

### **M/F participation in paid and unpaid water-related decision-making and policy-making:**

37. The proportion of women in formal institutions at various levels of decision-making (members, management/leadership, technical staff)
38. The proportion of women in informal institutions such as community boards
39. At international, national, and local levels, including formally organized Water User Associations and, at national levels, Ministries
40. In planning, enacting, and oversight of specific water-related projects
41. M/F salary scales for equal work in water-related decision-making bodies



**Intensity of participation in decision-making**, (range from just being listened to, to speaking in public fora, to being the ultimate decision-makers)

42. Ratio of contributions in decision-making meetings by women and men

43. Percentage of decisions adopted from women's contributions in water and sanitation committee meetings.

**Percent M/F actively participating in water users groups**

44. Participation in executive committees

45. Participation in meetings

**46. Quantity and quality of sex-disaggregated data related to water and sanitation collected by responsible agents at national and local levels**

**Presence and nature of gender machineries, commitments, and capacities for developing gender equity in relation to water-related programmes**

47. Gender responsiveness of water policies

48. Budget allocations for gender mainstreaming

49. Presence and nature of gender-specific objectives in national and sector-level policies

50. The impact and effectiveness of activities to develop gender awareness and skills amongst policy-making, management and implementation staff

51. Public funds directed to women's groups/organizations working on WASH issues

**52. Participation and paid/unpaid labour in operating and maintaining water and sanitation sites and facilities**

**53. M/F students in water-related formal training** (universities).

**54. Perceptions of M/F inclusion/equity in water related policy-making and decision-making**

**International water law**

55. Primary decision makers (M/F)

56. Incorporation of gender perspectives

57. Gender roles in conflict resolution/mitigation

**D. Sanitation indicators**

58. Percent households with access to "improved" sanitation facility, by household structure

**Intra-household access to improved sanitation:**

59. Percentage of households in which improved sanitation facilities are used by all members of the household (including men and women, boys and girls, elderly, people with disabilities)

**Primary and secondary schools sanitation facilities on or near premises:**

60. Percentage of schools with gender-segregated facilities

61. By level of school and urban/rural location

62. WHO-UNICEF JMP adds specific measurable targets: % schools with at least one toilet for every 25 girls, at least one toilet for female school staff, a minimum of one toilet and one urinal for every 50 boys and at least one toilet for male school staff

**Primary and secondary schools water provision:**

63. Percentage of primary and secondary schools with a private place for washing hands, private body parts and clothes; drying reusable materials; and safe disposal of used menstrual materials

**64. Prevalence of open defecation on water and land by male/female, girl/boy**

**65. Responsibility for cleaning latrines and pits: rural/urban, M/F, paid/unpaid**

**Perceptions of safety of using latrines** (if latrines outside house or house compound):

66. Women's and men's perceptions of the safety of the path/road/access to the water collection site or sanitation facility

**E. Agricultural sector indicators**

**67. Hours of labour (paid/unpaid) in agricultural work**

**Irrigated land and holdings:**

68. Percentage of holdings/households with irrigated land, by land use type and sex of holder

69. If irrigation rights are formally assigned, who holds them within the household?

70. Gender distribution of land property in the irrigated sector

71. M/F holdings that use irrigation

**Labour inputs to sustain irrigated farming:**

72. M/F labour in construction and maintenance of agriculture-related water systems

73. Migratory labour (sex-disaggregated)

**M/F access to water (mostly irrigation) for productive uses in agriculture and related activities: (including home-based small industries)**

74. Who 'owns' or claims priority access to water, for what purposes?

75. Who decides which crops will be irrigated?

76. Perceived obstacles/barriers to making best use of water resources

**M/F decision-making in irrigation schemes:**

77. M/F water rights and water-powers

78. M/F 'voice' in relation to agricultural water use

79. who decides to build irrigation systems?

**M/F access to farmer association and extension services, and related training and assistance:**

80. Access to conventional and modern information channels; are M/F equally invited to training?

81. Quality of information provision to men and women

82. Percent M/F extension service agents/technicians

83. M/F access to bank loans

**84. Distribution of economic benefits from public-sector water-related infrastructure** (such as dams, hydro, navigation)

**Safety of available agricultural water:**

- 85. M/F perceptions of the safety of available agricultural water
- 86. M/F perceptions of practices that may pollute the water (clothes washing, animals, etc.)
- 87. M/F perceptions of who is responsible for polluting water

**F. Water equality**

This is not identified specifically as a thematic focus in most of the calls for indicators but it is implicit throughout, and could be drawn out explicitly from the indicators above, such as:

- 88. Distribution of economic benefits from public-sector water-related infrastructure (such as dams, hydro, navigation)
- 89. The social/individual costs of the labour and time-burden of the responsibility for accessing domestic water
- 90. Levels of satisfaction (M/F) with water availability
- 91. Levels of satisfaction (M/F) with water distribution
- 92. Levels of satisfaction (M/F) with water access
- 93. Costs (financial) of acquiring household water
- 94. Public funds directed to women's groups/organizations working on water issues
- 95. Intra-household use of water (drinking, hygiene, cooking, agriculture, etc.)
- 96. Intra-house conflicts, disagreements
- 97. Intra-household perception of equality in water allocations
- 98. Intra-household perceptions of equality in water access
- 99. Intra-household perception of equality in water use
- 100. Intra-household perception of equality in water management

**Sources of the "long list" of possible indicators:**

- Alkire, S., Meinzen-Dick, R., Peterman, A., Quisumbing, A. R., Seymour, G. and Vaz, A. 2013. *The Women's Empowerment in Agriculture Index*. OPHI Working Paper No. 58. Oxford, UK, University of Oxford/Oxford Poverty and Human Development Initiative (OPHI). <http://www.ophi.org.uk/wp-content/uploads/ophi-wp-58.pdf>
- Blanco Allais, F. 2009. *Assessing the gender gap: evidence from SIMPOC surveys*. Geneva, International Labour Organization/International Programme on the Elimination of Child Labour/Statistical Information and Monitoring Programme on Child Labour (ILO/IPEC/SIMPOC).
- CA/GWA/BE (The Comprehensive Assessment of Water Management in Agriculture/Gender and Water Alliance/Both ENDS). 2006. *Effective gender mainstreaming in water management for sustainable livelihoods: From guidelines to practice*. Working Paper Series. Amsterdam, Both ENDS. [http://www.iwmi.cgiar.org/assessment/files\\_new/research\\_projects/EffectiveGender\\_BothEnds.pdf](http://www.iwmi.cgiar.org/assessment/files_new/research_projects/EffectiveGender_BothEnds.pdf)

- CIDA (Canadian International Development Agency). 1997. *Guide to Gender-Sensitive Indicators*. Hull, Quebec, CIDA.  
[http://www.acdi-cida.gc.ca/inet/images.nsf/vLUIImages/Policy/\\$file/WID-GUID-E.pdf](http://www.acdi-cida.gc.ca/inet/images.nsf/vLUIImages/Policy/$file/WID-GUID-E.pdf)
- FAO/GEWAMED/GWA (Food and Agriculture Organization of the United Nations/ Mainstreaming Gender Dimensions into Water Resources Development and Management in the Mediterranean Region Project/Gender and Water Alliance). 2012. *Passport to Mainstreaming Gender in Water Programmes: Key Questions for Interventions in the Agricultural Sector*. Rome, FAO.  
<http://www.fao.org/docrep/017/i3173e/i3173e.pdf>
- Greco, F. 2013. *UN WWAP UNESCO: Gendering Water Monitoring, Assessment And Reporting*. Public lecture presented at the University of Foreigners of Perugia, September 2013.  
<https://prezi.com/z1cnnlee6f5t/un-wwap-unesco-gendering-water-monitoring-assessment-and-reporting/>
- GWA/UNDP (Gender and Water Alliance/United Nations Development Programme). *Resource Guide: Mainstreaming Gender in Water Management*. GWA/UNDP.  
[http://www.undp.org/content/undp/en/home/librarypage/environment-energy/water\\_governance/resource-guide-mainstreaming-gender-in-water-management.html](http://www.undp.org/content/undp/en/home/librarypage/environment-energy/water_governance/resource-guide-mainstreaming-gender-in-water-management.html)
- Ray, I. 2007. Women, Water and Development. *Annual Review of Environment and Resources*, 32: 421–49.
- Sagardoy, J. A. 2006. *Gender Indicators for Monitoring Progress in Water Management*. Paper presented at the Special Session on Mainstreaming Gender in Water Resources Management: Monitoring and Evaluation, 3rd Arab Water Regional Conference: Research Advancement in Managing Monitoring and Evaluation Limited Water Resources, Cairo, 9-11 December 2006.  
[http://www.gewamed.net/share/img\\_documents/48\\_sagardoy\\_final.pdf](http://www.gewamed.net/share/img_documents/48_sagardoy_final.pdf)
- Sagardoy, J. A. and Guelloubi, R. 2007. Gender indicators in water management: Review, proposals and guidance. J.A. Sagardoy, N. Lamaddalena, R. Quagliariello, D. Chimonidou, R. Guelloubi and V. Pinca (eds), *Mainstreaming gender dimensions in water management for food security and food safety*. Bari, Italy, International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), pp. 165-197.
- Sisto, I. 2012. *Women in Agriculture, Gender and Water Indicators*. FAO Support to the African Ministers Council on Water (AMCOW) Gender Strategy. Presented at the 2012 World Water Week, Stockholm, 26-31 August 2012.  
[http://www.worldwaterweek.org/documents/WWW\\_PDF/2012/Mon/Concrete-Actions/Illaria-Sisto.pdf](http://www.worldwaterweek.org/documents/WWW_PDF/2012/Mon/Concrete-Actions/Illaria-Sisto.pdf)
- Tayyib, S., Rocca, V. and Bossanyi, Z. n.d. *Core Gender Indicators for Assessing the Socio-economic Status of the Agricultural and Rural Population*. Regional Office for Europe and Central Asia, Food and Agriculture Organization of the United Nations (FAO).  
[http://www.fao.org/fileadmin/user\\_upload/Europe/documents/WPW/gender\\_files/Gender\\_Indicators\\_en.pdf](http://www.fao.org/fileadmin/user_upload/Europe/documents/WPW/gender_files/Gender_Indicators_en.pdf)
- UN DESA/UNW-DPC (United Nations Department of Economic and Social Affairs/UN-Water Decade Programme on Capacity Development). 2009. *Gender Disaggregated Data on Water and Sanitation: Expert Group Meeting Report*. New York, UN DESA.
- UNDP (United Nations Development Programme). n.d. UNDP Website.[http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/focus\\_areas/gender/](http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/focus_areas/gender/)
- UNESCAP (United Nations Economic Commission for Asia and the Pacific). 2013. *Gender, Statistics and Gender Indicators: Developing a Regional Core Set of Gender Statistics and Indicators in Asia and the Pacific*. Draft. Regional Consultative Workshop to

- Develop a Framework and Core Set of Gender Statistics and Indicators in Asia and the Pacific, Bangkok, 4-6 November 2013.  
<http://www.unescap.org/sites/default/files/Framework-and-Indicator-set.pdf>
- van Koppen, B. 2002. Towards a Gender and Water Index. C. Sullivan, J.R. Meigh and T. S. Fediw, *Final report, Derivation and Testing of the Water Poverty Index, Phase 1*. Wallingford, London, UK, Centre for Ecology and Hydrology/Department for International Development (CEH/DFID), 17 p.  
[http://r4d.dfid.gov.uk/PDF/Outputs/Water/WPI\\_H\\_30746.pdf](http://r4d.dfid.gov.uk/PDF/Outputs/Water/WPI_H_30746.pdf)
- \_\_\_\_\_. 2002. *A Gender Performance Indicator for Irrigation: Concepts Tools and Applications*. Research Report No. 59. Colombo, International Water Management Institute (IWMI).  
[http://www.iwmi.cgiar.org/Publications/IWMI\\_Research\\_Reports/PDF/pub059/Report59.pdf](http://www.iwmi.cgiar.org/Publications/IWMI_Research_Reports/PDF/pub059/Report59.pdf)
- WHO/UNICEF (World Health Organization/United Nations Children's Fund). 2012. *Report of the Second Consultation on Post-2015 Monitoring of Drinking-Water, Sanitation and Hygiene*. WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP), The Hague, the Netherlands, 3-5 December 2012.  
[http://www.wssinfo.org/fileadmin/user\\_upload/resources/WHO\\_UNICEF\\_JMP\\_Hague\\_Consultation\\_Dec2013.pdf](http://www.wssinfo.org/fileadmin/user_upload/resources/WHO_UNICEF_JMP_Hague_Consultation_Dec2013.pdf)
- \_\_\_\_\_. 2014. *Progress on Drinking Water and Sanitation: 2014 Update*. New York, WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP).  
[http://www.who.int/water\\_sanitation\\_health/publications/2014/jmp-report/en/](http://www.who.int/water_sanitation_health/publications/2014/jmp-report/en/)
- WWAP (World Water Assessment Programme). 2014. *The United Nations World Water Development Report 2014: Water and Energy*. Paris, UNESCO.
- World Bank. 2010. *Gender in Water and Sanitation: Mainstreaming Gender in Water and Sanitation*. Working Paper. Nairobi, Water and Sanitation Program (WSP), The World Bank.  
[http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/02/02/000356161\\_20110202022615/Rendered/PDF/593340WPOWSP1g10Box358367B01PUBLIC1.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/02/02/000356161_20110202022615/Rendered/PDF/593340WPOWSP1g10Box358367B01PUBLIC1.pdf)
- World Bank/FAO/IFAD (Food and Agriculture Organization/International Fund for Agricultural Development). 2009. *Gender in Agriculture Sourcebook*. Washington, DC, The World Bank.  
<http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf>



## References

- Agarwal, B. 1992. The gender and environment debate: Lessons from India. *Feminist Studies*, 18(1): 119–58.
- Al-Ali, N.S. 2007. *Iraqi Women: Untold Stories From 1948 to the Present*. London/New York, Zed Books.
- Alderman, H., Chiappori, P. A., Haddad, L., Hoddinott, J. and Kanbur, R. 1995. Unitary versus collective models of the household: Is it time to shift the burden of proof? *World Bank Research Observatory*, 10(1):1–19.  
<http://www.jstor.org/stable/3986564>
- Alkire, S., Meinzen-Dick, R., Peterman, A., Quisumbing, A.R., Seymour, G. and Vaz, A. 2013. *The Women's Empowerment in Agriculture Index*. OPHI Working Paper No. 58. Oxford, UK, University of Oxford/Oxford Poverty and Human Development Initiative (OPHI).  
<http://www.ophi.org.uk/wp-content/uploads/ophi-wp-58.pdf>
- Barlow, M. and Clarke, T. 2003. *Blue Gold: The Battle against Corporate Theft of the World's Water*. New York, New Press.
- Boserup, E. 1970. *Woman's role in economic development*. London, Allen and Unwin.
- Budds, J. 2008. Whose scarcity? The hydrosocial cycle and the changing waterscape of La Lingua River Basin, Chile. E. K. Goodman, M. T. Boykoff and K.T. Evered (eds), *Contentious Geographies: Environment, Meaning and Scale*. London, Ashgate Publishing Ltd.
- CA/GWA/BE (The Comprehensive Assessment of Water Management in Agriculture/ Gender and Water Alliance/Both ENDS). 2006. *Effective gender mainstreaming in water management for sustainable livelihoods: From guidelines to practice*. Working Paper Series. Amsterdam, Both ENDS. [http://www.iwmi.cgiar.org/assessment/files\\_new/research\\_projects/EffectiveGender\\_BothEnds.pdf](http://www.iwmi.cgiar.org/assessment/files_new/research_projects/EffectiveGender_BothEnds.pdf)
- \_\_\_\_\_. n.d. *Making a difference in water management: A minimum agenda on mainstreaming*. Issue brief No. 3, 2006-07.  
<http://genderandwater.org/en/gwa-products/knowledge-on-gender-and-water/a-minimum-agenda-on-gender-mainstreaming-for-researchers-practitioners-and-gender-experts/flyer-about-the-minimum-agenda-on-gender-mainstreaming/view>
- Carlson, A.S. 1981. Sex disparities in the distribution of food within rural households. *Food and Nutrition*, 7(1):3-12.
- Carney, J. 2004. Gender conflict in Gambian wetlands. R. Peet and M. Watts (eds), *Liberation ecologies: Environment, development, social movements*. London/New York, Routledge, pp. 316-36.
- Coates, J. C., Webb, P., Houser, R. F., Lorge Rogers, B. and Wilde, P. . 2010. 'He said, she said': who should speak for households about experiences of food insecurity in Bangladesh? *Food Security*, 2:81-95.
- Curry, J. 2002. *Establishment of a core set of gender-sensitive indicators for the agricultural sector: A preliminary proposal*. Working Paper No. 14. Paper presented at UNECE work session on gender statistics, Conference of European Statisticians, Geneva, Switzerland, 23-25 September 2002. <http://www.unece.org/fileadmin/DAM/stats/documents/2002/09/gender/14.e.pdf>
- DeVault, M. L. and Gross, G. 2012. Feminist Qualitative Interviewing: Experience, Talk, and Knowledge. S. Nagy Hesse-Biber, *Handbook of Feminist Research*. Encyclopedia of Survey Research Methods. Thousand Oaks, Calif., SAGE Publications, pp. 173-198.

- Earle, A. and Bazilli, S. 2013. A gendered critique of transboundary water management. *Feminist Review*, 103: 99-119.
- Elmhirst, R. and Resurreccion, B.P. 2008. Gender, environment and natural resource management: New dimensions, new debates. B. P. Resurreccion and R. Elmhirst (eds), *Gender and natural resources management: Livelihoods, mobility and interventions*. London, Earthscan, pp. 3-22.
- Fletcher, A. and Schonewille, R. 2015. *Overview of resources on gender-sensitive data related to water*. Gender and Water Series. WWAP. Paris, UNESCO.
- Folbre, N. 1986. Hearts and spades: Paradigms of household economics. *World Development*, 14(2):245-55.
- Fong, M. S., Wakeman, W. and Bhusan, A. 1996. *Toolkit on gender in water and sanitation*. Gender Toolkit Series No. 2. Washington, D.C., The World Bank.
- Greco, F. 2013. *UN WWAP UNESCO: Gendering Water Monitoring, Assessment And Reporting*. Public lecture presented at the University of Foreigners of Perugia, September 2013.  
<https://prezi.com/z1cnnlee6f5t/un-wwap-unesco-gendering-water-monitoring-assessment-and-reporting/>
- Guyer, J. 1997. Endowments and assets: The anthropology of wealth and the economics of intrahousehold allocation. L. Haddad, J. Hoddinott and H. Alderman (eds), *Intrahousehold resource allocation in developing countries: Models, methods and policy*. London/Baltimore, UK/USA, The Johns Hopkins University Press, pp. 112-25. <http://www.ifpri.org/sites/default/files/publications/intrahhres.pdf>
- Harris, L. 2009. Gender and emergent water governance: Comparative overview of neoliberalized natures and gender dimensions of privatization, devolution and marketization. *Gender, Place & Culture: A Journal of Feminist Geography*, 16(4): 387-408.
- Hawkins, R. and Seager, J. 2010. Gender and Water in Mongolia. *The Professional Geographer*, 62(1): 16-32.
- ICF International. 2012a. *Survey Organization Manual for Demographic and Health Surveys*. MEASURE DHS. Calverton, Md., ICF International. [http://dhsprogram.com/pubs/pdf/DHSM10/DHS6\\_Survey\\_Org\\_Manual\\_7Dec2012\\_DHSM10.pdf](http://dhsprogram.com/pubs/pdf/DHSM10/DHS6_Survey_Org_Manual_7Dec2012_DHSM10.pdf)
- \_\_\_\_\_. 2012b. *Demographic and Health Survey Interviewer's Manual*. MEASURE DHS. Basic Documentation No. 2. Calverton, Md., ICF International. [http://dhsprogram.com/pubs/pdf/DHSM1/DHS6\\_Interviewer\\_Manual\\_19Oct2012\\_DHSM1.pdf](http://dhsprogram.com/pubs/pdf/DHSM1/DHS6_Interviewer_Manual_19Oct2012_DHSM1.pdf)
- IFAD (International Fund for Agricultural Development). 2007. *Gender and water, securing water for improved rural livelihoods: The multiple-uses system approach*. Rome, IFAD. [http://www.ifad.org/gender/thematic/water/gender\\_water.pdf](http://www.ifad.org/gender/thematic/water/gender_water.pdf)
- IHSN (International Household Survey Network). n.d. IHSN Website. [www.surveynetwork.org/home/](http://www.surveynetwork.org/home/)
- Leach, M. 1992. Gender and the environment: Traps or opportunities? *Development in Practice: An Oxfam Journal*, 2(1): 12-22.
- Linton, J. and Budds, J. 2014. The hydrosocial cycle: Defining and mobilizing a relational-dialectical approach to water. *Geoforum*, 57:170-180.  
<http://dx.doi.org/10.1016/j.geoforum.2013.10.008>
- Meyers, L. and Jones, L. 2012. *Gender Analysis, Assessment, and Audit Manual and Toolkit*. ACDI/VOCA.
- Mies, M. and Shiva, V. 1993. *Ecofeminism*. London, Zed Books.
- Nightingale, A. 2002. Participating or Just Sitting In? The Dynamics of Gender and Caste in Community Forestry. *Journal of Forest and Livelihood*, 2(1): 17-24.
- Oakley, A. 1981. Interviewing women: A contradiction in terms. H. Roberts (ed.), *Doing feminist research*. London, Routledge, pp. 30-61.



- Ortner, S. B. 1974. Is female to male as nature is to culture? M. Z. Rosaldo and L. Lamphere (eds), *Woman, culture and society*, Stanford, Calif., Stanford University Press, pp. 67-88.
- Overholt, C., Anderson, M. B., Cloud, K. and Austin, J. E. (eds). 1984. *Gender Roles in Development Projects: A Case Book*. West Hartford, Conn., Kumarian Press.
- Parsons, J. A. 2008. Key Informant. P. J. Lavrakas (ed.), *Encyclopedia of Survey Research Methods*. Thousand Oaks, Calif., SAGE Publications.
- Postma, L., van Wijk, C. and Otte, C. 2003. *Participatory quantification in the water and sanitation sector*. Participatory Learning and Action (PLA) Notes No. 47. London, International Institute for Environment and Development (IIED).
- Pradhan, B. 2003. Measuring Empowerment: A Methodological Approach. *Development*, 46(2): 51–57.
- Rathgeber, E. M. 1996. Women, Men, and Water-Resource Management in Africa. E. Rached, E. M. Rathgeber and D. Brooks (eds), *Water Management in Africa and the Middle East: Challenges and Opportunities*. Ottawa, International Development Research Centre (IDRC), pp. 49-72.
- Ray, I. 2007. Women, Water and Development. *Annual Review of Environment and Resources*, 32: 421–49.
- Rocheleau, D. E., Thomas-Slayter, B. and Wangari, E. 1996. Gender and environment: A feminist political ecology perspective. D.E. Rocheleau, B. Thomas-Slayter and E. Wangari (eds), *Feminist political ecology: Global issues and local experience*. London/New York, Routledge, pp. 3-23.
- Schroeder, R. A. 1999. Shady practices: *Agroforestry and gender politics in the Gambia*. Berkeley, Calif. University of California. <http://ark.cdlib.org/ark:/13030/ft5n39p01v/>
- Seager, J. 1993. *Earth Follies: Coming to feminist terms with the global environmental crisis*. London, Earthscan.
- \_\_\_\_\_. 2010. Gender and water: Good rhetoric, but it doesn't 'count'. *Geoforum*, 41(1):1–3.
- Shiva, V. 1989. *Staying alive: Women, ecology and development*. London, Zed Books.
- \_\_\_\_\_. 2002. *Water Wars: Privatization, pollution, and profit*. Cambridge, Mass., South End Press.
- Sommer, M. 2010. Where the education system and women's bodies collide: The social and health impact of girls' experiences of menstruation and schooling in Tanzania. *Journal of Adolescence*, 33(4): 521-29.
- Sturgeon, N. 1997. *Ecofeminist natures: Race, gender, feminist theory, and political action*. London/New York, Routledge.
- Sultana, F. 2007. Water, water everywhere, but not a drop to drink: Pani politics (water politics) in rural Bangladesh. *International Feminist Journal of Politics*. 9 (4): 494–502.
- Swyngedouw, E. 2006. *Power, water and money: Exploring the nexus*. Human Development Report Office Occasional Paper. United Nations Development Programme (UNDP). <http://hdr.undp.org/en/reports/global/hdr2006/papers/Swyngedouw.pdf>
- UN (United Nations). 1990. *Promotion of Women's Participation in Water Resources Development: Report of the Seminar, Bamako, Mali, November 14-18 1988*. Natural Resources/Water Series No. 25. New York, UN.
- \_\_\_\_\_. 2013. *Gender statistics: Report of the Secretary-General*. Statistical Commission, Forty-fourth Session, 26 February-1 March 2013. Economic and Social Council, UN. <http://unstats.un.org/unsd/statcom/doc13/2013-10-GenderStats-E.pdf>
- UNCESCR (United Nations Committee on Economic, Social and Cultural Rights). 2002. General Comment 15: The right to water. UN Doc. E/C.12/2002/11.

- UN DESA (United Nations Department of Economic and Social Affairs). n.d. International Decade for Action "Water for Life" 2005-2015 Website. Gender and Water. <http://www.un.org/waterforlifedecade/gender.shtml>
- UN DESA/UNW-DPC (United Nations Department of Economic and Social Affairs/ UN-Water Decade Programme on Capacity Development). 2009. *Gender Disaggregated Data on Water and Sanitation: Expert Group Meeting Report*. UN DESA.
- UNDP (United Nations Development Programme). 2006. *Human Development Report: Water for Life*. New York, UNDP.
- UNECE (United Nations Economic Commission for Europe)/World Bank Institute. 2010. *Developing Gender Statistics: A Practical Tool*. Geneva, UN. [http://www.unece.org/fileadmin/DAM/stats/publications/Developing\\_Gender\\_Statistics.pdf](http://www.unece.org/fileadmin/DAM/stats/publications/Developing_Gender_Statistics.pdf)
- UNECLAC (United Nations Economic Commission for Latin America and the Caribbean). 2012. *Analysis Matrix for identifying fair gender equality policies*. Gender Equality Observatory for Latin America and the Caribbean. Santiago, UN. [http://www.cepal.org/oig/noticias/noticias/8/47918/2012-830\\_Matriz\\_de\\_analisis\\_ingles\\_WEB.pdf](http://www.cepal.org/oig/noticias/noticias/8/47918/2012-830_Matriz_de_analisis_ingles_WEB.pdf)
- UNESCO (United Nations Educational, Scientific and Cultural Organization). n.d. World Water Assessment Programme, Water and Gender, Project Overview and Phases. <http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/water-and-gender/project-overview-and-phases/>
- UNICEF (United Nations Children's Fund). n.d. Gender and water, sanitation and hygiene (WASH). Eastern and Southern Africa website. [http://www.unicef.org/esaro/7310\\_Gender\\_and\\_WASH.html](http://www.unicef.org/esaro/7310_Gender_and_WASH.html)
- van Koppen, B. 2002. Towards a Gender and Water Index. C. Sullivan, J.R. Meigh and T.S. Fediw, *Derivation and Testing of the Water Poverty Index, Phase 1*. Wallingford, London, UK, Centre for Ecology and Hydrology (CEH). [http://r4d.dfid.gov.uk/PDF/Outputs/Water/WPI\\_H\\_30746.pdf](http://r4d.dfid.gov.uk/PDF/Outputs/Water/WPI_H_30746.pdf)
- van Wijk-Sijbesma, C. 2001. *The best of two worlds? Methodology for participatory assessment of community water services*. IRC Technical Paper No. 38. Delft, the Netherlands, IRC International Water and Sanitation Centre.
- Water.org. n.d.. <http://water.org/water-crisis/womens-crisis/>
- Wellesley Editorial Committee. 1977. *Women and national development: The complexities of change*. Chicago, Ill., University of Chicago Press.
- WWAP (United Nations World Water Assessment Programme). 2012. *The United Nations World Water Development Report 4: Managing Water under Uncertainty and Risk*. Paris, UNESCO. <http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/wwdr4-2012/>
- \_\_\_\_\_. 2014. *The United Nations World Water Development Report: Water and Energy*. Paris, UNESCO. <http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/2014-water-and-energy/>
- \_\_\_\_\_. 2015 *The United Nations World Water Development Report: Water for a Sustainable World*. Paris, UNESCO. <http://unesdoc.unesco.org/images/0023/002318/231823E.pdf>



The United Nations World Water Assessment Programme (WWAP) has launched a ground-breaking project for 'Gender Sensitive Water Monitoring Assessment and Reporting', to develop and test the methodology for collection and analysis of key sex-disaggregated water data. The project will prove the value of sex-disaggregated data, provide strong support for the monitoring of post-2015 development goal, build capacity for collection of sex-disaggregated water data at the national level, make the case (to national leaders and policy-makers) for gender mainstreaming and create baseline knowledge related to water, from which gender progress can later be evaluated.

WWAP provides in this technical paper a priority set of gender-sensitive indicators and related methodology, which, together with a guideline on how to collect sex-disaggregated data and a questionnaire for field inquiry, form the complete toolkit produced under the project. The Guideline and the Questionnaire are available on the WWAP website.

The comprehensive list of priority gender-sensitive indicators described in this technical paper fall under five broad topics: i) water governance, ii) safe drinking water, sanitation and hygiene, iii) decision-making and knowledge production, iv) transboundary water resources management, and v) water for income generation for industry and agriculture. More specifically, the indicators relate to women's water empowerment and participation in water decision-making, income generation, and unaccounted for water-related working hours. The paper also provides a comprehensive methodology for collecting data and information.

A 2013 survey by the UN Statistical Commission revealed that gendered water data was among the least available of national-level indicators: 45.2 per cent of countries do not produce any gender statistics related to water. WWAP's project will help countries change these statistics.

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