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Water Security Across the Gender Divide

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Abbreviations

ACF	Action contre la Faim International
ADR	Appropriate Dispute Resolution
AFEM	Association des Femmes des Médias
AHDR	African Human Development Report
AIDS	Acquired Immune Deficiency Syndrome
AMCOW	African Ministers' Council on Water
BAR	Basin at Risk
CAR	Central African Republic
CBA	Community-Based Adaptation
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
COP	Conference of the Parties [to the UNFCCC]
CWG	Community Water Group
DFID	Department for International Development (United Kingdom)
DRC	Democratic Republic of the Congo
DRDLR	Department of Rural Development and Land Reform (South Africa)
DRR	Disaster Risk and Reduction
EC	European Commission
ECHO	European Humanitarian Aid and Civil Protection
EIA	Environmental Impact Assessment
ENNB	Ewaso Ngiro North Basin
EPLO	European Peacebuilding Liaison Office
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
FPE	Feminist Political Ecology
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GEP	Gender Equality Programming
GoK	Government of Kenya
GWA	Gender and Water Alliance

GWP	Global Water Partnership
HDI	Historically Displaced Individuals
HIV	Human Immunodeficiency Virus
IASC	Inter-Agency Standing Committee
ICRC	International Committee of the Red Cross
iDE	International Development Enterprises
IDMC	Internal Displacement Monitoring Centre
IDP	Internally Displaced Person
IFAD	International Fund for Agricultural Development
INDC	Intended Nationally Determined Contribution [to the UNFCCC]
INGO	International Non-governmental Organisation
IPCC	Intergovernmental Panel on Climate Change
IWRM	Integrated Water Resources Management
KAP	Knowledge, Attitude and Practice
KSH	Kenyan Shilling
LGBTI	Lesbian, Gay, Bisexual, Trans* and Intersex
LRAD	Land Redistribution for Agricultural Development
MDG	Millennium Development Goal
MGC&SS	Ministry of Gender, Sports, Culture and Social Services (Kenya)
MUS	Multiple-Use Water Systems
NCCRS	National Climate Change Response Strategy (Kenya)
NEMA	National Environmental Management Act
NGEC	National Gender and Equality Commission (Kenya)
NGO	Non-governmental Organisation
NPGD	National Policy on Gender and Development (Kenya)
NPR	Nepalese Rupee
NWA	National Water Act
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OECD	Organisation for Economic Co-operation and Development
PMC	Project Management Committee
PNA	Palestinian National Authority
RoK	Republic of Kenya
SDG	Sustainable Development Goal
SDGA	State Department of Gender Affairs (Kenya)
SGBV	Sexual and Gender-Based Violence
SIDA	Swedish International Development Cooperation Agency
SLAG	Settlement/Land Acquisition Grant
SMUG	Sexual Minorities Uganda
SOFA	State of Food and Agriculture Team
SRP	Strategic Response Plan
SSA	Sub-Saharan Africa
TFDD	Transboundary Freshwater Dispute Database (University of Oregon)
UK	United Kingdom of Great Britain and Northern Ireland

UN	United Nations
UN CESCR	United Nations Committee on Economic, Social and Cultural Rights
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNFCO	United Nations Field Coordination Office
UNICEF	United Nations International Children's Emergency Fund
UNIFEM	United Nations Entity for Gender Equality and the Empowerment of Women, today UN WOMEN
UNFPA	United Nations Population Fund
UNRCHCO	United Nations Resident Coordinator/Humanitarian Coordinator's Office in Nepal
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
UNSCR	United Nations Security Council Resolution
UN WATER	United Nations Inter-Agency Mechanism on All Freshwater-Related Issues, Including Sanitation
UN WOMEN	United Nations Entity for Gender Equality and the Empowerment of Women, formerly UNIFEM
USAID	United States Agency for International Development
USD	US Dollars
VDC	Village Development Committee
WASH	Water, Sanitation and Hygiene
WDR	World Development Report
WED	Women, Environment and Development
WEP	Water Efficiency Plan
WfWP	Women for Water Partnership
WHO	World Health Organization
WMO	World Meteorological Organization
WRMA	Water Resources Management Authority (Kenya)
WRUA	Water Resources User Association
WSP	World Bank Water and Sanitation Programme
WUSC	Water Users' Committees
WWAP	World Water Assessment Programme

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Part I
Introduction

Chapter 1
Bridging Troubled Waters: Water Security Across the Gender Divide

Henri Myrttinen, Roger Cremades, Christiane Fröhlich, and Giovanna Gioli

1.1 Gender, Water and Security—What Is the Connection?

An increasing number of world regions is expected to become chronically short of water in future climate scenarios, even if there is no global water scarcity as such (Hejazi et al. 2014; Arnell 2004; Vörösmarty et al. 2000). The main factors are structural inequalities, a blatant lack of comprehensive and efficient water management in places that are already suffering from water stress, as well as a global water use that is growing at more than twice the rate of the population increase in the last century. The impacts of these dynamics will inevitably vary for different individuals and segments of society, with gender often playing a major, but not the only, role in mediating needs, vulnerabilities and access to coping strategies.

At the end of the twentieth century, it became a popular cliché to refer to water as the resource over which the next generation of resource conflicts would be fought over, especially in the light of changing climate patterns (Allan 1998; Reimer 2012). However, water scholars have cautioned against a naturalization and depoliticiza-

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tion of water scarcity and water conflicts, and against the use of misleading concepts, such as that of "water wars". This does not mean that water is not contested; it certainly is, and not only in itself. It is also often drafted as a weapon in power conflicts, for instance over ethnicity, political allegiance, and caste (see Mustafa et al. 2017). But water conflicts appear mostly on the sub-state, not the inter-state, level and they often uncover and challenge existing inequalities.

In parallel to these findings, but often only tenuously connected to discussions over water security and related conflicts, the post-Cold War era has seen an exponential growth in research and policies aimed at integrating gender perspectives into our understandings of conflict, peace and security, as well as into the actual practices of conflict resolution and peacebuilding. The gendered nature of our relationship to water, in the meantime, has also been long researched, and there have been numerous attempts to address it in development research and practice. In terms of critical research, policy formulation and programmatic implementation, however, the combined approach of looking at water and (in-)security from a comprehensive gender angle has been relatively rare. Simultaneously, the understandings of gender and of water conflict have often been simplistic, focusing on women, and what is more, on women as victims only, and thereby side-lining their social and political agency. With regard to water conflicts, the mentioned focus on inter-state and geopolitical resource conflicts has largely overshadowed important direct and indirect interactions between water and complex intra-state conflict dynamics. These intra-state water conflicts reach the community and household levels mediated by formal and informal institutions, while intersecting with existing and potential gender inequalities and conflicts.

This is where this book starts; we argue that more sophisticated and comprehensive approaches are required to understand the increasingly crucial connections between gender, water and security. The book makes the case for a gendered lens for water-related conflict and security risks, allowing for more complex and nuanced analyses.

In the following, we define the key terms of this anthology. We identify the central complexities of the water-gender-security nexus, as well as the main gaps in current academic engagement with gender, water and security. We then introduce the different contributions to the book.

1.2   Levelling the Field: Key Terms

For the purposes of this book, **gender** refers to the socio-culturally and politico-economically constructed roles, expectations, and responsibilities ascribed to men and women, girls, boys and persons with other gender identities, which change overtime, are context- and history-specific, and are inseparable from power relations and societal value systems.

All humans are gendered, and, as all social relations and actions are created by humans, all of our actions are, one way or another, gendered. While our gender defines our positionality in part, our gendered identities, norms and expectations

also evolve depending on our life paths and the circumstances we find ourselves in. Thus, for example, fetching water is often considered a feminine task, while joining a military formation is an expectation mostly placed on young men. While the expectations to carry out such tasks define the kinds of risks and privileges men and boys in uniform or water-fetching women and girls may face, the women, men, girls and boys themselves also shape the masculinised institution of the armed group and the feminised space of collecting water.

Regrettably often, in peacebuilding as well as in development policy and practice, and even in some academic studies, gender is simplistically equated with women only, and women are often cast as a homogenous, undifferentiated and essentialist category, such as that of passive victims or innate peacemakers (Fröhlich and Gioli 2015), often with detrimental consequences in terms of political, social or economic empowerment for the women in question (see for example Cano 2015). Gender has also often been approached in both policy and academia as being a static and, in a sense, external add-on to societal phenomena and processes, rather than as a dynamic and key driver in and of itself. For the role of gender to be properly understood in a given situation, however, it needs to be examined in both a broader and a deeper sense (Myrttinen et al. 2014). With a broader approach, we refer to the need to examine women and femininities, but also men and masculinities as well as biological sexes and gender identities beyond the traditional male/female dichotomy, such as trans- and intersex persons and other local, non-binary definitions of gender identity (Myrttinen and Daigle 2017). Although gender is often a key variable, it is of course not the only determining factor: Vulnerability to violence, poverty, disease or other forms of physical harm can often be heightened for example by low social or economic status, age-related factors, disability, or non-conforming sexual identity, among others.

As gender identities and expectations do not exist in isolation from each other, but are co-defined with respect to one another—for example, what is seen as feminine is being defined as oppositional to what is regarded as being masculine. Therefore, a relational approach needs to be adopted to understand how they interact in any given situation. Furthermore, a deeper approach to gender requires seeing gender identities as heterogeneous, changing and dependent on other societal markers as well.

What we therefore propose in this book is using a gender-relational, or intersectional, approach. This approach involves examining the interplay between gender and other identity markers, such as age, social class, sexuality, disability, ethnic or religious background, marital status or urban/rural setting. The approach also includes seeing gender identities as interdependent: It regards masculinity as defined against what is defined as feminine; working class femininity in relation to upper class femininity; what is defined as homosexuality in relation to what is defined as heterosexuality, and so on (Myrttinen et al. 2014). These expectations and norms are constantly co-produced, re-enforced and re-negotiated by and between all members of a given society, with others exercising more definitional power than others.

In terms of **conflict** as a measure of (in-)**security**, the book both investigates the impact of violent conflict and includes violence- and conflict-affected contexts that are not directly considered to be in violent conflict, e.g. contexts affected by occupa-

tion, massive influxes of refugees, marked but mostly non-violent conflict as well as high levels of criminal violence. The latter can be a major factor in responding to water-related disasters, for example floods, in cities affected by urban violence.

Two central concepts with regard to attempts to solve water related conflicts are vulnerability and resilience. Both are often partially mediated through gender, although the connections tend to be non-linear and in a dynamic evolution. We understand **vulnerability** to mean the propensity to be adversely affected by environmental change and extreme events by virtue of one's social positionality, and relative inability to recover from related damage (Lavell et al. 2012; Adger 2006; Cutter 1996). Vulnerability is intrinsically intersectional, and inflected along the lines of power relations by social markers such as class (Mustafa et al. 2015; Pelling 1998), gender (Sultana 2010), and ethnicity (Bolin 2007), among other factors. Vulnerability is hence context-specific, co-produced and contested in the social arena through power relations. Although it is at times used as if it were something inherent to a person or group, vulnerability is also a social construct, the result of discriminatory social norms, exclusionary practices and the societal acceptance of structural and direct violence.

Another central term when it comes to analysing environmental conflict dynamics is **resilience**. Resilience and its links to gender and conflict, however, are under-researched and under-theorised, often with simplistic generalisations taking the place of grounded research (Dunn Cavelty et al. 2015). Nevertheless (or because of this), "resilience" has become a major policy buzz-word in the field. As with gender relations and conflict, gender relations are (re)negotiated and (re)produced vis-à-vis natural hazards and disasters, creating new spaces for agency that can increase societal resilience, but simultaneously generating new vulnerabilities that can suspend some gendered inequalities while others are exacerbated (Sultana 2010).

Existing vulnerabilities are often exacerbated through disaster processes (Cannon 2002; Enarson and Chakrabarti 2009), thus (re)producing unequal access to assets and control over (water) resources. A relational approach to gender, in its intersection with other social identity markers, means to understand and analyse the 'interconnections of social categories such as class, age, (dis-)ability, sexuality, ethnicity, caste etc. with each other – and [is] always inextricably linked to different spatial formations at different spatial scales' (McDowell 2008, p. 504).

This book argues that effective responses to different needs and vulnerabilities require going beyond a simplistic 'women only', or 'women = victims' approach to understand agency in a relational way, but also to see the respective vulnerabilities and needs of different sections of society.

1.3   Gender, Water, Security—Complexities

In the past, water has been mostly addressed as a resource over which inter- and intra-state conflicts are fought, for instance in the Nile or Jordan River basins. But importantly, water and access to it can also play a more intermediate role in

contributing to other conflict drivers, exacerbating tensions and either increasing or decreasing inequalities and vulnerabilities at the community and household levels. The relation between water, conflict and gender is complex and changes over time, depending on the stage of the conflict and the situation of the people in question. Water, be it through scarcity or through flood-related risk, can thus be:

(a) a direct or indirect source of, or contributing factor to conflict or conflict resolution, e.g. through river basin commissions at international, national or intra-state levels,
(b) a necessary resource, and source of vulnerability or resilience in a conflict-affected situation, and/or
(c) an external factor that either exacerbates or diminishes conflicts, (e.g. in the case of the 2004 Indian Ocean tsunami, which exacerbated tensions in Sri Lanka but was a motivating factor for finding a peace settlement in Aceh, Indonesia).

Arguably, the wide-spread preoccupation with whether an outright war (i.e. a military conflict) between nations will erupt over water has also overshadowed the much more pressing issues, which are connected to decreasing water resources and growing water scarcity on the local level. The risk for water conflict has proven to be rather low between states—the mechanisms of diplomacy and negotiation are well developed and efficient in reducing the risk of (violent) conflict. At the same time, water-related disputes have become rather common at the sub-state level. Consequently, the most urgent questions today are whether the risks of such conflicts are growing, and how we can both reduce the risks leading to such conflicts and resolve those that have already erupted.

1.4 Future Research on Gender, Water and Security: What Are the Gaps?

Since the 1970s, the "gender & environment"scholarship (encompassing both natural resources, especially water, and, more recently, climate change) has contributed to highlight the role played by gender in determining access to and control over natural resources (e.g. Agarwal 1992; Carney 1994; Mackenzie 1995; Fortmann 1996; Rocheleau et al. 1996; Schroeder and Suryanata 1996; Gururani 2002). Similarly, "gender and conflict" scholars and practitioners have produced a rich and growing body of literature looking into the role of constructed femininities and masculinities as well as gendered discourses as factors of power consolidation and acquisition, including going beyond simplistic stereotypes of women's and men's social roles in times of conflict as well as going beyond the gender binary (see for example Alison 2009; Carpenter 2006; Cohn 2012; Coulter 2008; Dolan 2002; Duriesmith 2017; Enloe 2000; Myrttinen and Daigle 2017; Sivakumaran 2007; Sjoberg and Gentry 2007).

Due to disciplinary boundaries as well as to policy agendas and donor priorities, there has been a striking lack of interaction and exchange between these research areas, and very few studies have explicitly analysed the relationship between gender, environment and conflict together (see e.g. Nightingale and Sharma 2014; Vivekananda 2011).

Nevertheless, gender is a relevant category both for the analysis of conflict (de) escalation processes (e.g. El-Bushra 2003) and the understanding of differing vulnerabilities and adaptive capacities with regard to environmental change (Dankelman 2010; Vincent et al. 2010).

On the other hand, the growing interest in environmental conflict (e.g. Scheffran et al. 2012) and conflicts over natural resources (e.g. Petersen-Perlman et al. 2012 on water) has yet to lead to a comprehensive analysis of their gender dimension and to move from the often repeated, mainly prescriptive recommendation to "include gender" towards a binding research (and funding) commitment. Furthermore, as this book highlights, the gender lenses used are often simplistic, neither taking into account intersectionality, nor considering the role played by masculinities in co-defining female and male vulnerabilities, or the particular positions of sexual and gender minorities.

Yet, the question remains how to build a holistic understanding of the role of gender in environmental conflicts. There is need for a multilevel analytical framework (see Table 1.1) in order to fully understand the impact of gender roles on water allocation and management issues. While some studies focusing on gender and development (Mackenzie 1995; Schroeder 1997; Schroeder and Neumann 1995; Schroeder and Suryanata 1996) have outlined the role of gender at the international environmental policymaking level, most of the work on gendered aspects of environmental management and conflicts focusses on the micro level, thereby introducing

Table 1.1 Gender dynamics on three socio-spatial levels

	Spatial levels	Gendered dynamics
Households and communities (micro-level)	Conditions of gender differentiated activities for livelihoods/survival
		Distribution of labour, profits and decision-making power along gendered differences
		Value ascribed to female/male/other gender categories' labour
		Local institutions for decision-making on land and water management
		Influence of gender on conflict management and resolution
	National politics and institutions (meso-level)	Economic, political and social factors that limit or create gender equality
	Global context (macro-level)	International, gender-related, ideational and material frameworks (i.e. power inequalities, finances)

an unhelpful bias. Gender and gendered power dynamics also play a role at the national and international levels, even if these may not be as immediately visible. Here, gender has an impact for example in terms of who is involved in decision-making, whose concerns and input are prioritised, and how issues are framed.

There is need to integrate theoretical and methodological insights from both research strands—environment and gender as well as conflict and gender—in order to provide a toolbox for future research on the role of gender in water conflicts. The research agenda for the future shall follow a holistic intersectional approach, aiming to systematically analyse the interconnections between the local (micro-), the national (meso-) and the international or global (macro-) levels.

Future research shall focus on the one hand on including gender as an analytical category on different socio-spatial levels when analysing the complex reasons for water conflicts. On the other hand, it shall strive to uncover the interactions between the different levels. With rising water demands, increasing water scarcity in many world regions (Lavell et al. 2012), and growing restrictions regarding access to water (Joshi 2011; Huber and Joshi 2015), those parts of the population which have already been marginalised in terms of access to resources, income and power continuously lose their already insufficient rights to utilise water and to access basic services. The ensuing loss of livelihoods can be the starting point of water conflicts on the micro- and meso-levels, with gendered reasons and effects and dependent on the respective adaptive capacity and resilience towards water scarcity, which is also mediated through gender differences. The latter, however, depends on national political programmes and international frameworks (the macro-level), thus illustrating the deep interconnection between all three levels.

This book tries to unpack gendered power relations at various scales in the context of conflicts around water. In its first section, it engages with research and policy challenges. *Farhana Sultana* calls for the need of undertaking multi-scalar, critical and intersectional analyses on the gendered implications of climate change. She highlights how patriarchal norms, inequities, and inequalities often place women and men in differentiated positions in their abilities to respond to and cope with dramatic changes in socioecological relations and changing waterscapes, as well as foregrounds the complex ways in which social power relations operate in communal responses to adaptation strategies that are increasingly proliferating globally.

Amber Fletcher develops a conceptual framework for multi-level intersectional research on environmental crisis and conflict on the basis of the major theoretical conceptualizations of sex and gender. She identifies how gender has been variously used in the literature on environmental crisis and conflict and highlights key debates about ontology (essentialism) and representation (universalization).

In its second section, the book's authors apply more sophisticated and nuanced gendered lenses to different case studies. *Mauro van Aken and Anita de Donato* see gender as a relational process in which roles and interdependent ideas of masculinity and femininity are reproduced or challenged. They contextualise crucial dynamics in gender relations that flow through water by exploring local water systems in the Middle East (Jordan and Palestine) in relation to issues of access, control, distribution and "modernisation" of water supplies.

Beatrice Mosello, Virginie Le Masson, Gladys Le Masson, Elena Diato and Véronique Barbelet argue that access to water, sanitation and hygiene is mediated by the identities of providers and beneficiaries, as well as their perspectives on the most pressing needs. As such, they are entangled in complex formal and informal rules and power relations from the household all the way to the national level. Based on data from the Central African Republic, they argue that gender sensitive programming must be a critical element of an effective and impartial humanitarian intervention.

Deepa Joshi, Natasha Donn-Arnold and Mart Kamphuis analyse the issue of land and water redistribution in post-apartheid South Africa. They challenge the narratives around "emerging" female black farmers in the context of a country which has been identified as being in a state of a water crisis. The authors show how the transformative agenda built around the heroic and reassuring figure of black women farmers does not address entrenched layers of inequalities where race intersect with gender and other social variables.

Chinwe Ifejika Speranza and Edward Bikketi examine the extent to which water-related policies and plans of the Kenyan government engage with gender. They analyse how the framing conditions set by the policies and plans affect the management of community water groups in Laikipia (Kenya), and assess whether the community water groups reduce gender inequality in access to water and in decision making about water-use.

Floriane Clement and Emma Karki critically engage with the prevailing development discourse on women's empowerment. International water security programmes conduct their discourses on water and gender envisioning that enhanced access to water resources can transform disempowered women into successful rural entrepreneurs. The authors argue that the simplistic and supposedly universal representations of water, gender relations, and empowerment behind international water programming are the main reasons why they are at risk of perpetuating and exacerbating gender inequalities, and show this by looking at the case study of Western Nepal.

In its third and last section, the book enquires into gender-positive transformation potentials in water conflicts. *Janpeter Schilling, Rebecca Froese and Jana Naujoks* apply a gender-relational approach to water and peacebuilding to case studies from Kenya and Nepal. The approach places the relations and power dynamics between men, women and LGBTI at the centre of analysis and uses a set of questions to guide the integration of gender into water and peacebuilding.

Along similar lines, *Henri Myrttinen* argues strongly for using comprehensive and intersectional gender approaches to better understand and constructively work on water conflict issues. The chapter focuses on two case studies from Lebanon and Nepal in which water issues were used as an entry point for local-level conflict resolution and peacebuilding. Drawing on the experiences from these two cases, Myrttinen argues that while water issues can be an effective platform for convening different parties to a conflict, using it for building sustainable, inclusive peace will not be successful unless gendered and intersectional power dynamics are properly analysed, understood and addressed.

Finally, *Lynette de Silva, Jennifer Veilleux and Marian Neal* show the importance of gender equality as a fundamental component emerging out of conflict towards peace and security. In their analysis, they show that until a gendered approach to water management is applied as a matter of principle, and the gender gaps in economics, politics, property rights, and cultural roles are closed, the valuable voice of at least half of the global population remains silent or underutilised in the process of conflict dispute when it comes to the world's more than 300 transboundary freshwater shared resources.

1.5 Conclusion and Outlook

As has been shown above, water, gender and conflict are intimately related, but in more complex and intricate ways than often imagined in the past, where the focus of gender has been mostly on women as an undifferentiated category of victims and water conflict mainly seen through the lens of inter-state resource conflicts. While these conflicts, as well as particular gendered vulnerabilities, need to be addressed, a broader and better-informed understanding is necessary, especially as water-related conflicts, but also water-related extreme events that can exacerbate inequality and conflict, are likely to increase significantly in many world regions in the future.

To build more sophisticated knowledge of the water, gender, and security nexus, the main need is for a nuanced micro-level understanding of the interactions within this nexus; of the fluidity of the respective contexts and their complexities; and of how this relates to the meso- and macro-levels. Further studies should challenge researchers to produce more complex results, and policy-makers to reconsider how greater complexity could be embraced. Furthermore, there should be room for a more nuanced and thereby effective identification of risks, vulnerabilities and potential conflicts.

In order to solve current, long-standing water conflicts as well as to avoid future conflicts about water, a better understanding of the way in which water is instrumentalised politically also needs to be developed, including an analysis of related gendered dynamics. In this regard, it is particularly important to uncover conflictive discourse structures that perpetuate water conflicts by reinforcing conflictive viewpoints that cater to primarily nationalist interests and derived decisions based on static national political boundaries (Ide and Fröhlich 2015; Ide 2016a, b).

The contributions compiled in this book engage with these needs and offer answers to some of these questions in the hope of becoming a starting point for future gender-sensitive research on water conflicts on different scales and levels.

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Part II
Research and Policy Challenges

Chapter 2
Gender and Water in a Changing Climate: Challenges and Opportunities

Farhana Sultana

Abstract Climate change is exacerbating existing water insecurity globally, with significant gender consequences. Changes in water availability, access, scarcity and security play critical roles in shaping the ways that individuals, communities and countries are tackling existing and predicted climate change. Although climate change is already increasing vulnerabilities, marginalisation, and sufferings of many across the world, impacts are unevenly felt across social strata. Intersectionalities of social difference, especially along gender and class lines, differentiate the ways in which impacts of climate change are experienced and responded to. This is particularly evident in water-related productive and reproductive tasks, as climate change is expected to exacerbate both ecological degradation (e.g., water shortages) and water-related natural hazards (e.g., floods, cyclones), thereby transforming gender–water geographies. As such, it becomes imperative to undertake multi-scalar, critical and intersectional analyses to better inform both academic debates and policymaking. Heeding gendered implications of climate change is particularly important as patriarchal norms, inequities, and inequalities often place women and men in differentiated positions in their abilities to respond to and cope with dramatic changes in socioecological relations and changing waterscapes, as well as foregrounds the complex ways in which social power relations operate in communal responses to adaptation strategies that are increasingly proliferating globally. This chapter explores the nexus of gender-water-climate change to demonstrate how different groups of people understand, respond to, and cope with variability and uncertainties in a changing climate to reveal the challenges and prospects that exist.

Keywords Climate change • Water insecurity • Gender inequality • Adaptation strategies • Gender vulnerability • Socioecological relations

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2.1   Introduction

In November 2007, the powerful Cyclone Sidr swept up the Bay of Bengal and devastated millions of lives and livelihoods along the coast of Bangladesh. At the same time, the Intergovernmental Panel on Climate Change (IPCC) was meeting for the IPCC Plenary XXVII in Valencia, Spain, for the release of the IPCC Fourth Assessment Report, which detailed with great clarity and forcefulness the impacts of climate change that are already being felt and predicting what is likely to happen in the future. For the dead and dying in the coastal areas of Bangladesh in the aftermath of Cyclone Sidr, climate change was perhaps already a reality. The irony and the poignancy of the coincidence of these two events could not be clearer in the minds of many, compelling academics and planners to hotly debate the processes and impacts of climate change in the developing world. A few weeks later in December 2007, at the International Conferences of the Parties (COP) meetings in Bali, activists introduced a further dimension to these debates by drawing international attention to the gendered dynamics of climate change under the slogan "No climate justice without gender justice." These three events in late 2007 are interlinked and animate this chapter, where I look at the socioecological implications of climate change in South Asia, focusing on the gendered ramifications. The majority of the policy discourses and debates as well as academic writing on climate change have been largely ungendered, yet the impacts of climate change are acutely felt along gender lines and adaptation to climate change is a gendered process. Since climate change is largely about water change, any discussion about climate change must investigate the gender-water relationships that exist and are being transformed. This chapter thus demonstrates the complexities in the nexus of gender-water-climate change.

2.2   (En)gendering Climate Change Research

In recent years, a veritable industry has emerged in relation to climate change vis-à-vis research, reports, conferences, and projects. Despite more recent controversies and politicised debates on credibility of science, data, and predictions, the general consensus among scholars is that anthropogenic climate change has uneven and uncertain impacts. The contextual nature of climate change and the specificities of responses have been repeatedly highlighted in the milieu of generalisations and globalised discourses, and academics have responded with new research across the social sciences. Hazards geographers and political ecologists are increasingly contributing to climate change research and engaging critically with climate change policies and politics (e.g. Hulme 2008; Bailey 2008; Moser 2009). However, scholars should further engage with the gendered implications of climate change across sites and scales, given the paucity of emphasis on such issues in the current literatures.

Few scholars have focused on the ways that gender is a key factor in impacts, adaptation, or mitigation in the voluminous literature on climate change. Men and women experience, understand, and adapt to climate change in different ways, and it is important to understand changes currently taking place, and likely to happen in the near future, from a gendered perspective. Climate change is likely to exacerbate gendered vulnerabilities and differential abilities to cope with changes on multiple fronts. Although climate change is often framed as a global problem for all of humanity, the heterogeneity of its manifestations, impacts, and responses has to be carefully considered. Even though climate change is often portrayed as affecting the poor uniformly in the Global South, this is further complicated by gendered power relations that are intersected with other social differentiations (e.g., class, race, ethnicity, etc.). Implications for livelihood, survival, poverty, and social power relations can have subtle and overt gendered outcomes, which have to be analysed in context. A focus on the various patterns of changes that exacerbate gender relations in livelihood opportunities, vulnerabilities, hardships, and survival can provide more comprehensive understanding of the ways that climate change impacts households and communities. Such analyses also shed further light on the ways that emerging adaptation programmes are influenced by gender dynamics and are complicated by gendered power relations.

Recent scholarship has highlighted the importance of heeding gender in climate change discourses, programmes, and projects (Dankelman 2010). Such scholarship draws from insights gained in the disaster risk and reduction (DRR) literatures that have predominantly focused on case-specific events and empirical findings and have contributed to greater understandings of the role of gender in disasters and recovery. More broadly, the emerging gender and climate change literature draws from insights of gender and development literatures. At the policy level, the clarion call of "No climate justice without gender justice" has become popular since the Bali COP conference in 2007, bringing attention to the fact that climate change is gendered in impacts, mitigation, adaptation, and policy processes. Although still nascent, scholarship in gender and climate change has drawn attention to the gendered differences in perceptions, responses, priorities, abilities, and preferences in the ways that climate change is understood in mitigation and adaptation discourses (Dankelman 2002, 2010; Denton 2002; Masika 2002; Nelson et al. 2002; Brody et al. 2008; Terry 2009; Agostine and Lizarde 2012; see also the GenderCC Network). For instance, a study of women in South Asia found that poor women were particularly vulnerable to dramatic shifts in environmental change related to water (e.g., erratic monsoons, extreme floods, etc.) but were knowledgeable about the needs and requirements of their households and communities to cope with changes, as well as about alternative livelihood strategies (Mitchell et al. 2007). The constraints they faced were also articulated along class, gender, locational, and institutional lines, however.

Feminist scholars can add much to the ongoing debates in the climate change and adaptation literatures, explicating the textured ways that space, place, identities, and lived experiences are intersected by a range of processes and social relations. Seager (2006) and MacGregor (2009) pointed out that gender is often selectively given

attention, or not, in any research or policy context. Demetriades and Esplen (2008) and Nelson and Stathers (2009) further argued about the crucial importance of context-specific and complex gender analysis in climate change debates, so as not to reproduce the "women only" narratives that portray women simultaneously as victims and as solution providers, thereby increasing the long list of caregiving roles women are already assigned to (Arora-Jonsson 2011). The collapsing of gender-as-women has been common in the existing gender and climate change literature, which is often written for and by the development practitioner and policy community. MacGregor (2009) pointed out that a lack of critical gender analysis or theorisation of gender limits such literature, even while bringing very important attention to gender by privileging certain framings in the international arena. For instance, as Dankelman (2010) indicated, it is important to look at women as a group, as well as gender as a construct, but pay greater attention to the experiences of women and focus on women in climate change debates. This might be strategically important, but it also has the potential to limit the attention to the complex ways that masculinities and femininities are constructed, negotiated, altered, and transformed through climate change processes. There can also be the tendency to essentialise women as a homogeneous group and overlook the multiple processes that constitute gendered subjects, identities, and bodies. The dominant focus has been on the impacts of climate change on women, but greater attention is needed to how gender is intersected by other axes (e.g., class, caste, age, etc.) as well as a relational analysis of both women and men across social categories in a changing climate. Given the importance of inclusion and equality, however, it is important not to romanticise women, women's knowledge, or women's participation in climate change mitigation or adaptation plans, but to recognise their roles, responsibilities, constraints, and opportunities. Balancing inclusion without essentialisation is thus crucial, albeit challenging.

Such critiques resonate with those of feminist political ecologists and feminist scholars who have long argued that gender–environment relations risk being essentialised and reified without careful, contextual, and fluid understandings of gender as a power relation (e.g., Agarwal 1992, 2000; Jackson 1993; Rocheleau et al. 1996; Nightingale 2006; Leach 2007; Sultana 2009b). Few feminist geographers have forayed into the climate change debates (e.g., Seager 2009; Bee et al. 2012). To this end, scholars can contribute to the analyses and framing of debates, bringing forth the complex ways that gender-environment relations are produced, performed, contested, and lived. Feminist political ecologists have argued that gendered dynamics of environmental change must be analysed in ways that integrate subjectivities, scales, places, spaces, ecological change, and power relations (Rocheleau et al. 1996; Elmhirst 2011; Hawkins and Ojeda 2011). Broader contexts and constraints that influence gender are crucial to understand and address in processes of climate change. Given the gaps in the literatures on climate change that engage with recent advances in feminist theories, it becomes imperative to bring such insights to bear on the important work that has been accomplished by gender advocates in their sustained and tireless efforts in the development and policy circles. In this regard, feminist analyses of the impacts of climate change remain important, but also must

be broadened to examine the ways in which gender complicates the assumptions made, the analysis proffered, and adaptation solutions pursued in any climate change program. Such insights can enrich the burgeoning literature on gender and climate change that is relevant to academia and policy circles. In this chapter I highlight some key issues. Although my regional emphasis is on South Asia, the analyses and insights are relevant elsewhere.

2.3   A Feminist Analysis of Climate Change

Societies that are heavily dependent on natural resource bases are particularly at risk of multiple stressors and events driven by a changing climate, especially in water-related hazards (Thomas and Twyman 2005; Adger et al. 2009). Scholars have argued that ecological changes attributed to climate change in South Asia are already apparent (Mirza et al. 2003; O'Brien et al. 2004; Huq et al. 2005). The ways that hydrological, geomorphological, and biophysical changes affect regions and localities have to be closely studied and thereby inform the ways social vulnerabilities and adaptation options are assessed. The IPCC (2007) predicts that freshwater shortages in South Asia are likely to be compounded by increasing uncertainties of flooding (from rivers, flash floods, and sea surges). There will be worsening of both climate processes (sea level rise, salinity, water scarcity) as well as climate events (e.g., floods, cyclones, storms, tsunamis) in the near future (Mirza et al. 2003; Huq et al. 2005). The slow onset processes, as well as dramatic events will vary across regions, but will compound water-related hazards that are seasonally experienced in the monsoonal climates, such as those in South Asia. Uncertainties, irregularities, and failures in rainfall and beneficial floods will be combined with more extreme and frequent storms, cyclones, devastating floods, and riverbank erosion. Given the intimate relationship between societies and water, the implications will be profound.

This coexistence of both overwhelming amounts of water (floods, storm surges, cyclones, riverbank erosion, waterlogging), as well as inadequate water (pollution, drought, salinity, desertification) define the relationship that most South Asian societies have with climate change. This fluidity in relations to water, one of necessity and of threat, is an invariable factor in everyday life and livelihood in the agrarian and riverine areas. Differentiated vulnerabilities based on gender are often obscured in discussions of vulnerability of specific locations (e.g. floodplains). Concerns about frequency, duration, timing, and intensity of floods, especially for those living in floodplains and islands, are naturally important. Although geographical locational differences set the context, the social variations in the ways that hazards and vulnerabilities manifest themselves are important to draw out. This is particularly evident in water-related productive and reproductive tasks in agrarian societies that constitute the majority of the developing world.

The relationship between climate change, water, and gender are foregrounded through two dramatic transformations: socioecological transformations attributed to

climate change and historical patriarchal societies that are also facing challenges in gendered power structures. Focusing on the linkages through a feminist political ecology lens provides insights into changes that can inform global discussions, as well as local policies. As scholars have pointed out, access, control, use, and knowledge of resources are gendered, thereby making any changes in natural resources from climate change play out in different ways for different livelihood outcomes for men and women in any context. Worsening of the resource base and altering resource access have gendered implications for the abilities of individuals and households to adapt to and address challenges from climate change. Systemic inequities and gender biases in land ownership, inheritance rights, access to resources, and social norms of participation in natural resources management will be exacerbated with worsening ecological change from climate change. Gendered dependence on natural resources and gender division of labor produce differential relations to natural resources that vary spatially and temporally (Agarwal 1992). Resource conflicts can also be exacerbated over time (Sultana 2011). However, the tasks practiced along gender lines can remain constant through crises (e.g. fetching drinking water remains a particularly gendered burden for women, as men resist participating in this feminised task). As a result, accessing and procuring drinking water befalling women in most developing societies would result in worsening the burden when climatic changes result in changes in water quantity, quality, availability and seasonality in altering waterscapes.

The various ways that water comes to affect gender in the context of climate change thus becomes critical to examine. Drinking water availability, reliability, quality, quantity, and accessibility will be altered with changing weather and climatic patterns and climate-induced ecological change. Such changes might be gradual (e.g. salinity increase, sea level rise, drought) or dramatic (e.g. floods, storms, riverbank erosion) and will exacerbate daily water fetching tasks. Irrigation water availability will also challenge the roles that men and women play in agrarian economies. The burgeoning literature on gender–water relations could be productively engaged in climate change discourses and programmes, demonstrating the ways in which gendered subjects are produced, challenged, and entrenched via materialities, management, and mismanagement of water (e.g. Cleaver and Elson 1995; Crow and Sultana 2002; O'Reilly et al. 2009; Sultana 2009b; Truelove 2011). Such attention to the diverse ways that water comes to imbricate notions of femininity and masculinity can better explain how climate-induced waterscape changes have a bearing on gender relations. Lack of water that is socially and ecologically viable can strain gender roles and relations in the household and in communities. Furthermore, lack of safe water will affect the health and well-being of all members of a household, exacerbating household vulnerabilities and poverty. This strains the reproductive and caregiving roles of women. These are some of the ways that climate-induced ecological change affects men and women differently.

In many places throughout the developing world, loss of crops, assets, livestock, and property in disasters and dramatic ecological changes can force entire households into a downward spiral of impoverishment and being indebted, leading household members into working as wage labor and often having to relocate for livelihoods

(often as exploited urban denizens). Migration and displacement in these processes are also gendered, as male outmigration is more common, leaving de facto and de jure female-headed households to fend for families. Loss of social networks from displacement, and being more open to violence, exploitation, and impoverishment, affect men and women differently. But gender-based violence and marginalisation are increasingly of concern in areas of climate-induced ecological stress and migration. Although various coping strategies might enable people to survive, what can strain households and families are the psychological and social implications. Feeling helpless, desperate, and anxious about the next disaster or crisis event as well as ongoing struggles to survive can compound gendered marginalisations. Because women often do not own land or cannot inherit land in many South Asian societies, the importance of property rights in land and resources in reducing vulnerability and enhancing both coping and adaptation have thus become important points of discussion and debate.

Given the growing crises around the world, a gendered analysis of water-related hazards and disasters provides greater evidence of what to expect from the vagaries of climate change. Water-related hazards such as floods, cyclones, tsunamis, droughts, glacial melts, and riverbank erosion are expected to strain existing social systems throughout the world. Increasing rainfall, river floods, and storm surges will challenge gendered roles and responsibilities within and outside the home as water-induced hazards become more uncertain, intense, and frequent (Enarson and Morrow 1998; Fordham 1999; Enarson and Fordham 2001; Cannon 2002; Sultana 2010). This requires greater attention to gendered vulnerabilities to hazards and socioecological changes, as well as the gendered outcomes of recovery, relief, and rehabilitation endeavors. It is thus crucial to simultaneously analyse and address both these aspects related to water (Sultana 2010). It could not be clearer in coastal areas, where gender-water relations are constantly stressed and shifting given the various ways that water is both benign and harmful.

Geographers have long led the research on hazards and disasters, but few have focused on gendering hazards, vulnerabilities, and disasters (e.g. Paul 1997; Seager 2006; Sultana 2010). As the study by geographers Neumayer and Plumper (2007) demonstrates in data collected from around the world, more women compared to men are killed and injured in disasters. Women and children suffer the most during and after the event (Enarson and Morrow 1998). For instance, several studies in Bangladesh have found that a majority of respondents (male and female) identified women as having the greatest challenges and negative impacts from floods and salinity intrusion (e.g. Paul 1997; Nasreen 2000; Few 2003; Rabbani et al. 2009). Such findings resonate with those from other areas of the world (Enarson and Morrow 1998; Enarson and Fordham 2001; Bradshaw 2004). How and why these occur is essential to addressing context-specific changes.

In a majority of rural societies across the developing world, women generally look after livestock, care for household belongings, take care of children and elderly, tend to the ill and injured, and often stay back with children and elderly in the midst of an impending disaster. More women die during floods due to lack of swimming skills, trying to save children and belongings, and staying at home instead of going

to flood shelters. In addition, there are concerns of collapses in inheritance rights after disasters, disparities in disaster relief and aid, and issues of abandonment. Women's roles as caregivers exacerbate their existing burdens, even if floods, tsunamis, and cyclones affect entire households. Cultural constraints on what they can or should do to protect themselves often result in greater mortality rates among women and girls compared to men and boys. More girls die, as boys are often protected better in the midst of flood waters (generally linked to the greater preference given to boys compared to girls vis-à-vis education, food, and social valuation). Although parents might want to save all of their children, sometimes they can only hold on to one or two children in flood waters and storm surges, and there have been reported cases of parents letting go of the girl child to save the boy child (Hossain et al. 1992).

In times of disasters, the marginalisation of large numbers of female-headed households (de facto and de jure) results in many women not receiving adequate information, assistance, shelter, or rehabilitation material (especially if they are not connected to powerful households that control politics and financial benefits coming into an area). Concerns of purdah (practices of seclusion) in some South Asian communities often dictate to what extent women can actually be involved in any planning or even in seeking shelter. Sociocultural norms of women's mobility are hindrances to women seeking shelter, obtaining medical assistance, or leaving the homestead, as male chaperones are generally expected during their mobility in public spaces. The greater dependency of women on men in general can result in reinforcing disempowerment among women. Proper decorum and constructions of feminised subjectivities result in women being unwilling to associate with unknown men, be alone in public places, and be outside of familiar kinship structures. Notions of shame, honor, and dignity are strongly enforced by both men and women in maintaining social practices even during disasters. Concerns of proper feminine decorum are pervasive such that male elders do not always support women seeking refuge in flood shelters, where they would have to cohabitate with unknown men. Women also internalise such patriarchal sensitivities and feel insecure and anxious in such spaces; they thereby are often unwilling to seek shelter during floods and storms. Instances of rape, harassment, violence, and humiliation further exacerbate such realities (Hossain et al. 1992). As a result, women and girls often stay behind in their homesteads, surviving by living on the rooftops or in trees (see also Paul 1997; Nasreen 2000; Schmuck 2000). Pregnant and lactating mothers and disabled women might find it particularly difficult to move to shelters or obtain the help they need. Furthermore, concerns of looting and robbery at the shelters, as well as theft of their belongings left behind in uninhabited homes, discourage women from seeking shelter if they believe they can survive while remaining in their homes.

Gender differences are seen also in flood relief and rehabilitation work, where men dominate both arenas. As a result, women's and girl's needs are often overlooked. In the long relief lines, men might spend considerable amounts of time trying to procure food and other items for their families. But women are also seen in such spaces, trying to manage children and procure food. With a lack of manual labor jobs in flooded landscapes, women find it difficult to earn a living, especially

if men of the household have left. With crops flooded and homesteads under water, there is no source of earnings and starvation is common. The unpaved dirt roads are often severely damaged in each flooding event, making communication and transportation difficult even after the waters have receded. Uneven burdens are placed on men, who often migrate in search of livelihoods, straining households and often breaking up families.

Recovery and reconstruction are difficult when the frequency of floods and disasters is almost annual or when impoverishment from one event makes it impossible for households to become sufficiently resilient to the next event or worsens their vulnerabilities to the next event. Female-headed households often are increasingly made destitute through such recurring events, compounded by the ongoing marginalisation that women face in society in general. Loss of home-based production, kitchen gardens, poultry, and livestock particularly affect women across socioeconomic brackets, as these resources provide both subsistence and income-generating opportunities for women (Wiest 1998). Issues of displacement, land rights, housing, and relocation thus become critical in any disaster recovery effort, but uncritical and gender-insensitive efforts can result in worsening the situation for poor women and poor men in a range of locations. With climate change exacerbating the intensities and frequencies of dramatic water-related hazards and disasters, such issues complicate any adaptation strategies in a locality.

Such critiques resonate with the vulnerability literatures in geography and related disciplines, where vulnerability is understood not just individually but historically, geographically, politically, ecologically, and socially (O'Brien et al. 2004; Wisner et al. 2004). Nuanced understandings of vulnerability and social power are essential to the ways that adaptation can be theorised and understood. Gendered vulnerability analysis demonstrates that men and women have differentiated vulnerabilities and thereby respond to and cope with vulnerabilities in different ways across social categories (Enarson and Morrow 1998; Fordham 1999, 2003; Enarson and Fordham 2001). There remains a greater need in the climate change literature to account for the various power relations that operate in the lives of men and women. These insights from the vulnerability and political ecology literatures underscore that adaptation is premised on ways people cope with and respond to hazards and vulnerabilities, and how they handle the ongoing transformations thereafter that pose newer and unforeseen challenges. Such dynamism to understanding shifting vulnerabilities and abilities to cope requires greater nuanced and sustained attention from academics and policymakers alike.

Vulnerability is not the same as poverty; it is contextual and driven by interplay of differentiated risks, abilities, and susceptibilities to different hazards. Vulnerability and poverty are strongly correlated in South Asia, and gender compounds both poverty and vulnerability that individuals face in society (Cannon 2002). Vulnerabilities are linked to physical, social, and attitudinal factors, all embedded within the broader political ecologies of development and globalisation (see Wisner et al. 2004 for an overview). Although there is increasing attention to the fact that there are varying gendered differences in vulnerabilities in any context, not all women are equally vulnerable, even if their gender locations often make them as a group more

vulnerable to various forces and systems. Gender is intersected by a range of social differences such as class, caste, ethnicity, age, education, and religion (i.e., package of entitlements and resources people are able to access or command). Similarly, perception of risk is gendered, as is the way people process information and view their role in what should or can be done (Enarson and Morrow 1998; Fordham 2003). Men's and women's understandings of risk, and their abilities to act on information, are further inflected by class, caste, and so on. Such factors are important in climate change adaptation processes as they influence the interpretation and experience of climate change in any given locality (Nelson and Stathers 2009). Gender inequalities and norms that exist in many parts of the world often expose women and girls to greater risks (physical and social) than their male counterparts. Problems of assessing differentiated and nuanced vulnerabilities can result in uncoordinated and ad hoc adaptive strategies to be developed (Ahmed and Fajber 2009).

Practitioners and scholars have argued, however, that women and men are not passive victims of climate change but that they display a range of strategies and coping mechanisms to deal with ongoing transformations (Dankelman et al. 2008). Women who are facing changing climates and hydrological events are already making changes to adapt their lives and livelihoods and often are able to articulate what they need (even if they are not fully aware of what is available to them or how climate change might affect them in the future; e.g., Mitchell et al. 2007). Although various coping strategies have been identified and even celebrated in the DRR literature, these might not necessarily be supportive of long-term adaptation abilities (Wisner 2010). Furthermore, there is a critical need to look at strategies that are voluntary and involuntary (e.g., distress sale of women's personal assets for immediate survival that leads to longer impoverishment during and after disasters). As a result, adaptation should not mean just coping with vulnerabilities and uncertain hazards but a shift to more resilient and flexible livelihoods (cf. Ahmed and Fajber 2009). Coping might be acceptable in the short term, but repeated requirements to cope with hazards and ecological crises can undermine long-term ability to adapt or survive. The temporal nature of coping and dealing with vulnerabilities has to be juxtaposed to long-term survivability and quality of life. In patriarchal contexts, the gendered vulnerabilities and coping strategies are influenced by the overall location of women in society.

2.4   Gendering Climate Change Adaptation

In response to the impacts of climate change, there has been a growth of adaptation programmes throughout the developing world. These are meant to prepare people and households to be more resilient to climate-induced changes to life and livelihoods. How gender is understood, conceptualised, and acted on in adaptation policies and projects is thus critical to analyse. How women and men's needs are identified and then targeted is the cornerstone of adaptation on the ground. Adaptation strategies can change gender relations, too, as they are not gender

neutral. This is an important, but understudied area of research (Smith et al. 2000; Demetriades and Esplen 2008; Adger et al. 2009; Terry 2009; Cannon and Muller-Mann 2010; Wisner 2010). Climate change adaptation might reinforce gender inequalities and marginalisations. Gendered differences in knowledges and experiences with natural resources can influence the priorities people place on adaptation strategies, as well as the perceptions they might have about socioecological changes. This is where feminist political ecology research becomes relevant again, in explaining the ways that climate change impacts could result in reconfiguration of power relations and gender relations in multiple ways in any given context. Gendered implications of climate change in South Asia are particularly poignant as patriarchal norms, inequities, and inequalities often place women in considerably disadvantageous positions in their abilities to respond to and cope with dramatic changes in socioecological relations, but also underscore the complex ways that social power relations operate in communal responses in adaptation strategies.

The existing gender and climate change literature stresses that women in some instances might be able to take advantage of changing livelihood opportunities that are brought about by transformations of socio-ecological systems (Ahmed and Fajber 2009). Examples abound of women's collective groups helping communities recover from disasters and of self-help groups that participate in adaptation projects (e.g. brackish fish farming in increasingly saline landscapes due to sea level rise). But women (compared to men) generally lack access to credit, markets, technology, and skills to sustain such changes that might not readily be available to them, or they are constrained by a host of social, political, and cultural factors. For instance, in areas with growing salinity, the collapse of ecosystems that supported diversified livelihoods is being transformed into market-based shrimp farming in coastal areas across Asia; similarly, dying vegetation due to rising salinity results in crises of fuel and fodder, the collection of which are particularly gendered tasks for women and girls. Attention to such limitations and possibilities requires sensitivity to feminist debates, as well as to contextual dynamics.

Feminist scholars have pointed out that patriarchal decision-making structures exist from global policy to local implementation in climate adaptation programs (Boyd 2002; Carr 2008). Although some programs might address practical gender needs, they largely fail to address strategic gender needs and systemic gender inequalities, power structures, and exclusions. A masculine bias remains in access to information, employment opportunities, decision-making processes, and institution building. Such macro-level issues are complicated by micro-level dynamics within communities and households. Gendered knowledge about water, agriculture, forestry, and disaster mitigation can assist in bolstering adaptation programmes in different localities, but these knowledge systems are often not engaged and individuals or groups are not fully involved in decision making. Lack of involvement of differently-located women in public decision is a long-standing issue and highlights the need to address gender inequality for effective adaptation programmes.

Similarly, the lack of engagement of the voluminous critiques of community and participation in the current climate change literature raises concerns of oversimplification, romancing the community, and problematic practices of participation (cf.

Cooke and Kothari 2001; Hickey and Mohan 2005; Few et al. 2007). These are particularly relevant for the growing number of community-based adaption (CBA) programmes around the world. The gendered dynamics of community and participation have been captured in various strands of scholarship, which need to be engaged with more forcefully in the climate change debates. As feminist scholars have systematically demonstrated, invoking "community" or "participation" does not necessarily mean inclusive or egalitarian outcomes (e.g. Agarwal 2001; Cornwall 2003; Sultana 2009a). Women are often marginalised or silenced in community projects. As a result, the gendered implications of climate change can be further exacerbated by uncritical conceptualisation and implementation of adaptation programmes that come in the name of community. The need to create space for different voices and recognition of a multiplicity of opinions and concerns could not be more urgent, so that men and women can all benefit from climate adaptation programmes.

Furthermore, there is a need to ensure that adaptation strategies do not place undue burdens on women or men and that their gendered division of labor is not of "free" labor for the sake of the community. Adaptation tasks and responsibilities come at a price, even if they are supposed to help individuals, households, and regions. Many development projects specifically target women as caregivers for the environment and for communal tasks, but feminist scholars have long critiqued such overtures that identify women simultaneously as victims and as saviors (e.g. Agarwal 2000; Jewitt 2000; Masika 2002). Open to debate are the ways that adaptation strategies further marginalise groups and how gender relations are obscured in presumed successful strategies. As a result, the valorisation of both externally driven community projects and endogenous collective action as the adaptive strategy or solution to climate change vulnerabilities often overlooks the point that both are fraught with exclusions and marginalisation, often along gender and class lines. Furthermore, not everyone might experience the threat of climate change in the same way, and some might have different ideas of what it means to adapt within their own community.

Other aspects of gendered concerns in the climate change literatures emerge from the ways that existing gender-focused development programmes are threatened by climate-induced ecological crises. For instance, Nelson and Stathers (2009) argued that climate change poses threats to "empowerment" programmes for women (however problematic these might be to begin with) and that there is greater need to pay attention to power relations and actions by different actors (private sector, state, civil society) to the perceived risks and what this means for gender equity in development planning. Climate change-induced ecological and hydrological changes will reinforce gender disparities in income, health, and education by exacerbating existing development challenges. Scholars have pointed out that climate change adaptation cannot fully succeed with structural constraints to gender equality, even if gender mainstreaming in climate change debates has gained some ground (Denton 2002; Seager and Hartmann 2005). Thus, development goals of gender equality might be further undermined via both climate change implications as well as adaptation strategies that do not meaningfully engage with gender analyses. In fact,

techno-centric and market-based solutions for climate change policies could end up hurting poor households and particularly poor women, where the focus needs to change to include issues such as justice, care, and equality (Hemmati and Rohr 2009; Seager 2009). It is thus important to account for gendered differences and gender relations in the solutions and mechanisms that are proposed in ameliorating climate change impacts. It is critical to not rationalise women or men into neoliberal subjects who will act as agents of change but, rather, see the variously situated power relations and subjectivities that are lived and experienced in everyday lives in relation to changing environments.

What thus becomes critical for academics and practitioners is to undertake careful and critical analyses of the different degrees of vulnerability, positioning in social networks and structures, differential access to resources and decision-making powers, and poverty in context. Such attention must be marshaled in analysing the impacts of climate change, as well as in the mitigation and adaptation programmes that ensue. Viewing gender relations as unequal power relations is important in fully understanding the ways in which vulnerabilities and adaptation play out. They inform the ways in which reductions in vulnerability can be envisioned and configure possible mechanisms that would enable women and men to enhance their abilities to respond to climate change and transformations of their environments. In enabling women to take part in decision-making processes and having their concerns and voices heard, there are opportunities to reduce women's heightened vulnerabilities, thereby allowing them to better resist, cope with, and adapt to changes.

2.5 Conclusion

The three events identified at the beginning of this chapter—policy discourses (via the IPCC report launch), feminist activism (via the Bali event), and ground realities (via the dramatic outcomes of a tropical cyclone)—demonstrate the entanglements and importance of gendered analyses and interventions in the debates around climate change. Gendered lenses are crucial in assessing the impacts of climate change, as well as the outcomes of adaptation programmes proffered in response to impacts and the further transformations that ensue. Climate change will impact the lives of women and men in different ways, thereby underscoring the importance of feminist political ecology and feminist geography analyses of climate change. The focus on power thus has to be made central, as do more complex and contextual understandings of gender, which are often missing in discussions. Greater attention to gendered subjectivities and identities can explain the complexities that exist and bring into sharper focus the intricacies of the nexus of gender–water–climate change.

Although many development actors focusing on gender and development might not feel that they are qualified or aware of all the complexities of climate change debates, there are many issues they can identify and work on, particularly if they are drawing from existing studies on gender and natural resources management or from gender and disasters literatures (Terry 2009). Similarly, those working in the climate

change literatures can engage more meaningfully and carefully with insights from feminist literatures. Such synergies and interdisciplinary analyses are crucial to more comprehensive understandings of situations and thereby more meaningfully informing policies and programmes. Although there is a growing lip service to gender in climate change policymaking and programmes, what remains to be seen are the ways these are adopted, interpreted, implemented, and negotiated on the ground.

In conclusion, various bodies of scholarship that are informed by feminist theories can greatly enrich ongoing debates in academia and policy circles on the various dimensions of gender, water, and climate change. The rich genealogies of hazards studies, political ecology, feminist environmentalism, and other disciplinary approaches can further productively contribute to such studies. Similarly, regional specialists can gain considerably by incorporating these insights to influence the ways that debates, policies, and programmes are currently being envisioned and practiced across regions. This chapter highlighted some of the key issues that require further attention and analyses. Scholars should fruitfully and forcefully engage in ongoing debates across a range of scales and issues to demonstrate the ways that gender and other social axes of differences can constrain and alter adaptive capacities, as well as the ways that vulnerabilities are transformed and experienced in changing climates and waterscapes.

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Chapter 3
More than Women and Men: A Framework for Gender and Intersectionality Research on Environmental Crisis and Conflict

Amber J. Fletcher

Abstract Over the past two decades, the important role of gender in environmental and water-related crises and conflicts has been increasingly recognized. Environmental crises occur in social contexts imbued with gender and other power relations. Existing literature in this area has examined how gender shapes issues of water access, use, governance, and adaptation to environmental crises. Gender, however, has been variously construed and theorized in this work. From essentialist to poststructuralist perspectives, the theorization of gender is key to its application in the environmental sector. In this chapter I present an overview of several major theoretical conceptualizations of sex and gender, ranging from the biological essentialist to the poststructuralist. I identify how gender has been variously used in the literature on environmental crisis and conflict. Key debates about ontology (essentialism) and representation (universalization) are highlighted. Drawing upon (and drawing together) these earlier theoretical insights and debates, I ultimately suggest a conceptual framework for doing multi-level intersectional research on environmental crisis and conflict. The framework helps to address the current tension between highly context-specific analyses and overly structural treatment of gender. The framework aims to help "scale up" the insights of intersectionality while still appropriately attending to the ongoing relevance of gender across contexts.

Keywords Gender • Sex • Feminist theory • Intersectionality • Essentialism • Materialism • Poststructuralism • Feminist political ecology • Social reproduction • Environment • Water • Crisis • Conflict

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3.1   Introduction

Environmental conflicts and crises are not gender-neutral, although they are often portrayed as such. Humans' interactions with the environment reflect (and may even reshape) existing social relations of power and privilege, of inclusion and exclusion. Gender—as a set of social relations, roles, and practices that change across time and space—has material, ideological, and discursive dimensions. Gender conditions our access to material resources, privileges, and responsibilities while also (re)producing particular "truths" that become naturalized in ideology and discourse. When an environmental conflict or crisis occurs, gender is an important social factor that determines who is affected and how.

Environmental crises and disasters, such as excesses or shortages of water, can lead to conflict. Although resource scarcity plays a role, scarcity may not always be the key causal factor in conflict (Allouche 2011; Detraz 2009). Rather, social inequalities determine access to environmental resources and determine how different groups are affected by shortages or disasters, thus playing a significant role in conflict (Allouche 2011; Detraz 2009). Without consideration of the social uses of a natural resource, "scarcity" loses its conceptual relevance (Fröhlich and Gioli 2015).

Existing literature has shown how gender affects water access, use, governance, and adaptation to water-related crises. Several points about gender and water are commonly stated: globally, women and girls spend more time collecting water than men and boys, which may reduce their access to educational and economic opportunities (WWAP 2015). Women are generally less likely to hold positions of power in water management (Kevany and Huisingh 2013). Environmental crises or water shortages may increase violence, particularly against women and girls (Sommer et al. 2015). Crises thus have gendered impacts, but crises also have the power to restructure gender and social relations in new ways (Alston 2006b; UNEP 2016).

Future climate change will bring increasingly frequent and severe environmental extremes and disasters (IPCC 2015; Trenberth 2012), increasing risk for everyone but particularly for disadvantaged groups. Gender analysis of climate disasters has shown that gendered roles and power relations shape both vulnerability and adaptation to disasters. While the vast majority of climate change research has not taken a gender lens, most of the explicitly gendered research has focused on women—primarily because of gendered inequalities that limit women's access to resources and decision-making power in the face of disasters. In the global South, higher poverty levels and lack of institutional resources make the gendered effects of climate disasters readily identifiable and strongly felt by many (e.g., Dankelman 2010; Milne 2005). However, a growing literature has shown that even in the wealthy countries of the global North, social differences along the lines of gender, race, and class make for differential disaster experiences (Alston 2006a; Dowsley et al. 2010; Enarson 1999, 2001, 2014; Fletcher and Knuttila 2016; Reed et al. 2014; Vasseur et al. 2015).

Despite the salience of gender in environmental conflict and crisis, Fröhlich and Gioli (2015, 137) observed that "this understanding...has yet to be translated into a

comprehensive research framework that integrates gender as an analytical category into environmental and conflict research". Informed by longstanding feminist debates about essentialism and universalization, other authors have argued that rather than serving as a useful analytical lens in environmental research, gender has been oversimplified as an ontologically stable binary upon which vulnerability can be neatly mapped – e.g., "men/less vulnerable, women/more vulnerable" (Arora-Jonsson 2011; Thompson-Hall et al. 2016, p. S375). Calls for intersectional research promote context-specific analyses of gender as it combines with other axes of social power and privilege (Djoudi et al. 2016; Kaijser and Kronsell 2014). Yet, few empirical studies of environmental crisis to date have explicitly applied an intersectionality framework (Osborne 2015; Thompson-Hall et al. 2016), perhaps because of the complexity of doing so. Indeed, O'Shaughnessy and Krogman (2011, p. 137) pointed out that the "development of *analytical* strategies which allow researchers to provisionally use gender 'categories' to explore divisions in society while simultaneously recognizing the fluidity and transience of what constitutes these categories, has been a...challenging endeavor".

The purpose of this chapter is to trace the theoretical origins of contemporary debates on gender and intersectionality while mapping a comprehensive framework for future research on environmental conflict and crisis. To be theoretically sound, the framework must draw on the strengths of existing feminist theories while responding to historical and recent debates. To be useful, the framework must also be readily applicable in empirical research on gender and environment. I begin, in Sect. 3.2, by tracing the development of gender as a category of analysis in feminist theory, identifying some key issues and debates that inform current and future research (and which inform the framework presented in Sect. 3.4). Section 3.2 necessarily involves some simplification and categorization of these theories in order to identify the different understandings of gender within each. In Sect. 3.3, I examine the various understandings and uses of gender in recent gender/environmental research. Throughout these two sections I highlight two interrelated issues that have been of much concern in feminist theory: (1) essentialism, an ontological issue, and (2) universalization, which is primarily related to representation. Essentialism was a major concern in the feminist ontological debates of the 1980s and 1990s while universalization has become a flashpoint in the literature on women and environment.

The issue of scale (or levels of analysis) underpins much feminist theory and also appears in the research on gender and environmental crisis. Although scale is often implicitly employed in feminist work, I aim to draw scale out in a more explicit and intentional way. I suggest that gender can best be conceptualized through: (1) an explicit engagement with multiple levels of analysis; (2) intersecting systems of power and privilege that shape experience; and (3) material, ideological, and discursive dimensions of power. Ultimately, I draw upon the strengths of each feminist perspective outlined here to suggest a conceptual framework for future research on gender in environmental crisis and conflict. Examples from the gender and environment literature are used to illustrate the framework's applicability.

3.2   Thinking About Gender and Sex

Ideas about gender and sex vary dramatically across culture and history. In Western thought, biological essentialism provided the "truth" about gender/sex until the twentieth century, when feminists distinguished between sex (as physical, material bodies) and gender (as socially constructed behaviours and roles linked to, but not caused by, bodies). This distinction challenged the long-embedded notion that "biology is destiny". Although innovative in its day, the doubly dichotomous association of sex/physical, gender/social has since been thoroughly challenged by recent poststructuralist and queer thinking on gender. Similarly, the concept of intersectionality has pushed current feminist thought even further to acknowledge significant differences within (and not just between) the categories "women" and "men". In this section I trace several major theoretical developments about gender and sex, highlighting particularly the ontological assumptions underpinning each perspective—that is, the question of what (if anything) constitutes the "reality" of gender. Lessons learned from these approaches inform current thinking on gender in environmental crisis.

3.2.1   Biological Essentialism

In a biological essentialist approach, gender is seen as the natural expression of biophysical differences between male and female bodies. From this perspective both sex (bodies) and gender (behaviours, roles) are seen as primarily biological in origin—essentially, one and the same. Gender is believed to stem from neurological, hormonal, and/or genetic factors that differentiate male/masculine from female/feminine. The sex binary is therefore the primary determinant of the gender binary.[1]

For centuries, assumptions about women's nature (e.g., as inherently emotional, not rational, and inclined to nurturing) justified their exclusion from education, politics, and economics (Kimmel and Holler 2011). Despite evidence that gendered behaviours and roles are strongly social in nature (Fine 2010; Kimmel and Holler 2011), essentialist discourse is often used to justify the status quo on gender and sex. Biological justifications hold popular appeal not only because of their

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[1] Although as Laqueur (1992) observed, the notion of sex as binary is relatively recent, at least in Western thought. Ancient Greek texts reveal a "one sex model" wherein male and female were seen as the same sex. The female, an inversion of the male with male genitalia internalized, was the problematic result of unfavourable heat conditions in utero. This understanding, while still biologically essentialist, denaturalizes the sex binary and unsettles the precedence of sex as the "cause" of gender. In pre-Enlightenment texts, "*Sex*, or the body, must be understood as the epiphenomenon, while *gender*, what we would take to be a cultural category, was primary or 'real'" (Laqueur 1992, p. 8). Laqueur's analysis clearly illustrates the socially constructed and changing nature of ideas about gender and sex.

concordance with "common sense" understandings about difference (here John Gray's well-known *Men are From Mars, Women are From Venus* book series is an example) but also because of the strong legitimacy accorded to "objective" natural science and the sense of reality accorded to the body and the biophysical.

Biological essentialism has generally not served women well, but it has provoked important feminist theorizing about gender. Feminists responded to essentialism and androcentric science with cogent critiques of science and objectivity (Bartsch and Lederman 2001). Feminists also posited the distinction between sex (as biological) and gender (as social) in an attempt to denaturalize gender. Although still somewhat limited and binaristic, this analytical distinction posed an important challenge to essentialism. It set the foundation for the later expansion of gender beyond a simplistic binary. Biology was no longer destiny.

3.2.2 Materialist Feminism

One of the major feminist approaches of the 1960s and 1970s drew on the sex/gender distinction to analyse women's inequality under capitalism. Recognizing the general lack of attention to gender and family relations in Marxist theory, materialist feminists brought a gender lens to Marxist class analysis. Early work drew attention to gender roles at the household level and their significance to the broader economy. A significant amount of debate occurred around whether women constituted an economic class and whether their unwaged domestic work could be considered "productive" labour in a capitalist economy (Armstrong and Armstrong 2003; Seccombe 1974). The concept of social reproduction helped explain the important but distinct role of domestic work in reproducing not only the commodity labour power, but also entire political and economic systems (Bakker 2007; Bezanson and Luxton 2006). This concept is still used in contemporary feminist political economy, albeit at scales far beyond the household (e.g., Rai and Waylen 2014).

Materialist feminists suggested that oppression occurs within and through relatively stable relations of power. Gender is not seen as biologically essential but rather is structured by material political-economic conditions, as sexed bodies become the basis for the division of labour (Armstrong and Armstrong 2003). Experience is an important component of the materialist epistemology (Hartsock 1983). Early materialist feminist work asserted a common experience (and even a common consciousness) amongst women based on their exploited position in the division of labour (Delphy 1984). Today, feminist scholars examine how race, class, and geopolitical location create very different experiences between women, but gender remains an important structuring characteristic that is (re)produced in political and economic systems.

Social reproduction is a useful conceptual contribution that can be extended to gendered work and the environment. Social reproduction involves both the use of environmental resources but also the reproduction of environmental ideologies and knowledge systems. Reproductive activities are affected by environmental

degradation but, perhaps somewhat optimistically, social reproduction could also be seen as a sphere where the intergenerational need for environmental protection is recognized and passed on (e.g., through socialization). Indeed, some definitions of social reproduction acknowledge the ecological framework in which all human activities exist (e.g., Bakker and Gill 2008; Di Chiro 2008).

Despite important contributions toward the recognition of women's experiences of oppression, materialist feminisms are criticized for being overly structural in their focus. The emphasis on fairly stable systems of material power (gender, economies) may produce a universalizing discourse of women as victims of these systems. Extended to environmental conflict and crisis, gender issues may be reduced to a series of "stylized facts" about women as vulnerable victims (Arora-Jonsson 2011; Cornwall et al. 2007), which may neglect agency as transformative potential. Further, as discussed below, poststructuralists emphasized the need to consider discourse as not merely reflective of material conditions but also *constitutive* of them.

3.2.3   Feminist Poststructuralisms

In contrast to materialist feminism, poststructuralist perspectives reject the search for origins of gender and gender-based inequality. Often characterized by a suspicion of grand narratives, postmodernism unsettles ideas of objectivity, truth, linearity, and a singular reality (Nicholson 1990). One particular vein of postmodernist thought—poststructuralism—has become particularly profitable for feminist analysis. Feminist poststructuralists focus their attention on language and representation; they are particularly interested in the relationship between discourse, power, gender, and subjectivity. Using deconstruction as a tool, feminist poststructuralists challenge essentialised meanings, stable histories, and neat binaries with the aim of exposing the power relations that shape representation and construct our very (gendered) subjectivity.

Feminist poststructuralists have critiqued the liberal-humanist conceptualization of the subject as an autonomous, free-thinking self. Because this subject is (like everything else) a product of power and discourse, the subject and its experiences cannot be seen as a valid, incontestable source of truth or knowledge (Butler 1990; Scott 1991; Weedon 1997). Subjectivity merely gives the impression of autonomy while in fact reproducing the discursive systems that have constructed it (Weedon 1997). Of concern for feminists, gendered discourses produce gendered subjectivities, and it is through the performance of these subjectivities that gender comes to appear real or natural (Butler 1990).

Weedon (1997, p. 10) argued that for feminists, poststructuralism can offer a "useful and productive framework for understanding mechanisms of power." Power is not a stable entity held in systems; rather, it is constituted both by and through multiple and fluctuating discourses. This allows us to explain power imbalances in a variety of contexts and situations, and particularly *within* identity categories like

"women". Judith Butler (1990) argued further that asserting a reality to the category "woman" problematically suggests a pre-discursive, identifiable female "subject" for feminism. Butler argued that if the subject of feminism is a product of power—i.e., of a gendered matrix that has produced it as "woman" or "female"—then the mobilization of this female subject (even for feminist aims) only reproduces the power relationships that made this particular subject culturally intelligible and "oppressable" in the first place. Or, as Denise Riley (1988, p. 17) succinctly put it: "the very collectivity which distinguishes you may also be wielded, even unintentionally, against you."

Poststructuralist insights shook the very foundations of gender as a stable category of analysis for feminist research. In an era of global inequality between women and women, and between men and women, can we speak of "women" as a stable ontological category? Should we? With such questions, poststructuralism prompted productive critical engagement with existing feminist theory. Increased attention was paid to the power of discourse and representation. A critical eye was turned on singular experiences masquerading as unequivocal and all-encompassing truth. The category "women" was opened up to difference and diversity and its earlier exclusions exposed.

Although poststructuralist insights may encourage attention to the diverse experiences of women during environmental crisis, the emphasis on micro-level context and fluidity may prevent the broad structural analysis necessary to deal with widespread and macro-level environmental problems. Environmental crises are both localized/context-specific and widespread, as is gender. As climate change brings more disasters and crises (Field et al. 2012; IPCC 2015; Trenberth 2012), it will become increasingly necessary to analyse these issues at multiple levels (macro, meso, and micro). Furthermore, despite the on-going significance of gender in environmental crisis, some authors have already noted the disappearance of a gender focus in the environment sector (Elmhirst 2011; Fletcher and Schonewille 2015; Leach 2007).

3.2.4 Intersectionality

Key insights from both materialist and poststructuralist perspectives converge in a third feminist approach that has shaped gender analysis in recent years. Intersectionality is "the critical insight that race, class, gender, sexuality, ethnicity, nation, ability, and age operate not as unitary, mutually exclusive entities, but as reciprocally constructing phenomena that in turn shape complex social inequalities" (Hill Collins 2015, p. 2). The idea that multiple oppressions intersect to create different experiences of power and privilege was clearly articulated in critiques of white-centred feminism during the 1970s and 1980s. For example, in their 1977 "Black Feminist Statement" the Combahee River Collective described the interlocking oppressions of race, gender, class, and sexuality using a materialist approach (Combahee River Collective 2007). The concept of intersectionality was further

articulated and developed by scholars like Kimberlé Crenshaw (1991) and Patricia Hill Collins (2015).

As a framework for analysis, intersectionality usefully combines materialist and poststructuralist understandings of power. Power is seen as fluctuating and changing depending on the context; however, it has become sufficiently stabilized in systems of privilege and oppression (e.g., gender, race, class) as to be identifiable in everyday life and experience. This conceptualization of power resembles Foucault's (1988): power is a moving network that can become stabilized in particularly dominant discourses and institutions. Experience is afforded some legitimacy but is also seen as a product of the power relations that have constructed it. In the same way, intersectionality draws attention to differences within the category "women" while also asserting some stability to gender as one of several key axes of oppression and exclusion.

Intersectionality has begun to usefully inform feminist analysis of environmental conflict and crisis. Due to its focus on context, a major challenge will be to "scale up" the insights of intersectionality to examine macro-level environmental phenomena. In the next section, I discuss how different theoretical understandings of gender have been employed in the current literature on environmental crisis and conflict, paying particular attention to the water sector.

3.3   Gender in Environmental Crisis and Conflict

Recent literature on gender and environment reflects and responds to these earlier theoretical developments. The ecofeminist and Women, Environment, and Development (WED) literature, for example, has been a locus for debates over essentialism. Some authors (e.g., Leach 2007) argued that ecofeminist work problematically asserts a biological and/or spiritual connection between women and the environment. Others argued this critique is based on an overly simplistic caricature of ecofeminism (Moore 2008; Plumwood 2000).[2] Work in WED was similarly criticized for asserting rigid gender roles "as natural, universal, and rooted in reproductive and subsistence activities such as small-scale agriculture and food processing and water and fuel collection, rather than shaped by historical, social and economic forces and gender relations" (UNEP 2016, p. 4).

Over the past two decades, two identifiable approaches to gender and environment have become prominent. Both bring new insights and approaches while drawing from previous feminist theories. Feminist political ecology (FPE) brought a gendered lens to the study of how social, political, and economic systems interact with the environment. Drawing from materialism, FPE examines how material and

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[2] For example, some work in ecofeminism evokes a materialist analysis by critiquing the gendered and ecological implications of capitalism. Ecofeminism also expanded ideas about gendered oppression and domination to consider humans' relationship with ecology and animals, perhaps setting a precedent for intersectional analysis of interlocking oppressions (Plumwood 2000).

ideological factors shape (gendered) environmental knowledge and access to resources (Elmhirst 2011; Rocheleau et al. 1996). Perhaps in response to earlier critiques of materialism as overly structural, in their foundational FPE anthology Rocheleau et al. (1996) emphasized grassroots environmental activism and agency while also clearly articulating the importance of intersecting oppressions to this emerging field. However, as recently as 2013 Mollett and Faria argued that a fully intersectional framework has yet to be taken up and that "Fpe continues to have an ambivalent relationship with difference" (p. 119).

A second body of work on gender, disaster, and climate change adaptation emerged in parallel. This research examines the gendered impacts of climate disasters and how gender shapes adaptation in households, communities, and government policy. Much of this literature has focused on the global South. Across these two related bodies of literature, the dominant focus continues to be how gendered ideologies and work roles affect women's knowledge, experience, and interaction with environmental events and resources.

With the advent of these two approaches, debates shifted from ontological concerns to representational ones. Arora-Jonsson (2011) observed that women are often simplistically represented as either virtuous environmental heroes or as vulnerable victims of environmental crisis and conflict. Similarly, MacGregor (2010) questioned discourses that position women as disproportionately responsible for environmental protection through their social reproduction roles. Although the discussion has largely moved away from essentialist notions of women's biological connection to nature, the suggestion that women interact differently with the environment (albeit due to social factors and roles) may sometimes still have universalizing effects. Contemporary research on gender and environment therefore faces the ongoing "analytical difficulty of recognizing and addressing widespread gendered inequalities and distributions of power over time and space, without reifying these differences as somehow natural or inevitable" (O'Shaughnessy and Krogman 2011, p. 136).

In response, some authors have drawn on the insights of poststructuralism to emphasize context-specificity, subjectivity construction, and changing power relations (Arora-Jonsson 2011; Leach 2007; Nightingale 2006, 2011). Others have emphasized grassroots activism and agency. Although few studies in gender and disaster have explicitly identified as intersectional, attention to the intersection of gender, race, and class is evident and crucial—as seen in the starkly racialized, classed and gendered consequences of Hurricane Katrina, for example (e.g., Elliott and Pais 2006; Weber and Hilfinger Messias 2012). In a recent review, Kaijser and Kronsell (2014) suggested the powerful potential of an explicitly intersectional approach for future climate change research.

A truly intersectional approach acknowledges that men and gender-diverse individuals are also affected by environmental crisis and conflict. "Gender" does not equate to "women", and although men may largely benefit from gender inequality, their lives are still shaped in particular ways by gender, race, class, and other power systems. Attention to local contexts reveals that women and men in "risky environments" may actually have much more in common than "military, business interests, and administrative and political elites" whose interests drive environmental policy

and disaster response (Enarson 2014, p. 38). The focus on women (often as victims) has tended to ignore the ways in which men are both empowered and/or disempowered by gender relations in the environmental sector, resulting in men being portrayed in one-dimensional terms. Some research has identified the emotional and mental health implications of environmental disasters for men due largely to hegemonic masculinity (Alston 2012; Alston and Kent 2008; Fletcher and Knuttila 2016). Enarson (2014, p. 37) pointed out that "dominant masculinity norms (including pressure to provide) rob too many men of identity, livelihood, and well-being, putting them at risk of self-harm." Intersectionality's attention to shifting power relations thus allows us to consider masculinities and their complex relationships with vulnerability, power, and/or privilege in the context of environmental crisis. Further, expanding conceptualizations of "gender" means paying attention to the experiences of gender and sexual minorities, whose needs are often excluded from even "gender sensitive" crisis responses focused solely on (heterosexual) women (Rumbach and Knight 2014).

The key tension that emerges from all of this—and the challenge for future feminist work—is achieving a balance between context-specificity and the stubborn relevance of gender (albeit in different forms) across time and space. To be useful, a framework for gender research on environmental conflict and crisis will achieve this balance—allowing for dynamic shifts in scale, analysis of power in its multiple forms and at multiple levels, and intersectional analysis while not losing sight of the relatively stabilized material effects of gendered power and privilege. The framework should account for how environmental crises may reinforce or even destabilize gender relations, and should help identify possibilities for emancipation and positive change (Djoudi et al. 2016). In the next section, I suggest a conceptual framework or map for research that draws upon—and draws together—these insights from existing feminist theory and research.

3.4   Operationalizing Gender for Feminist Environmental Research

A comprehensive research framework for gender in environmental crisis and conflict must be built on previous insights while also responding to current debates and challenges. In this section I suggest a framework to operationalize gender in environmental research. It can be seen as a conceptual framework for research or simply as a map for asking questions about gender or plotting positionalities in the research. Conceptual boundaries are not always so clear-cut and levels of analysis do shift; therefore, the framework is intended not as a recipe or prescription for future research but rather as a tool or guide to recall our theoretical pasts and plan future research. Throughout this section I use examples from existing gender/environment literature to illustrate the framework's applicability.

3.4.1   Scale and Nested Levels of Analysis

The issue of scale appears repeatedly, although often rather latently, in the gender/
environment literature and in feminist theory generally. Shifting theoretical
approaches to gender are underpinned by shifting scales of analysis. While biologi-
cal essentialism emphasizes the very micro-level of biology as the origin of social
relations, early materialist feminism tended to focus on socially constructed gender
roles at the household level. Poststructuralisms brought a renewed emphasis on the
micro level of the individual, this time as the site of gendered subjectivity construc-
tion. This is not to suggest that each scale of analysis is detached from other scales.
Biological essentialists, for example, extend micro-level observations to the social
level by arguing that biology is the origin of social behavior and relations. Materialist
feminisms have situated household relations in the context of broader economic and
political systems and poststructuralists link individual subject formation and perfor-
mance to the broader operation of power and discourse.

In the environmental area, feminist political ecologists have articulated the
importance of scale (Elmhirst 2011). Katz (2001a, p. 1229) crafted a topographical
approach to understand the operation of "common political-economic and sociocul-
tural processes", such as globalization for example, through their discrete manifes-
tations in diverse places. By consistently connecting situated experiences to broader
structures—i.e., as manifestations of those structures that also feed back to reinforce
or challenge them in particular ways—context-specific case studies can inform a
larger interconnected picture of gender and environment. In their work on gender
and natural resource extraction, O'Shaughnessy and Krogman (2011) suggest that
the complexity of gender can be understood by examining contradictions between
the material and discursive at three levels: macro (e.g., broad political and economic
trends), meso (e.g., communities and regions), and micro (e.g., subjectivity, iden-
tity). The examples cited by these authors cross the boundaries of macro, meso, and
micro, suggesting the need for analysis within and across levels.

In the proposed framework (Fig. 3.1), nested levels are a reminder that phenom-
ena are contextualized within particular historical, social, political, economic, and
ecological systems. Phenomena at different levels influence each other: macro-level
phenomena shape meso- and micro-level phenomena while these smaller-scale phe-
nomena can also return to challenge or reinforce the macro levels—for example,
through collective agency or the poststructuralist idea of repeated performance.

Environmental conflicts and disasters may be localized or widespread. Due to
local dynamics, a similar crisis may manifest very differently in different locations.
In Canada for example, predominantly white communities (such as the northern
oilfield city of Fort McMurray, which experienced a full-scale wildfire evacuation
in 2016) may experience wildfire disaster differently than northern First Nations
communities due to socioeconomic disparities, cultural and spiritual factors, racism
in host communities, and histories of colonization (Scharbach and Waldram 2016).
In their analysis of the 2011 evacuation of Hatchet Lake Denesuline First Nation in
northern Saskatchewan (Canada), Scharbach and Waldram (2016) noted how
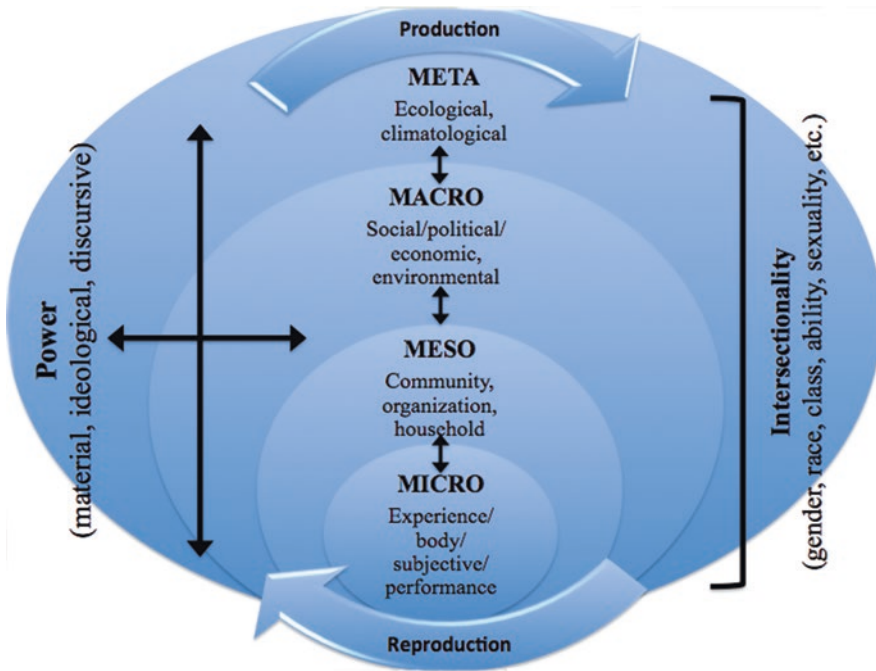
Fig. 3.1 A research framework for gender in environmental crisis and conflict

"pre-existing cultural patterns, combined with historical experiences—especially those involving the colonizer's state structures and services" affected the evacuation experience, especially when evacuation agencies failed to keep traditional family units together. The nested structure of the proposed framework (Fig. 3.1) allows us to link these differential experiences to broader structures (e.g., histories of colonization) while also not reducing agency (e.g., Indigenous knowledges) to the realm of the "local" only (Cameron 2012). Further, the effects of a localized conflict or disaster may vary dramatically between households and between the individuals within them. At all levels, conflicts are imbued with power and shaped by intersecting forms of privilege and marginalization.

3.4.1.1 The Meta Level (Ecology, Climate)

Drawing from ecofeminism, the meta level shows that all other systems are necessarily situated within, and dependent upon, the ecological system. This reminder is particularly important in an era of neoliberal economics that fails to recognize environmental limits to production and treats environmental consequences as "externalities"; hence, in this framework production is situated inside the ecological system although affecting all levels (Fig. 3.1). Further, widespread ecological problems are not necessarily solvable by any single macro-level system. For example,

climate change cannot be mitigated only by political or technological solutions; rather, it requires a combined approach involving all sectors, all of which are dependent for their existence on ecology. Ecological issues also extend beyond the realm of individual states at the macro-level.

Just as the ecological system affects human systems, human systems also affect the ecological system; for this reason, power runs in both directions. Drawing on an ecofeminist or materialist perspective, power is construed here as fairly stable (e.g., the power to affect ecology positively or negatively), while a more poststructuralist approach—i.e., power that constructs and constitutes ecological spaces (Nightingale 2011)—is discussed below at the macro level. In climate change research, the significance of the ecological level means examining gendered aspects of mitigation as well as adaptation. Humans' relationship with the natural environment (e.g., management of disasters) reflects gendered practices and behaviours but, as discussed below, we also construct the environment around us in gendered terms (e.g., "Mother Nature"), which shapes our ideas about how we interact with and control that environment.

3.4.1.2 The Macro Level (Social, Environmental, Political, and Economic Systems)

The macro level is the realm of human systems: broad social, environmental, political, and economic systems. The ordering of these items is significant. Although all human systems depend on ecology, and although ecology exists outside human systems, placing the social as prior to the environment here illustrates that social discourses and value systems determine how "the environment" is constructed, taken up, and valued in the social body.[3] Placing the social first also emphasizes the fact that economies are social and political constructs. This reminder is important in an era of neoliberal discourse that anthropomorphizes economies and markets by falsely presenting them as beings with independent agency and even omnipotence (*viz.* many contemporary business newscasts, which repeatedly wonder "what the market is doing" or assert that "markets are responding", as if markets existed independently of human activity). Events at the macro level move upward to affect ecology (e.g., economies built on resource extraction and their associated policies) while also determining the access of "downstream" communities, households, and individuals to necessary resources (e.g., water rights policies that determine who has access to water and when).

The focus on systems draws from materialist approaches such as feminist political economy and feminist political ecology. Macro level systems, such as environmental and climate change policy systems, are often seen as gender-neutral;

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[3] The distinction here between ecology (as nature and ecosystems that exist outside of human construction, but which humans affect) and environment (as humans' constructed ideas about, and engagement with, ecology and the natural world) draws on critical realism and Carolan's concept of three natures (Carolan and Stuart 2016).

therefore, scholars working from a materialist approach have worked to "gender" these macro systems. For example, although often presented as gender-neutral, international trade policies have gendered and environmental effects (Fletcher 2015). These gendered effects can be identified at this level and at other levels.

The issue of universalization rears its head at this level. While gender analysis of macro-level crises and conflicts often relies on generalized facts about men and women and oversimplified binary understandings of sex/gender (UNEP 2016), more sex-disaggregated data are still needed to fully understand the position of women, men, and people with non-binary gender identities in macro-level environmental politics and organizations (Seager 2015). Basic data will facilitate deeper gender analysis. The macro level is also the realm of historical, political, economic, and ideological events that have shaped gendered race and class relations at all levels – for example, histories of colonialism and their ongoing effects (Mollett and Faria 2013). As long as other contextual levels are considered in our analysis to avoid oversimplified universalization, locating gender and environmental concerns within broader political-economic systems is crucial for debunking assumptions of gender-neutrality in these systems. Again the importance of nested and interconnected levels is evident.

3.4.1.3 The Meso Level (Community, Organization, or Household)

At the meso level, gender researchers can examine how communities, organizations, and households engage with environmental resources and cope with environmental crises. These interactions include recourse to formal and informal social capital, which is determined by social differences and inequalities. At this level researchers remain concerned about the absence of sex-disaggregated data, for example, to understand the representation of women (and men) in community water-management organizations or environmental groups, but analysis goes deeper to understand power relations in whose voices are heard and how spaces are structured. Other topics of interest here are environmental education and management programs or the overall feminization of labour in the environmental non-profit sector as organizations struggle for resources in times of government austerity.

Communities and households may sometimes be mistakenly viewed as cohesive units (for example, when policymakers collect input from "community stakeholders" but ultimately distil diverse voices into a single opinion) (Kincaid and Fletcher 2017). Resource conflicts can occur even within communities and households; therefore, we are reminded to "lift the roof off the household" to examine intra-household power relations and conflicts (Seager 2014, p. 275). For example, depending on context, domestic and sexual violence may increase in the wake of environmental disasters (e.g., Clemens et al. 1999; Sommer et al. 2015). Intra-household conflicts over food or water allocation during shortages may cause some family members, such as women (e.g., widows, young women) or gender/sexual minorities within families, to go without (Balgos et al. 2012; Juran and Trivedi 2015). While attentive to these issues, meso-level research should also examine

bonds of cohesion within households and communities, such as communities working together against environmental injustice (for example, members of the Standing Rock Sioux community of North Dakota, USA, who at the time of writing are resisting the placement of an oil pipeline on their lands). Researchers should also be attuned to situations where resource shortages or conflicts may actually cause renegotiation of gender roles (Wutich 2009) or where water-related gender roles are relatively equal (Hawkins and Seager 2010).

3.4.1.4 The Micro Level (Experience, Body, Subject, Performance)

Despite the shift from biological to social understandings of gender, the body remains an important site for analysis and intervention during and after an environmental crisis. At the biophysical level, reproductive and bodily differences produce different needs. In the wake of an environmental disaster, a one-sex-fits-all model is insufficient. Sex-specific hygiene and reproductive healthcare services (Enarson 2014), facilities and services for trans* people (Balgos et al. 2012), and resources for men (who may be less likely to access healthcare services due to ideologies of masculinity), become urgently necessary. Sexed bodies also determine access to physical resources and spaces. In some cultural contexts, menstruation taboos may affect women's access to water or shelter (Nightingale 2011); in other contexts, restrictions on women's movement or access to public spaces may prevent them from promptly evacuating during a disaster (Juran and Trivedi 2015).

Gender ideology constructs the body in certain ways—in this way ideologies and discourses can be more "real" than the body itself. Viewing the micro level as nested within other structures prevents the essentialist reification of bodies as the sole cause and key site of gender inequality and difference. For example, reports from international organizations often show that lack of access to improved sanitation can put girls and women at risk of sexual harassment and assault as they seek places to defecate and urinate (Sommer et al. 2015); similarly, lack of access to appropriate sanitary facilities can prove dangerous for trans* people in a multitude of contexts. It is social conditions, not bodies themselves, that create and construct these situations—but nonetheless, these situations have serious physical effects at the bodily level and certainly justifies the need for appropriate sanitation services. However, considering the problem in its social context reveals deeper roots: (a) gendered ideologies and discourses that construct certain (public) spaces as unsafe for female, male, or trans* bodies and (b) intersecting oppressions of class, caste, and race that may cause some to have access to sanitation while others do not. Although it is important to acknowledge the biophysical needs of bodies, it is equally important to acknowledge the reality of gendered, racialized, and classed social relations and how they affect bodies and individual subjectivities.

From a poststructuralist perspective, the micro level is a site of gendered and racialized subjectivity construction, which is then reproduced through performance. Research at the micro level can identify the operation of gender performance and how these performances both reinforce and challenge gendered discourses.

According to O'Shaughnessy and Krogman (2011), analysis at this level can reveal contradictions and challenges to dominant discourses. Micro-level analyses are useful for questioning "stylized facts" about gender and environment, examining instead how gender is reproduced or challenged in everyday activity, often in ways that are inseparable from race, class, and other identity categories. Indeed, Mollett and Faria (2013, p. 119) pointed out that not only gender, but also "race and racialization operate through everyday practices where struggles over rights and resources are spatialized in reference to and through presumed essence within racialized and gendered bodies".

The deconstruction and denaturalization of gender/sex binaries creates space for diverse gender identities. Future research should include experiences of gender nonconforming individuals; for example, how does oppression based on gender identity affect people's access to resources and supports during an environmental crisis? This question requires a multi-scale approach that examines resource allocation at other levels (e.g., economic capital, social capital). In a similar vein, the intersectionality framework draws attention to sexuality, where homophobia and transphobia may similarly affect one's experience of an environmental crisis. New research has drawn attention to the experiences of LGBTI (lesbian, gay, bisexual, trans*, and intersex) individuals during crisis and also emphasizes the need for intersectionality within this group (Dominey-Howes et al. 2014; Gorman-Murray et al. 2016; Leap et al. 2007). Although it is important to examine experiences of exclusion, such research should also consider the agency and contributions of LGBTI people during environmental crisis. Balgos et al. (2012), for example, highlight the participation of *warias* (who are biologically marked as male but adopt a feminine gender identity) in post-disaster efforts in Indonesia.

Research focused at the micro level is crucial for capturing the everyday experience of actors in the environment. Everyday experiences in this framework are often products of macro and meso level events and phenomena. For example, in their research with farmers during Australia's ongoing drought crisis, Alston and Whittenbury (2013) revealed how changes in gendered subjectivities caused by environmental crisis led to negative consequences for mental health and wellbeing, particularly (in this case) for farm men. Although Alston and Whittenbury do not identify specifically a scalar focus in their work, they examine the effects of large-scale structural constraints (i.e., drought, public policy) interacting with gendered roles at the household level, and how these further shape gendered identity at the micro-level.

From a materialist perspective, then, individuals' experiences provide a crucial window into the lived effects of broader systems in everyday life. However, poststructuralist insights remind us that these experiences are "situated" and never fully representative of truth or reality (Haraway 1988). Although experience is not a neutral or objective reflection of the world, it can reveal the operation of power in certain contexts. Scaling these insights to other levels reveals what Foucault (1988, pp. 92–93) referred to as temporarily stabilizations in ever-fluctuating systems of power. Gender, race, class and other axes of oppression may be particularly enduring

examples of such power stabilizations (or what materialists would see as stable systems) that interact to produce experiences.

3.4.2 *Power*

In the framework (Fig. 3.1), power is conceptualized as fluctuating and operating both "top down" and "bottom up" across multiple levels; this prevents an overly structural approach to power that ignores agency. To do otherwise would be to engage a victimizing discourse by ignoring the agency (however limited it may be) that women and other marginalized groups have. Through intersectionality, we are reminded to explore the multiple contextual effects produced by intersecting axes of power and privilege; by asking how this issue affects not just "women" but for example, low-income versus high-income women, we avoid a universalizing and generalizing suggestion of a singular "women's experience". Relatedly, power also operates horizontally (as indicated by the horizontal line in Fig. 3.1); for example, at the meso level social capital and mutuality within communities or groups is often crucial during an environmental crisis, but power relations within or between such groupings can also lead to exclusion based on difference—this has been called the "dark side" of social capital (Field 2008).

Power here is seen as material (e.g., manifested in material access to, and control over, environmental resources), ideological (e.g., as naturalizing particular material and social relations of domination) and discursive (e.g., produced and reproduced through knowledge, representation, performance). Thus, the notion of power draws from both materialist and poststructuralist insights. However, the framework can account for multiple conceptualizations of power—for example, the resistant discourse of a grassroots community group (discursive) seeking to obtain environmental resources (material) (it is also important to note that power may be differentially allocated even within such groups as intersectionality comes into play at the meso level). Or, power can be constitutive of gendered subjectivity at the micro level, shaping how individuals understand their own access to material resources and perform accordingly—these subjectivities may be simultaneously co-constituted by race, class, and other intersecting notions of identity. Although the poststructuralist approach tends to reject the notion of a free-thinking or agential subject, it does allow for (often unintentional) moments of challenge and contradiction (Butler 1990).

3.4.3 *Intersectionality*

Intersectionality applies at every level in the framework. Researchers should always ask how gender combines with other systems of power and privilege to co-produce particular situations or experiences. This approach is responsive to feminist critiques of universalization, which suggest careful and contextual articulations of

gender. At times it might be accurate to speak of women as distinct from men, while at other times it might simply feed into harmful notions of an essential women's experience that ignores other equally important facets of social oppression. For this reason, gender is not prioritized or set apart in the framework as any kind of constant; rather, it is always (re)produced together with other aspects of identity, such as race and class (Mollett and Faria 2013).

The multi-level approach helps to scale up the intersectional analysis, avoiding the problem of a literature full of numerous detailed and descriptive but disconnected case studies. Intersectional analysis can occur at multiple levels. For example, a hypothetical study on gender and environmental conflict in Canadian mining communities might find that Indigenous and non-Indigenous women have very different experiences and understandings of their role as subjects within environmental spaces (micro level). Scaled up, these differential understandings may reveal how dominant Eurowestern understandings of nature and environment (e.g., as a resource to be controlled, dominated, and used) become embedded in political and economic systems (macro level), thus negatively affecting ecosystems (meta level) and disregarding Indigenous knowledge systems with different understandings of nature and gender (meso level).

3.4.4   Production and Social Reproduction

Production and social reproduction run through multiple levels of the framework and also (re)produce material and discursive relations of power. Examined at different levels, production and reproduction can be seen as social, gendered, and environmental issues as well as economic ones. Production (i.e., the realm of economic activities considered to add "surplus value" under capitalism) is intentionally placed near the top to illustrate that many of our current production systems are ecologically degrading. While social reproduction is most "visible" at the micro level of everyday life, its importance in reproducing systems means it is relevant at all levels. The circular arrows between production and reproduction indicate the interconnection of these two realms, which change together and influence each other (Di Chiro 2008; Katz 2001b).

Conflicts over water and other environmental resources may involve conflicts between productive and reproductive uses. Such conflicts are imbued with power; for example, the disproportionate valuing of (masculinized) "productive" activities over (feminized) reproductive ones. Class, caste, and other power dynamics may intersect here, providing some individuals with disproportionate access to resources for productive purposes while others lack resources for basic daily survival (Crow and Sultana 2002). For example, Ahlers and Zwarteveen (2009) argued that water rights systems are premised on neoliberal assumptions of individualism and private property that ultimately exclude certain individuals and groups. The devaluation of social reproduction may be a life-or-death issue for women during disasters, as women stay back to care for those who cannot evacuate or as women's lives are seen

as less valuable (Juran and Trivedi 2015). However, in a similar way, expectations of men's heroism (associated with often dominant conceptions of men's agency and notions of men as economic providers and protectors) may intensify men's vulnerability during environmental disasters (Enarson 2014). Context again is crucial.

Di Chiro (2008, p. 285) argued that "*all* environmental issues are reproductive issues...environmental issues are about fighting for and ensuring *social reproduction*". Social reproduction uses material environmental resources but also depends on the sustainability of these resources at the meta level. It involves the sustainability of communities and households, which has implications for the meso level and environmental justice (Di Chiro 2008). Relatedly, social reproduction involves the reproduction of environmental ideologies and knowledge systems. In this way, social reproduction is a site where understandings of "the environment" as a discursive construct are reproduced or changed along with gendered subjectivities at the micro level.

3.5   Conclusion

In this chapter I have suggested a conceptual framework for future research on gender in environmental conflict and crisis. The primary goal of this framework is to encourage balance between highly context-specific analyses versus overly structural treatment of gender in the literature. This need for balance is, in many ways, a product of earlier debates in feminist thinking about gender. Early feminist critiques of essentialism led productively to denaturalized understandings of gender—to the understanding that gender is not biologically determined but social in nature. More recently, critiques of universalization in gender and environment literature have prompted more contextualized, intersectional, and less binary analyses. Yet, gendered trends remain and must be acknowledged. Therefore a major challenge for future research will be to "scale up" the insights of intersectionality to examine macro-level phenomena and systems.

The multi-layered approach presented here stresses the interconnection of phenomena at the meta, macro, meso, and micro levels (Fig. 3.1). Intersectional analysis of environmental, economic, political, and social issues is emphasized at each level while also situating these issues within ecological frameworks. Analysis of issues at all levels involves a consideration of power in its material, ideological, and discursive forms. Although it is unlikely that any singular study will address all components of the framework, situating future research within the framework will help to clearly identify ontological and epistemological assumptions, positionalities, and areas of focus. Such attention to the "situatedness" of our research may help avoid the problems of over-generalization while facilitating connection between highly contextualized studies.

The framework is based on the contributions of (and debates between) several major theoretical approaches to gender developed over the past half-century. Each approach built in some way on the previous ones. While early materialist feminists

challenged biological essentialism by locating gender's origins in material (social) conditions, current work in feminist political economy/ecology has brought gender analysis to the level of political, economic, and ecological systems to examine how these systems simultaneously shape, and are shaped by, gender. Poststructuralism questioned the focus on stable systems by drawing attention to the micro level, where gendered subjectivities are (re)produced through discourse and performance. Intersectionality draws upon materialist notions of somewhat-stabilized power systems (e.g., race, class, gender, sexuality) and poststructuralist attention to difference, context, and fluidity to show how intersecting forms of power and privilege co-construct experience in given contexts. Epistemologically, intersectionality values experience as a window into the complex operation of power and privilege.

In this chapter I have drawn upon—and drawn together—contributions from these existing feminist theories to propose a research framework for gender and environmental crisis/conflict. Taking a multi-level intersectional approach that accounts for context-specificity while also recognizing ongoing oppression caused by rigid gender binaries, the proposed framework encourages environmental research to move beyond just "women" and "men".

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Part III
Regional Perspectives on Gender and Water Security

Chapter 4
Gender and Water in the Middle East. Local and Global Realities

Mauro van Aken and Anita De Donato

Abstract Gender is a relational process in which roles and interdependent ideas of masculinity and femininity are reproduced or challenged: a highly relational and fluid category, and its role in water dynamics, the most "relational" of all resources, is indeed crucial, albeit generally rendered invisible. Our aim in this paper is to contextualise crucial dynamics in gender relations that flow through water, by exploring local water systems in the Middle East (Jordan and Palestine) in relation to issues of access, control, distribution and "modernisation" of water supplies. First, we examine the relationality of water and gender dynamics as they have been discussed in the anthropological literature, in terms of how aspects of the "social life" of water are intertwined with ideas and roles of femininity and of masculinity within processes of modernisation. This leads us to focus on the first of our case studies—intensive irrigated agribusiness in Jordan—as a typical example of the masculinisation of water spaces within the bureaucratic encounter. We then present and discuss two case studies in the West Bank (Palestine) concerning, respectively, women's daily domestic water practices in a refugee camp and irrigated water in a rural village: here, water relations may only be understood in the context of the broader political arena and in light of local, mutating, ideas of family.

Keywords Relationality • Water systems • Middle East • Irrigated agribusiness • Water relations • Water bureaucratisation

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4.1   Introduction

Gender is a relational process in which roles and interdependent ideas of masculinity and femininity are reproduced or challenged: far from a reified use of gender as a "women's" issue, gender roles concern politics and power relations, and sociocultural and contextual networks of relations connected with the dynamics of multiple belonging within societies. Gender is thus a highly relational and fluid category, and its role in water dynamics, the most "relational" of all resources, is indeed crucial, albeit generally rendered invisible. Our aim in this paper is to contextualise crucial dynamics in gender relations that flow through water, by exploring local water systems in the Middle East (Jordan and Palestine) in relation to issues of access, control, distribution and "modernisation" of water supplies. We draw on three case studies of domestic and irrigation water systems to bring to light the interconnected issues of water technology, male and female roles and access to water, as well as cultural representations of water in relation to the public and private dimensions of society, gender beliefs and stereotypes concerning development actors.

First, we examine the relationality of water and gender dynamics as they have been discussed in the anthropological literature, in terms of how aspects of the "social life" of water are intertwined with ideas and roles of femininity and of masculinity within processes of modernisation. This leads us to focus on the first of our case studies—intensive irrigated agribusiness in Jordan—as a typical example of the masculinisation of water spaces within the bureaucratic encounter. We then present and discuss two case studies in the West Bank (Palestine) concerning, respectively, women's daily domestic water practices in a refugee camp and irrigated water in a rural village: here, water relations may only be understood in the context of the broader political arena and in light of local, mutating, ideas of family.

4.2   Liquid Relations: Gender Dynamics Through Waters

Any technical water network is a complex social and political interface around a common resource, an aspect often overlooked in policy-making. Water, indeed, is the most relational of resources (Van Aken 2012): due to its materiality and liquidity, it has always imposed complex social networks and patterns of cooperation in different societies and environments.

Water imposes social relations, in the form of cooperative patterns, institutional arrangements, work patterns and roles, just as it can engender conflict, competition and patterns of exclusion due to the political interdependence that any water network leads to. At the same time, gender is the most fluid category of understanding, despite the current reification of meaning whereby contemporary policymaking and common sense interpretations view it simply as a "women's" issue: it is a relational category that concerns patterns of defining masculinities and femininity in different cultural contexts, always as relational dynamics. Thus, both water and gender imply

relationality, interdependence and mutating political and social relations, where "water is always a metaphor of social, economic, and political relationship—a barometer of the extent to which identity, power and resources are shared" (Strang 2005b, 21).

Any water network is not just a technical endeavour but a socio-technical network with implicit, though not culturally neutral, ideas about the "use" and distribution of water, often a highly complex operation since it raises issues of equality and exclusion. The new hydraulic configurations and "water worlds" set up via modernisation process have led in many parts of the Middle East, as previously happened in the North (Worster 1985), to new ideas of place, knowledge patterns and political roles connected with water, within an encounter with previous existing cultural patterns. Water relations are not to be understood as an antagonism between "traditional" and "modern" roles, local and global patterns, or indigenous and expert knowledge, but as a fluid and contradictory overlapping of different "waterworlds", or ways of conceiving and organising the relationship between society and water. In short, in modernisation projects, far more than water or technical processes flow through any canal or water tap, given that "water may be a mirror into which rural society gazes or through which power operates, but it is rarely a medium of rigid social structures. Because water moves, it erases as well as makes social boundaries" (Mosse 2008, 944).

Thus, a water technical network is always a social network: water is a medium for state-citizen relationships and global, national and local policies defining gender roles and dynamics. For example, men may play a stronger role in irrigation due to the increasing technicalisation and bureaucratisation of water, with women increasingly relegated to domestic water use and negotiation tasks. At the same time, global patterns of water modernisation policies and "technical" changes may be understood in light of how they play out locally, in the "social life" of any water network, even more so in the context of water scarcity and competition that characterises the Middle East. Besides, socio-technical networks are often socialised and manipulated by local irrigators or water users facing local inequalities and struggles for water access, in terms of both quality and quantity: water is often contested and manipulated in the course of local adjustments to economic and gender asymmetries.

Water, as shared resource and linked to local patterns of management, is a key symbolic resource (Mosse 1997), in which gender dynamics are crucial: water distribution mirrors local ideas of autonomy and belonging and has to be understood within their cultural and political framework. Indeed, in the Middle East, dense political and public spaces have been constructed around water, and this is crucial to understand changing gender patterns and the widespread demise of these public spaces. As our case studies will illustrate, changes in water organisation have led to a decline in many public spaces previously occupied by women, and to a redefining of irrigation as a masculine domain of science, technology and "public" water bureaucracies. Therefore, the local use of water, or what we will refer to as the "social life of water", may be understood only within the wider political arena in which local users are embedded and manipulate water in an attempt to counteract inequalities. Thus, water and gender relations are tied up with new symbolic notions

of home (in a refugee camp, in a "modern water-connected" house or in irrigated fields) and local ideas of family (for example, extended family, tribal relations and local agnatic solidarity networks), or new meanings attached to water as increasingly political and contested and therefore as a masculine space within modernisation. Local water systems in the Middle East, previously mainly localised and de-centred, have been substituted in recent decades by centralised national networks as part of a nation-building exercise in which the control of resources is key (Van Aken et al. 2009; Casciarri 2008). However, local water networks bear value as "repositories of symbolic resources" (Mosse 1997, 472) and losing control of water has often led to the demise of the public dimensions of local institutions, which are "part of the symbolic production of locality" (ibid., 472).

In the Jordanian Jordan Valley, for example, the housing schemes launched in the 1960s for Palestinian refugees introduced a new idea of "modern" house that substituted the prior local meaning of home (Van Aken 2003). Specifically, mud-brick *adobe* houses, which were well suited to the arid and hot climate of this valley and used local construction materials (clay, straw), were substituted by cement-brick houses in which it was impossible to live in summer without expensive air conditioning, which could only be afforded by elite. This change was imposed given that the administration did not connect the adobe houses, categorised as "illegal", to the new water supply and this forced many families to move to the new "modern" constructions which, though supplied with drinking water, necessarily increased patterns of dependency. Interestingly, for two decades, refugees extended illegally the water domestic pipes from the new to the old and nearby adobe houses that were deemed better fit as homes.

Water projects inevitably lead to change and conflict concerning water rights and entitlements, and patterns of centralised national control over previously decentralised and autonomous water resources, which encounter or censure local management pattern histories, giving rise to a context of legal pluralism, that is to say, the coexistence of different ideas of rights, institutions, and roles (Roth et al. 2005). The outcome is a complex web of relations that cannot be reduced to a merely technical and linear representation.

Vis-à-vis development policies or national modernisation policies, local or customary rights often become invisible, and among these, women's rights are even more marginalised. In Limbert's study on the village of Bahla in Oman, the social change introduced by the technical shift in the potable water network to provide individualised taps is clear: "a changing water distribution system is entangled in a host of shifting discourses and practices—about the past, about religious modesty, and about ownership" (Limbert 2001, 36). Here, the centralisation of drinking water has overlapped with local meanings of water, which are counted and measured in "social time" as opposed to cubic metres, a widespread technique in the Middle East. The timing of water distribution was connected to the mosque and to the public domain, as a resource that could be exchanged and bartered, and not just "bought", "owned", "consumed" by the household, calculated in terms of quantity rather than time. The new national water system brings a commodification of water

that expels local public spaces and water as a negotiable resource in local and women's daily life.

Furthermore, in nation-building centralisation processes, local water management systems have often drawn attention to three main aspects (Van Aken 2012) of water as a political and social resource. First, an emphasis on the *diversity* of water—diversity of names, measurement, seasons, qualities and quantities, accompanied by recognition of its "limits" from an environmental perspective. Second, the multidimensional character of water as something that is embedded in society and that concerns power relations and thus cannot be delimited as a technical affair: indeed, water networks are always "socialised" by local institutions and actors, even more so in the case of unequal distribution. This dimension is often endangered in modernisation processes that have often led to a major "de-socialisation of water", relegating changes in water planning to distant and opaque decision centres as a solely technical matter. Therefore, water modernisation projects have often acted in the Middle East as a dynamic of depoliticisation: radical changes (sedentarisation policies, the construction of national borders, disciplining the population) have been induced through water planning, at the same time impeding a public debate around water. Because water modernisation has been imposed as an implicitly positive technical mission, the social consequences in terms of local patterns of inequality or the exclusion of women from public negotiations or technical issues have been easily ignored.

4.2.1   Modernisation and Masculinisation of National Waters

Water has been a key part of the modernist agenda (Scott 1998), and thus intimately linked to positivist science, modern technology and techno-fix solutions, all aspects that have driven a process of masculinisation of the water domain. By this, we mean the masculine representation and appropriation of water control and knowledge as Western projections of hydraulic engineering, connected to ideologies of taming "nature" (Lahiri-Dutt 2006; Zwarteveen 2010). In Jordan and Palestine, water has become more a "man's affair" than before, with the bureaucratisation of irrigation and the centralised control of domestic water supplies, given that the public spaces of access to water have strongly become a men's prerogative while women's public water spaces have often disappeared. This is because the new water works have represented not just icons of the power of science but also key monuments of consensus. Indeed, in the national imaginary of water in development, the new water systems represent "heroic masculinities" (Laurie 2005, 531) of hydraulic engineers, political elites, and expert systems, in which water has been redesigned as a male-national affair and reduced to a purely technical and economical enterprise.

The subject of knowledge, decision-making and access to the public and highly political world of the water market has become a male subject, as an implicit assumption at work. The modernisation of water networks, conceived as a key national mission informed by the irrigationist ideologies of the green revolution, has indeed expanded the role of water bureaucracies and a new technical expert system.

What is more, hydro-bureaucracies and water infrastructure (dams and water networks) have played a major role as national symbols, icons of modernity and of the technical fight against water "scarcity", thus as symbolic resources of the hydraulic mission set up over the last half-century. The mission of scientific irrigation has been closed related to the notion of dominating nature, US-inspired utopian notions of "making the desert bloom", and the messianic aspiration to irrigate new Edens in arid and semi-arid regions that have featured prominently in both Zionist (Lowi 1993) and Arab ideologies of water.

In the Middle East, not only are the vast majority of engineers and technological transfer personnel men, but the local political and social constraints of this masculinisation process and the access and control of water by women are seldom taken into account. Thus, gender asymmetries may only be understood in relation to the water modernisation process. This de-socialisation of water as a technical aspect within development, also defined as a "male appropriation of water" (Strang 2005a), has widened the gap between gender roles, marginalising women within development projects as "water carriers" or even marginalising their role in controlling domestic water, as we will see in the Palestinian case study. As Strang writes:

> With the increasing technical complexity, this material culture became more and more exclusively the province of experts, so that contemporary water resources are controlled largely by engineers, chemists and computers. Thus the physical management of water that used to be everybody's business, and especially women, is now carried out by a very tiny number of people, the vast majority of whom are men (2005a: 25).

Furthermore, water modernisation always represents a struggle for equitable access to water, and this is clearly even more the case for marginal communities. The increasing technological input and economic competition in water systems—an emblematic example being the installation of the "modern" tap, supplied to or imposed on individual homes to the detriment of public water spaces (pumps, cisterns, canals) —have often amplified the role of men in water access and the process of water individualisation.

Water development in the Middle East has implied a reshaping of the organisation of space, the meanings and control of water, and a radical shift in defining public and private spheres. The dichotomous view of domestic/public dimensions that derives from the polarisation of roles in home/work, consumption/production, private/public is crucial to understanding the redefinition of local gender roles in local contexts in the Middle East, even more given that "the use of gendered dichotomies is also problematic because the 'masculine' pole of these dichotomies tends to be valued much more positively and tends to be attributed more powers and status than the 'feminine' pole" (Zwarteveen 2008, 83).

Processes of water centralisation in many Middle Eastern countries are to be read in light of wider privatisation processes in neoliberal water reforms, which actually have fragmented (as in the case of the Jordan Valley and the West Bank) existing management systems, which were as local institutions linked to the tribe or extended family, implying the "disempowering of collective action" (Boelens et al. 2010, 29).

4.3 A Men's Affair and Expert Domain: High-Tech Water in Jordan Valley (Jordan)

The Jordan Valley agribusiness in the Jordanian East Bank is a typical high-tech context in which irrigation identities—defined by the new roles of local "farm operators" and farm managers, as well as aid professionals, engineers and economic experts—are marked as implicitly masculine. Indeed, modernisation programs in general have become a celebration of masculine heroes and endeavours in taming nature and overcoming scarcity. Since the 1950s, water has become a merely hydraulic engineering issue, de-socialised from local family or agnatic patterns of management.

In fact, in the last century this region witnessed major transformation of its landscape and population, due, amongst other factors, to a period of recurrent armed conflict, tense military borders between Jordan and the Occupied Territories by Israel, and the radical changes in the territory and society led by agribusiness development. These huge socio-environmental changes have been engineered through the planning and development of intensive irrigated agriculture: water has been introduced into a new logic of national construction and a new spatial organisation has been set up as a function of the new hydraulic infrastructure. Not only has a new highly technical venture been introduced in the form of the fast-growing agribusiness sector, but a sedentarisation project for the pastoral Bedouin population (who historically controlled the valley) and resettlement schemes for Palestinian refugees of 1948 and 1967 have also been launched in conjunction with the new water system. Indeed, water has been at the core of multipurpose political projects, including reframing the state/citizen relationship through irrigation and the invention of a "new farming community" as it has been labelled for decades now. Following the ancient and transversal abundance mythology of "making the desert bloom", bananas, tomatoes, cucumbers and oranges are intensively harvested in an arid region, as the basis for creating a national economy. This is a harvest of "virtual water" (Van Aken 2015), which in recent years is inevitably having to deal with environmental constraints and a structural market crisis, as well as illegal water conflict and stealing within a context of increasing competition of water.

Changes in water/society relationship are inevitably influenced by the major revolution that took place in water dynamics in the Western world, with the translation of water into H_2O (Illich 1987; Kaika and Swyngendouw 2000), its secularisation and the increasing role of expert knowledge. The meanings and relations surrounding water are de-socialised: the ancient history of irrigation practices ignored or substituted. In fact, the East Bank of the Jordan Valley has been planned and reshaped as though there were no existing populations. But it is not just water that has begun to flow through this new extended network, but also new ideas of men and women and their role vis-à-vis the state.

The 100 km long King Abdullah Canal (as it is currently named) extended irrigation from the northern frontier of Syria up to the Dead Sea, and is today supplemented by additional water supplies from dams built on side valleys (*wadis*) over the last 50 years. These projects are typical examples of the new roles of engineers

and water experts as "heroic masculinities". In contrast with initial surface irrigation systems, based on the traditional savoir-faire and knowledge of local populations, micro-irrigation linked to a pressurised underground network has radically changed the social world of water. A key feature of this transformation has been the new management of the irrigation system: the decentralised tribal distribution system gave way to centralised planning of water and high subsidies for irrigated water. The state also centralised the control and knowledge of water, which is now in the hands of hydraulic engineers and policy experts, with local institutions and local political figures as *sheikh* (tribe or lineage representatives), *mukhtars* (village representatives) or water mediators relegated to marginal roles. Water has become a national affair mediated by the bureaucratic encounter, and bureaucratic spaces are the most intensive "political" and therefore, masculine places.

Irrigated intensive agriculture for market export today absorbs 70% of available water resources in Jordan, while the Jordan Valley area is the main water consumer. This in a context in which the country is rapidly headed towards a lack of water self-sufficiency in the coming decades—forecasts say by 2025 at the present national rate of water use—and in which competition for this limited resource is increasing due to multiple factors. These include the high irrigation consumption, as a result of the strong market-oriented agricultural development over the last half-century, urban expansion, the political primacy of the more "water-productive" tourist and industrial sectors. Scarcity shapes the discourses and policies of water in this emergency situation and leads it to be framed as a "military" and security issue, but also hides the fact that scarcity is not just a physical and climatic reality but also a cultural, social and political construction (Mehta 2001). Scarcity today is the consequence of political choices that led to the unsustainable development of resources and therefore includes a strong anthropogenic factor given that the limitedness of water as a resource is closely related to its use and to unsustainable economic models of what has been termed "the supergreen revolution" in this valley (Elmusa 1994). Furthermore, the centralised national network and technical infrastructure has led to a closer interdependence of water systems at the local level. This means that the competition for water has increased with a new and higher interdependence among distant localities and populations, who in contrast have seen the fragmentation of local patterns of cooperation in resource management (Van Aken 2014).

4.3.1 Invisible Waters, Invisible Relations

Historically, the Jordan Valley has always been famous for its springs, key public, religious and mundane place of social encounter. In the central region near Deir Alla, for centuries an ancient double spring of sulphurous and fresh water has fed two public pools which, in the very hot climate of this region, used to represent the only place of leisure, therapeutic bathing and social encounter for marginalised families and women who could not afford to go to expensive pools in the highlands during the long exhausting summers. These two pools were self-managed,

maintained and women went there freely on Fridays with their children, to eat and bath with a large group of other families; men and women bathed strictly on rotation and these waters provided an intimate and at the same time crucial public place in this arid environment.

As part of the security policy for addressing national water stress and international aid policies of efficiently tapping every drop of water, suddenly, in early 2000, from one day to the next, the pools were wired-fenced by the military for the installation of a desalinisation factory, thanks to Japanese funds for "water optimisation" in Jordan. This facility has since been desalinising and pumping water directly to the capital, Amman, always in search of additional sources of water given the primacy of urban need. The local population had no opportunity to oppose its dispossession from the only water place in the area: the last public water space had disappeared but this was only one of many state interventions within a militarisation of water issues and their restyling as "technical optimisation", that excluded both politics and local society. Since then local women have lost a crucial public space of encounter, exchange, leisure, and refreshment. As commented locally, where water issues are concerned, "*al qua foq al kanun*", or "power is above the law".

Today, all irrigated water is "invisible" in this valley (Van Aken 2003): a high-tech pressurised *underground* network, controlled by a centralised water agency, delivers water to irrigators – following a strict rotation schedule – in a way that is highly opaque and unequal. Given that the local populations, especially marginalised Palestinian and Jordanian groups, do not enjoy direct control over the water supply for their agricultural work, they daily appropriate water by breaking into the system using sophisticated technical strategies, to obtain additional supplies of water for their fields. In this centralised, opaque and unequal water network, local adaptation has inevitably become a masculine affair. Young local irrigators (*shabbab*), of both Jordanian Bedouin and Palestinian refugee origin, react by "stealing" and sabotaging the hidden network to counteract the daily unequal distribution, making the procurement of water increasingly dependent on technological knowledge and manipulation, illegal connections, or mediation with bureaucracy and the water market, all areas to which women have little access.

The newly introduced high-tech hydraulic order appears to be characterised by continuous "disorder" in the Jordan Valley today: there is permanent manipulation of valves, sabotage of water meters by a large proportion of the local irrigators, in short, continuous violation of the "modernity" symbolised by this new water infrastructure. These practices, penalised by the local administration with fines and imprisonment, engender daily conflict between the local population on the one hand, and the public administration and even aid experts on the other. Indeed, irrigation today is affected by continuous unpredictability due to increasing national water cuts and the rigidity and lack of transparency of the bureaucratic distribution system, which are at odds with the need for frequent and reliable shifts and quantities of water, particularly during sensitive periods for micro-irrigation such as in hot summers.[1]

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[1] In furrow-irrigation, large amounts of water are supplied less frequently; on the contrary, micro-irrigation requires smaller volumes, more frequently, with less labour involved.

This daily manipulation of the network is linked to a masculine "community of practice", a shared ethos of socialising water through active daily practices, and a sense of local solidarity that is transversal to heterogeneous local communities. It comprehends a creative *savoir faire*, continuous adaptation and skilled knowledge of complex technical apparatus in order to manipulate it. The daily illegal openings involving excavating and connecting to underground pipes, are the explicit sign of a conflict within the irrigation production system but have masculinised the conflict around access to irrigated water. Appropriating water has become a value by itself, a sense of pride on the part of the young *shabbab* (young men) in being *shattir* (clever) enough to manipulate the system, despite repression, legal prosecution and monetary fines.

Far from being a mere symptom of the "obstacle of tribal tradition" or a consequence of local "non-cooperative" behaviours, this daily friction draws out the asymmetrical relationship between state and expert regime on the one hand, and farmers on the other, and shapes new local dynamics of exclusion and gender relations that are condensed around water. The rigid, hierarchical and non-transparent structure of water management is seen as the main factor driving farmers to re-appropriate water. After decades of a vertical planning relationship, the issue of water is perceived as outside of farmers' and local control, centralised in the hands of the water bureaucracy as a state service, and thus there is no moral condemnation of water stealing, commonly perceived as a form of necessary "space of manoeuvre", all aspects that have made water a "man's affair".

One of the main changes encountered with the introduction of the new pressurised underground network is that water is no longer visible as it was in the former open canal network. "Water has become truly invisible" (Kaika and Swyngendouw 2000, 134), which is a process that has been studied in contemporary European history. These concealing networks, which have underpinned urbanisation and the extension of the modern city in the Western world, are at the core of what is happening in the developed and urbanised rural Jordan Valley. "Going underground" has implied the dislocation of the water system from the local community dimension, but at the same time, it conveys a powerful symbolic meaning: it hides a productive water system, linked to an expert system and to new relations of inequality. The fact that it is no longer possible to see where, and how much, water is flowing, or who is stealing, and where, has transformed the "public" meaning of, and shared control over, this resource. If marginal communities are "obliged" to steal, access to water is otherwise mediated by *wasta* (brokerage) relations with the local administration: those who have political status and economic influence can get access to better or greater water quantities through *wasta*, which is also mainly a men's affair. Looking for a strong *wasta*[2] among one's kin or patrons involves higher status segments of society who can mobilise patronage relationships and economic alliances and are not obliged to manipulate the technical networks in the fields.

The kinship network of solidarity, seen as the main obstacle to modernisation, has not faded away, but has re-adapted to the new bureaucratic encounter: it has

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[2] Wasta derives from *wasit,* "the one who inter-mediates*".*

"entered" the water administration system, symbolised by the "*maktab*" (the office), through patterns of exchange and through the political institution of the *diwan,* the ancient political institution of hospitality. Indeed, entering a pumping station office today is like entering a *diwan*, where, in the context of hospitality rituals, water-turns are adjusted according to men's political influence, and potential conflicts are settled in a hybrid context of imposed administrative rules and local conflict resolution practices. These negotiations through *wasta* follow the kinship idiom of solidarity and hierarchies of reputation, overlapping now with new economic segmentation but with a key difference: while in *diwan* in private home settings, women played an indirect but important role, here they seldom have access and the men's primacy in irrigation negotiations is therefore increased.

4.3.2   The Greenhouse as Shameful Place

The gender relations of water must be situated vis-à-vis the new values associated with farming and agricultural work, which identify the greenhouses as a crucial site, in both economic and symbolic terms. Women have always engaged in farm work as family labour, in both Palestinian refugee and Jordanian communities, and although irrigating has traditionally been a man's role (as has ploughing), in practice women have always played an active part in preparing the land for irrigation, as well as in water negotiation and exchange among families. All these roles have disappeared with the current centralisation and bureaucratisation of water.

Furthermore, all the development projects financed since the 1960s by leading international actors (World Bank, USAID and multiple bilateral agreements) have targeted as their client a "farmer operator" who is implicitly male, failing from the outset to recognise the crucial role of women in family farm labour. Female farm workers have thus remained invisible within the main category of the "farming community", and have become even more so in the context of the feminisation of agriculture that has taken place over the last two decades, whereby growing numbers of low-income women rely on casual, highly flexible and seasonal employment as labourers in agribusiness. As early as 15 years ago, 80% of labour in intensive irrigated agriculture was being carried out by women (Al-Rimawi 1997), although this mainly consisted of highly casual and poorly valued work (picking, harvesting, weeding). In contrast, male wage labour in Jordanian agriculture has all but disappeared. Men seek employment outside of the agricultural sector, although roles of control and responsibility in agriculture remain symbolically male affairs as control of the production process (Shami and Taminian 1990). This has led to a decrease in both the economic and social value of agricultural work: lower-skilled agricultural tasks that only some decades ago were performed by men are now carried out by women. In addition, with the presence and low status of Egyptian men labourers in greenhouses and intensive farm production, these productive sites have become "shameful" (*haram*) places for the visibility of women, due to the promiscuous

presence at work and are therefore stigmatised as "dishonourable" within the new social segmentation.

Water may thus be understood in terms of the new roles it has acquired in the context of irrigated agribusiness, within which the greenhouse represents an icon of "modernity", of intensive chemical-based agriculture and farm work equated with waged low-skilled employment that has absorbed marginalised and mainly not yet married women. Female employment in the low-cost and flexible agribusiness sector has been depicted as a positive process of entry into the national economy, and as synonymous with emancipation. While from outside the greenhouses are icons of modernisation, in local perceptions they have the status of a shameful (*haram*) environment. Working '*juwwa al biut al-plastic*', "inside the greenhouses" as a symbolically well-delimited space, is a mark of social stigma: the shame of working in servile conditions. As a woman engineer put it: '*A respectable man will never let his women go to work outside the home for many hours and often far away*'. At stake here are respectability and the new social stigma linked to agricultural work within the new labour hierarchy.

The ideology of the male provider and woman 'nurturer' plays an important role here, in contrast with rising levels of female employment and the exploitation of women in agriculture (Zwarteveen 2010; Lahiri-Dutt 2006). Most importantly, the entry of women into the labour market has decreased the value of women's work, while the man's investment is more and more tied up with working outside the farm or water mediation with the central bureaucracy. Women's contribution to their household is indispensable, not only in terms of cash income, given that women are often the leading breadwinner in low-income families, but also in terms of providing basic food for the family: in addition to their wage, it is standard for them to bring home vegetables from the farm enterprises they work for.

4.4 Palestinian Waters: Changing Women's Public Spaces

In the Occupied Palestinian Territories, water is a pivotal factor in the power dialectics between the colonial policies of the State of Israel, which has appropriated the greater part of water resources, and the Palestinian National Authority's (PNA) attempt at creating an independent Palestinian state. These national and colonial water policies constitute a hydro-politics of control that disciplines the territory and its population, creating a particular political and social order.

The development of Israeli water systems in the Occupied Territories and the appropriation of the underground aquifers are strategies of "territorialization" (Trottier 2000:38) aimed at extending Israeli control over the Occupied Territories (Trottier 2013) and fragmenting them, undermining the possibility of establishing a potentially continuous border between the Occupied Territories and Israel (Weizman 2007). Furthermore, the Occupied Territories' complete dependence on Israel for basic water services leads to high dependence on the Israeli economy (Dillman 1989; Hilal and Khan 2004). These conditions imply the impossibility of attaining

Palestinian national sovereignty. The unequal water access of Israeli settlers and citizens and Palestinians living in the Occupied Territories is part of a strategy of domination over Palestinians as colonial subjects.

In this context of lack of independence, jurisdiction and ultimate control over a continuous territory and its resources, the centralisation of water resources is essential to the PNA's attempt to extend its control over the local Palestinian population, making their bodies progressively more dependent on the PNA's administration. Although the PNA claims that national water centralisation, supported by international donor funding, is a key part of the modern State building process and a guarantee of equitable management of this resource (Trottier 1999), its domestic water distribution policies favour the main cities at the expense of the villages and in particular the refugee camps. The cities are home to most of the local political and economic elites, whose loyalty and support the PNA must ensure to retain control and the consensus of the multiple competing factions and loyalties within its institutions (Tamari 2002). The hierarchies among spaces produced by the PNA's water policies mirror the way in which building the Palestinian nation-state has become a vehicle for the urban elites' political and economic interest in detaining the power that goes with the control of local resources such as water, public spaces, and access to international donor funding and the official negotiations with Israel.

These macro dynamics always take on a local shape through the social life of water, that is to say, the active role of water in mediating social and cultural relations.

4.4.1 Domestic Water in the Dheisha Refugee Camp: New Gendered Political Places and Roles

Mohammed informs his wife Aisha that in a few hours' time some guests will be arriving at their home. For Aisha this visit entails the duty of getting the house ready, in the first place by washing it. How is she to do this without water? Like all the other dwellings in the Dheisha refugee camp (West Bank, Bethlehem), Mohammed's house has metal cisterns on the roof, in which his family stores water (*mayya*) to cater for the long periods (up to 1 month at a time) when the PNA water supply is cut off (De Donato 2013).[3] Refugee families divert the water supplied by the PNA from the main water pipes to their cisterns, which are connected to the taps in the houses via rubber pipes. When Aisha informs her husband about the lack of what is locally referred to as "the water of the cisterns" (*mayya al-khazzānāt*), he scolds her: "There is too much water wasted in this house!" Aisha protests, replying: "I cannot do anything when you leave the shower running for a long time!"

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[3] Refugee status is associated with economic and social rights established by the Arab states and adopted by the PLO since decades, such as the waiving of domestic water charges. The PNA has been trying to force refugees to pay for water, by restricting water supplies to the houses in the refugee camp, in order to integrate refugees as citizens in proletarian suburbs.

Like the other women in the refugee camp, Aisha has the duty of looking after the house and managing the water stored in the cisterns, rationing it out to wash the house, the dishes and clothes, while keeping some over for the needs of the family. Women must ration scarce water without being able to control the amount of water flowing from the taps and with difficulty in physically accessing the cisterns. Climbing up onto the roof to check the level of water in the cisterns or reinstate the water flow when the pipes are obstructed by air bubbles is a job that many women either refuse to do or are prevented from doing by their male relatives. "I do not like climbing on the roof, there is too much sun and too many eyes", as Jawahir said to me, when I asked her why she had to wait for her husband and his brothers to come from work in the evening to get access to domestic water. Because the houses in the refugee camp are very close to one another, going onto the roof means incurring a high level of visibility to strangers, that is to say, to members of other patrilineal extended families. The roof is viewed as a public place in which women must limit their presence, in order to conform to cultural ideals of honour.

"Did the water from the stone cutting company (*mayya al-kassarāt*) come?" Aisha asks her husband about the availability of water that a group of families steals from the PNA, diverting it from a pipe that supplies a nearby Palestinian private stone cutting company, via an illegal set of rubber pipes controlled by the families' men. They began to steal this water when the upper sector of the Dheisha camp was not able to benefit from the water allocated by the PNA, because of pressure issues at the local waterworks. Although these problems were resolved in 2010 thanks to the construction of new water infrastructure by United Nation Relief and Works Agency for Palestinian refugees (UNRWA) and the PNA, these families continue to steal water, as a means of addressing supply shortages.

If there is no stolen water available, Aisha will urge her husband to ask their neighbours for some water, a widespread practice of solidarity in the refugee camp. Going alone to a neighbour's house to ask for water is deemed improper and immoral for a woman. Aisha can send one of her children, viewed as neutral mediators of the relationship between men and women. However, as some women informed me, building the connections between cisterns by running rubber pipes from roof to roof "is a job for men".

The water flowing—or not flowing—between houses in the refugee camp mirrors relations of solidarity and conflict among the conjugal families of brothers in an extended family, which often spans three or four generations, or among families living in the same neighbourhood (*ḥāra*) (De Donato 2013). Furthermore, men have the economic power to buy what is locally known as "tank water" (*tank mayya*), which is water sold at a higher price than the PNA by private individuals,[4] generating a black market that hinders the PNA's attempted centralisation of water resources. Men decide when it is necessary to buy this water, as for example when

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[4]The PNA's price for domestic water in 2012 (increasing with volume): from 4.5 shekel/m^3 (5–10 m^3) to 7.5 shekel/m^3 (over 30 m^3). The legal price for water from tankers, established by the PNA: 100 shekel/10 m^3; illegal price on the black market: 300–400 shekel/10 m^3.

organising a wedding party, for which laying on enough water for guests is a moral duty that reflects on the family's respectability and status.

Compared to life in the refugees' villages of origin, evacuated by the Israeli army in 1948 and absorbed into the State of Israel, the modern housing practices in the refugee camp imply changes in the interpretation of gender relations, particularly concerning the visibility of the women, viewed as a threat to the family's honour. In the refugees' villages of origin, before their evacuation, women had the role of sourcing domestic water, drawing it from springs (Naguib 2009). They had full control of the management of this resource, independently of the men. This role entailed a certain freedom of movement and many opportunities for public meetings between men and women who did not belong to the same extended family. The spring bore the value of a public place where women went to share the public resource of water and other resources, to negotiate values and exchange solidarity practices. "We had to go to the springs to wash the clothes. It was tough, but nice! We always used to see each other! Now we only meet at weddings and funerals!" as one old woman told me. As observed by Casciarri (2008) in the south-eastern Moroccan village of Tiraf, the water system that delivers water directly to the house not only entails greater convenience but also greater segregation of women inside the home.

In the context of an insufficient water supply from the PNA, managing the cisterns, the illegal water network and the temporary connections between homes requires hydraulic knowledge that nowadays forms an expert domain associated with the men and learnt by them, in particular by plumbers. Women are excluded from the management of the domestic water supply system; they thus exert little control over this resource and develop greater dependence on men. While water was once a shared asset associated with the woman as a source of life and fertility, since the introduction of modern hydraulic technology and the encounter with a fragile centralised administrative system, it has been identified with the values and spaces of masculinity.

In public spaces women have an invisible and unacknowledged role (Moors 1990). This does not mean that they are foreign to the political domain since they establish networks of solidarity that are critical to satisfying the needs of their entire family. During the ritualised visits that they frequently exchange and which are characterised by the political language of hospitality, the women share key moments of complicity while carrying out the household tasks and strictly female practices, such as washing up or depilation. The dimension of belonging to the female solidarity group is expressed not only through shared practices but also through shared feelings. In the Dheisha camp, a simple washing machine can become the medium for many mutual relations among the women of an extended family. As they take turns putting their bags of clothing through the machine, they chat about everyday matters, share female knowledge and discuss family problems. On these occasions, the women often complain to each other that the men do not appreciate the daily challenges they face in taking care of the house and children. Compared to a spring in a village, the washing machine bears the symbolic value of a social meeting place for women, which has undergone a process of privatisation, being limited to the relations between the women of the family and the immediate neighbourhood.

4.4.2 *The Fluidity of Boundaries and Water Meanings*

According to local custom, a mother, her unmarried daughters and her sons' wives, that is to say, her "daughters-in-law", live in the same house which, given the lack of space in the Dheisha refugee camp, is extended upwards by the family over the generations in order to host the sons' new conjugal families. The women of a house share responsibility for managing the domestic water collected in the shared cisterns, not always without hostility fuelled by its scarcity. Although they often agree about the best time to wash the floors in line with water availability, the use of the washing machine, which requires a large amount of water, can be a matter of conflict, especially between sisters and sisters-in-law (their brothers' wives).

The principle of virilocality entails that when a woman marries, she moves in with her husband's family, sharing its everyday life. Given her key social role of contributing to producing descendants of her husband's lineage, she takes on the positive value of a resource to be controlled by the family, but is never considered completely part of it. Indeed, according to the principle of patrilineality governing tribal socio-political organisation, the social identity of a woman, like that of a man, is determined by her belonging and loyalty to her own paternal lineage. A wife continues to pursue the interests of her own lineage, which, aside from cases of endogamy, generally do not correspond to those of her husband's lineage, except in relation to her children's wellbeing.

In the local tribal political model, the marital relationship is a form of affiliation perceived as a threat to patrilineal relations, with the latter viewed as the only morally legitimate ties of solidarity (Abu-Lughod 1986). It is also seen to challenge the authority of the agnates, who represent the interests of the patrilineal lineage, understood as the tribal group. These political and cultural principles often lead women themselves to view the relations between daughters and "daughters-in-law" as ties of competition and hostility, although almost every woman fulfils both these roles simultaneously at some stage in her life cycle.

In the case of a prolonged water shortage in the Dheisha refugee camp, a young woman who lives there with her husband's family goes to get tanks of water from her family of origin, who lives in the rural village of Wadi Fukin. While in the Dheisha camp the lack of water indicates marginalised refugee status, this village benefits from a continuous domestic water supply delivered by Mekorot (the Israeli national water company). In the 1980s, in order to extend Israeli control over the local territory and its inhabitants, the Israeli army built waterworks for this village and hooked it up to the water network of the nearby Beitar Ellit Israeli settlement, whose inhabitants never suffer from a lack of water. Even when she is married, a woman continues to identify mutually and to relate to the protective attitude of her own patrilineal relatives. The resource of water is at the centre of relations of solidarity that, overflowing the physical borders of a place of residence, shape the social space of women and families. These relations contribute to defining a "social geography" (Rothenberg 1998), which, through the creation of "spaces of manoeuvre" for resisting daily oppression, is ever changing.

Hayat often urges her husband to install a cistern on the roof in which to collect water for their apartment only, so as to make their conjugal family independent from his extended family in the management of this resource. Her husband resists, stressing that their family and those of his brothers are a "single family" (*āila waḥyda*). A married woman is constrained by a double dependence. She is subordinated to the authority of her older male relatives and also to the will of the men and women in her husband's family, in which she enjoys a low social status (Rothenberg 1998; Sa'ar 2006). From a woman's perspective, making her household independent or even separating it from her husband's extended family means disengaging herself from the authority of her husband's relatives. This means increasing her access to resources like water and the power and autonomy associated with her husband becoming the most senior figure in the hierarchy of the household unit.

In the refugees' rural villages of origin, land and water were shared by a patrilineal extended family, under the authority of the oldest male relatives, to which the younger generations were subordinate, and on whom they depended for the access to the essential resources to live. In the refugee camp, families have no land and water to share and paid employment has become the most common means of supporting a family (although the unemployment rate is high), meaning that when young men find a job, they become more economically independent of the oldest male relatives in their patrilineal extended family (*āila*) (Moors 1990). The extended family—which in local political culture is viewed as a main dimension of belonging—is undergoing a process of fragmentation caused by growing economic segmentation and competition among the conjugal families belonging to the patrilineal one. Despite the widespread changes in visions of family, many men strive to maintain the unity of the extended family, viewed as the main source of social security and resistance to the daily marginalisation caused by both the Israeli army and the PNA.

In the new conditions of water scarcity and lack of water access, different practices of using domestic water highlight changes in local patterns of belonging related to the meanings of family and woman, which are dynamic and subject to changing in line with the relational, political and economic context.

4.4.3 Water Irrigation in a Rural Village: The Role of Women Within the Community

The rural village of Wadi Fukin, situated in the southwest area of Bethlehem, is historically characterised by the availability of abundant water drawn from numerous springs and used to irrigate the farmlands via community management of a network of channels and pools. The water of each spring, viewed as a shared asset belonging to the villagers, is divided among those who own a plot of land close to it, who are given access to it according to a rota system of 8 days. The amount of water allocated to each plot of land is calculated in hours and, along with the land, is part of the inheritance handed down from generation to generation. Local

inhabitants claim to respect the rules of the *sharī'a* (the Islamic law) about inheritance, which establish that every woman in a family is entitled to half of the part of her father's inheritance that is equally allocated to each of her brothers. However, within the system for dividing the spring water, the women entitled to a share in the water are very few, fewer than those who farm the land. As Rosenfeld has stated about women in the Arab villages in Israel (Rosenfeld 1960), in Wadi Fukin women are denied their inheritance rights or they give them up in favour of their brothers, in exchange for their economic and social support in times of difficulty.

Generation after generation, the hours of irrigation water and the farmlands are inherited and divided equally among brothers: however, with the growth of the population the inherited hours of irrigation water are too few and the farmlands too small to satisfy the needs of the family. Furthermore, the lands become more and more unproductive due to over-exploitation.

In Wadi Fukin, before its evacuation by the Israeli army in 1956, the sexual division of labour was not overly pronounced. As the older women proudly claim, women played a significant role in the family's subsistence farming and pastoral activities. Nevertheless, most women did not own or control irrigation water at that time either. Viewed as the main source of productivity, irrigation water has always been under the control of the men, as much as the irrigation system. "The land is nothing without water", as a local man commented to me. Also, the negotiation of the rota system of access to spring water has always been a male responsibility. As one old woman told me, "the woman does not have a say (*kalima* – word)", in reference to the right to speak at public meetings and make public decisions.

Today, few women practice agricultural activities in Wadi Fukin and, like in the past, almost all of them use the water hours and land of their fathers, brothers, or husbands when married. Men often fail to recognise women's agricultural work, viewing it as occasional, supplementary assistance to the more productive and economically important work of the male. In the present context of intensive and commercial family farming, women's work is more "invisible" (Moors 1990, 206). Even more so given that farming has been replaced by waged or salaried employment as families' main means of support. After the beginning of the second Intifada in 2000, in the context of rising unemployment in the Occupied Territories and the Israeli policy of closing the labour market to Palestinians (Epstein 2002), agriculture grew considerably. In contrast, from the end of the second Intifada to date, the number of persons working in agriculture has continued to decrease (Main statistical indicators in the West Bank 2016). The spread of agriculture depends on the economic strategies adopted by families, facing the changes in the Israeli colonial policies and the global and national economic and political processes.

The confiscation of most of the village lands for the creation of Israel in 1948 and the expansion of the Israeli settlements encircling the village, Beitar Ellit and Hadar Beitar (built in the 1980s, after most of the population of Wadi Fukin had returned to live in the village in 1972), has radically reduced the space for farming. The development of Israeli urban areas inside the recharge area of the springs in Wadi

Fukin is decreasing rainwater infiltration into the ground, weakening the springs and leading to a scarcity of irrigation water (Haviv and Asaf 2005).

Due to fierce economic competition from subsidised Israeli agriculture and high production costs – caused by the introduction of hybrid seeds, synthetic fertilisers and pesticides, drip irrigation and motor pumps – agriculture is an increasingly less sustainable activity. Most of the inhabitants of Wadi Fukin have taken up some kind of waged employment, which is often temporary, to satisfy the needs of their families. They farm when they come home from these jobs, in the late afternoon, on non-working days or during periods of unemployment. People who leave farming to take up another job do not lose their right of ownership and access to their lands and water, which they may claim at any time, for example, if they lose their job and decide to "return to the land", as local inhabitants informed me.

With the spread of Western middle class values and growing economic competition, families aspire to send their sons and daughters to university in order to improve their socio-economic status. As one woman said to me, "today women do not want to farm, they only think about make-up or want to study to get an office job". However, because of the lack of job opportunities in the West Bank, almost all female graduates are unemployed, while most male graduates work in the building sector in Israel or in the Israeli settlements, on the same lands expropriated from their families. The dominant cultural ideology, which attributes the role of economic provider to the man and that of consumer to the woman, if anything, has been reinforced compared to the past (Moors 1990).

In this scenario, the value of women's reproductive role in bearing descendants for a patrilineal family has also changed. In the past, the power of a family depended on the number of sons that worked the land and represented the family in public negotiations. After the Israeli occupation in 1948, a family from the Gaza Strip came to live in Wadi Fukin and in the course of time obtained lands and water in exchange for giving their women in marriage to other families. The bride price (*al-mahr*), given to a woman and her family in exchange for the permission to marry her, often included a plot of land and its hours of water. Today these practices are less frequently adopted, given the shortage of land and changed ideas about the family. Although the dimension of a lineage remains important in the competition for status, the families do not need a big number of sons to farm their plots, since they have become smaller. Most of the families prefer to have fewer children and give them the opportunity to study.

With these changes in the sources of power on which hierarchies are built, women's roles have also changed. Women are excluded from the collective management of irrigation water, a political arena in which negotiations among local hierarchies and forms of solidarity actively construct the local meaning of community. The spring water is a public asset belonging to the village community, the community of the men.

4.5   Conclusions

Water, as much as gender relations, are not static or ahistorical. They are fluid and mobile, taking different forms in response to economic, political, environmental and cultural changes in society. If water modernisation is a setup of new political order and territorial discipline, changing gender patterns may be understood only in light of local daily practices within water networks and in their "social life", taking into account local manipulations or appropriation in the frame of dependency, search of autonomy of water as important symbolic resources (Van Aken and Casciarri 2008).

Domestic and irrigation water management constitutes a political arena in which hierarchies, power relations and belonging are continuously negotiated and the local dimension is interconnected with macro-networks and relations. Water modernisation policies, promoted by national or colonial institutions, are often social engineering projects that have led to new knowledge patterns and new ideas of home, family, and community, with key implications for gender relations. Water modernisation patterns have often brought techno-fix solutions and new technical networks that have redefined the meanings of domestic/public space, of working relations and of women's and men's roles in local management and within the community.

In the face of local inequalities in both urban and rural contexts, local actors seek new spaces for manoeuvre within new hydraulic configurations, often manipulating modern socio-technical networks via illegal water appropriation (both domestic and irrigation water) and the mobilisation of local solidarity systems. They thus re-socialise technical networks as they compete with state or colonial institutions for the control of water resources. These institutions have often imposed hydraulic modernisation as a solely technical domain, without taking stock of its local political and cultural implications, such as fragmentation of local resource management systems and the marginalisation of women from public places and resource negotiations. Furthermore, local strategies aimed at achieving spaces of autonomy are adopted in a context of a general masculinisation of water access; within a framework of hidden physical infrastructure, legal pluralism and local manipulations, in both domestic and irrigation networks, water access and management is increasingly viewed as a man's prerogative.

In sum, the most fluid of all assets, which has demanded flexible institutional systems throughout history, is subject to increasingly rigid bureaucratic structures and political asymmetries: it follows that understanding local female agency in new networks is a key tool for challenging local inequalities in the sharing of a common resource.

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Chapter 5
Land and Water Reforms in South Africa: "Men in White Coats"

Deepa Joshi, Natasha Donn-Arnold, and Mart Kamphuis

Abstract Despite numerous legislative attempts to redress past injustices, the redistribution of land and/or water remains a key challenge in post-apartheid South Africa. South Africa is currently identified as being in a state of a water crisis – and there are contentious and deeply polarized viewpoints on how the water security situation is linked to the transformation agenda. Through the narrative of an "emerging" female black farmer's experiences with land and water reforms, this article gives a first-person account of the institutional barriers that keep intact an unequal, inequitable and unjust agrarian structure. The analysis also makes explicit how the transformatory agenda does not address the complexity of inequalities by race, crosscut as they are by gender and other social variables. By aiming to integrate an erroneously conceived homogeneous formerly excluded in an agrarian system meant to exclude them, the post-apartheid land and water reforms not only fail, but in turn make the formerly excluded "failed". These analyses suggest that a feminist agenda which calls for a structural overhaul of policies and strategies as well as institutional structures and cultures might provide a much-needed antidote to the de-railed reform/justice agenda in South Africa.

Keywords Water redistribution • Post-apartheid era • Water security • Female farmers • Reform agenda • Unjust agrarian system

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5.1   Introduction

> A person wears out after a while, when all the fighting is over, will I have the strength to carry on? (Mrs Ngcobo 2015)

The post-apartheid transformation agenda in South Africa aimed to reverse the enormous inequities from the past, in Mandela's (1994) words to, "…heal the wounds of the past… by reconstituting "equality for all… based on justice". This required, among other things, legislative measures to redress past injustices of which two were key: land ownership and access to productive as well as domestic water. The 1913 Land Act prohibited black citizens from owning land except in a few areas and/or situations. 'At the end of apartheid, 86% of all farm land was in the hands of the white minority (10.9% of the population), and concentrated in the hands of approximately 60,000 owners. Over 13 million black people, the majority of them poverty stricken, remained crowded into the former homelands, where rights to land generally were unclear or contested' (Lahiff and Li 2012, 28). Similarly, in relation to water, Turton et al. (2004, ii&iii) write that throughout the colonial period, "water was not only an economic resource, but also one with which the government advanced… ideological and political agendas, meaning that water was utilised as an economic and social resource… When the political transformation in South Africa started on 2 February 1990… the disparity between rich and poor was stark: nearly 18 million people, most of them rural blacks, had no access to [domestic] running water or sanitation facilities". Access to land and water, including productive water was therefore crucial, as well as symbolic for black Historically Displaced Individuals (HDIs).

Starting in 1994, the first initiative, the Settlement/Land Acquisition Grant (SLAG) programme, aimed to provide modest grants to black households to purchase (from the open market) land for housing and/or small-scale farming (Jacobs et al. 2003). Although progress on land reforms has been evaluated by many to be poor, Cousins (2016, 3) notes that the Mandela years (1991–1999) were relatively "progressive" – with legislation instituted to: protect farmworkers and dwellers from arbitrary evictions; enable labour tenants to apply for ownership of the land they occupied; and enable communal tenure. It was during the Mbeki era (1999–2009) that "policy priorities shifted from meeting the needs of the poor to servicing aspirant black commercial farmers [with] market efficiency and commercial farming receiving renewed emphasis" (ibid.). In 2001, SLAG was replaced by the Land Redistribution for Agricultural Development (LRAD), which promised support to [all] black South Africans over the age of 18 who wished to farm on any scale. The programme was principally intended to create a black farmer community – enabling the so-called "emerging black farmers" to get a foot-hold in South Africa's thriving agri-business (Ncube and Lagardian 2014). This was done on the assumption that smallholder farmers would readily become part of the historical enterprise of commercial export agriculture through private initiatives (Van Schalkwyk et al. 2012). Legislation and policy aimed at enabling Historically Displaced Individuals (HDIs)

to acquire land through grants and funds, facilitating a coming together of "willing buyers (emerging black farmers)" and "willing sellers (existing white farmer)".

Access to productive water was linked to ownership of land. In South Africa, this signified colonial water licensing effected to ensure individual entitlements of a few over plural, customary rights of many (Van Koppen and Schreiner 2014a). The 1998 National Water Act (NWA) radically delinked land and water rights – making the State the custodian of all water resources, in order to equitably allocate water amongst all – "some for all, forever".

The above were bold changes to a history of exclusion. In practice, the redistribution of land and/or productive water remains a key challenge. Cousins (2016, 8) notes that, "In 22 years, land reform has barely altered the agrarian structure of South Africa, and has had only minor impacts on rural livelihoods. [Only] around 8–9% of farmland has been transferred through restitution and redistribution, and many settled restitution claims have not been fully implemented". Given that willing buyer, willing seller transactions are fixed at contemporary market rates, there are serious concerns that, "It is unlikely that the hundreds of billions of rand required to settle an estimated 397,000 claims will ever be available" (ibid., 6). In several publications, Cousins has systematically and critically assessed the key reasons for a failed land redistribution and argues that, first and foremost, the pre-apartheid systems of "commercial farming and agribusiness in South Africa (…) centred on (…) capitalism and a system of capital accumulation" were kept intact (Hall and Cousins 2015, 1). Secondly, the agenda for transformation assumed a rather easy and ready integration of a diverse group of socially differentiated and differently disadvantaged (by class, gender, place, age etc.) emerging black farmers in this historically exclusionary agro-economy. In that sense, despite the rhetoric in policy intent, "there has been little attempt to dismantling the unequal distributional [and subsidy] regimes […] Policy reforms [have] neither lowered barriers to entry for small farmers, nor lowered the price of food" even as "[…] the complex architecture of state regulation, subsidies, and single-channel marketing of commodities (…) supporting "successful" capitalist farming (…) persists" (ibid., 2).

With time, the reforms became increasingly neglectful of the fact that a colonial politics of accumulation by dispossession of over hundreds of years had systematically eroded the rights, resources as well as abilities of indigenous populations; including women's rights to land and their traditional knowledge and cultures of farming (Cousins 2016, 1). Traditional, customary landownership in South Africa is a complex issue. On the one hand, "the institution of traditional leadership [is deeply] patriarchal" and elite men have historically had far reaching rights over land (Walker 2001, 10). Nonetheless, "In African societies, land tenure systems have also been traditionally socially embedded, shared and relatively flexible. In land allocated to families, women often had strong rights" (Cousins 2010, 63). Cousins (ibid.) argues that "during the early colonial period (…) women's rights were subordinated to married men". Gender inequalities got further entrenched in S Africa's apartheid history. Not surprisingly, post-apartheid reforms too are, "depressingly silent on women's land rights and gender equality; (…) these relegate women to an undifferentiated subset of an amorphous rag-bag of 'vulnerable groups' comprising,

at its most extensive, 'rural people, women, youth, the unemployed, people living with HIV/AIDS, people living with disabilities, child-headed households and older persons'. In short: the majority of the population!" (Walker 2011, 247).

The diverse groups of applicants or grantees are assumed to be uniformly capable – have capital to self-invest; be astute, well-informed, able to network and transform to being potential entrepreneurs. Finally, an assumption is made that there would be a ready willingness among existing white commercial farmers to re-distribution and transformation. It is not surprising then that, the "land reform [agenda] has been captured by elites. The most powerful voices are those of 'emerging' black capitalist farmers (often with non-farm incomes), traditional leaders, large-scale white commercial farmers and agribusiness corporates, who are all benefitting more than the poor" (Cousins 2016, 11).

Van Koppen and Schreiner (2014b) have similarly articulated that a profound failing of the water reforms was in recognizing 'Existing Lawful Use', i.e. prior-use as lawful under the National Water Act. In their words, this simply "reproduced the immense inequalities in access to [land and] water and the profoundly discriminatory pre-1998 race-, gender- and class-based" injustices (ibid., 11). This transformatory agenda thus took a back stage and deterred the state from using its constitutional powers to reverse the unjust water accumulation. In addition, Bond (2013) identifies that soon after apartheid ended, South Africa imbibed the neo-liberal agenda. This wave of neoliberalism is particularly relevant to, and visible in South Africa's water governance policies, programmes and strategies; in the increasing endorsement of the commodification of water as an economic good to be managed efficiently – in a 'water-scarce' country. Thus, over time, water policies came to emphasize not just equity but equally efficiency. The pre-apartheid practice of licencing water has continued and is seen as an effective way to achieve these multiple goals – control water use, ensure effective, estimated use/s; re-distribute water by enabling new, emerging farmers to 'apply' for irrigation water licenses etc. Also, as a practice of decentralization, Catchment Management Agencies were set up to bring together old and new users of water as Water User Associations to collectively manage and control water resources under the supervision of layered water institutions.

The fusion of the rights ideology with the neo-liberal imperatives has been much critiqued. Some call it 'Pretoria's self-congratulatory rhetoric' and write that especially in relation to water in South Africa, there is a shrinking space to question and challenge the rhetoric around equity and justice – even "as purposive ecological destruction and social inequality reach levels never before recorded in human history" (Bond 2004, 9). Others argue to the contrary – that logic, science and reasoning have become lost to the transformatory ideology and how this has been particularly detrimental to the country's endemic state of water insecurity (Turton 2015).

"Goede Wellington Boerdery [is] a farm on the banks of the Berg River in the Western Cape… The suit was launched after Goede Wellington's application for the transfer of water-use rights had been declined by relevant authorities on the need to redress past racialinequality. The Water Tribunal upheld this decision, prompting Goede Wellington to bring the matter before the Pretoria High Court. The High

Court ruling said the Tribunal had failed to apply its mind to the facts of the case, argue[ing] that a farmer's race or gender could not be the sole consideration in deciding on a water use licence. The judge added that the tribunal's decisions displayed 'an alarming degree of ineptitude...and a lack of...rationality and common sense'. The department lodged an appeal against this ruling, but it was upheld by the Supreme Court of Appeal in 2012" (ibid., 3).

This judgment by the court, according to Turton (ibid.) set a precedent of sorts, creating "an obstacle to the racial engineering underlying the National Water Act"; providing existing commercial [white] farmers an important basis for challenging the refusal of "prior use water allocation" licences.

Polarized perceptions, which nonetheless unanimously claim that water policies and interventions have failed, reflect ground realities. Co-aligned goals of equity, efficiency and environmental sustainability have reiterated, rather than transformed, water disparities and inefficiencies, and [water for] the environment competes often unfavourably with other water uses and users. Especially in relation to water, there is a growing critique on the logic and viability of prioritising transformation only on racial grounds in situations of a growing water scarcity and insecurity. According to Turton (2015, 6), the emphasis on racial inequalities, "politicises water resource management while overlooking the relevant biophysical facts and the difficulties in ensuring adequate water supply in a water-stressed country".

Arguments like the one above, which speak of a national crisis, overshadow the debilitating and persisting water apartheid for the marginalised of South Africa, manifested in interlinked "water deprivations and ecological destructions" (Harrington 2014). It has also been argued that, "while South Africa's water resources are limited, the country does *not* have a 'national' water crisis" – what is much more important is to critically understand the nature of crises in the deeply divided and unequal landscape (Muller et al. 2009). The complexity and severity of social, economic and political injustices define that rigid, formal regulations relating to land and water must give way to flexible, adaptable processes without relegating these systems as 'second class' arrangements for lesser citizens (Cousins 2016, 9). This implies looking beyond 'private ownership' of land – given that as late as "2011, some 60% of South Africans occupied land or housing without their rights being recorded in official systems" (ibid.). Similarly, in relation to water, Bond (2013, 125) argues that current "water rights narratives with their basis in liberal individualism" are severely disconnected from the "socio-economic and ecological" realities. Like Cousins, Bond argues for 'alternative narratives' – in this case, "arriving at the commons through and beyond rights".

These tenacious claims and arguments for and against the transformatory land and water reforms provide a fascinating insight to the complexities of water [in]security in a supposedly water scarce South Africa. However, these overviews do not make explicit how the 'reforms' unfold on the ground and are experienced by a diverse community of 'emerging farmers' – unequal not just by race, but also by gender and other social variables. This is what we aim to do in this paper. We discuss here how one emerging Black female farmer in a water catchment of the Western Cape region of South Africa experienced the so-called transformatory

agenda. For obvious ethical reasons, we withhold the name of the farmer and identify her here as Mrs. Ngcobo. We discuss Mrs. Ngcobo's experience of the water policy reforms, paying particular attention to how the well-intentioned National Water Act implemented by different institutional actors was experienced and perceived by her – an emerging female farmer.

Ethnographic single-actor analyses are often dismissed in mainstream discourse as anecdotal or evidence-lacking. We do not consider it necessary to defend this methodology, but we do note that Mrs. Ngcobo's experiences are different to those of other 'emerging' farmers. As a black woman aiming to enter the dominantly masculine world of white male commercial farmers in South Africa, Mrs. Ngcobo was disadvantaged in multiple ways. However, as we will discuss below, she is comparatively advantaged – far more than the marginal, historically landless individuals also trying to become 'emerging' commercial farmers. In fact, she qualifies, as Cousins (2016, 11) analyses, as an "emerging" black capitalist farmer with a non-farm income". And yet, in her words (see opening line of paper), Mrs. Ngcobo was almost fully defeated even before she started farming. What might then be the stories of countless others disproportionately more disadvantaged than Mrs. Ngcobo?

Co-author Donn-Arnold spent considerable time interacting with Mrs. Ngcobo, talking and listening to her, mostly on the farm, where the researcher also helped with farm activities. In describing the challenges of this aspiring 'emerging' female black farmer, we expose the many institutional barriers that keep intact an unequal, inequitable and unjust agrarian structure and disable transformatory, redistributive changes in water availability and access. It is in this context that we see the critical need to revisit plans for dealing with the water crisis and for achieving water security. Our paper suggests that a feminist agenda, one that requires reflecting on the nature of agrarian economy to pursue in keeping with the realities of a physical water scarcity; as well as the nature of complex, entrenched, as well as evolving disparities – provide insights to addressing both the failed transformatory agenda as well the water [in]security challenge.

5.2   Farming Cooperative X in Village Y

In protecting Mrs. Ngcobo's identity, we do not disclose specific details of the research location. Village X is thereby situated in the Western Cape, South Africa, and is one of the Moravian mission stations established in the 1800s by German Missionaries. Mission stations provided a unique social haven for black communities during the apartheid era. Governance within the Mission's boundaries allowed life-time tenure of residential plots and houses as well as farming rights to agricultural parcels for its black mission community. These rights were transferred among male heads of households across generations, even though constitutionally the land was 'owned' by the Church. The missionaries encouraged and facilitated developing the land for agricultural purposes. Agriculture served many needs, social, cultural and moral – and there was significant attention to protecting land and water

resources in the area. Even today, village X and its adjacent Mission stations are popular for their farming practices. The black community here is one of the few in the Western Cape with a sizeable number of existing black farmers. Post-apartheid, existing as well as new emerging farmers have attempted to purchase and establish private ownership of these tenure plots, as well as attempted to purchase land from the neighbouring large, white farms.

Mrs. Ngcobo's family had historically farmed around a significantly large acreage of land (>50 ha) in Village X. At the time of the research (2015), Mrs. Ngcobo was the only member of the family living here. However, as was the precedent, she had no formal title to both the house and land – these were held in the name of a male relative who lived abroad. The mission did not recognise or encourage female ownership of land.

"The land moved from one generation to generation. However the title deed never included women's name. The [earlier] Last Will and Testament Act excluded women, and [even in the otherwise progressive Mission community] land was transferred among the male members. It has always been a challenge for women in the area to be land owners and therefore farmers. Mine was an especially difficult claim – I'm a daughter's daughter, not a son's daughter".

In 2005, Mrs. Ngcobo learnt of the LRAD programme and came to know that she was entitled to a land grant (around 600,000 Rands) from this initiative to gain ownership of the land (from lease holding) as well as proceed to becoming an 'emerging farmer'. Mrs. Ngcobo was very excited – she had long wanted to farm the family fields, which had been lying fallow for quite some time. After discussions and agreements with her male relative who held the tenure rights (the nature of the discussions or negotiations were not disclosed to the researcher), the first task in the process both to availing the grant as well as to farming – was to register the land in her name. The gender directives outlined in the land reform policy framework, approved and integrated in 1997 by the Department of Land Affairs, aims to enable women to access, own, control, use and manage land; as well as access credit for productive use of the land. The Mission, however, would not allow sole female ownership. Thus, in 2005, the land was registered jointly – in her name with her husband as co-owner. While this might sound like a one-off situation given the Mission regulations, policy efforts to address gender are by and large insufficient to counter the politics of traditionalism and patriarchy which is reiterated in traditional authorities and in local governments in some regions and particularly in rural areas (see Walker 2001). Walker and others (Jacobs et al. 2003). discuss the challenges, particularly to poor women among the formerly excluded HDIs to operate in the highly competitive, deregulated global market of commercial agriculture, arguing that they are not the key constituency for land reforms in practice even if policy declarations rhetorically state so – specific measures to give effect to the policy declarations are either not in place and/or not monitored.

Mrs. Ngcobo and her husband titled their newly acquired 'full and free' property as "Investment Trust Initiative A". The registration process costs of around 27,000 Rands were easily borne by the couple. Mrs. Ngcobo's husband was in full-time employment working in a financial institution. In any case, they were both confident

that the grant would cover all such costs. Mrs. Ngcobo did not know that it would take her several years and thousands of Rands and countless procedural and administrative formalities to start farming and that too, on just part of the land she now owned. She also did not know that the grant process would involve litigious paper work and she would receive what was promised only some 6 years after the registration. Above all, Mrs. Ngcobo did not know that she would be financially, physically and mentally exhausted before she would start farming and begin making some financial gains – by 2013, 13 years after the registration of land. As she reflected later, "You must have the heart to be here doing this, and try to overcome the battles one step at the time".

Being part of the Moravian Mission, having a fully employed husband, Mrs. Ngcobo is aware that the mechanism and process of grant giving does not work for most poor, black families or individuals. Unlike her, such applicants usually do not have access to personal capital; cannot afford to wait several years for the grant to come through; and are also less informed and educated. There are many others who also do not have former legacies of tenurial or other claims to farming land. The challenges for such aspiring black farmers are far more complex (Kamphuis 2015).

5.3   Mrs. Ngcobo's Experiences of the Challenges to "Emerge" as a Commercial Farmer

The focus of this paper is in documenting Mrs. Ngcobo's personal experiences to 'emerge' as a commercial farmer. Where and when relevant, we connect these experiences to the overall institutional framework and its failings, taking care to ensure that attention to policy and its practice does not deter the personal narrative. Reflecting on her experiences, Mrs. Ngcobo's expressed that her dreams, like those of many other emerging farmers, were rather illusory. She imagined and dreamt of success, but she was naïve, having little idea initially even on what she would farm.

Donn-Arnold: "How did you decide on the type of product you would farm?"

Mrs. Ngcobo: "Man I, (laugh), I think by influence, by the neighbour, he has the same type of soil, and he has lands full of flowers. Transport was accessible… I knew then someone was going to buy my plants. So by following what one could say I saw, made it so much easier to decide, this is what I want to farm".

Motivated by neighbouring farms and with no formal training or farming experience, she speculated that she could be equally successful with her farm as her neighbours. After she registered her land, she came to know that the first step ahead would be in obtaining environmental clearance for farming. The National Environmental Management Act (2010), hereafter referred to as NEMA, has clearly laid out environmental norms for cultivation and production. The land Mrs. Ngcobo had purchased had not been cultivated for around 10 years – i.e. the land needed to be cleared for planting.

After several rounds of phone calls and contacts in person, the land was inspected by NEMA officials and classified as "virgin soil". Mrs. Ngcobo was instructed to carefully remove and destroy "alien" vegetation and to "protect" the soil and the nearby ecology during cultivation. She was informed that regular monitoring would take place to assess that specified regulations were being adhered to, which meant – in her words, having to follow strict guidelines – from hiring specified companies to have the stumps and roots of her "alien plants" removed, have the logs hauled off the farm, ensure supervised burning of the "alien plants", etc. As she found out then, she was expected to pay personally for every step of the way.

At this time, because there was little to no knowledge on when her grant application would be processed, money had to be put on the table by her. A series of email exchanges between Mrs. Ngcobo's husband, NEMA and other officials show that he was asked by the concerned officials as to how much money they had in hand in order to "clear" the land for farming. Eventually, with the 150,000 Rands the couple were able to allocate, they were told that this would be adequate to clear *only* around 27 ha of the total 81 ha of land.

In Mrs. Ngcobo's case, it took over 3 years to get the 27 ha of land cleared and get official permission to start cultivation. This included the initial assessments and approvals to clear the land; then the actual clearing of the land and the careful burning of the alien vegetation under controlled fires. "After much of the clearing had been done in the prescribed manner with technical machines – we had to contact the local fire department in order to burn the alien vegetation removal under controlled fires and under official supervision". Although an earlier NEMA Act (1998) stipulates that, "Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably", these intentions are lost in the hegemony of regulations. What followed then was an even more cumbersome process of getting access to irrigation.

5.4 Water Allocation

When Mrs. Ngcobo had purchased the farm, she had felt assured that access to water would not be an issue. After all, the river 'a' ran past her newly acquired land. She did not know then that it was not as simple as that. Mrs. Ngcobo was told that she did not have prior licence to use the river water for irrigation, and that a careful environmental assessment would be needed on the overall availability of water and then, the source of water most appropriate to her needs.

Much is made about water scarcity in relation to approving new licenses and/or for general authorizations to access productive water. This happens, as we noted, even when water scarcity is not quite the issue. An official at the Land Care and Agriculture Department confirmed to the researcher, that the catchment was in fact underdeveloped, in other words, there was available, unallocated "water". This is why there are plans to develop dams in the coming years. The farmers in the Water

User Cooperative welcome the idea of the dams, however, few emerging farmers can afford to "wait" for the dams to be approved and operational. And as the researcher discovered, the planning process for the dams [not yet initiated at the time of the research] – would involve a full Environmental Impact Assessment (EIA). Further, as had been explained to Mrs. Ngcobo by officials, the cooperative of mostly black farmers would need to make an application for the dam and would have to contribute partly to the costs of the dam. "Should we all stand together then it would make a huge difference but, then, if the government would do all these things, everyone will benefit. There are things that we as emerging farmers cannot afford, unless the Government support us – with infrastructure, with pipes, and assistance" (Mrs Ngcobo).

Many emerging black farmers pointed out it is only when one depends on assistance that one is subject to such bureaucratic procedures. "Existing white farmers are able to do as they please, as they do not rely on government funding for improving their access to water" (Field notes 2014). This is exactly what happened in Mrs. Ngcobo's case. After being told that she could not access the river water for irrigation, she had to go through yet another lengthy bureaucratic process and considerable self-investment – taking over 3 years in order to finally get approval to sink a deep borehole – with which she can 'formally' and only in specified timings, irrigate only a portion of the 27 ha of land cleared for cultivation. As Mrs. Ngcobo explained, the important thing was to have patience as one navigated the complex maze of the regulatory framework.

Donn-Arnold: "Could you explain the procedures that emerging farmers need to follow in order to get access to water?"

Catchment Management Official: "First, they need to physically approach me and let me know how much water they need; from which source (ground or surface water); what they need the water for; how they plan to use and monitor use etc. When I/we are convinced of their intention to follow through, we give them the relevant forms to fill. The decision to allow a general authorization to use or to proceed towards a water license is based on the proposed volume of use – but unfortunately in this area (catchment Y) the regulations are strict for accessing surface or ground water. Even if it's a small amount of water, it doesn't matter how small it is, it has to go through the license procedure, because this area is excluded from the general authorization rule".

It is interesting to note the complexities of water licensing in South Africa. State regulation through licensing is a practice that continues from the past. In the apartheid era, licensing was the way to appropriate prior use and traditional, plural rights of many for select use for a few. Van Koppen and Schreiner (2014a, 7) point out that post-apartheid licensing serves to continue three forms of injustices: (i) historical inequities are allowed: prior-use allocations are kept intact through "use it or lose it" policies; (ii) small-scale commercial users are obliged to apply for a licence and go through lengthy bureaucratic procedures, even though government capacity is severely limited to process their applications in a timely manner (average period between the application and final allocation was noted in Limpopo district as 5.7 years); and, finally (iii) the smallest-scale including poorest users are exempt

from licensing – however, this disables rather than enables their equitable access, limiting them to "second-class [limited] entitlements [of water]".

Mrs. Ngcobo feels she was made to go through far more than she thinks was appropriate or necessary in applying for irrigation water. Several specialists visited her at different times over yet another 3 year period to "connect" her to what they told her was appropriate ground water resources. After the first rounds of visits by the officials, she was told that a few experts would visit to establish the 1/100 year flood line and 3 sector specialists would also assess the situation: "a hydrologist, botanist and fresh water ecologist were sent out to come and do an assessment on the farm. All these people were on my farm, making sure that I will not harm the environment, or cause immediate damage to some sort of heritage, ecological and biodiversity in the area. All of this even before I could think about how or what to farm. The whole procedure took months, but, more importantly, I also had pay for the specialists. I was merely just told do this and do that" (Donn-Arnold 2015).

When Mrs. Ngcobo was given a go-ahead for drilling a bore-hole as well, she was also told which company she would need to engage with for the process of boring. And finally, when all was done, she was told that it had now been assessed that there was only "adequate" ground water to irrigate 3 ha of land – as opposed to her plans to irrigate 10 ha. By this time, so much had been invested (and the grant still not received), and Mrs. Ngcobo said that she was no longer thinking logically. She simply wanted the process to end – so she could begin farming in whatever way it might be possible. "I had no idea that there was going to be so many people involved in the irrigation system installation process. There were [expert] people on my farm of whom I have never heard before or knew existed and all the money [for their services] came directly from my pocket". In reflecting, her voice sears with pain, she asks: "How does one move forward, where do these people think money comes from?" (ibid.).

Mrs. Ngcobo calls the experts and officials the "White Coat Men" and in her mind, she sees them as "White Men in White Coats", even though some of these outsider experts were women, and were both White and Black. In her view – the processes of interaction were imposing, top-down – with her always having to listen, to agree. When they finally left, she realised that they came with a noise, loud and arrogant, and left the cleaning, mess and everything else to her. In her words, "This extensive amount of hammering, drilling and hoping that the procedure can reach its end, leaves a bitter taste in your mouth" (ibid.). In all, Mrs. Ngcobo went through some 13 years of grilling, at the end of which she can only farm and irrigate a much smaller parcel of land than she had initially anticipated.

Donn-Arnold: "So are all your plants under irrigation now?"

Mrs. Ngcobo: "No, not at all. Oh my goodness, [what a process it was in] the getting the water licence, I do have a water license now, but the wait was endless, papers, papers, papers, then finally the farm was fitted with irrigation pipes to feed the plants with water and last year I saw my first lavender heads. The whole irrigation system including installing drip-irrigation took quite a while to complete and establishing the piping [pipeline] in order to water the plants was yet another costly procedure. The company who installed the pipes for us they are from Caledon, the

plants are now watered with [groundwater] irrigation. I have about 3 hectares of lavender under irrigation and I am supposed to have 10, I cannot get to the build up my 10 hectares, because that is the required standard. The pipes that were installed continuously break, how can I get there? Even, then as of now, we have irrigation only for a small portion of the total cleared land and the entire process took 3 years. We had no idea the amount of money this would cost us. How can I possibly survive in this world?"

5.5   Mrs. Ngcobo – An Emerging Farmer Now?

At the time of the research, Mrs. Ngcobo was growing a mix of flowers in about half of the total acreage she owns. The irrigated land is less than 5% of the total culti-vated land, the rest is rain-fed as well as "illegally" irrigated by her. In other words, she does not follow the regulations regarding the use of ground water. She grows Compacta, Albi-flora and Pinchcusion protea plants; as well as Honey Busch Rooibos; Lavender and Fynbos. The lavender plant is sold directly to a soap, oil and lotion manufacturing agent; Honey Busch Rooibos tea is sold to the supermarket chain Woolworth and the ornamental flowers are sold to a nearby commercial [white] farmer at a per stem price. 5 ha of the land has been set aside as a nature reserve as is required in policy and a third of the land still awaits approval for clear-ance (the whole process).

She finally received the grant in 2011; however, she says she lost count of what she invested, took as loan, paid as interest – and what was covered by the grant. Nonetheless, Mrs. Ngcobo has got started despite her long wait and significant investments and patience. According to her, her husband's job enabled them to make the several interjections of funds as well as proceed along the challenging path to approval of land and water. She points out that this process will not meet the needs of the poorest and most marginal – who therefore are rarely the grantees. Indeed, in and around Village X, there are many who have tried and "failed" in becoming an emerging farmer.

Further to these initial challenges, Mrs. Ngcobo is convinced that she can never compete and/or get networked on equal terms to established commercial, white farmers. There are no farming cooperatives in many areas of the catchment. In the neighbouring catchment, "commercial white farmers" are organised into an Irrigation Board and the "coloured/Black" community is organised into a separate body, with one member from this group being officially included in the Irrigation Board. The nature of such an organisation and the non-dialogue around water allo-cations was obvious during the course of the research (Kamphuis 2015).

Mrs. Ngcobo needs to rely on the commercial white farmers in gaining access to the agri-market and yet, there is hardly a spirit of solidarity among existing old and emerging new farmers. Most of the commercial farmers in the area do not see [and rightly so] the emerging farmers as competition. Even then, they rarely entertain a sharing of business knowledge, skills and networks. To prove her point, Mrs.

Ngcobo requested a meeting/visit for the researcher with the white commercial farmer she supplies flowers to. When the researcher arrived, the farmer made it clear to the researcher, "no pictures, no interviews, and no questions!"

Mrs. Ngcobo: "In order to sell flowers to the white commercial farmer [as she does], the stem has to be at least 80cm long, big bold heads, only then will my flowers be considered. Even then, they [the white commercial farmer/s] pay the lowest possible price for the flowers and make you wait very long to pay [us back]". It is very clear to her that the white commercial farmers see this as an obligatory relation– even though they make profits on what they buy (Donn-Arnold 2015).

According to Mrs. Ngcobo, getting established as emerging farmers will require people like her to make their own inroads into the market – but this is a long way off for most of the emerging black farmers. To sustain and grow with the limited land made available to emerging farmers would likely require expanding the business on many fronts. Mrs. Ngcobo would like to build a guesthouse on the farm to generate additional income, but she is too scared to even dream if something like this will be possible and what the procedures to doing so might entail. In the meanwhile, there are many other problems that remain to be sorted out for Mrs. Ngcobo. Primarily, more land needs to be officially cleared and approved for farming and additional irrigation. This will require new applications and the same procedural bureaucracies.

Donn-Arnold: "Did you submit an application for additional land clearing?"

Mrs. Ngcobo: "Yes in 2011, and I was informed that is was approved – 2 years later".

However, when a government official visited her in 2014 to discuss the new application and also to see if she had been complying with the regulatory standards, Mrs. Ngcobo learnt then that the official visiting her farm was new to the office and to her case. The entire application had been filled out wrong, and this document stated that she owned only a third of land that she actually owns. Mrs. Ngcobo has had to go through all the old paperwork with the official – restarting the process that has worn her out.

With all the investments made in getting to where she is now, Mrs. Ngcobo has not been able to fence her land. This results in theft and destruction of both plants as well as small farm machinery, including from the hordes of passing-by baboons. There are environmental laws that prohibit farmers from taking action on the baboons. In her view, this is pertinent but to a disproportionate loss of the emerging farmers who are not able to invest in fencing. Also as she explains, the weather has been increasingly unpredictable and sudden floods and drought spells are becoming common. The researcher (Donn-Arnold) noted how flooding results in sand and gravel from the road washing into the cultivated fields, causing huge damages and losses.

Donn-Arnold: "What has been your biggest challenge for this year"?

Mrs. Ngcobo: "The January floods spoiled about a quarter hectare of protea plants, and this means that I lost money per plant meaning that if I had known and was able to cut and sell the plants ahead of the floods, I would have made some money to do other things, but instead I lost more then what I eventually made".

During the course of the research, Mrs. Ngcobo explained how her husband is not interested in the farming; however, she is extremely lucky that he supported her in this rather challenging venture. She noted that women farmers especially struggle to be recognised within this very male dominated practice. She pointed out the term that the officials use for women farmers who question the delays and procedures – "naggers". She explains that women are often seen as a pain, especially if they like her try to persist, to ask, to query – the process. Once more, she poignantly advises, "You must have the heart to be here doing this, and try to overcome the battles one step at the time".

5.6   Discussion: Enabling Justice – The Feminist Agenda

A feminist perspective asks, "What would an economy look like in which nature mattered, in which women mattered, in which children mattered, in which people mattered; an economy which would not be based on colonizing and exploiting others?" (Mies 1998, 23). One thing is for sure, it would not look like the nature and state of land and water reforms in South Africa.

As we discuss above, Mrs. Ngcobo is an exception, her experience atypical to that of most other emerging black male and female farmers. First, she was endowed with partial entitlement to a large parcel of land. Second, she had financial capabilities, which allowed her to keep moving ahead in the rather challenging process of emerging as a "farmer". Finally, her social position was unique – her husband was employed elsewhere and supportive of her desire and dreams to farm. What might be the fate of millions of other poor/er women – who are lacking in many of the above? In South Africa, black "women make up a disproportionate proportion of the poor, are even less able to bear these high transaction costs…. [where] administrative measures tend to vest titles in only one member of the household and administrators tend to assume that men are the heads of households, and that licenses should be vested in men's names… where poor women are least able to contest (illogical and unjust] government decisions and more vulnerable to corruption and intimidation" (Van Koppen and Schreiner 2014b, 14). If there is any similarity between Mrs. Ngcobo and these women – it is in their lack of capability to question the system, and it is this issue that we highlight here.

The findings discussed in this paper draw attention to two theoretical underpinnings. First and foremost, because justice was fundamental to the framework of land and water reforms in South Africa, we ask what 'justice' implies? In post-apartheid South Africa, the justice agenda was informed by Mandela's call for "constructing a new order based on *justice for all*". Mandela's vision, cautioned by the outcomes of post-colonization in neighbouring African countries, was reconciliation. His call asked for "healing wounds of the past", rather than "conquering" those who had "conquered" in the past. This indisputably wise decision translated to reforms which were steeped in assumptions – assuming, on the one hand, a seemingly universal willingness and commitment "of all" to transform; and on the other, in that

transformation would be achieved without fundamentally changing unjust systems of the past. In other words, was it possible to have pursued and achieved 'justice' while keeping intact an agrarian system created in the past to plunder with apathy: both the land and its people(s)? As the discussions above show, post-apartheid reforms have not transformed the context of structural inequalities in relation to land and water. What has happened instead is irreparably damaging. By aiming to integrate the formerly excluded in a system meant to exclude them, the process re-establishes the "disadvantages" of the "disadvantaged" and both fails them as well as positions them as the failures (see Wolff and De-Shalit 2013).

This raises questions on the capabilities to secure justice. How are "power" and "resources" equalized and justice pursued in the context of large asymmetries, which in this case were undeniable outcomes of the past (Nussbaum 2006)? In her book, *The Central Capabilities*, Nussbaum (2011, 18) writes about the demerits of reducing justice to single metric concepts. In South Africa, universal legislations crafted around land and water [re]distributions were held to be adequate to effect transformations in the lives of vastly unequal and socially differentiated individuals, households and communities. In contrast, Nussbaum emphasizes the complex "plurality and non-reducibility" of individual lives, freedoms and dignity. To this extent, the 'individual', otherwise deemed anecdotal in development policy and practice, is centrally important in the capabilities approach to justice: "What is each person able to do and to be?" (ibid.). As Nussbaum points out (2007, 14–16), popular ideas of a "society as a contract for mutual advantage [assumes] people who are free, equal and independent (…) conflating those for whom the contract is [traditionally] designed with those for whom basic principles must provide just arrangements". Such a system of contract would not work unless there is attention to combined [personal] capabilities – "not just abilities residing inside a person but also the freedoms or opportunities created by a combination of personal abilities and the political, social and economic environment" (ibid., 20). In the South African case of the emerging farmer, this would mean that justice would not just imply the willingness of the state to facilitate resources re-distribution and an assumed "meritocratic" integration of willing individuals in a historically flawed agrarian system. Rather, justice would entail a process which would fundamentally transform the system – redeveloping a system that corresponds to the needs of those formerly excluded (adapted from Nussbaum 2011). This, as we discuss below, is precisely a feminist agenda for change. In the concluding section, we discuss options that a feminist approach might offer in relation to South Africa's failed land and water agenda for transformation.

5.7   Conclusion

A feminist agenda does not ask to 'integrate' a diversely disenfranchised into the very frameworks and structures that resulted in their systematic exclusion. It calls for the reverse: to use the knowledge, diverse experiences and insights – the

viewpoints from below, of those who exist and must survive at the lowest rungs of social, political and economic hierarchies – to restructure change, including changing the structures and cultures of institutions tasked with the agenda for change.

In South Africa (as elsewhere), the policy and practice of development does not address the critical need to hearing, understanding or confronting structures of inequality across multiple institutional levels. A developmental agenda simplistically aggregates the 'disadvantaged' and assumes an apolitical 'integration' of the formerly excluded into the very arena, processes and structures of exclusion. This is precisely what happened in South Africa's ambitious post-apartheid transformatory agenda. Land and water reforms in South Africa encouraged a competition among unequals within a framework designed historically to create and sustain inequality.

What Molyneux (2007, 234) writes in relation to a depoliticisation of the feminist agenda for change is uniquely reflective of the state of water and land reforms in South Africa, "a process in which 'the transformative agenda' has been captured by power, co-opted and instrumentalized, and its political vision has been neutralized, where not excised". The way forward requires going beyond "essentialisms and generalizations, simplifying frameworks and simplistic slogans", including politicizing a crisis of water – to "processes [that enable] self-realization, self-actualization and mobilization [among the injusticed] to demand change" (Cornwall et al. 2007, 7). "Resources and rights are crucial, but alone do not guarantee empowerment or equality" (ibid.). As quoted by Cousins (2016, 15), "One cannot eat rights".

Applied to the reforms in South Africa, a feminist agenda would call for enabling the formerly disadvantaged, including women, to occupy spaces that have historically been controlled by a few, and enabling these new spaces and voices to overturn the rules of the game (Gaventa and Cornwall 2006). In that context, it is not enough to count the statistics on the change in genders and colours around the decision-making table, if the structures, cultures and systems of power and exclusion remain intact. More simply put, a feminist agenda is not confined to talking about women, or to tinkering with nominally targeting and integrating the excluded in dominant, exclusionary designs. As expressed by Borràs (2016, 7), "When I talk about feminism I don't want to talk (only) about gender roles, I would like to transcend this idea (…) I want to talk about (…) feminism that challenges [power] structures at their roots [one that informs] a critical society that can question why, only then we will be able to start shifting directions".

In South Africa, it is evident that "the rights narrative [has] left [its] critics bemoaning a new 'culture of entitlement' in which the government was expected to solve all social ills" – even though, in practice, the rights agenda, incongruently aligned within a dominant commodification and capitalism narrative, has reiterated, rather than reversed, injustices (Bond 2013, 129). An antidote for change would suggest approaches that "pay attention to the old in the context of recognising, the simultaneous emergence of new social subjects, multiple rationalities and identities (…) reflecting [multiple] expressions of oppression and subordination" (Vargas 1992, 195). Such an approach emphasizes that transformation is not a simple institutionalized, technical solution, it is to the contrary – a deeply political process which pays attention to resource poverty as linked to other forms of poverty,

including, "denial of personhood, silencing, marginalization, denial of choice and other freedoms" (Sardenberg 2007, 84 in Cornwall et al. 2007).

Mrs. Ngcobo survived the contemporary rules of the game, but was fatigued and exhausted even before she could start. Land and water policy reforms and interventions in South Africa will need to be dramatically reversed and not tinkered with, if transformation is indeed to be real, for those whose realities are very dissimilar to Mrs. Ngcobo's.

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Chapter 6
Integrating Gender Equality in WASH Emergency Response in the Central African Republic

Beatrice Mosello, Virginie Le Masson, Gladys Le Masson, Elena Diato, and Véronique Barbelet

Abstract The delivery of basic services such as water, sanitation and hygiene (WASH) remains a challenge in contexts affected by protracted conflicts. Access to these services is mediated by the identities of providers and beneficiaries, as well as their perspectives of what are the most pressing needs. As such, they are entangled in complex formal and informal rules and power relations from the household all the way to the national level. In recognition of such complexities, the humanitarian sector has increasingly integrated a gender lens to its work. Numerous studies have highlighted the ways, advantages, and difficulties linked to mainstreaming gender in humanitarian programming. What has been less investigated, however, is how gender sensitive programming relates to the core principles of impartiality and 'do no harm' in humanitarian action. Through a case study of WASH programming in the Central African Republic, this chapter aims to better understand how to reconcile people's equal access and control of water and sanitation in conflict or post-conflict contexts. We argue that gender sensitive programming cannot be a secondary thought but must be a critical element of an effective and impartial humanitarian intervention. The case study also contributes to the existing literature by focusing on the WASH sector, while most discussions on gender mainstreaming in humanitarian interventions have been confined to protection, thus missing important dimensions of empowerment at societal level through the provision of basic services such as water and sanitation.

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6.1   Introduction

The delivery of most basic services such as access to water, sanitation and hygiene (WASH) is both a priority and a challenge in contexts affected by protracted conflicts. Ensuring that the most marginalised people have rapid, adequate and equal access to these services, regardless of their gender, age, ethnicity, social position or (dis)ability, is an important concern for non-governmental organisations (NGOs) intervening in emergency situations where they often compensate for the lack of governmental response. This challenge brings together questions around the effectiveness, equity and impartiality of humanitarian aid and how the latter can support the sustainable access and use of water. Modes of WASH service delivery can undermine future development and peace, for example if they perpetuate or accentuate existing inequalities within communities, and/or create dependency on external actors thus hampering the perceived legitimacy of governments and other service providers (see, e.g. Wild and Mason 2012; Mason and Mosello 2016).

Impartiality or ensuring that humanitarian assistance is targeted to those who need it the most is a core principle of humanitarian action. However, access to the basic services provided by humanitarian actors is inevitably mediated by both providers' and beneficiaries' social identities (from individuals' gender and social position to communities' ethnicity or religion), and their perspectives of what constitute the most pressing needs. Access and control over natural resources such as water therefore becomes entangled in complex formal and informal rules and power relations from the household level all the way up to the national level.

The integration of a gender perspective in humanitarian programming recognises that the needs and vulnerabilities of women, men, girls and boys affected by a disaster or a conflict will be context specific and different (UN Women 2015). In parallel, the participation of service users in the planning, maintenance and management of local water, sanitation and hygiene supply services is expected to meet the practical needs of local communities as well as develop their capacities. As such the involvement of women in WASH services delivery is no longer an exception (UN Women 2015).

However, to what extent can emergency responses improve not only the conditions (e.g. access to water and other basic services) but also the positions (e.g. addressing the strategic interests of people traditionally marginalised) of men and women? The distinction between practical needs and strategic interests (Moser 1993; March et al. 1999) is a useful one in order to discuss the principle of impartiality in humanitarian action and the promotion of gender equality in programming in more detail. While the former focuses on addressing the needs of any given crisis-affected population, the latter implies to implement interventions that go beyond

addressing people's needs and to foster transformative action that supports people's, and often, women's interests.

Already two decades ago, Christine van Wijk-Sijbesma pointed out the lack of engagement of WASH programmes to support the capacities of men and women in local communities to develop their own strategic interests for managing their development and strengthening of their economic and social positions. Since then, available studies (predominantly from the grey literature) have documented the advantages, challenges and ways to facilitate gender mainstreaming in humanitarian programming. What has been less investigated, however, is how gender sensitive programming relates to the principle of impartiality of humanitarian interventions (Oosterhoff 2014).

This chapter aims to discuss how humanitarian interventions can be truly impartial if they support access to water and sanitation without addressing gender inequalities and/or promoting the strategic interests of traditionally marginalised groups. The assumption is that if gender neutral programming fails to reach those most in need in the short-term, it perpetuates existing inequalities in the long-term. At the same time, the use of gender analyses and gender equality in WASH programming could potentially contradict impartiality, as they often target particular social groups to compensate for their traditional exclusion from decision making processes.

This chapter draws on the complexities of WASH emergency responses to better understand how to reconcile, in practice, people's equal access and control of water and sanitation in the aftermath of or during a crisis/conflict. It uses the case study of a WASH programme in the Central African Republic (CAR), implemented by an international non-governmental organisation (INGO), to document how the necessary attention to different gender roles, conditions, positions and power relations, meet the time and resource constraints of humanitarian programmes that have restricted their closer integration of gender perspectives.

The first part of this chapter provides a review of the existing literature on gender mainstreaming in humanitarian interventions, with a focus on water, sanitation and hygiene (WASH) delivery in conflict-affected settings. We discuss the linkages between gender equality and two key principles of humanitarian interventions, namely impartiality and 'do not harm'. The second section outlines the methodology and the context of CAR. The third section uses empirical findings to demonstrate the practicalities and challenges to address gender considerations in WASH interventions in conflict and emergency settings. In the discussion, we argue that gender sensitive programming is not a secondary thought, but a critical element of effective and impartial humanitarian interventions.

6.2   WASH and Gender Equality in Emergencies

6.2.1   WASH in Humanitarian and Development Interventions

Policymakers and aid actors have been grappling for decades with the question of how to create a more seamless fit between short-term life-saving interventions and long-term efforts to reduce chronic poverty and vulnerability in crises. Protracted or recurrent crises pose particular challenges, as humanitarian actors find themselves operating in contexts characterised by insecurity, extreme and unpredictable needs, and by the breakdown of trust between populations, government and external agencies (Mosel and Levine 2014; Bennett 2015). Situations of protracted crises also mean that development actors have to engage, rather than handing over the intervention to humanitarian counterparts as in the case of short-term emergencies (Mason and Mosello 2016). Focusing on the WASH sector, Mason and Mosello (2016) found that the siloes between humanitarian and development are sustained by a hierarchy of perceived differences, contradictions and tensions.

During a conflict, as well as in its immediate aftermath, water supply and sanitation are often cited as some of the most urgent priorities (UNICEF 2009) as they serve the fundamental purpose of controlling outbreaks of diseases (Baird 2010). Adequate access to water and sanitation also contributes to reducing the vulnerability of women and girls to assault or molestation while travelling to insecure areas for defecation and/or fetching water (UNICEF 2009).

Water and sanitation, because they are among the most basic services with major social and economic implications, can provide an entry point to address other conflict-related needs and concerns, towards longer-term state-building and development (WSP 2010). Supporting people's access to WASH can bring about opportunities for social cooperation and partnerships, particularly between state and society, as well as within communities (OECD 2008). Second, the infrastructural nature of WASH offers a tangible way to implement capacity-building interventions, and is hence considered as an aid to social cohesion through community involvement in planning, implementing and managing services, and a vehicle for the empowerment of traditionally excluded groups such as women (Welle 2008; UNICEF 2009).

The diversity and mutability of conflict situations make it difficult to define which service delivery modality works best (Ndaruhutse et al. 2011). The country- and context-specificity of WASH (and other) service delivery in conflict-affected states comes out particularly when considering the timing and prioritisation of interventions (Mason 2012). Several authors support the idea of a transition from fragility and conflict to peace and statehood, with different forms of intervention being appropriate in different phases (see e.g. OECD 2011; Welle 2008). However, oftentimes, a longer-term vision to service delivery is hampered by the fact that most aid in conflict settings is actually short-term humanitarian assistance. Besides, the question of prioritisation, i.e. when it is appropriate to focus on WASH delivery rather than services that are needed to establish security and the rule of law, remains a prominent one (Mason 2012).

One of the key differences between humanitarian and development interventions relates to the norms that guide them, and permeate the cultures of the respective communities (Gensch et al. 2014; Mason and Mosello 2016). Development aid is geared towards addressing long-term needs, and is based on the principles of ownership, results and mutual accountability. In contrast, but not in opposition, humanitarian assistance aims at saving lives and mitigating human suffering, based on the humanitarian principles of humanity, independence, impartiality and neutrality (see Box 6.1).

Box 6.1 The Core Principles of Humanitarian Action: Humanity, Impartiality, Independence and Neutrality

The principles for humanitarian action are grounded in Humanitarian International Law and UN resolutions (General Assembly resolution 58/114 (2004)). They make up the fundamental ethical basis of humanitarian action and are included in most of the sectors' guidance and policies: in particular, the Code of Conduct for the Red Cross and Red Crescent Movement and the SPHERE standards. Historically, these principles were put forth in the 1960s by the International Committee of the Red Cross (ICRC)[1] as the sector experienced further codification (Davey et al. 2013). The adoption of principles of humanitarian action reflects the need to safeguard humanitarian assistance from political manipulation in conflict especially as the rules and laws limiting the effect of war on non-combatants are not respected by warring parties in most conflicts (Leader 2000).

The core principles of humanitarian action include (OCHA 2012):

- Humanity: 'Human suffering must be addressed wherever it is found. The purpose of humanitarian action is to protect life and health and ensure respect for human beings'.
- Neutrality: 'Humanitarian actors must not take sides in hostilities or engage in controversies of a political, racial, religious or ideological nature'.
- Impartiality: 'Humanitarian action must be carried out on the basis of need alone, giving priority to the most urgent cases of distress and making no distinctions on the basis of nationality, race, gender, religious belief, class or political opinions'.
- Independence: 'Humanitarian action must be autonomous from the political, economic, military or other objectives that any actor may hold with regard to areas where humanitarian action is being implemented'.

While the principles continue to be critical to guide effective humanitarian action (and often to access humanitarian funding and partnership), humanitarian organisations have increasingly recognised the tension that exist in

Box 6.1 (continued)
applying all principles at once especially adhering to the principle of humanity when humanitarians fear their neutrality, impartiality and independence are in danger (Macdonald and Valenza 2012).

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[1] See the proclamation made by the ICRC in Vienna in 1965 https://www.icrc.org/eng/resources/documents/misc/fundamental-principles-commentary-010179.htm

Despite attempts at reforming humanitarian aid to address the 'development' challenges posed by protracted crises, conflicts, and disasters triggered by natural hazards, both humanitarian and development agencies tend to perpetuate the stark distinction between short-term life-saving interventions, and longer-term development initiatives.

In the difficult circumstances of conflicts, the goal of a WASH programme should be to minimise risks to the health of people (WHO 2005).[2] A rich literature exists on good (and bad) practices for WASH programming in fragile and conflict-affected states. Two considerations stand out. First, inappropriate interventions, under certain circumstances, risk doing 'more harm than good'. Communities may develop grievances over dysfunctional services (e.g. dry boreholes or broken pumps); water points can become part of the conflict, rather than contributing to its reduction (Welle 2008; Oxfam 2011). Second, communities are not homogeneous blocks, but complex aggregates of people with different vulnerabilities and needs. Therefore, it is important to address the question of how to ensure that WASH service delivery reaches the most vulnerable, in terms of areas, communities and households.

The literature suggests several approaches to service provision, such as the demand-responsive approach, which brings water users into the process of selecting, implementing and, ultimately, financing the long-term delivery of water services (WSP 2000 for conceptualisation, and WSP 2014 and Rickert et al. 2014 for more recent examples of implementation). However, this approach has been criticised for privileging communities that are better able to articulate demand in the first place. Practitioners need to improve their understanding of and capability to assess demand for WASH services at different levels and from different perspectives (MacDonald et al. 2005).[3]

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[2] According to the World Health Organisation (WHO), key elements of WASH programming should include supplying safe and sufficient water, providing excreta disposal and other waste control, taking hygiene measures, and conducting public education on issues of hygiene and water use (WHO 2005).

[3] See, for example, Mulenga (2009) for a comprehensive review of literature to identify the complexity and apparent problems associated with the DRA methodology.

6.2.2   Gender Equality in Programming

The role of relief in laying the foundations for rebuilding the social, economic and physical infrastructure of communities is well recognised. The approach that goes under the name of 'gender-fair humanitarian aid' puts women's immediate and longer term interests at the heart of the assessment and planning process, thus ensuring their chances of survival are increased, their coping strategies strengthened, and their status in the community raised, with consequent improvements for the well-being of the whole community (Clifton and Gell 2001, 9). Oxfam GB has championed this approach, for example by advancing its gender mainstreaming efforts through the development of performance standards of gender in humanitarian response (Oxfam 2013b). Other INGOs and IOs have followed a similar pattern, engaging in Gender Equality Programming (GEP).

GEP aims to understand, through contextual gender analyses, how gender relationships, including roles, access to and control of resources, and the constraints different groups face relative to each other (UN WOMEN 2015), influence people's capacities to meet their needs, such as access to water and sanitation. A gender perspective recognises how crises can affect members of the same society, i.e. women, men, girls and boys, in radically different ways. Disasters can change social and cultural structures, and redefine women's and men's statuses – in both positive and negative ways (e.g. Anderson 2000; Oxfam International 2005; Neumayer and Plumper 2007).

However, despite the common assumption that women have equal rights with men, the marginalisation of people according to their gender, age or ethnicity is frequently underestimated (Fordham 2012). The lack of attention to gender issues in humanitarian action means that the need of those most under threat may not be adequately met while opportunities to support positive change may be lost (Oxfam 2013a, b). Hence, most humanitarian actors recognise their obligation to support women's rights and promote gender equality through their interventions (Hoare et al. 2012, 205).

In relief interventions, the literature has put forward two arguments to support the view that a gender-fair approach is essential to fulfil the founding humanitarian principles of impartiality and neutrality: the efficiency rationale, and the rights-based rationale (Clifton and Gell 2001, 10). According to the efficiency rationale, empowered women will be able to make a much greater contribution to preparing for and coping with disasters. The rights-based rationale points to the importance of addressing gender-based discrimination, confronting gender inequities and the denial of women's social, economic and political rights – all crucial inhibitors to poverty alleviation, sustainable development and good governance (ibid).

A number of policy documents provide the theory for this (see, e.g. EC 2013a, b; European Parliament 2015), but very little empirical research has focused on explaining comprehensively the impact of gender approaches on the effectiveness of humanitarian interventions. The 2015 study by UN Women on GEP and its impact on effectiveness and inclusiveness of humanitarian outcomes has been the

first of its kind (UN Women 2015). The authors recognised that it was 'a challenging study' as sex- and age-disaggregated data on humanitarian interventions is rarely available. Also, they noted, humanitarian interventions incorporate gender-focused baseline surveys only infrequently. There are several tools for assessing integration of gender in a given programme, such as the Inter-Agency Standing Committee (IASC) Gender Marker (IASC 2007), and ECHO's Gender-Age Marker, which allows ECHO to track gender and age sensitive actions and financial allocations (EC 2012). However, these have been criticised for measuring GEP at the design stage and not during implementation. The absence of baseline data and monitoring tools thus restricts the use of experimental evaluation methods to assess the impact of GEP on humanitarian outcomes (UN Women 2015, 5).

Furthermore, most of the attention to why and how to mainstream gender in humanitarian intervention has focused primarily on reproductive health and response to gender-based violence (GBV) (Wells and Kuttiparambil 2016), considering less, or not at all, interventions aimed at delivering basic services, improving livelihoods, and promoting people's longer term interests (ECHO 2013; Oosterhoff 2014; Tappis et al. 2016).

6.2.3   Framing Gender Equality in Emergency WASH Interventions

The integration of gender equality in WASH delivery has been widely promoted and conceptualised at a programmatic level (e.g. UNDP 2003; Welle 2008; WaterAid 2010, 2012; Inter-Agency Standing Committee 2015). From this documentation, three main areas of enquiry provide a framework to understand the level of integration of gender equality in humanitarian programming.

A first indicator to understand NGOs' engagement with gender issues in their programmes is whether or not they carry out a comparative gender analysis based on sex and age disaggregated data. Gender is often interpreted by aid workers and development practitioners (especially when driven by donors' agendas and discourses) as a focus on women and a generalisation of women's vulnerabilities. Women and girls do face pervasive inequalities in many societies, but focusing on women in isolation and not looking at their relations with men, boys and the wider communities they live in, runs the risk of ignoring the interdependency of members of family and households and the power relations between them (Demestriades and Esplen 2015). Most barriers which prevent people from accessing services equally particularly WASH services result from a lack of recognition of differences between people and between gender groups (WaterAid 2012).

A second indicator is how humanitarian programmes which recognise gender-based differences decide to target activities to specific social groups in order to address the needs of those the most at risk. In other words, NGOs may choose to improve people's access to equal services and opportunities which sometimes

necessitate targeting specific groups with special measures in order to compensate for the disadvantages they face (Leduc 2009). There is evidence that suggests that direct support to women (rather than men) can have benefits for the household; for example, targeting transfers to female parents has led to positive impacts on child welfare and household investment (Slaymaker et al. 2005). NGOs may choose to work with both men and women but implement different activities to address different needs (Le Masson et al. 2016). In situations of armed conflict where men are often absent, the involvement of women in designing and implementing service delivery is of paramount importance (Welle 2008).

Third, whether a programme intends to produce transformations in gendered power relations is also an indicator of the extent to which gender equality is actually integrated in humanitarian action. A project geared towards improving water supply will support end users meet their practical needs (e.g. access to drinking water). However, activities may also aim to promote goals of empowerment (e.g. through favouring women's access to community water boards), which requires to transform existing unequal power relations. Evidence in the literature suggests that women's increased access to income generating opportunities and employment have led to changing gender roles and relations, increased bargaining power at household and community levels, and greater control over marriage decisions for younger women, as well as mobility and freedom. However, transformations in power relations face a number of obstacles, not least the fact that those holding positions of power might not want the status quo to be transformed (Le Masson et al. 2016). The integration of gender equality in humanitarian programming, therefore, creates a potential tension between the radical intention to transform existing power relations and the principle of neutrality and impartiality.

Finally, the literature on gender and WASH offers some useful insights into how and why focusing on gender equality and encouraging women's participation can boost the effectiveness and sustainability of WASH outcomes (see e.g. Fisher 2006; UNDP 2006; WSP 2010). Sector studies have demonstrated that the equal involvement of men and women in the WASH sector is positively correlated with improved sustainability of water supplies, as well as transparency and governance in their management (WSP 2010). Similarly, emerging evidence shows that the inverse is also true; effective WASH programs can have positive outcomes for gender roles and relations, thereby increasing equality (World Bank 2006). Gender outcomes that have been attributed to WASH initiatives encompass those directly related to improved services (e.g. time savings associated with access to water), as well as those moving into areas of relationships, power and status (Carrard et al. 2013).

6.3   Methodology and Case Study

The underpinning assumption for this study is that gender-sensitive humanitarian programmes improve the effectiveness of WASH activities by ensuring that life-saving and basic services reach those who need it most (impartiality) and are not delivered in a way that perpetuates and worsens existing inequalities ('do no harm'). Gender equality in programming is also expected to contribute to longer-term goals of equality through promoting equal opportunities to strategic planning and decision-making level. This, however, often confronts humanitarian practitioners with local social norms and resistance. We ask how gender mainstreaming in humanitarian response fosters or contradicts impartiality and the effectiveness of WASH delivery.

To answer this question, the analysis draws on the case study of a project of Action Contre la Faim International (ACF) in Bossangoa, in the Ouham province of the Central African Republic (CAR). The project, implemented between May 2014 and June 2015, aimed at providing an emergency response to the WASH needs of the population in the midst of the civil war. At the time of the fieldwork, gender was not explicitly integrated into ACF's programming, especially in rural contexts. However, at the request of the donor, ACF started to think of ways to integrate a more gender-sensitive approach to its WASH programming. As a result, ACF commissioned a team of consultants to: help collect more information on gender roles and responsibilities in accessing WASH services and practices in Bossangoa; to assess opportunities to promote gender equality in WASH projects in line with the local context and the 'do no harm' principle; and to support the design and operationalisation of tools and activities to integrate gender in the project's activities.

This consultancy assignment that was conducted in October 2014 has provided the empirical data discussed in this chapter. The collection of primary data relied on the combination of qualitative methods including: (i) focus group discussions with separate groups of men and women in three different villages and in the Internally Displaced camp of Bossangoa; (ii) participant observation when accompanying ACF team in their interventions; (iii) unstructured interviews conducted with ACF staff members and (iv) semi-structured interviews conducted with key informants from NGOs involved in emergency protection response in Bossangoa. The analysis further drew on observations by the project team leader (and co-author of the chapter) during the year that followed the field visit, as well as the observations of an external consultant who evaluated the end of the intervention in the summer 2015.

6.3.1 The Central African Republic: Context Overview

Decades of political crises, insecurity and economic shocks have left the Central Africa Republic (CAR) in a chronic state of severe under-development and a general lack of good governance. The CAR ranks 187th out of 188 countries in the Human Development Index, with almost two-thirds of its population living below the poverty line and 30% chronically food insecure.[4]

With a population of approximately 4.6 million, the CAR is a predominantly Christian country, but also has a significant Muslim minority. Its geographical position makes the country vulnerable to instability from neighbouring countries, particularly Chad, the Democratic Republic of Congo and Sudan.[5] Parts of the country, and especially the north, have suffered constant levels of insecurity, with on-going conflicts between pastoralists and farmers, general banditry on the road, invasion of militia groups from Chad and Darfur, and Uganda.[6] The CAR is a mineral rich country and has extensive diamond mines. This is a significant factor in continuous violence and the presence of armed groups (ICG 2010).

Since its independence from France in 1960, the country has experienced years of brutal dictatorship under self-proclaimed Emperor Jean-Bedel Bokassa, and a series of political crises and multiple coups between 1996 and 2003. In March 2003, General François Bozizé took over power in Bangui and continued his presidency through contested elections. In December 2012, a coalition of armed groups, the Seleka, started a violent rebellion. François Bozizé was overthrown in March 2013, and Michel Djotodia became the first Muslim President in the CAR. His presidency, however, also ended in January 2014, when he ceased the power to a transitional government led by former Bangui-mayor Catherine Samba-Penza. General elections were held in late 2015, but delays and irregularities prevented the country to choose a president until March 2016 when Christian Faustin Touadera became the elected president.

The current conflict, which started as one of many other rebellions aimed at overthrowing the regime and pushing for elections to consolidate power, has evolved very differently and a religious discourse emerged around the conflict leading to inter-communal violence (IPI 2014). To date, violence has resulted in thousands of deaths and large-scale displacement. In January 2014, there were 958,000 people

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[4] From the UNDP country profile page for the Central African Republic. Accessed 13 February 2017. http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/CAF.pdf

[5] CAR shares borders with Chad in the north, Sudan and South Sudan to the east, the Democratic Republic of Congo to the south and Cameroon to the west.

[6] The Lord's Resistance Army is an armed group from Uganda that has for years settled in countries outside of Uganda terrorising populations where they are present.

settled in host families or camp-like settings.[7] In March 2016, 4 years after the beginning of the conflict, there were still over 460,000 Internally Displaced People (IDPs) in the country, a mix of newly displaced people and over 420,000 refugees from CAR.[8] In December 2016, more than two million people continued to be in need of humanitarian assistance.[9] In spite of the March 2016 democratic elections, CAR continues to experience pockets of extreme violence preventing the safe return of IDPs and obstructing humanitarian access.[10]

6.3.2   Who Is Providing WASH, Protection and Gender in CAR?

As of October 2015, 110 humanitarian organisations were present in the country responding with emergency programmes (OCHA 2015).[11] The initial Strategic Response Plan (SRP), published on 14 December 2013, was revised in 2014 to ask for USD 551.3 million, and again in 2015 to ask for USD 613 million to provide assistance to 1.8 million people in all sectors, with special focus on health, protection, water and hygiene, and food. This represented an increase of more than 100% in requirements from the original plan, highlighting the need to scale-up of operations in the short term to ensure the provision of protection and life-saving assistance to the people in need in Bangui and north-western CAR especially (OCHA 2015).

Humanitarian interventions in the WASH sector in CAR are coordinated by the WASH cluster, co-led by UNICEF and ACF. The cluster is composed of up to 50 partners to address issues related to water storage, water trucking, latrine construction, supply distribution and hygiene promotion (UNICEF 2014). However, the WASH cluster has only been able to implement part of its strategy, due to severe lack of funding. OCHA also lamented the lack of WASH partners in critical areas of the country to ensure immediate WASH response (i. a. due to the insecurity that characterises many rural areas in CAR).

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[7] Figures from IDMC. http://www.internal-displacement.org/sub-saharan-africa/central-african-republic/figures-analysis. Accessed 10 December 2014.

[8] Figures from OCHA. http://ewww.unocha.org/car. Accessed 13 February 2017.

[9] Figures from OCHA. http://www.unocha.org/car. Accessed 13 February 2017.

[10] OCHA (2017) République centrafricaine: Aperçu humanitaire (au 23 janvier 2017). https://www.humanitarianresponse.info/fr/operations/central-african-republic/document/r%C3%A9publique-centrafricaine-aper%C3%A7u-humanitaire-23-janv. Accessed 13 February 2017.

[11] See OCHA's CAR Humanitarian Snapshot: http://reliefweb.int/sites/reliefweb.int/files/resources/car_3wop_-_partenaire_-v2-octobre_2015.pdf

The gender dimension of humanitarian assistance is primarily addressed through protection activities. The protection cluster is led by HCR and comprises two sub-clusters on child protection (led by UNICEF with Save The Children and COOPI) and Sexual and Gender-based Violence (SGBV) (led by UNFPA with Mercy Corps (OCHA 2015). The Protection Cluster puts special emphasis on preventing and responding to sectarian and gender-based violence, and on protecting children, the elderly, minorities and people with disabilities (OCHA 2015).

Gender Coordination Mechanisms exist and are functional, but constrained with shortage of staff. The Ministry of Social Affairs, National Solidarity and Promotion of Gender has been severely weakened (as in the case of other government institutions) as a consequence of the protracted conflict. Also the GBV sub-cluster suffers from key constraints linked to limited staffing, funding, capacity and low mobility (Odicoh 2014).

6.4   Findings from Emergency Response Practices

To examine the ways in which the principle of impartiality in humanitarian action and the promotion of gender equality in programming play out in practice, the following section looks at the integration of a gender perspective across the humanitarian project cycle management. The analysis draws on the framing of gender equality in humanitarian programming detailed earlier in the chapter and takes WASH activities implemented in Bossangoa as examples. This section is organised around the following questions:

1. To what extent has the humanitarian WASH response the project recognised gender-based differences?
2. Have WASH activities targeted particular needs and have they supported the 'do no harm' principle and impartiality?
3. Has the project engaged in activities to promote transformations in gendered power relations?
4. How has the conflict-affected context impacted gender equality in WASH programming and sustainability?

6.4.1   Has the WASH Response Recognised Gender-Based Differences?

When ACF conceived the project in early 2014, it did not include a gender and age comparative analysis to inform humanitarian activities. However, driven by a request from the donor (USAID), ACF implemented of a Knowledge, Attitude and Practice (KAP) survey in September 2014 to compare different geographical

contexts (rural, urban, remote villages) and establish a baseline of hygiene practices in communities. This survey was useful to understand the urgent needs of local communities to access clean water and to point out the pervasive lack of improved sanitation facilities. However, the KAP survey only targeted women and did not collect data disaggregated by gender and age. This made it impossible to draw any comparison between men's and women's access to WASH and potential differences in their perceptions and practices.

ACF did not include the perspectives of men and those of different age categories for several reasons. First of all, interviews with ACF staff revealed a general lack of understanding of the concept of gender equality. Field practitioners were convinced that conducting a traditional KAP survey with mothers was enough to be 'gender-sensitive'. As women are typically in charge of hygiene and other health-related practices in the household, ACF's staff assumed that interrogating women would have given them a comprehensive understanding of the sector. Another limitation was that only male enumerators conducted the survey. As women may feel constrained to express concerns related to personal hygiene or reproductive health to men, this raises questions of how accurately the KAP survey captured the needs of all community members.

The levels of understanding of the concept of gender by local teams is one of the main factors influencing its actual (lack of) integration in project's activities (Laubin et al. 2011). Gender is often misunderstood and perceived as a burden, 'one more thing' to consider when filling in project proposals templates and monitoring and evaluation frameworks. Local staff in Bossangoa considered that existing guidelines and tools to integrate gender in the project cycle were too theoretical and not well adapted to their context of intervention.

The short timeframe imposed by donors to submit proposals for emergency interventions, and the fact that during the conflict in CAR many villagers had fled their homes and were taking cover in the forest, meant that local communities were not involved in the design phase of the intervention. As a result, important information to guide the design of relevant activities was missed out, such as the fact that women are typically responsible for collecting water, but that only men are responsible for repairing the water pumps when these are broken.

Also, information about the high and gender-imbalanced illiteracy rates among the population and people's preferred choice of language was crucial to design adequate activities. For example, ACF wanted to recruit and train community volunteers as champions to promote hygiene practices in their neighbourhood. One of the criteria in the ACF's WASH project was to recruit literate volunteers so that they could fill in monitoring forms and keep track of the number of households sensitised to hygiene practices. However, the illiteracy rate among women is much higher than that of men (it reached 87.4% on average in rural areas in 2008). In one of the villages where discussions were held, only one woman was able to read and write. Therefore, even when ACF teams suggested to authorities that women should be encouraged to apply as community volunteers, their participation was ruled out as

authorities wanted to respect the selection criteria of literacy and only put forward the application of men. Men were automatically selected as community volunteers, and this biased the allocation of financial compensations to their advantage.

This example illustrates how a gender-neutral intervention can reinforce gender inequalities by favouring men – who typically already have access to education, more qualified positions and income-generating opportunities. Selecting and training women as community volunteers was essential to ensure that awareness campaigns were tailored to women's perspectives. However, it could have also been an opportunity to educate women and support their empowerment to take more responsibilities in their communities.

Developing gender-sensitive activities is key to ensure that men and women equally benefit from the project's interventions. The lack of time, human resources and expertise that is typical of emergency situations limited the capacity of ACF to do enough interviews and collect enough data. Without a preliminary needs assessment based on sex and age-disaggregated data, it becomes difficult to design and implement activities that adequately improve the conditions (e.g. access to basic services) and positions of men and women (e.g. addressing the strategic interests of people traditionally marginalised). Collecting this information during the design phase of the project can help better target the audience, select the best communication means and tailor messages accordingly.

6.4.2 Have WASH Activities Targeted Particular Needs and Have They Supported the 'Do No Harm' Principle and Impartiality?

Understanding the different gender roles and responsibilities within people's household is important to adapt activities and prevent them from reproducing existing inequalities. This directly relates to the principle of "do no harm" that ACF and other humanitarian organisations operating in emergency and conflict contexts seek to apply.

First, discussions with both national and expatriate staff revealed that local women tend to be perceived as 'less capable' than men. This had implications not only for how beneficiaries are perceived and consulted but also how humanitarian actors operate. Staff members saw women as 'shy', 'they do not take initiatives', and 'they are not as competent as men to lead project activities'.[12] Villagers also used the 'lack of skills' of women as an argument to justify the low number of selected female community volunteers. Additionally, at the time of the fieldwork,

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[12] Focus group discussion with male staff members in the Bossangoa field office, Central African Republic (conducted in October 2014).

ACF local team in Bossangoa was comprised of 2 women and 19 men. Very few women applied to job postings especially in the WASH sector, as activities relate to the maintenance and rehabilitation of water points (seen as a 'man's job'). Yet, even male members of the ACF team admitted that they did not have the right skills when they were hired, for example in terms of project management. The lack of qualification of women was not an acceptable excuse to justify that they are not entitled to be technicians, hydrologists, or facilitators in the same way than men, and that they too could receive training. These observations point to the need for NGOs' staff to be sensitised about the importance of gender equality as a precondition before talking about gender mainstreaming in the intervention.

Second, village authorities are the traditional gatekeepers to access information and convey messages to the rest of the community. Decision-making is largely a male-dominated process. Authorities can support NGO projects when they are concerned with and attentive to the needs of the rest of their communities, but can also slow them down if they forget, or decide not to share NGOs' information. Furthermore, because the majority of authorities are men, they may not pass on certain information to women (e.g. on hygiene practices as they may feel ashamed to talk about them), or will not select women to participate in project's activities. For instance, in one village, authorities did not inform the rest of the inhabitants about the ACF project and its intention to train community volunteers on WASH practices. This meant that when ACF teams asked local decision-makers for a list of volunteers (who would be financially compensated) to participate in promoting hygiene practices, the selection process was controlled by village chiefs, favouring some people over others.

In the interviews, villagers across the Bossangoa region argued that women are present in village meetings, have the right to speak and the opportunity to express themselves. In reality, ACF local staff noted that women's opinions most likely are not taken into account. Male-dominated decision-making processes influence social and economic dynamics related to the use and control of household and community resources. This trend was confirmed in consultative discussions that were conducted with women and men separately.

The principle of 'do no harm' implies paying attention to changing social dynamics that may arise from the project, particularly in terms of power. Discussions with villagers and ACF staff highlighted that people's position within the community is also determined by their economic status. Typically, people with limited financial resources are less inclined to speak in public, according to ACF national staff. If the project provides financial compensation to villagers and generally contribute to promote the participation of members who are otherwise marginalised, NGOs must be vigilant about possible changes in community and family dynamics.

The consequences of the intervention on women's workload also need to be taken into account. Women are primarily responsible for domestic duties, and are often involved in some income generating activities (e.g. working in the fields and

selling crops). Practitioners need to be aware of these different responsibilities in order to better understand if some women do not participate in the project simply because they are too busy; and to make sure that female community volunteers do not see their workload increase, as they could eventually transfer domestic chores to children, and especially girls, in order not to lose this additional source of income.

6.4.3 Has the Project Engaged in Activities to Promote Transformations in Gendered Power Relations?

Following the consultancy and recommendations to increase attention to inclusion and gender equality in the project in Bossangoa, the ACF local team implemented a series of actions aimed at integrating gender in the project's activities. In follow-up discussions with ACF staff, the researchers noted progress on three different fronts: the project increased the involvement of community members (both men and women) in its activities; it targeted women and girls more effectively; and it contributed to gender equality amongst the project's staff as well as beneficiary communities.

6.4.3.1 Progress on Staff and Community Participation

One of the basic changes that the staff incorporated in its WASH intervention in Bossangoa was to translate the project's documents from English to French and to make these documents more accessible to the national staff to foster their participation. In order to improve inclusive practices, the project leader also discussed with national staff how to better address the distinct needs of the beneficiaries, taking into account the constraints posed by the political and security situation in Bossangoa. As a result of this brainstorming exercise, the group came up with alternatives to the current intervention, focusing on supporting the return of displaced villagers. The ACF staff also discussed these ideas with the population during village meetings. In some villages, people made explicit requests to change some of the project's activities, and the project was modified accordingly. For example, ACF staff decided not to implement the family latrine construction campaign, because villagers felt they would not have enough time available to dedicate to it.

The necessity to use the local language to convey project-related information was also crucial to make sure that all the members of the community had equal opportunities to access knowledge. This increased the inclusivity of the project, allowing more individuals, including illiterate women and men, to contribute with their perspectives and priorities.

6.4.3.2   Progress on More Tailored Activities

During the hygiene promotion campaigns and focus group discussions that were conducted in the first phase of the project, women asked for training on corporate intimal hygiene practices. To give more attention to the views of beneficiaries, the project proposal was thus amended and incorporated the distribution of intimate hygiene kits to young women, coupled with training and sensitisation activities. When presenting the project in the villages of Bossangoa, ACF insisted on the importance of involving women, and encouraged the authorities to organise separate focus group discussions between men and women and different age groups, in order to improve both the participation and the quality of the community decisions. In several instances, local authorities praised the usefulness of these participative approaches to discuss not only WASH, but also other topics of relevance to the community.

The ACF staff also explained concepts of inclusion, equality and gender during their meetings in the villages and highlighted the need to target also other vulnerable categories, such as the elderly and people living with disabilities. As a way to bypass any institutional barrier imposed by local authorities, the ACF staff asked each villager attending the meeting to act as ACF spokesman /spokeswoman and to report the discussions to all absents. Men were tasked to inform their friends and family, women were asked to inform their neighbours. ACF pledged to begin its activities only after having verified, through random interviews, that all people in the village were actually aware of the project.

The ACF team revised the selection process of community volunteers. Despite ACF's efforts to encourage women to become community volunteers, women still accounted for less than 10% of the list that village leaders submitted to the ACF team. The reason for their low participation was the workload associated with their domestic responsibilities and, to a greater extent, the lack of literate women in rural areas. ACF realised that, while they were encouraging women to apply, its own selection methods (based on education levels) kept excluding women from these positions. Therefore, ACF removed the education requirement and increased the number of required volunteers from 75 up to 131. This way, it became possible to recruit women without replacing men who had already been appointed as volunteers, which avoided social tensions. As a result of this strategy, 55 out of the 131 volunteers appointed were women, 20 of whom were illiterate.

6.4.3.3   Establishing Fairer Recruitment Processes

Considering the difficulty, and sometimes the reluctance, of ACF staff and volunteers to use local languages, the ACF project leader recruited staff who were fluent in at least one of the local languages. However, ACF pointed out that the lower skills of job applicants in rural areas, compared to those from Bangui or other NGO workers, represented a constraint. Even though NGOs are willing to train new staff

members to increase local skills, in reality this process requires time that emergency projects often do not have.

Similarly, ACF faced difficulties with the recruitment of female staff. In November 2014, an attempt to recruit a female protection focal point failed due to the lack of qualified applicants. To encourage more people to apply, particularly local women, ACF changed the title of the vacancy to describe a position that is more suitable to women (*animatrice*, as opposed to *animateur* in French), but kept the terms of reference unchanged. As a result, a greater number of applications were received and a new female staff member was hired to run the training of volunteers. The team adopted the same strategy in the following recruitment sessions. Although this consideration does not necessarily apply in English-speaking contexts, it is important that NGOs take into consideration the nuances of the language being used and the divide that it might maintain between gender groups.

As suggested by Bennett (2015), practitioners need to be open to 'seeing' rather than automatically imposing predetermined understandings of what gender equality looks like in a given context. Our observations in Bossangoa highlight the importance of recruiting women as community volunteers, as they know best what different groups (including women and girls) need. The skills they learn from the project can benefit their wider strategic interests and allow them to acquire a better position in their communities. Nevertheless, NGOs and other external actors must assess and take into consideration the existing responsibilities of women within their communities, and make sure to understand how their interventions can change community and family relations.

6.4.4 Challenges Reinforced by the Emergency Context and Impacts on Sustainability

The extremely volatile context of the CAR hindered the capacity of the local staff to conduct the needs assessment and analyses that would normally take place before planning and implementing a project.

The reduced rate of incidents in the sub-prefecture of Bossangoa prompted many IDPs to return to their villages as of June 2014. However, their houses had been looted or burned down, water points vandalised, livestock and farm tools stolen, schools closed down. Rumours of raids perpetrated by the former Sélékas in the Northern Ouham province contributed to maintain fear and insecurity. This posed constraints on the daily activities of communities, such as farming, markets, schools; it also hindered the implementation of the ACF project. Respondents from ACF argued that this context of insecurity impeded the implementation of general guidelines mandated by the international headquarters, including those on gender mainstreaming. In a crisis context like the Central African Republic, addressing the basic needs of refugees and IDPs takes priority over careful project planning; gender-sensitive needs assessments, disaggregated data collection and cultural consider-

ations all become secondary concerns. In Bossangoa, ACF staff also left aside issues of GBV and their impact on the delivery of WASH services. GBV is typically perceived to be a topic addressed by organisations working on protection, not a cross-cutting issue that all NGOs can really address.

A survey conducted in Bossangoa reported that communities lamented the failure of NGOs to monitor the impact of their projects. From our discussions with villagers, it emerged that, because of the on-going crisis calling for short-term humanitarian interventions rather than long-term development projects, very few NGOs invested in monitoring and evaluation. Yet, these would have been key to strengthen the quality and relevance of humanitarian interventions and should have included both quantitative and qualitative gender-sensitive indicators.

To help ensure the sustainability of the project's activities, ACF appointed WASH Steering Committees in each municipality. ACF presented the project to the Steering Committees, as well as the administrative authorities of Bossangoa amd hand pump repairmen to ensure buy-in. The presentations focused on the selection criteria for targeted villages, the contribution of community members, and the importance of involving local institutions in the project. This worked well in small villages in rural areas. However, it proved more challenging in bigger villages where local authorities were more resistant to collaborate. Political conflicts within communities as well as differences in approach with other NGOs also undermined a greater reliance on local governance.

6.5   Conclusion

This chapter has presented some of the challenges of integrating gender equality in humanitarian interventions to improve access to water, sanitation and hygiene. While the integration of the gender dimension is needed in the design and implementation of emergency projects and enhances the impact of NGOs' activities, it is often not applied in practice. To understand how best this can be done, evidence from concrete interventions is required. This chapter aimed to provide insights from a WASH project in the Bossangoa province of the Central African Republic. Drawing on observations, interviews and focus group discussions with NGOs' staff and project beneficiaries, we discussed how the lack of attention to gender equality in humanitarian programming can undermine the principles of impartiality and do no harm.

The example of the ACF project in Bossangoa and the data collected during fieldwork in CAR, emphasised that difficulties to integrate gender into projects' activities can be attributed to gaps existing between (i) the ambition of the initial proposal and the realities that restricted ACF to mainstream gender equality within its programming, and (ii) the intervention strategy and means that are allocated to integrate gender within project activities. The analysis particularly emphasised that shortcomings in implementing participatory approaches come from within the organisation itself, as well as from the attitude, response and structure of local communities. Male dominance in local staff and general unawareness and misunder-

standing of the concept of gender mainstreaming hamper the integration of gender in humanitarian projects. Further difficulties relate to the context of emergency and insecurity in which the intervention is implemented, with associated logistical and communication constraints.

The analysis suggests that humanitarian actors should consider the long-term impacts of their interventions in terms of equality. By understanding the implications of not addressing gender inequalities as a breach of the core humanitarian principle of impartiality, one can improve the effectiveness of interventions. The case study also contributes to the existing literature by focusing on the WASH sector, whereby most discussions on gender mainstreaming in humanitarian interventions have been confined to protection, thus missing important dimensions of empowerment at societal level through the provision of basic services such as water and sanitation.

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Chapter 7
Engaging with Gender in Water Governance and Practice in Kenya

Chinwe Ifejika Speranza and Edward Bikketi

Abstract How water is distributed, who has access and can make decisions on its use depends on various social, structural and institutional factors, among them gender. This paper examines the extent to which water–related policies and plans of the Kenyan government engage with gender. It analyses how the framing conditions set by the policies and plans affect the management of community water groups in Laikipia, and assesses whether the community water groups through their activities reduce gender inequality in access to water and in decision making about water-use. It uses a gender analytical framework that identifies three levels of engagement, whereby engagement occurs in a continuum: (1) gender mainstreaming, (2) the experience of gender in terms of addressing practical and strategic gender needs, and (3) the degrees of action to reduce gender inequality. We find that the Kenyan public policy has institutionalised various measures to reduce gender inequality, a major strategy being to limit the representation of either men or women to two-thirds in any governance arrangement. This means a 30% minimum representation of women. This top-down structural measure has permeated government ministries, departments and agencies and has become a precondition for government practice and interventions, including the water sector. By being an obligation, it is transformative in that it changes the way governance has been conducted prior to the policy change and serves as a benchmark for practice within and outside government. Bound by the water governance arrangements of the government, most community water groups have had to adopt the "two-thirds gender rule". This policy measure has thus trickled down to local water governance. However, achieving strategic gender goals remains a challenge, highlighting how gender mainstreaming is inadequate to completely reduce gender inequality. Additional efforts are needed to change socio-cultural beliefs and norms to support a more gender-equitable access to water. Furthermore, an analysis of the community water groups highlight that

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financial capability may be a stronger factor than gender in determining men and women's access to water in Laikipia, Kenya. Thus in addition to addressing socio-cultural beliefs and norms, there is a need to explore the intersections of gender and capabilities, and the roles they play in reducing gender inequality in water use and governance.

Keywords Water governance • Kenya • Community water groups • Inequality • Gender mainstreaming

7.1 Introduction

Disparities in water availability and access are major development concerns. How water is distributed, who has access and can make decisions on its use depends on various institutional, structural and social factors, among them gender.[1] Gender affects the distribution of resources and responsibilities and remains one of the most widespread categories of social inequality, with enormous local and cultural variations (Boserup 1970; Tinker 1990; Elson 1995; Ifejika Speranza 2006; Wyrod 2008). Ridgeway and Correll (2004, 511) argue that "widely shared, hegemonic cultural[2] beliefs about gender and their effects in "social relational contexts" (situations in which individuals define themselves in relation to others in order to act) are among the core components" that make a gender system persist or open to change. Gender ideology and beliefs that are hegemonic are institutionalized in various spheres of society such as in the media, government policy, normative images of the family (Ridgeway and Correll 2004) and markets. Gender is both socially determined and performative and can change through both individual and social action (Butler 1990). Quisumbing (1996, 1580) thus argues that since gender is socially determined, it can be changed through conscious social action including public policy (op. cit).

Yet, policy formulation, planning and implementation in the water and related agricultural sectors continue to exclude or misinterpret women's needs, interest and experiences and/or subsume them with those of men (Kabeer 2010; Elson 1995). Policies may contradict one another in their engagement with gender (Rao 2017),

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[1] Drawing on literature, Ridgeway and Correll (2004, 510) refer to gender as "an institutionalised system of social practices for constituting people as two significantly different categories of men and women, and organising social relations of inequality on the basis of that difference". A gender system "... involves cultural beliefs and distribution of resources at the macro level, patterns of behaviour and organisational practices at the interactional level, and selves and identities at the individual level" (p. 501–502).

[2] Gramsci's concept of cultural hegemony addresses the relation between culture and power under capitalism (Jackson Lears 1985, 568), and "refers to a historical process in which a dominant group exercises 'moral and intellectual leadership' throughout society by winning the voluntary 'consent' of popular masses" (Kim 2001, 742).

may have destructive impacts on rural-based livelihoods (Bryceson 1999), but can also lead to cracks in a gender ideological order (Bryceson 1999). However, whether policies and their implementation reduce or increase gender discriminations depends on the social structures and relations and the pre-existing gender discriminations in specific contexts (Bryceson 1999; Daley 2011; Rao 2017).

Although the roles of women in the water and agriculture sector vary widely across the developing world, women farmers share a common set of gender-based disadvantages (Bikketi et al. 2016; Farnworth et al. 2013; Ifejika Speranza 2006). They tend to have less access than men to productive resources like water, land, livestock, and labour, less access to credit, limited control over household income, less access than men to agriculture inputs, extension services and markets (Bikketi et al. 2016; Ifejika Speranza 2006; Mackenzie 1990). In Sub-Saharan Africa (SSA), where about 80% of women depend on agriculture for their livelihoods (SOFA and Doss 2011), deeply rooted gender discrimination contributes significantly to low productivity and profitability of women's economic enterprises, which in turn exacerbate poverty, food insecurity and malnutrition. A gender analysis thus illuminates evolving differences in the needs, priorities, roles, statuses, and capacities of men and women, as well as the constraints and opportunities they face (Doss and Kieran 2015).

Furthermore, a majority of women smallholders in SSA have very low literacy levels, few marketable skills, and little access to formal or informal income generating activities (FAO 2011). In patriarchal communities, these women generally have no right to inherit land, a crucial livelihood asset, leaving them wholly dependent on their husbands and/or male relatives for their financial security and wellbeing despite explicit provisions by various Constitutions (Ifejika Speranza 2006; Doss et al. 2012; Lastarria-Cornhiel et al. 2014; Bikketi et al. 2016). The male household heads typically decide what to do with household resources, leading to insecure access to resources required for sustained agricultural production (Ifejika Speranza 2006; Wyrod 2008; WDR-World Development Report 2012, 72–91; Kassie et al. 2014; Dancer and Tsikata 2015). Thus the rights of women to access and control resources such as land or water remain a matter of concern.

In SSA, water as a resource has layered rights based on use, control and ownership. These rights extend from (i) access (physically accessing the resource), (ii) extraction (ability to take a part of the resource) (iii) management rights or decision-making about the resource, (iv) exclusion rights, and (v) rights of alienation (decision-making about sale, lease or bequeathing the resource) (Rao 2016 citing Schlager and Ostrom 1992). These rights affect men and women differently (Daley 2011; Tsikata and Yaro 2014). For example, fetching water for domestic use is a responsibility that is normally assigned to women and children in various socio-cultural contexts (Ifejika Speranza 2006; Gallois et al. 2015). Such is the case in many regions of Kenya, a country that is considered water-scarce with less than 1000 m³ of renewable fresh water supplies per capita and year (USAID 2014).

Thus where water supply is difficult, e.g. in many rural areas, women and children have to put in extra time and labour to access enough quantity of water that is of good quality for household needs. Being responsible for household management, women have an interest in secure water supply. Thus among addressing other devel-

opment challenges, women in various rural areas of Kenya have organised themselves into groups to improve their access to water, for instance, by contributing money to purchase water tanks for each member (Mutugi 2006).

However there are cases where water supply and access becomes a broader challenge affecting both men and women's lives. In such cases both men and women self-organise to improve their access to water for various uses. This is the case of the Community Water Groups (CWGs), that is, self-help groups that aim to improve their members' access to water, in the upper Ewaso-Ngiro river basin in the Mount Kenya region. Such a case raises questions on (i) whether gender inequalities persist in water access and use (ii) what measures CWGs put in place to reduce gender inequality in water resources management, and (iii) to what extent the policies and practices of the various relevant government bodies foster the capacity of men and women to access water. This paper thus has three objectives: First, to examine the extent to which water–related policies and plans of the Kenyan government engage with gender. Second, to analyse how the framing conditions set by the policies and plans affect the management of CWGs. And third, to explore whether the CWGs through their activities reduce gender inequality in access to water and in decision making about water-use. Such a focus can provide insights on the effectiveness of top-down structural measures (as reflected by government plans, policies and practices) and bottom-up measures as reflected in the self-organisation of CWGs in reducing gender inequality in water access and use. The paper is thus structured as follows, first we present the methodological and conceptual framework, we examine how the policies and plans engage with gender, then we analyse how participation in CWGs reduce gender inequality in decisions on water use and management and whether the benefits are equitable in gender terms. Lastly, we discuss the implications of our findings and conclude.

7.2   Methodology

We adopted a two-pronged approach. First, we analysed policy documents including bills and acts as well as other strategic plans and annual reports of relevant government bodies, where available. And second, we collected empirical data from a survey and key informant interviews of CWGs in the Upper Ewaso-Ngiro North basin of Kenya to examine how gender mediates access to water and how gender is accounted for in local water management.

7.2.1   Conceptual Framework

We modified the assessment framework of gender engagement proposed by Bunce and Ford (2015) into a conceptual framework of policy engagement with gender (see Table 7.1). The authors identified three levels of gender engagement, whereby

Table 7.1 Gender Engagement Framework – examining the level to which government policies and plans are engaging with gender

Attributes and dimensions of engagement	Questions/indicators	Scoring system (Yes:1; No:0)
1. Gender mainstreaming: extent to which gender concepts are being applied in the policy process		Total possible score: 3
(i) Gender-sensitivity	"Is there explicit recognition of the different needs and experiences by gender"[a]?	[a]Presence of at least one or all condition(s): score of 1/Absence: score of 0
	"Are there objectives, actions, and/or indicators that aim to reduce gender disparities"[a]?	
	"Is gender sensitive language used"[a]?	
		Total Score: 1
(ii) Gender-responsiveness	"Is the Information presented in a gender-disaggregated manner"[a]?	Presence of at least one or all condition(s): score of 1/Absence: score of 0
	"Do progress indicators measure or plan to measure the different impacts experienced by each gender"[a]?	
	"Are there recommendations or evidence of equal participation in decision-making processes by all genders"[a]?	
		Total Score: 1
(iii) Gender-transformativeness	Does the policy propose/plan activities that can trigger changes in social values?	Presence of at least one or all condition(s): score of 1/Absence: score of 0
	Does the policy promote the rethinking of societal structures of power as they relate to gender?	
	Does the policy propose/plan changes in organisational practices and goals?	
		Total Score: 1
2. Experience of gender: extent to which the specific needs of different genders are acknowledged and addressed in the policy/plan.		Total possible score: 3
(iv) Practical needs	Does the policy/plan focus on improving the practical and differentiated needs each gender experiences within current gender norms?	Presence: score of 1/ Absence: score of 0
(v) Strategic needs	Does the policy/plan aim to reduce gender inequality through a re-evaluation of power distribution/ societal roles and responsibilities/legal rights?	Presence: score of 2/ Absence: score of 0
		Total Score 3
3. Degree of action: extent of action being taken to reduce gender inequality in the policy/plan		Total possible score: 3

(continued)

Table 7.1 (continued)

Attributes and dimensions of engagement	Questions/indicators	Scoring system (Yes:1; No:0)
(vi) Statements of recognition	Does the policy/plan acknowledge that a relationship exists between gender and water?	Presence: score of 1/ Absence: score of 0
(vii) Groundwork	Are recommendations made that would reduce gender inequality in water use and governance?	Presence of at least one or all condition(s): score of 1/Absence: score of 0
	Are recommendations made that aim to reduce gender inequality through water management and governance processes?	
(viii) Concrete Action	Does the policy/plan describe concrete actions that have been taken or are being taken to reduce gender inequality in water use and governance?	Presence: score of 1/ Absence: score of 0

Adapted from Bunce and Ford (2015, 4)

[a]Note: For each indicator, 'presence' = an affirmative answer to one of the indicators (Bunce and Ford 2015, 4)

engagement occurs in a continuum: (1) gender mainstreaming, (2) the experience of gender in terms of addressing practical and strategic gender needs, and (3) the degrees of action to reduce gender inequality. These three levels, which we refer to as dimensions are further divided into eight sub-dimensions (Table 7.1).

In the model of engagement proposed by Bunce and Ford (2015), gender mainstreaming refers to the process/strategy whereby gender equity and equality issues are addressed across all governmental policy spheres, rather than in small, marginalised policy units devoted exclusively to women's issues (Alston 2009; UN 1997). The authors conceptualise gender mainstreaming as a function of (i) gender-sensitivity, (ii) gender-responsiveness and (iii) gender transformativeness, whereby gender-sensitivity refers to the acknowledgment of different gender experiences and needs, and the use of gender-sensitive language. Gender-responsiveness refers to presenting data and other issues in a gender-disaggregated manner, while gender-transformativeness captures the re-evaluation of current norms, values and practices to include gender (Bunce and Ford 2015, op. cit).

According the authors, policies and strategic plans that engage with gender at a low level simply acknowledge that gender exists (gender awareness) and in some way interacts with the issues being addressed (Bunce and Ford 2015). In contrast, policies and plans that engage with gender at a higher level acknowledge different gender experiences in terms of (iv) practical and (v) strategic gender needs. Such policies and strategies consider gender throughout an intervention, recognise and highlight the underlying power structures and deeply entrenched inequalities in power between socioeconomic classes and between women and men.

The degrees of action to reduce gender inequality can be in the form of (vi) "statements of recognition" acknowledging that a relationship exists between an

issue and gender; (vii) "groundwork statements" that recommend reductions in gender inequality and proposing (viii) "concrete actions" to reduce gender inequality (Table 7.1).

We developed an assessment framework to operationalise the conceptual model and assess the levels of engagement with gender in policies and strategic plans by government as a whole (e.g. Constitution) and in its various bodies in water and related sectors (agriculture, land, and climate information). While policies and plans may not mirror actual implementation, they still capture government intentions to implement measures. Key policies in the water and agriculture sectors including guidelines, regulations and strategic plans were identified by reviewing a government list of policies and websites of the ministries and government bodies responsible for gender, water and agriculture. These were then scored according to their engagement with gender whereby those documents that did not address gender in any form were scored zero. The higher the score for each policy/plan, the higher its engagement with gender in the three dimensions described in Table 7.1. As policies do not feature "groundwork" and "concrete action" (Table 7.1), we also reviewed additional lower level documents (e.g. programmes and project reports as well as annual reports) to capture government practice and to complement the basis for scoring performance in "groundwork" and "concrete action". The scores were then summed to capture the level of engagement with gender. Following Bunce and Ford (2015), an engagement index was calculated in a table by summing scores for the dimensions indices "using equal weighting on a nine point scale" (note that "strategic needs" has a maximum value of 2). Based on this scale, policies and plans were then categorized as having high (scores of 7–9), moderate (scores of 4–6), or low levels (scores of 0–3) of engagement with gender (Bunce and Ford 2015).

7.2.2 Analysis of Policy Documents, Plans and Other Government Reports

To investigate ways in which Kenyan government organisations engage with gender in their policies, strategic plans and practices, we first identified government bodies that have mandates for water resources management or mandates related to land and environment. We screened 34 documents of the government of Kenya and narrowed down to 19 policy documents for in-depth analysis. Besides policies, we also analysed annual reports of line ministries where available. The documents were uploaded in MAXQDA®, a software for qualitative data analysis and coded using the 8 sub-dimensions in Table 7.1. In parallel, the scores were entered into a table and summed, to reflect the level of engagement with gender in the policies and plans – the higher the total score, the higher the engagement of policies and plans with gender.

7.2.3   Empirical Data Collection and Analysis

To capture the reality on the ground we analysed empirical data collected in 2011–2012 from respondents in 30 water development interventions in the Upper Ewaso-Ngiro North basin of Kenya to examine how gender mediates access to water and how gender is considered in local water management. The data collection was in the context of a research project on the impacts of development interventions in the Laikipia region, where a gender dimension in water management was one of the aspects captured. The data were collected through surveys targeting 290 households out of the 6808 members of the CWGs and key informant interviews of the members of the management committee of the 30 CWGs. The respondents from the household survey comprised 40% male household heads, 20% female household heads, 38% wives and 1% each of an adult son and daughter (see Ifejika Speranza et al. 2016). This empirical data on gender and local practices of water resources management enriches the policy analysis and assessment. Descriptive statistics were used to examine gender engagement by the CWGs.

7.3   Results

We structure the results into two main parts: (i) public sector engagement with gender and water and (ii) the practice of engaging with gender in community water projects.

7.3.1   Public Sector Engagement with Gender in Water and Water-Related Sectors

The results of the analysis of 19 policy documents and plans on the water-and water-related sectors are presented in Figs. 7.1 and 7.2 according to the sector and where possible in chronological order. Figure 7.1 provides a detailed view (according to the 8 sub-dimensions) of the level of engagement with gender by the policies and plans while Fig. 7.2 summarises them into the three dimensions of gender engagement. Out of the 19 policies and plans 6 policies scored high (7–9 points) in their engagement with gender, 8 scored moderate (4–6 points) while 5 scored low (0–3) in engagement with gender (Fig. 7.2; see also Annex 7.1).

    In the following, drawing on the results presented in Figs. 7.1 and 7.2 and literature review, we structure the results of the policy and document analysis into four sections, namely, (1) the general gender policy framework in Kenya, (2) Engaging with gender in the water sector, (3) Engaging with gender in other water-related sectors, (4) Engaging with gender in climate policy and, (4) Levels of engaging the different sub-dimensions of gender.
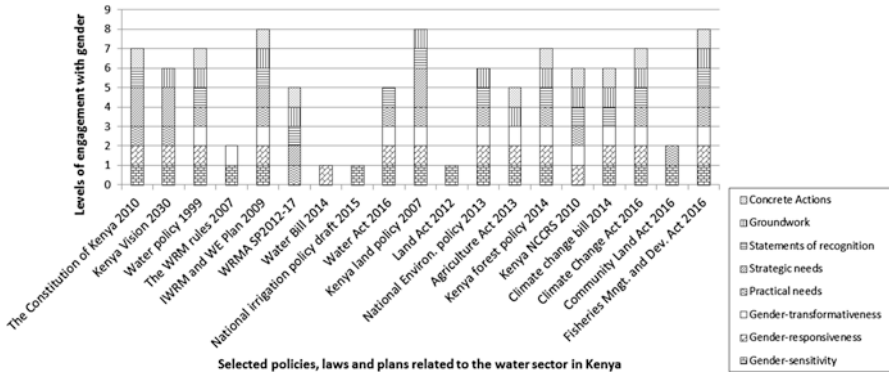
Fig. 7.1 Levels of engagement with gender equality in eight sub-dimensions in water- and related policies and plans
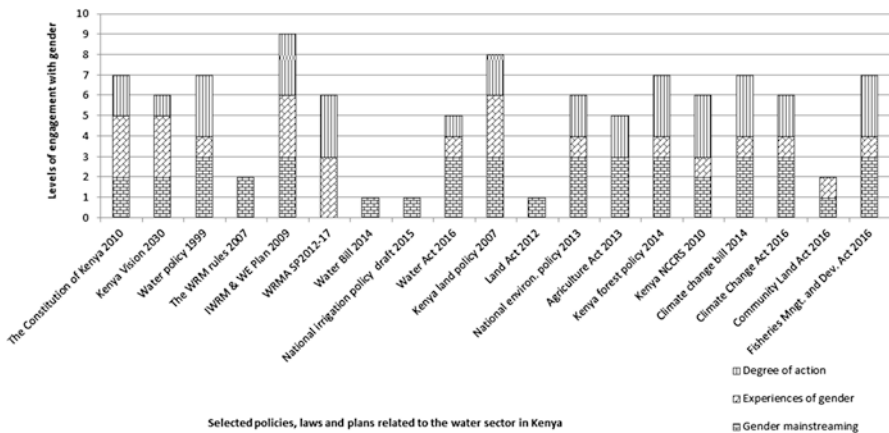

Fig. 7.2 Levels of engagement with gender equality in the three broad dimensions in water- and related policies and plans

7.3.1.1 The General Gender Policy Framework in Kenya

The Constitution of Kenya 2010 has institutionalised gender rights and gender equality. In Article 27(1) it states, "Every person is equal before the law and has the right to equal protection and equal benefit of the law." It specifies in Article 27 (3) that "women and men have the right to equal opportunities in political, economic, cultural and social spheres" (RoK 2010a, 24). It stipulates equitable access to land and elimination of gender discrimination (RoK 2010a, Art. 60; p. 42) and inscribes "values and principles of public service" whereby "adequate and equal opportunities" in employment in the public service should be given to both men and women (RoK 2010a, Art. 232, p. 139–140). In various Articles, the Kenya Constitution 2010 (27(8), 58(4); 81(b); 175(c); 177(1b); 197(1)) stipulates that not more than

two thirds of the members of elective or appointive bodies of government at various levels shall be of the same gender (RoK 2010a). This has become popular as the "two thirds gender rule". Although not yet achieved in all cases, it has become a benchmark not only in Kenyan politics and public service but is also spreading to non-governmental processes.

From a government-wide perspective, the Constitution of Kenya 2010 (RoK 2010a) and the Kenya Vision 2030 (RoK 2007a) scored moderate to high (Kenya Constitution: 7/9; Vision 2030: 6/9) in their engagement with gender (Fig. 7.1) with the constitution addressing gender in 6 of the 8 sub-dimensions, namely, recognising the different needs and experiences of men and women, with objectives, actions and/or indicators that aim to reduce gender disparities (gender-sensitive). The constitution is also gender-responsive by making recommendations for equal participation of men and women and providing room for women to occupy two-thirds of any elective or appointed positions, which are currently dominated by men. Through equal rights in all spheres it promotes a rethinking of changes in social values relating to what women or men can be, do or have. It thus plans to coordinate and facilitate gender mainstreaming in national development (RoK 2010a, 40) and eliminate gender discrimination. Through making recommendations to reduce gender inequality and proposing concrete plans and timelines the Constitution of Kenya promotes a reduction of gender inequality.

The Kenya Vision 2030 already laid the groundwork, as many gender concerns it addresses were adopted in the constitution. The Kenya Vision 2030, which was developed before the 2010 Kenya Constitution, is Kenya's national long-term development plan that aims to transform Kenya into an industrialising, middle-income country (Republic of Kenya 2007a). The Vision 2030 recognises the disparities between Kenyan men and women, thus stipulating the equality of all Kenyan citizens, and increasing the participation of women in all economic, social and political decision making processes. It promotes a higher representation of women in parliament, institutionalising the Women Enterprise Fund, increasing the fund allocations and improving efficiency in the projects run by their beneficiaries as well as promoting equitable distribution of water (RoK 2007a).

Gender affairs in Kenya have undergone various organisational reforms from its rise to prominence since the Kenya National Policy on Gender and Development (NPGD), (RoK 2000), which aims "to facilitate the mainstreaming of the needs and concerns of men and women in all areas in the development process in the country" (RoK 2000), to its entrenchment in the Kenyan Constitution. These processes have culminated in the establishment of the National Gender and Equality Commission (NGEC) based on the NGEC Act of 2011 (RoK 2011) and the State Department of Gender Affairs (SDGA) as part of the Ministry of public service, youth and gender affairs in 2015. The NGEC Section 8(a) has among others the responsibility "to promote gender equality and freedom from discrimination in accordance with Article 27 of the Constitution" (RoK 2011, 7). The NGEC can investigate cases of gender discrimination and where necessary refer such cases to the relevant authorities for prosecution (RoK 2011). The SDGA created "to promote gender mainstreaming in national development processes and champion the socio-economic

empowerment of women", is responsible for "expanding credit financing to women for enterprise development and ensuring equality in gender representation in all public appointments" (Republic of Kenya 2016b).

The SDGA also monitors compliance with international conventions and treaties that Kenya signed. Like many other African states, Kenya has committed itself in international conventions and agreements to address gender inequalities and take gender into account in national development. For Kenya, such agreements include the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW; 1979), the World Conference on Human Rights (1993), the Fourth World Conference on Women in Beijing (1995) and the Beijing +5 (2000), the Millennium Development Goals (MDGs; 2000) and the Sustainable Development Goals (SDGs; 2014). In line with these commitments, the Government of Kenya (GoK) established various legal frameworks and institutional arrangements to ensure that gender is mainstreamed into all government activities.

Prior to the reorganisation into NGEC and SDGA, the former Kenya Ministry of Gender, Sports, Culture and Social Services (MGC&SS) had various instruments to promote gender equality and women's empowerment. These included the 2006 Presidential Directive on Affirmative Action that stipulated a minimum of 30% women in recruitments, promotions and appointments in the public service (including all armed forces), the creation of gender focal desks in all ministries and parastatals as well as the Women Enterprise Fund (Ifejika Speranza 2010). These instruments reflected the political will of the Kenyan leadership to promote gender equality – the current dispensations on gender emphasise this political will. According to the MGC&SS (2010), the appointment of gender officers resulted in gender mainstreaming becoming an indicator in the performance contracts for the public sector. MGC&SS argued that this was a milestone for Kenya as organisations would ensure gender is mainstreamed in policy, planning, programming and budgeting in their sectors. Gender rights and gender equality thus have a strong institutional policy base in the Kenyan government. In the following we examine how other government policies, bills, acts and plans on the water and related sectors engage with gender.

7.3.1.2   Engaging with Gender in the Water Sector

The 1999 Water Policy (RoK 1999), which forms the basis for contemporary water governance in Kenya, addresses 7 out of the 8 gender dimensions examined. However, the Water Act 2002 (RoK 2002), which was only recently succeeded by the Water Act 2016, did not address gender at all while the Water Bill 2012, the Water Act 2016 (RoK 2016a) and the national irrigation policy draft 2015 (RoK 2015a), engage gender to the extent that they recognise the different needs and experiences of women and men related to water. The Water Bill 2012 reaches further in its aims to reduce gender disparities in access to water, and in recommending increased women participation in water governance.

The low engagement in the Water Act 2002 and the Water Bill 2014 is compensated by the succeeding Water Act 2016 that scores medium in its engagement with gender (Figs. 7.1 and 7.2). The Water Act of 2016 explicitly draws on principles and values stipulated in the Kenyan constitution. These include equitable access to land, the elimination of gender discrimination, and ensuring equal opportunities for both men and women (cf. Republic of Kenya - RoK 2002, 2010a, 2016a).

High engagements with gender are found in the various strategic and other plans of the water sector (cf. RoK 2009a, 2013a). The Water Resources Management rules 2007 (RoK 2007b) only addresses gender sensitivity and responsiveness by stipulating that for the Kenyan Water Resources Management Authority (WRMA) to register Water Resources Users Associations (WRUAs), the WRUAs must have constitutions that among other things promote gender mainstreaming (Note that with the Water Act 2016, which repeals the Water Act 2002, the WRMA transforms into the planned Water Resources Authority: WRA). As the WRMA (to become the WRA) is in charge of water resources management in Kenya and is mandated to enforce rules, other actors in the water sector are likely to adopt at least the minimum conditions set by the WRMA on gender equality and women empowerment. Further, Kenya's Water Sector Strategic Plan 2010–2015 stipulates that at least 30% of management committee members must be women (cf. RoK 2009a). It thus plans to develop and implement gender policy to guide mainstreaming, to sensitise its employees on gender, and to ensure compliance of one-third-gender representation in water governance and to collect sex disaggregated data. It also aims to engage women in the projects of the WRMA, with the goal of empowering them, and to develop and implement workplace policy on gender based violence. For all these activities, timelines have been set.

Finally, the Integrated Water Resources Management and Water Efficiency Plan for Kenya (IWRM and WEP; RoK 2009b) engages with gender in all its dimensions, aiming to mainstream gender, accounting for the practical and strategic needs of women and men and planning various actions (Fig. 7.1). While the water policy emphasises equity in access to water resources it does not explicitly mention gender dimensions of water resources management. The WRMA and IWRM-WEP stipulate stakeholder participation in water planning and management, in particular the participation of women, disadvantaged groups and the poor, and recognise that emphasis be given to capacity building and training of these social categories (cf. RoK 2009b). Hence we can conclude that the Kenya water sector is highly engaged in reducing gender inequality and promoting the representation and empowerment of women in water governance in Kenya. As the Ministry of water and irrigation with its departments and agencies are not the only government organisation working on water resources we expand our analysis to include other ministries focussing on environment and natural resources.

7.3.1.3 Engaging with Gender in Other Water-Related Sectors

Water resources management and governance are intricately linked with land management and governance as governance measures affecting land also affect water access and management. As such we extend the analysis to include land policies, laws and regulations, and other policies related to the agriculture sector. While the Land Act 2012 (RoK 2012) only acknowledges gender, the underlying Kenya land policy 2007 (RoK 2007c) engages with gender at a high level, addressing gender issues in seven out of the eight gender sub-dimensions (Fig. 7.1) and in the three main dimensions (Fig. 7.2), stopping short of concrete actions to reduce gender inequality. While the Community Land Act 2016 (RoK 2016c) stipulates non-discrimination and equality of gender it does not explicitly address gender with respect to customary law and customary land rights, considering that in many customary land rights, women's access to land is still dependent on their relationships with men (Ifejika Speranza 2006). The national environmental policy 2013 engages six out of the eight gender sub-dimensions (Fig. 7.1) and moderately addresses the three main gender dimensions (Fig. 7.2). It acknowledges the important role that gender plays in environmental management, the different ways gender mediates environmental impacts, hence proposes enhancing access to and ownership of resources for all gender (RoK 2013b).

The Agriculture, Fisheries and Food Authority Act 2013 (Agriculture Act 2013; RoK 2013c) moderately engages with gender but only in two dimensions, mainstreaming and recommending or implementing actions to reduce gender inequality that comprise five sub-dimensions (Fig. 7.1). It aims to "provide for mechanisms to ensure that not more than two thirds of elected members are of the same gender", and to provide women technical and other assistance with the aim of enhancing their socio-economic development. The Fisheries Management and Development Act 2016 (RoK 2016d) scores high and foresees further action to reduce gender inequality. Although the Forest Conservation and Management Act 2016 (RoK 2016e) draws on provisions made in the Kenya Constitution and foresees collaboration with community forest associations, unlike other Acts, it makes no reference to gender representation or to equity issues. The Kenya forest policy 2014 however, engages with gender at a high level, addressing the three gender dimensions (Fig. 7.2), comprising seven out of the eight gender sub-dimensions (Figs. 7.1 and 7.2) in the framework (Table 7.1). It aims to mainstream gender and "ensure gender equity in all" its "bodies at all levels, and to develop and implement a Gender and Forest Development Strategy" (RoK 2014b, 13). By aiming to "provide more opportunities and incentives for women to enter into forest training", education, careers and occupations, it acknowledges women's marginalised positions in forest use and management (RoK 2014b, 12).

7.3.1.4 Engaging with Gender in Climate Policy

Although climate change is not a sector, its cross-cutting nature implies it is important to consider its intersections with gender and water. With climate variability and climate change advancing, ensuring that responses to climate change engage with gender is critical. Both the National Climate Change Response Strategy 2010 (NCCRS; RoK), and the Climate Change Bill 2014 (RoK 2014c) engage with gender at moderate levels, with the former covering the three dimensions and the latter covering only two dimensions. In detail both address six out of the eight sub-dimensions of gender engagement (Fig. 7.1). The NCCRS aims to adopt a "participatory approach that involves different water users including men and women's groups in water resource management" (p. 53). It advocates for gender-based response strategies such as making improved energy saving "stoves that are accessible and affordable to all families and individuals, particularly women; working with women groups and field-based gender officers in disseminating climate change information" and "ensuring and encouraging equal representation of men and women in technology development, training and transfer" (RoK 2010b, 86). Mainstreaming gender into climate change responses is also a goal of Kenya's Intended Nationally Determined Contribution (INDC) submitted to the United Nations Framework Convention on Climate Change (cf. RoK 2015b).

The Climate Change Bill 2014 aims to establish a National Climate Change Council among whose responsibilities will be to "coordinate gender-responsive public education and awareness programmes on climate change and facilitate gender-balanced public participation in climate change programmes at the national and county governments" (RoK 2014c, 7). The Climate Change Bill also stipulates that not more than two-thirds of the staff of the council shall be of the same gender. With these plans becoming law, the Climate Change Act 2016 scored 7 points in its engagement with gender, through aiming to mainstream gender equity in all climate change responses; complying with the "two-thirds gender principle" and setting procedures that ensure gender equity in access to climate funds (cf. RoK 2016f).

7.3.1.5 Levels of Engagement with the Different Sub-dimensions of Gender

To obtain an overview of the extent to which the various sub-dimensions of gender engagement are captured in the policies and plans of the government bodies, we summarised the instances into percentages (Fig. 7.3). By instances we mean the number of times (in percentage) that policies engage with a particular gender sub-dimension (Fig. 7.3).

Taken together, the sub-dimensions constituting the gender mainstreaming dimension, namely, gender-sensitivity (84%), gender-responsiveness (74%) and gender transformativeness (63%), received the greatest attention in the policies and plans compared to the other dimensions (Fig. 7.3).
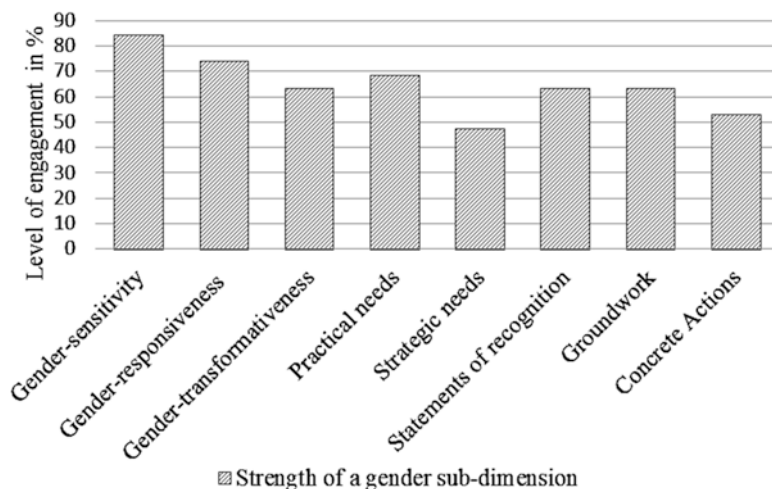
Fig. 7.3 The level of engagement of policies and plans with gender by sub-dimensions

With 68% and 47% respectively, the extent to which practical and strategic gender needs, that is the specific needs of different genders are acknowledged and addressed in the policies and plans, are relatively moderate to low. Further, the extent of action being taken to reduce gender inequality – that is, acknowledging that an unequal relationship exists that needs to be addressed (Statements of recognition 63%), making recommendations that would reduce gender inequality (Groundwork 63%), and describing concrete actions that have been taken or are being taken to reduce gender inequality (concrete actions 53%) is also relatively moderate in the policies and plans (see Table 7.1 and Annex 7.1 for details).

7.3.2 The Practice of Engaging with Gender in Community Water Projects

In the following, we examine the engagement with gender in water practice by analysing how community water groups (CWGs) manage and use water. Characterised by a mostly semi-arid lowland, and a sub-humid and humid highland, access to water in the Mount Kenya region is often difficult for downstream users. Competition for water between various uses ranging from domestic activities to irrigation by foreign-exchange earning commercial horticulture farms, further increases the strain on water resources and tensions about its use (Ifejika Speranza et al. 2016). CWGs, which are self-help groups, thus aim to improve their members' access to water. A major question that we ask in this section is whether CWGs manage and use water in ways that engage with gender. Using the same scheme in Table 7.1 we explore the extent to which CWGs engage with gender taking the case of community water projects in the Ewaso-Ngiro North Basin (ENNB) encompassing parts of the Mount Kenya region.

Firstly, we describe the context of the community water projects. In many areas of the ENNB, public water supply is non-existent. Hence people have to self-organise to develop water infrastructure. In such cases, participation in the CWG depends on financial capabilities with gender having little or no influence on which households participate in the water projects. However, gender might gain prominence in the management of the CWG and in the access to and use of the water resources.

To access Kenya's water resources, a CWG has to become a member of a Water Resources User Association (WRUA) and register with the WRMA, which is the Kenyan agency responsible for water resources management. Through registration with WRMA, CWGs have to pay water fees to the WRMA according to the amount of water abstracted from rivers or streams (between KSH0.7 and KSH1 per cubic meter). The costs of registration with the WRMA as well as the costs of developing water infrastructure are paid by members of the CWG (e.g. each member of the Nyakairu CWG pays KSH1200 per year; ca. US$12). Through these mechanisms, the CWGs become bound into the water governance framework of WRMA, and the WRUA, which is responsible for water management at a sub-catchment level. WRUAs formulate and implement the Sub-Catchment Management Plans. One of the stipulations by WRMA is the 30% women representation in the WRUAs. This stipulation has trickled down to about 90% of the CWGs that have women represented in their management committees.

It is important to note that local men and women developed most of the CWGs as a basis for improving their access to water through developing water infrastructure. The different needs and experiences of gender were only recognised in cases where women were represented in the Project Management Committees (PMC). As government resources are inadequate to provide water infrastructure, men and women organised themselves into groups to take advantage of the water governance arrangements by the WRMA, which stipulates that for inhabitants to develop water infrastructure and be eligible for registration by WRMA, they have to form groups. Through social norms regarding gender roles and responsibilities, women in the study area, like in many Kenyan contexts, are responsible for providing their households with water for domestic use. Where water is not available in the home they have to walk to the rivers or to the water points to fetch water, spending hours that could be spent on other livelihood activities. In many contexts, men strive to improve their access to water also for agricultural production through irrigation. Thus where men and women's access to water is inadequate, both men and women strive to improve access to water for both reproductive and productive purposes as is the case of the CWGs in Laikipia. However, acquiring group membership is only through cash or in-kind labour contributions at household level. Thus wealth determines whether a household (male-headed, female-headed or female managed) can afford the contributions to participate in such CWGs.

While gender may not be a differentiating phenomenon for group membership, it does play a role in the management of the CWGs. Each CWG has a project management committee that comprises in most cases a chairperson, secretary, treasurer, vice-chair-person and vice-secretary in order of prevalence. Women were repre-

sented in 90% (27) of the PMCs of the 30 water projects. Taken together the proportion of women in the 27 PMCs was 30% while men occupied 70% of the positions. Although only one project has a youth representative and a women's group representative, in 33% (10) of the projects, a sub-committee is in charge of ensuring gender representation in the CWG activities. The sub-committees ensure attention to issues that are important to the CWGs and compliance with institutional arrangements in which the CWGs are embedded, among them, government policies and norms. Thus gender mainstreaming in such CWGs reflects an explicit attempt to integrate women into the decision-making processes of the CWGs. In those 10 projects, the PMC-respondents regard women representation in the organizational structures of the projects as having influenced project outcomes. Statements by the respondents reflect this approach: *Different genders/age groups reach out to others in the community of the same age/gender over the project (Men, women, youth); Gender issues are considered and all genders are represented; Women are the ones that know the water problems.*

However, such statements also reflect the perceptions that members have of women's roles:

The treasurer is female, as we believe women are better at handling money.

The roles assigned to women reflect certain expectations as women are assigned stereotype roles: *The community recommends that the chairperson and treasurer be women as they understand water problems the most and commit to success of the project; The distribution of roles are defined (men- guard water project, women-use/ fetch water; youth do maintenance work).* While such an approach helps to address the practical needs of gender and the different age categories, an explicit re-evaluation of power distribution does not exist as women are assigned roles based on the perceived stereotypes that they embody.

We analysed whether women in terms of female-headed households or wives receive fewer benefits than male project members. We found no significant difference in access to water and other benefits of group membership between the men and the women. Results show that more women (58%) use water for domestic purposes compared to men (39%), while for livestock more women (47%) also use the water than men (33%). 11% of both men and women use the water for irrigation.

Apart from the stereotype roles in the PMCs, there is no difference between the roles of men, women and youth members in the water projects. All three categories had to contribute their labour to the water projects (men 75%; women 72%; youth-generally above 18 years: 75%). A similar proportion of men, women and youths (men 26%, women 24% and youths 25%) contributed to constructing project infrastructure such as the water intake, pump/electricity house, or storage tank and fixing/connecting/installing pipes and taps. Men, women and youth also plant trees, live fences or grass in comparable number of projects.

The nature of the projects played an important role in determining if both men and women as members of a project played active roles or not. For instance, in a project that was completely developed by external actors, members could access the water for free and were also not expected to take on any active roles.

For all respondent categories the main reason for positive change brought by the water projects was because they reduced the time (49%) and distance to water (70%), provided irrigation water (19%), which increased food production and incomes, reduced labour and financial costs of accessing water (19%) and stabilised or increased livestock production (21%) as well as improved health and sanitation conditions in the communities.

The water projects improved the ability of men and women to interact with different types of people, their ability to seek ideas, skills and knowledge from others, and in that sense built social capital. Through farming and sales of horticultural and farm produce, many projects generate income and food for member households. Project dividends are shared in some projects while in others development projects were started with saved time and money, and created employment. In certain cases the projects led to increases in land prices (as water became available), reduction of expenses in cost of living and reduced conflicts over water.

Where social conditions were conducive, people helped one another and shared the same resources. Connected by common challenges they collectively sought ways of starting a water project. However negative issues arose when it came to borrowing water as members were not allowed to give non-members water, thus creating tensions between non-members and members.

Respondents often reported the CWGs triggered the formation of women groups. In no instance was the formation of men groups reported. We interpret that the CWG offered women a platform to self-organise. While the statements of some of the respondents hint at existing power gradients between men and women and the CWGs acknowledge the importance of ensuring adequate representation of women in the project management and its activities, explicit actions to address strategic gender interests such as aspiring for gender equality could not be identified. Rather, it seems that the CWGs are adjusting to the prevailing norm of 30% women representation. Strategic needs are then addressed indirectly through the platform that the CWGs provide women to form women groups. Besides water issues, the group members were engaged in other networks such as self-help groups involving women (13% – 43 women), or men (only 1 case). About 53% of the members established groups on various activities ranging from business, buying land to share among members, farming activities, tree planting to community security.

Gender inequality was not perceived as a social challenge by most respondents with only one respondent mentioning gender biases as a challenge, that "*in some communities, it is culture that women have more roles than men",* and that *"failure to attend community meetings remains a challenge",* as *"people still stick to traditions, especially women, and do not want to attend meetings"*. It was also mentioned that *"women groups do not thrive or often fail"*. Despite these insights the water projects generally improved the living standards of its members: due to the improved access to water, women in the project have more time to do other activities which did not reduce work burdens as such but enabled men and women to engage in other social and economic activities (e.g. bee keeping, women-group activities, and increased farm activities). Based on the foregoing, we assess the engagement of the CWGs with gender to be in general high, scoring 7 out of 9 points (Table 7.2).

Table 7.2 Gender Engagement Framework – examining the level to which community water projects engaged with gender

Attributes and dimensions of engagement	Scoring system (Yes:1; No:0)
1. Gender mainstreaming: extent to which gender concepts are being applied in the CWGs	Total possible score: 3
(i) Gender-sensitivity	1/1
(ii) Gender-responsiveness	1/1
(iii) Gender-transformativeness	0/1
2. Experience of gender: extent to which the specific needs of different genders are acknowledged and addressed in the CWGs	Total possible score: 3
(iv) Practical needs	1/1
(v) Strategic needs	1/2
3. Degree of action: extent of action being taken to reduce gender inequality in the CWGs	Total possible score: 3
(vi) Statements of recognition	1/1
(vii) Groundwork	1/1
(viii) Concrete Action	0/1
Total points	7/9

Adapted from Bunce and Ford (2015)
Source: Authors' Analysis

The results in Table 7.2 are generally similar to the results from the assessment of government policies – while an overall score of 7 points is high, the degree of transformative action to reduce gender inequality and address strategic gender needs remains generally low to moderate.

7.4 Discussion

To examine the extent that Kenya government bodies working on water and related environmental issues engage with gender, we adapted and applied the gender engagement framework of Bunce and Ford (2015). Through an empirical study, we also analysed how community water groups engage with gender. This framework has provided useful insights on the extent to which gender equality is addressed, both in policy and practice, thus capturing a top-down notion and a bottom-up experience of gender engagement (cf. Warren 2007).

Our findings show that most policies and plans of the Kenyan government generally engage with gender as a top-down structural measure. Gender rights, equality and equity thus have a strong policy and regulatory base in the Constitution of Kenya 2010 and the Vision 2030. These policies have had multiplier effects across the spectrum of development to stimulate sustainable resource management, greater productivity and resilience (cf. AHDR 2016, 1–9; cf. FAO 2011). Although achieve-

ments are gradual and the transition is slow, they have set a benchmark not only in Kenyan public policy but also in the water and environment sectors.

The gender mainstreaming approach adopted at national levels by government organisations is not a matter of choice but more of an obligation required by the Kenyan constitution and stipulated in the public service. This stipulation cascades to government ministries and parastatals under their authority. As Alston (2009) argues, gender mainstreaming is thus critically dependent on high-level government support for reducing gender inequality and when such support is inexistent, changing intransigent culture remains even more difficult.

Although a "one-half" approach might align better with gender equality, the "30%" or the "two-thirds" obligation by the Kenyan government is transformative in that it changes existing systemic structures that have to make place for women, thus displacing the men that were previously occupying such positions prior to the regulations. In that sense, the gender mainstreaming has become a benchmark, setting the agenda in the governance structure of Kenyan government activities and in its relations with the civic and private sectors. In the case of the CWGs we analysed, women are starting to occupy such space.

While Kenya has introduced an array of policy documents and strategic plans directly and indirectly related to promoting gender equality in the water and related sectors, the challenge is fine-tuning the various policies and ensuring standards are advocated, accepted, fully implemented and enforced (cf. AHDR 2016, 1–9). The situation is compounded by the gap between legal rights, expectations and prevailing practices and behaviours embodied in social and cultural norms. Thus, the amount of resources the Kenya government makes available to reduce gender inequality and how effectively they are used can be used as an indicator of government's commitment to reduce gender inequality.

There has to a certain extent been a trickle-down effect on measures to reduce gender inequality from the national to the local levels. While the CWGs are essentially a bottom-up response strategy to inadequate water supply, they too have had to adopt government stipulations on gender representation as a precondition to become registered by WRMA. However, achieving strategic gender needs remains a challenge. Actions to address strategic gender needs, such as aspiring for gender equality was not an explicit focus of the CWGs. Strategic needs are then addressed indirectly through the platform that the CWGs provide women to form women groups. Moreover, the CWG activities aimed to ensure equality of costs and benefits in accessing project water but financial capability seem to be the more determinant factor of participation than gender.

An additional finding beyond our research questions is that project activities have led to an increase in economic activities that support livelihoods e.g. horticulture and sale of farm produce, generating income and food for member households. Activities of the CWGs have also provided avenues of building social capital exploited more by women than men. There is thus a need to further explore the role of financial capability as well as social networks in determining access to water.

Furthermore, results hint at the limits to gender mainstreaming, which highlights it as one in a portfolio of methods and strategies to achieve gender equality in water

use and management. As gender, is about relations and expectations between men and women, embedded in their socio-cultural belief systems and norms, mainstreaming is inadequate to completely reduce gender inequality and even more so in the short-term (Smyth 2010; Bock 2015). Complementary activities that influence socio-cultural belief systems and norms towards a more gender-equitable society such as long-term persistent socioeconomic change and individual resistance (Ridgeway and Correll 2004; Quisumbing et al. 2014) are thus needed to enhance the progress made through mainstreaming.

Finally, our assessment scheme is likely limited in capturing the full range of ways through which gender inequality is exercised and addressed. Yet having a more comprehensive set of indicators might not shed more light on the subtleties of gender inequality especially when paired with financial capacity. While our data did not capture the perspectives of those members of the community that are excluded from the CWGs, the fact that financial capacity is key to participating in CWGs calls for an intersectionality lens. Exploring those excluded in terms of their gender and financial capacity could shed light on the roles of intersecting social categories in exclusion from water projects. This research gap needs to be addressed in future studies.

7.5 Conclusion

This article sought to address three objectives: (1) to examine the levels to which water–related policies and plans of the Kenyan government engage with gender, (2) to analyse how the framing conditions set by the policy and plans affect the management of community water groups and (3) to assess whether the community water groups through their activities reduce gender inequality in access to water and in decision making about water. We analysed Kenyan government policies and strategic plans related to the water and agriculture sectors as well as how community water groups engage with gender and translate government policies into practice at the community level. We found that gender mainstreaming in the Kenyan government policy and practice is advancing with stipulations on gender representation and empowerment of women enshrined in the Kenyan Constitution and various policy documents. The Kenya Water Resources Management Authority, the major government organisation in charge of water management, translates such regulations into practice through making a gender representation of 30% a pre-condition for community water groups to access water resources in Kenya. This stipulation of a 30% gender representation needs to be progressively increased. On their part, the CWGs engage with gender by ensuring women's access to decision making through their representation in 90% of the project management committees, although only 33% had a sub-committee on gender. Further, the CWGs mainly address practical gender needs while strategic gender needs are not explicitly addressed. At the most, the CWGs offer both men and women a platform to empower themselves through increasing collective action to improve their livelihood conditions, which otherwise would have been difficult to meet. We find that within the projects, gender plays out

in the stereotype images that men have of women and vice versa, thus forming an invisible barrier to adopting other roles or enhancing gender equality. Thus, the CWGs have not managed to significantly change the underlying stereotypes or gender ideologies in the sense of assigning men and women certain roles but may have reinforced the stereotypes by institutionalising them through management positions e.g. treasures position which are also very difficult jobs. Further, while we used gender as an analytical lens in the CWGs, emerging insights hint at the need for further research on the intersection of gender with wealth in determining who attains project membership and by extension, access to water resources.

Annex 7.1 Results from the Analysis of Kenya Government Policies, Acts, Bills and Plans

No.	Kenya government policies and plans	Scores on engaging with gender			
		Gender mainstreaming	Experiences of gender	Degree of action	Total Score
1	The Constitution of Kenya (2010)	2	3	2	7
2	Kenya Vision (2030)	2	3	1	6
3	Water policy (1999)	3	1	3	7
4	The Water Resources Management (WRM) rules (2007)	2	0	0	6
5	IWRM & WE Plan (2009)	3	3	3	9
6	WRMA SP(2012-17)	0	3	3	6
7	Water Bill (2014)	1	0	0	1
8	National irrigation policy draft (2015)	1	0	0	1
9	Water Act (2016)	3	1	1	5
10	Kenya land policy (2007)	3	3	2	8
11	Land Act (2012)	1	0	0	1
12	National environ. policy (2013)	3	1	2	6
13	Agriculture Act (2013)	3	0	2	5
14	Kenya forest policy (2014)	3	1	3	7
15	Kenya NCCRS (2010)	2	1	3	6

Annex 7.1 (continued)

| No. | Kenya government policies and plans | Scores on engaging with gender | | | |
		Gender mainstreaming	Experiences of gender	Degree of action	Total Score
16	Climate change bill (2014)	3	0	3	6
17	Climate Change Act (2016)	3	1	2	6
18	Community Land Act (2016)	1	1	0	2
19	Fisheries Mngt. and Dev. Act (2016)	3	1	3	7

High: 7–9 points; *Moderate*: 4–6 points; *Low* 0–3 points

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Chapter 8
When Water Security Programmes Seek to Empower Women – A Case Study from Western Nepal

Floriane Clement and Emma Karki

Abstract Women's empowerment has been a key tenet of international water security programmes. Discourses on water envision that enhanced access to water resources can transform disempowered women into successful rural entrepreneurs. However, because such programmes often rely on simplistic representations of water, gender relations, and empowerment, they risk perpetuating and exacerbating gender inequalities.

Our study unpacks the storylines that drive water security interventions in the rural Global South, based on the case study of a donor-funded project in Nepal. The latter explicitly aimed at empowering women by improving their access to water for domestic and productive uses and by transforming women into rural entrepreneurs and grassroots leaders. We largely used qualitative methodologies, based on focus group discussions and semi-structured interviews with households and key informants. Fieldwork was conducted in two villages targeted by the programme located in two districts of Far-Western Nepal.

Our findings show that the gender myths and models that drive water security programmes, e.g. women as individual decision-makers and entrepreneurs, fail to adequately consider intra-household relationships and negotiations and the values that give meaning to women's agency. Such programmes tend to perpetuate predominant gendered norms, practices and unequal power relationships within households and communities. We recommend that water security programmes rely on more nuanced and context-specific understandings of women's empowerment that go beyond enhanced access to resources and agency to include knowledge, critical consciousness and values. It is also important that such initiatives involve men and women – rather than exclusively targeting women – and initiate critical reflections on gender roles and masculinities.

Keywords Women's empowerment • Water security programmes • Development discourses • Small-scale horticulture • Nepal

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8.1 Introduction

Women's empowerment has become a key tenet of international development programmes since the 1990s (Batliwala 2010) and water security programmes are no exception. Gender equality has made its way into international water policy debates since the 1977 United Nations Conference on Water at Mar del Plata, 'Agenda 21' (1992, Chapter 18) and the International Conference on Water and the Environment in Dublin (1992). Since these political landmarks, international efforts towards greater gender equality in the water sector have been framed around several narratives: (1) reducing women's time to fetch water will help them engage in productive activities and become rural entrepreneurs (e.g. UN-Water 2013, World Bank 2012); (2) a greater involvement of female farmers in irrigation is key to improved agricultural productivity and food security (FAO 2011; World Bank 2012); and, (3) women's participation in water management will lead to more equitable, effective and sustainable outcomes (GWA and UNDP 2006; IFAD 2007; WWAP 2012). Such narratives are appealing to many actors in the development sector for their irreproachable moral and political correctness (Cornwall et al. 2007) – yet they reflect particular worldviews that might reinforce water injustices. Their instrumentalist tone, sprinkled with notes of efficiency, is reminiscent of neoliberal discourses on the privatisation and marketisation of water supply (Harris 2009; O'Reilly 2011; Zwarteveen 2012) and new public management approaches.

International water and gender discourses shape the design of water security programmes by providing compelling storylines which indicate which changes are desirable, how these changes can be triggered and the types of roles that are desirable for men and women. For instance, in the early 1990s, the focus on domestic water supply programmes for women was rooted in eco-feminist narratives of a woman's supposedly innate role as a caretaker of the environment (Coles and Wallace 2005). The image of nurturing women holding close connections to nature was somehow replaced by another influential myth: 'a prototype rural female water user "traditionally" responsible for fetching domestic water for her family' who 'should also become involved in planning and decision making about the management of integrated water resources…' (Cleaver 1998, p. 294). Today, this cliché still shapes the design of mainstream international water and gender programmes (O'Reilly 2011). Beyond considering these simplistic and essentialist accounts of gender and water linkages, it is equally important to reflect on what is not said and what is invisible in gender and water discourses. For instance, earlier studies have highlighted the lack of consideration of intra-gender inequalities and the lack of recognition of a woman's other identities (Joshi 2005; Birkenholtz 2013; Sultana 2009). Generally, water security discourses fail to adequately consider power issues and water challenges. Water security issues are still framed in apolitical, technical and managerial terms (Allouche 2011; Clement 2013).

This chapter aims to interrogate some of the dominant assumptions and narratives that characterize water security programmes, based on the case study of an international development assistance project implemented in the western hills of

Nepal. The latter offers a perfect case to explore gender in water security discourses and programmes as it explicitly aimed at empowering women through enhanced water security. Increased water security, in turn, was intended to transform female farmers into rural entrepreneurs. We revealed the gaps between the project assumptions on water security and gender and the aspirations and values of local men and women. Our objective is to bring new empirical insights to policy-makers and development practitioners. We hope these insights can help initiate a reflection on how water interventions can be designed to be more effective at bringing transformative changes in gender and water relationships.

8.2 Framework

We developed a framework to examine the linkages between both water security discourses and programmes and on the other hand between access to water and women's empowerment. We define empowerment as a process in which 'individuals and organized groups are able to imagine their world differently and to realize that vision by changing the relations of power that have been keeping them in poverty' (Eyben et al. 2008). Our framework draws from Kabeer's empowerment framework (1999) to include access to resources, agency and achievements as the building blocks of empowerment.

We expand Kabeer's original framework in several ways. First, we define 'critical consciousness' as a separate variable. In Kabeer's framework, critical consciousness is subsumed in 'agency', as Kabeer includes in her definition of agency "the meaning, motivation and purpose which individuals bring to their activity, […], 'the power within'" (1999, 438). Critical consciousness ranges from one's awareness of their ability to make choices to change their lives to one's ability to take actions against oppressive social and political structures (Freire 1970, 1974). While feminist scholars have pointed to the central role that critical consciousness plays in women's empowerment (e.g. Rowlands 1995; Kabeer 1999; Charmes and Wieringa 2003; Cornwall and Edwards 2010), water and development programmes tend to rely on narrow understandings of agency, limited to visible forms of decision-making (O'Hara and Clement under review). It is therefore important to explicitly consider critical consciousness as a separate variable in the case of water security programmes.

Second, we linked these four dimensions of women's empowerment with water programmes and discourses (Fig. 8.1). By 'discourse', we mean 'a specific ensemble of ideas, concepts, and categorizations that is produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities' (Hajer 1995, p.60). We considered how discourses affect the design of water security programmes and women's empowerment processes by legitimizing certain actors, practices and institutions while rendering others abnormal, illegal or invisible. We also considered how water security programmes
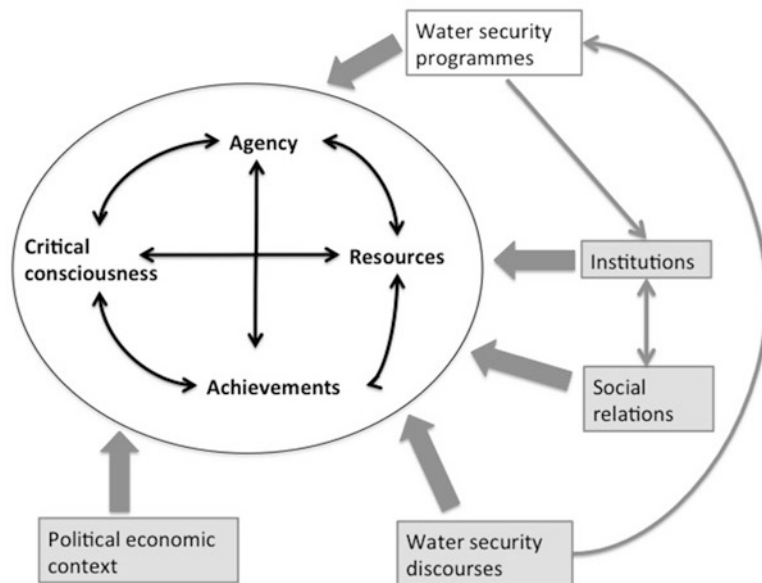
Fig. 8.1 Analytical framework for analysing women's empowerment in water security programmes

affect women's empowerment particularly through enhancing women's access to resources and agency.

Lastly, we introduced a set of contextual variables, the political-economic context, institutions and social relations that simultaneously affect women's empowerment and mediate how water security programmes affect empowerment. We draw partly from the social relations framework (Kabeer 1994; Kabeer and Subrahmanian 1996). By institutions, we mean the formal and informal, tacit and written rules and norms that shape patterns of social interaction.

8.3   Case Study

The case study project was implemented by an international non-governmental organisation (INGO), promoting poverty reduction through market-based approaches. A core intervention under the project is the construction of multiple-use water systems (MUS). MUS are water systems designed to meet multiple water needs. In the context of the project, MUS are primarily drinking water systems that are specifically designed to provide additional water for small-scale commercial horticulture in homestead land. MUS have been promoted in Nepal as a gender-friendly technology and water distribution system because it allows women to access water for multiple needs, including productive and domestic uses (Mikhail and

Photo 8.1 Thai jar storing water for the MUS system in the case study site, Kailali District

Yoder 2008). Most MUS are gravity-fed systems that include a Thai jar (Photo 8.1) made with locally available and relatively cheap material or a storage tank. The jar or tank is fed by a perennial spring and the water stored is distributed to individual or collective standing taps (Photo 8.2) through a piped system. If there is excess water, the water overflow is stored in a separate reservoir linked to a separate distribution system that is specifically earmarked for the irrigation of vegetables grown in homestead land.

The case study project was remarkable in envisioning a relatively elaborate pathway between water security and women's empowerment. This pathway relied on a combination of enhanced water access for both domestic and productive uses, building the capacity of rural women to become rural entrepreneurs and supporting their leadership skills through involvement in grassroots organizations. There was a clear attempt to combine women's economic empowerment with enhanced knowledge on marketing and the basic literacy skills that would help them become successful rural entrepreneurs and the leaders within grassroots organizations that the project created.

MUS were implemented to support women's engagement in small-scale commercial horticulture by enhancing their access to water for productive uses while reducing the time they spend to fetch water for domestic uses. The INGO also supported the marketing of vegetable products by creating farmer-managed collection centres. These centres collect vegetables grown locally and resell them to traders, thus providing a market outlet for farmers to sell their products, even in small quantities. Lastly, another key project activity was a 6-month programme of daily classes teaching basic literacy skills to support women's leadership in grassroots organisations, vegetable farming and maternal and child nutrition. All social mobilisers hired by the project were local educated women who were themselves trained to provide classes on literacy, vegetable farming and nutrition to the female participants targeted by the project.

Photo 8.2 A common standing tap shared by a few households in the case study site, Doti District

8.4 Methods

The core of the research presented in this paper relies on a qualitative study conducted in the case study project area in the Far-Western region of Nepal between 2013 and 2015. In Nepal, rapidly evolving gender and social relationships resulting from male out-migration have reshaped gendered access to water, land uses and agricultural practices (Maharjan et al. 2012). Such changes can be both an opportunity and a risk for women as they are affected in a variety of ways, for example depending on household land ownership (Sugden et al. 2014).

The Far-Western Region of Nepal is characterized by greater water insecurity notably because of shorter and weaker monsoon precipitations, as well as a lower human development index and higher levels of gender inequality than other parts of the country (UNDP 2014). Women in the region suffer more from domestic violence than in other regions in the country. Women and girls in the region are also disadvantaged in terms of education access, the burden of household work and
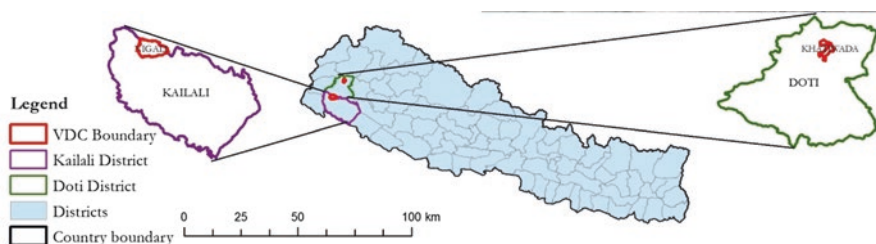
Map 8.1 Location of the two case study sites selected for the study

poor nutritional intake. Women's literacy is 40.4%, significantly lower than the literacy rate of 72.5% for men (UNFCO 2010). Women from lower caste groups, *dalits* (formerly known as 'untouchables') and *janjatis* (indigenous people in Nepali)*,* are particularly poor and vulnerable to discrimination. Women have lower rates of ownership of property as only 11.6% of women own property (UNFCO 2010).

We selected two case studies in Doti and Kailali districts (Map 8.1), based on the type of intervention conducted, the number of beneficiaries and the diversity of caste and ethnic groups among the beneficiaries. For the purpose of the study, we chose to focus on villages where the project had built new water supply systems specifically designed to meet multiple uses. It was important to study MUS compared with single-use systems because the impact pathway for women's empowerment envisioned by the INGO relied on women's enhanced access to water for both domestic and productive uses.

The objective of this study was to capture local meanings of empowerment and understand the causal processes and mechanisms that lead to various forms of empowerment. In each village, we combined focus group discussions (FGDs), observations and semi-structured interviews with households and key informants (Table 8.1). We started with a participatory village mapping exercise with groups of men and groups of women using the MUS. Based on the map, we conducted a power ranking exercise where each household was categorized into one of three different power categories: high, medium and low, based on the participants' understanding of power. We conducted separate FGDs on empowerment with a sample of 4–5 women from these three power categories.

Women informants selected for the household interviews intentionally represented a balance of the three power categories, including MUS users and non-users and different levels of engagement of household vegetable farming and marketing. Women were interviewed individually on a number of topics, including their life history, household livelihood strategies such as vegetable farming, access to drinking water and irrigation facilities, group membership, involvement in household and community decision-making and access to credit.

We also conducted key informant interviews to gain a better understanding of the role, function and inclusivity of local institutions and prior interventions aiming to empower women. The key informants included local politicians, the MUS caretaker, village elders and members of the executive committee of grassroots organ-

Table 8.1 Methods for data collection used in the two case studies in Kailali and Doti districts

Method	Participants
Village mapping	Two sessions conducted separately with 5–6 women and 5–6 men members of the MUS user group
Power ranking exercise	This was part of the village mapping conducted with the group of men and group of women
Transect walk	2–3 members of the MUS user group
Focus group discussion	Three separate sessions on empowerment conducted with 3–4 female participants from the high, middle and low power categories
	Venn diagram with one group of men and one group of women separately, sampled from the three power categories
Household interviews	12 in Kailali case study
	10 in Doti case study
Key informant interviews	6 in Kailali case study
	7 in Doti case study

isations such as the community forestry user group and the mothers' group. We also interviewed the project field staff, including the agriculture technician and community mobilisers.

In addition, we drew from a study conducted in three districts of mid-Western Nepal, Kaski, Syangja and Palpa, in June and August 2014 that explored the sustainability of MUS. That study surveyed 16 MUS and seven collection centres, set up by the same INGO under an earlier programme between 2004 and 2007. This rapid appraisal consisted of observations of the infrastructure, a group discussion with the members of the user committee and interviews with two MUS users selected randomly. We then selected the case studies of two MUS, coupled with a collection centre and a cooperative in Kaski and Syangja districts respectively. In the two MUS case studies, we interviewed all the households in the community, including MUS users and non-users.

8.5   Findings

8.5.1   Project Discourses

At the core of the development model of the INGO leading the project is the notion of entrepreneurship, as testified by the main slogan on the homepage of their website: '*Entrepreneurs are everywhere*'. In their vision and approach, development happens through the agency of poor farmers transformed into rural entrepreneurs through increased access to water resources, capacity building, supply of technologies and the creation of value-chains and markets. Similarly, their vision to promote gender equality is centred around entrepreneurship: '*By focusing on women as customers and entrepreneurs, […] strengthens their participation in rural value chains*

Table 8.2 Storylines depicting how project interventions will lead to women's empowerment

Intervention	Storyline for the empowerment process envisioned
Construction of MUS that provides water for domestic and productive uses	Women's time saved in fetching water will allow them to engage in productive activities that will result in women's greater control over income
Development of value-chains for vegetables	Women's economic empowerment will increase women's agency and leadership in grassroots organizations
Inclusion of women in the grassroots organisations of the project and specialised training	Women's increased leadership in grassroots organizations will lead to social empowerment and support them to challenge conservative social norms

Source: MAWTW project proposal

and increases their access to technology, know-how, finance and markets' (their global website, home page, last accessed 28 April 2017).

The causal processes leading from interventions to women's empowerment envisioned by the project mirror the INGO global discourses. The interventions aim to change women's access to resources and agency to attain broader individual achievements, namely economic empowerment and leadership (Table 8.2). Women entrepreneurs are expected to increase their agency when making decisions over vegetable farming, controlling the use of income from vegetable sales and participating in the local water user associations and farmers' groups created by the project.

We examine in the next section how these storylines translated on the ground and which factors created gaps between the project's vision of empowerment, local perceptions and actual achievements.

8.5.2 Access to Water Resources

In the project's vision, MUS will simultaneously reduce women's time fetching water for domestic use and enhance their access to water for productive use. The rationale is that the time saved on fetching drinking water can be reinvested in commercial horticulture and contribute to women's economic empowerment.

8.5.2.1 Who Has the Ability to Benefit?

In contrast with earlier projects which had been implemented in the Mid-Western hills, a particular challenge that the INGO faced in the Far-Western Region of Nepal was the difficulty in supplying water to a spread-out community across a range of elevations. In such settings, and within the strict and low budget ceiling fixed by the project, it was rarely possible for the newly constructed water system to provide

water to all members of the community. This naturally raises issues of equity and distributive justice that intersect with, but also largely go beyond, gender.

In two of our four case studies in Mid-Western and Far-Western Nepal, the entry point for the intervention was the local political leader or a farmer who was well connected to development projects. In both cases, the installation of the MUS was located close to the home of this influential household. Other households in the community either did not benefit or benefited less because of unequal water distribution across the system. Observations from earlier studies we conducted on water interventions indicate this is a common – and often compulsory – practice in Nepal's context. Exclusion of project beneficiaries also happened through the project's requirement of community contribution, usually provided in-kind, in the form of manual labour for the construction. In one of the case studies, those who could not contribute labour during the construction, e.g. female-headed households or physically disabled people, were excluded from the scheme's benefits.

8.5.2.2 Reallocating the Time Saved

Earlier studies examining the impact of similar iDE-led interventions in Nepal indicated that the time saved for fetching water was one of the main benefits that female MUS users reported (EcoTech Consult 2004, Mikhail and Yoder 2008). Similarly, in our rapid appraisal of 16 MUS in Mid-Western Nepal, 83% of the 32 users that were interviewed mentioned that not having to travel long distances to fetch domestic water was one of the main benefits of MUS. Our more in-depth interactions with female water users in our two case studies in the Far-Western region of Nepal suggest young women might not benefit from saved time. In Nigali VDC, Kailali District, the installation of new taps close to home has not translated in a perception of 'time saved' or 'reduced workload' for some of the female MUS users. When asked how they use the time 'saved' from fetching water, they replied: "*We still work now. We do household work now. The work we used to leave for the other day, we complete them today.*" (FGD Nigali VDC, Kailali District, October 2015). In other words, other household chores immediately filled up the 'time saved' from fetching water. Daughter in-laws are often responsible for fetching water, and they have the least influence on the allocation of household chores and might not be able to decide how their saved time will be used.

Our interaction with women also stressed the importance of paying attention to different values– for instance, fetching water, although physically hard, can also be a valuable time for some women to chat, laugh, and share their joys and sorrows outside their home: *'Before we used to have chats with other women as we used to go in groups to fetch water in morning and evening. Now, when we go to collect fodder, we can talk, but we do not really have time to chat'* (FGD, Nigali VDC, Kailali District, October 2015). This is not to say that we should not improve women's access to water. Most female water users we met during the rapid appraisals of the 16 MUS in Mid-Western Nepal and in our two case study sites in Far-Western Nepal did express their relief to not have to travel long distances anymore to collect water. However, we need to contextualize the notions of 'time saved', 'leisure' and

Table 8.3 Profile of farmers selling at the Syangja cooperative and Kaski collection centre in the month of Shrawan 2071 (Jul–Aug 2014)

	Syangja		Kaski	
Sellers' characteristics	#	%	#	%
Number of sellers	54		49	
Number of female sellers	24	44	35	71
Number of male sellers	30	56	14	29
Number of Brahmin/Chettri sellers	46	85	36	73
Number of Janajati sellers	6	11	0	0
Number of Dalit sellers	2	4	13	23
Gender and ethnic decomposition				
No. of sellers with multiple sales (female)	9	43	18	67
No. of sellers with multiple sales (male)	12	57	9	33
Avg. monthly income per female seller (NPR)	472		482	
Avg. monthly income per male seller (NPR)	588		475	

Source: Record keeping in the Krishi Upaj Bazar Byabasthapan Sahakari Sansthan Ltd., Fedikhola, Syangja District and Shree Naagdada vegetable collection centre, Dhikurpokhari, Kaski District. Total sample: 103 farmers

'workload' and understand these notions according to how local men and women perceive them and give them value and meaning.

8.5.3 Agency

The second project storyline is that women's control over the income from vegetable sales is a form of economic empowerment that translates in greater agency and influence over decision-making within the household and the community.

8.5.3.1 Men Are Too Shy to Sell Vegetables

Selling vegetables in Mid- and Far-Western Nepal involves, in most cases, travelling relatively long distance by foot. This was the case even in the villages targeted by the project.[1] In our study in the hills of the Mid-Western Region of Nepal, we found that the gender of the person who travels to sell vegetables at the market varies across sites, even in relatively similar social, economic and biophysical contexts. We collected data on all sale records from a collection centre and a cooperative in Kaski and Syangja districts respectively, for a sample of 103 farmers (Table 8.3). In Syangja district, the share of male sellers is slightly higher (56%) than that of female sellers, whereas in Kaski district, the neighbouring district, there are more female sellers (71%). The average monthly income of a male seller is 25% higher than that

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[1] A relatively good road connection was one of the selection criteria of the project

of a female seller in Syangja, whereas the average monthly income is similar between male and female sellers in Kaski.

In contrast, in the two case study villages of the hills of Far-Western Nepal, although both men and women cultivate vegetables, only women sell vegetables at the market. Women from the case study site in Doti travel 2 h by foot to go to the nearest market, starting their journey early morning and returning after they have managed to sell all the vegetables, either around noon or in the evening. In the region, selling vegetables in the market is viewed as a woman's job. For men, it is a matter of prestige: they do not want to be seen carrying the *doko*.[2] As a woman informant put it: '*I sold the tomatoes in the market in Sik Nagar. My husband went to sell just once […]. He feels shy to carry tomatoes in doko to the market. He wants to go only when there is a vehicle. I carried tomatoes in doko and walked*' (household interview, Nigali VDC, Kailati District, October 2015). Men have the choice to go or not to the market to sell – if they do, they travel with a vehicle, whereas women have no choice – they have to go and travel by foot.

During the vegetable peak season, women from our case study village in Doti make 3–4 trips per week to the market, carrying around 20–40 kg of vegetables each trip in *dokos*. The average income in this village was around USD 15 per sale among the women informants. In the collection centre and cooperative surveyed in Kaski and Syangja districts, the average monthly income per seller was slightly below NPR 500 (around USD 5) during the vegetable off-season (Table 8.2). On average, the yearly income from vegetable sales was USD 136 among the 31 interviewed households that sold vegetables in our case studies in Kaski and Syangja districts. These case studies had good access to roads and markets (less than ½ h walk) and within the vicinity (less than 1 h drive) of Pokhara, a major tourist hub in Nepal. In Doti, Kailali, Syangja and Kaski districts, the women informants reported that the income from vegetables sale covered basic expenses such as household items, clothes, children's education and medicine – all expenditures which in Nepal are traditionally considered to fall within women's domain. Except in a few cases, men remained the main breadwinner.

8.5.3.2 Salt or Alcohol?

Control over cash constitutes an important form of power for intra-household negotiation, according to female respondents from Nigali VDC in Kailali district: '*Men have more power than women, they have the courage to do so. Men decide because they are earning money*' (FGD with women from most powerful households, Nigali VDC, Kailali District, Oct. 2015). Similarly, the female social mobilisers who worked for the project could negotiate with the in-law members of their family on household chores because they were bringing cash to the household.

Our interviews and group discussions indicate that in a majority of cases, income from vegetables sales does not fundamentally change the influence of women, and

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[2] A *doko* is a bamboo basket used in rural Nepal to carry items on one's back

especially young daughter in-laws, on decision-making within the household. Many younger and elder women still feel disempowered when their husband spends their own earning – the major source of income – on alcohol. Alcoholism is widespread in the Far-Western hills, a region characterized by a high level of unemployment and low agricultural productivity. As an extreme case, in one of the two case study villages, a woman reported that her family had to sell their house, fields and homestead land to reimburse the loans taken to cover her husband's alcohol expenses.

This is not to say that the income from vegetable sales is not important for local women. It provides them with a critical safety net by allowing them to have some petty cash for purchasing household items and be able to keep some money 'safe'. It also relieved them from the stress of having to beg for money from their husbands or mother in-laws or to have to borrow basic items from local shops.

> If we need to buy salt but our husband wants to drink alcohol, he will buy alcohol. He will use his money to buy alcohol without asking us, but we will save our money to buy salt because that is needed in the house. If we do not have money, he will ask us to borrow salt from the shop. We hide the money for the cooperative saving group so that our husbands don't use it. That money comes in handy at times.
> FGD with women from most powerful households, Nigali VDC, Kailali District, Oct. 2015.

However, the type of economic empowerment that the project claimed to achieve might appear trivial in the face of other oppressive power relationships within the household and the community.

8.5.4 Achievements

The third storyline is probably the most ambitious: the creation of grassroots organisations like the water user association for the MUS and the farmers' groups, will provide women leaders the skills to challenge conservative social norms within their community and in the society.

In our rapid appraisal of 16 MUS in Mid-Western Nepal, women represented 37% of the members of the water user committees in place. The rapid appraisal did not allow for ascertaining whether women's participation was more than tokenistic – as it was not the focus of that particular study. However, it is telling that 15 of the 16 informants who represented the water user committee during our visit were male. The MUS committees in the two case studies in Kailali and Doti were very recent and not functional yet. It was therefore too early to assess what the women's role was and whether it increased their confidence or challenged social norms, as these had been recently created and were not yet functional. However, we investigated women's roles in other grassroots organisations, both long-standing and recently created by external interventions, as well as the type of social change that local women leaders had brought.

8.5.4.1   Women Leaders Along Feminine Traits

South Asian women are highly involved in local saving groups and micro-credit groups – organisations that exclusively target women. In the two case study villages in Kailali and Doti, some women were members of up to 8–10 saving groups and micro-credit organisations. Women from influential and better-off households who had more savings were engaged in more saving groups than other women. Women from Dalit households were also members of these groups.

Our findings were ambivalent as to how empowering these saving groups are. On the one hand, many female informants reported that their husbands were the ones who decided on loan taking. On the other hand, these groups might nevertheless offer women a small opportunity to pursue what they value, as the quote below illustrates.

> If our husband does not have money to send the kids to school, we would go to take a loan from the cooperative or we would borrow money from each other in the village. First, it is his responsibility, but if he is unable to do so, then we will go on our own. We would not ask for his permission to take loans or borrow money, we would just say 'I'll take care of it'.
>
> FGD with women from most powerful households, Nigali VDC, Kailali District, Oct. 2015.

Our findings from the two case studies in Kailali and Doti districts show that women's leadership in grassroots organizations always depends on the support of their husband and sometimes of their mother in-law. All the women informants who were a member of the executive committee of a group reported that their husband encouraged them or even proposed their candidature to the group. The women in position of leadership still had to rely on their husbands to accomplish their tasks, as they were all illiterate. It can either reflect a genuine cooperation and support between husband and wife, or a strategic way for some husbands to influence local matters through their wives, but in any case, women's reliance on their husbands was tangible. Whether women's participation in the grassroots organizations created by the project can challenge conservative gender norms highly depends on women's critical consciousness and how they perceive their roles in these organisations and their authority. However, developing women's critical consciousness was not part of the project objectives – as the latter focused on economic empowerment and technical trainings such as literacy classes and trainings on nutrition and vegetable farming.

Aside from these recent grassroots organisations reserved for women, men lead the most influential community organization, namely the community forest user group. The latter regulates and controls the distribution of timber sale revenues, a very substantial source of income in some villages. According to the local rules, women can hold the role of secretary and treasurer in this group, roles that are in line with feminine traits of being trustworthy, honest and committed – but the chairperson has to be a man, and is often a local male political leader or elite.

8.5.4.2 Gendered Forms of Knowledge and Power

In the two case study villages in Kailali and Doti districts, we asked about examples of powerful men and of powerful women and why they were considered powerful. Female informants attributed different forms of power to men and women leaders. In their view, powerful men are those who bring development projects to the village. Powerful women are those who represent other women in saving groups or give them information on trainings. Knowledge plays a critical role in power relationships, but it is not necessarily the type of knowledge that development interventions provide which is important for empowerment.

In the case study village in Kailali District, there was a striking contrast between men and women's knowledge and participation in the development interventions that had been implemented in the village. The female MUS users were consulted to choose the location of the taps whereas the caretakers in all case study sites were male. The male MUS users knew the name of the INGO. None of the female MUS users had or remembered this information. No respondents knew who was on the executive committee of the water user group, but only the men knew who had the list of member names. The difference in men and women's knowledge about development interventions is revealing of the gendered forms of power that development projects reproduce, where men act as gatekeepers and control who will benefit and how. Women are further entrenched in their feminine roles of fetching domestic water or growing vegetables.

Literacy did not seem to be a necessary condition to become an empowered woman. The two local women leaders who were considered 'empowered' by local men and women were illiterate. We also met highly educated women who were totally disempowered within their home and in the community. For uneducated women, literacy was not necessary to feel empowered – being in a leadership position itself was perceived as a form of empowerment: '*As a member [of the saving group], I cannot make my voice heard. When you are uneducated, you have to listen to what others say, but as part of the executive committee, people would listen to me*' (household interview, Nigali VDC, Kailali District, Oct. 2015).

8.5.4.3 Social Change and Masculinities

Despite being perceived to be in positions of power, men in the region are also powerless in society and in the face of the political economic context in which they live. It is difficult for most men in the case study area to meet society's masculine ideals, namely to be the breadwinner of the family. Men's powerlessness is expressed in their addiction to alcohol or in their migration abroad. The latter represents the only option for men to be 'real men'. In our case study area, men were often seen playing cards, drinking or chatting. We suspect their lack of involvement in household, agricultural activities or trainings is highly correlated with rigid expectations of hegemonic masculinity.

Men were also allowed [to attend a literacy training] but they did not show up. I don't know why. We informed that people who need basic education should come. Maybe men did not want to study with women. Men thought that when 25 women come, why should 2 to 3 men sit? They were embarrassed to sit with women.

Key informant interview, Nigali VDC, Kailali District, Oct. 2015

This is not to shirk individual responsibility by pointing to social structures. However, men's powerlessness point to the need to move away from simplistic accounts of gender relationships, where men are seen as oppressors and women as victims.

8.6 Discussion

The project largely overlooked how existing social relations and institutions shape women's access to water resources. Project discourses assume direct linkages between access to resources and agency. They gloss over the fact that the capabilities that women – and men – hold to benefit from water security projects are highly differentiated within a community or group of users. Earlier studies conducted in Nepal indicated that caste, class, and political affiliation co-determine who can access water, and therefore benefit from water supply systems (Regmi and Fawcett 1999; Udas et al. 2014). The project interventions did not necessarily systematically exclude the poorest or most marginalised, but who can access and who benefits from water resources was left to local power relationships. There was no project mechanism to understand and address existing social inequities, or at least to not reinforce them.

Second, women's agency did not necessarily translate to achievements and empowerment, findings that resonate with the capability approach (Sen 1985; Kabeer 1999). Whereas the project envisioned that women become rural entrepreneurs by growing and selling vegetables, carrying the *doko* to sell vegetables at the market perpetuated gender hierarchies. Some women have benefited from interventions and increased their income through vegetables sales, but this form of economic empowerment needs to be contextualised in the realities of women's lives. Our analysis also pointed to the importance of considering critical consciousness together with agency, and notably understanding whether women's participation and leadership in grassroots organisations is or is not empowering.

Lastly, our findings indicate that water security programmes need to position women within a broader web of social relations, within and outside their household, to understand opportunities and constraints for empowerment. Notably, involving women's husbands is critical in several aspects and echoes earlier studies on men and development (Cornwall and Edström 2014). It reduces the risk of creating resentment and conflict among men and the overloading of women with responsibilities that women-only interventions might trigger (Chant 2000).

8.7 Conclusion

Our analysis revealed a disconnect between dominant international discourses on water and gender and local realities and values. When focusing on gender as the only marker of social differentiation, water security programmes miss to consider how access to water and the capacity to benefit from access are mediated by broader power relationships within communities. To empower women without aggravating other types of social inequities, water security programmes need to include social assessments along with technical feasibility studies to understand the uneven playing field in which interventions are implemented.

The gender equality discourses that drive water security programmes, e.g. women as individual decision-makers and entrepreneurs, also do not adequately acknowledge the importance of intra-household relationships and negotiations in women's empowerment. Nor do they adequately reflect the values that give meaning to women's agency. We support a capability approach to empowerment, whereby water and gender initiatives can support the capacity of different men and women to choose the 'beings' and 'doings' they value (Sen 1985). In this regard, water security programmes could enhance the ability of young women to negotiate intra-household decisions and engage in activities outside of the traditional women's domains.

This is also where programmes need to recognise the importance of social relations in empowerment and how to move from targeting women as beneficiaries to engaging with both men and women. Women's agency has to be contextualised and understood within the broader set of norms and relations that give meaning and value to that particular form of agency. A more nuanced and context-specific understanding of gender relationships and gendered forms of power and powerlessness is critical in creating transformative change. For instance, we found that power depends on one's multiple identities – men as husbands and fathers were powerful in their household but as breadwinners powerless in the face of macro political economic structures. Initiating a reflection within communities on existing social relations and gender norms is also essential in raising critical consciousness and creating the mental and institutional space that women need to imagine themselves in different roles. A few development initiatives have tested innovative ways to challenge unequal gender norms at the community level (Esplen 2006), including engaging discussions with men about the value and masculinity of fatherhood and encouraging men to play a more active role in caring for their children.

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Part IV
Gender-Positive Transformation Potentials in Water Conflicts

Chapter 9
"Just Women" Is Not Enough: Towards a Gender-Relational Approach to Water and Peacebuilding

Janpeter Schilling, Rebecca Froese, and Jana Naujoks

Abstract Gender is a topic that every large development and peacebuilding organisation mainstreams in its programming. However, often "gender" implies a focus on women. We argue that this is not enough to utilise the full potential of a meaningful and effective integration of gender in specific projects, particularly in the peacebuilding and the water sector. The aim of this chapter is therefore to develop a first gender-relational approach to water and peacebuilding that will help researchers, practitioners and policy makers to better understand and integrate the multiple dimensions of gender. To achieve this aim, we first explore the main trends in and connections between gender on the one side and peacebuilding and the water sector on the other side, before we identify key gaps and crosscutting themes. Against this background, we develop a gender-relational approach based on questions to guide the integration of gender into water and peacebuilding. Our main method is a comprehensive review of the relevant academic literature and reports by key donors, and international development and peacebuilding organisations. Further, we draw on examples from Kenya and Nepal to conclude that a gender-relational approach to water and peacebuilding needs to go beyond a focus on "just women". There is a need to incorporate heterosexual women and men, and lesbian, gay, bisexual, transgender and intersex persons (LGBTI), explore the relations within and between these groups and include other identity markers in the analysis in order to generate

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a nuanced understanding of complex situations, and to develop effective programming in peacebuilding and the water sector.

Keywords Gender • Water • Peacebuilding • Approach • Kenya • Nepal

9.1   Introduction

"Were some women at the workshop? Yes? Ok, then gender is covered". This train of thought is widespread among donors and organisations when designing development and peacebuilding projects. Gender has become a mainstream topic in the development arena. Every large organisation or donor working on development and peacebuilding has a gender policy or component in its programming. And while most donors and organisations acknowledge that gender "is not interchangeable with "women" or "sex"" (USAID 2010, 2), "taking gender into account usually, but not always, involves a focus on women" (USAID 2010, 3). This focus on women, which often results in the mere numerical addition of female participants to existing programmes, poses the risk that gender becomes "another box to tick" or that it even perpetuates "gender myths" (see Fröhlich and Gioli 2015; Myrttinen and Swaine 2015).

The water sector has long been identified by international actors as one where gender issues should be particularly taken into account. Already in 1992, the third principle of the Dublin statement on water and sustainable development acknowledged the central role of women in providing, managing and safeguarding water. Further the principle called for a participatory approach for water development and management (WMO 1992). Water and women have found each other in many development projects based on the assumption that because the provision of household water is a task assigned to women or girls and because "they are female, women have a unique knowledge about the environment and [they] are "natural" protectors of natural resources" (O'Reilly 2006, 963). However, gender policies in the water sector are strongly focused on empowering women and girls while neglecting the role of other gender identities (Perrons 2005). Perrons (2005) further criticises that gender relations are often not seen within their cultural and societal context but rather from a strongly western and economic perspective while neglecting the different value systems and perceptions of societal structures. Overall, it has been recognized that policy commitments often have a limited impact on the ground. Therefore, practitioners call for practical tools in order to integrated gender into development projects and programmes (Warren 2007; Myrttinen et al. 2016b). Such tools can help to bridge the gap between theory and practice and guide the transformation from "talking gender" (McIlvenny 2002) towards "doing gender" (Joshi 2014, 253).

When a gender perspective is integrated in peacebuilding projects, it mostly focuses on the prevention of sexual and gender based violence, including rape and other abuses within and particularly outside of households. Significantly less attention has been paid to underlying gendered power structures or understanding and increasing women's access to decision making and leadership, and how changes in

these structures and dynamics may contribute to peacebuilding efforts (Myrttinen et al. 2014).

In general, it can be noted that there is a growing body of academic literature and programming documents produced by international organisations and donors on gender and water and on gender and peacebuilding (Ray 2007; Hudson 2009; Dolgopol 2006; Ellerby 2013; DFID 2006; USAID 2010; Mustafa et al. 2015). However, the interrelations and mutual impacts of the three have rarely been explored.

This is unfortunate, as an understanding of – and engagement with – the multiple dimensions of gender in water and peacebuilding projects would, at minimum, avoid causing inadvertent backlash and harm to women and girls through broad-brush programming, but at best, likely contribute to the projects' improved effectiveness by constructively engaging women and girls, boys and men, as well as lesbian, gay, bisexual, transgender and intersex persons (LGBTI).

More specifically, understanding gender dynamics as they relate to water will be useful to identify conflict drivers, actors, dividers and opportunities for peacebuilding. Knowing the relations between gender and water as well as gender and peace enables development actors to identify the interrelation of water and peace and how gender issues cut across them. For example, conflict over natural resources like water might be mediated through a gender-relational approach, while gender-blind approaches risk missing key dynamics, actors or root causes which could lead to project failures. Short-sighted approaches intervening in local contexts but focusing only on women risk causing backlash against them, for instance when men feel undermined in their authority (López Castañeda and Myrttinen 2014; Myrttinen et al. 2014).

A better understanding of gender is particularly important in conflict affected contexts since conflict and violence affect men, women, boys, girls and LGBTI in different ways. Conflict can also "harden" gender identities, valorising male "warrior" (Myrttinen et al. 2014, 13) or "hyper-masculinities" (Myrttinen et al. 2016a, 1) over "softer", more conciliatory masculinities in times of peace (Myrttinen et al. 2014).

Particularly LGBTI are often overlooked in peacebuilding and the water sector, despite them being frequently exposed to institutionalised discrimination (Myrttinen et al. 2014). It is important to not only focus on LGBTI, women and girls, boys and men separately but to explore the relations and dynamics within and between these groups, and to include other identity markers such as age, ethnicity and religion in the analysis.

Because of the importance of the relations within and between the groups, we call this a "gender-relational approach". The aim of this chapter is to develop such an approach for researchers, practitioners and policy makers working on water and peacebuilding.

In order to achieve this aim, we first provide details on our method, and on how we define the key terms (Sect. 9.2). Then we explore the main trends, and connections and gaps between gender on the one side and peacebuilding (Sect. 9.3) and water (Sect. 9.4) on the other side. Against this background, we develop a first

gender-relational approach based on questions to guide the integration of gender into water and peacebuilding (Sect. 9.5). The final section draws conclusions for further avenues of research and practice (Sect. 9.6).
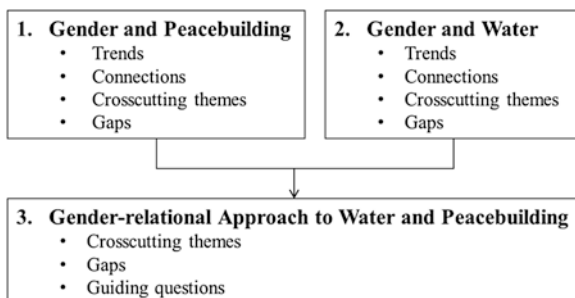
9.2 Methods

Figure 9.1 shows how we develop the gender-relational approach to water and peacebuilding.

Following the UN Women definition, we define gender as referring to "the social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys, as well as the relations between women and those between men. These attributes, opportunities and relationships are socially constructed and are learned through socialisation processes. They are context/time-specific and changeable. Gender determines what is expected, allowed and valued in a women or a man in a given context. […] Gender is part of the broader socio-cultural context. Other important criteria for socio-cultural analysis include class, race, poverty level, ethnic group and age" (UN Women 2016). We see other sociocultural identity factors as also shaping people's gendered experiences and roles, namely religion, marital status, sexual orientation and location, i.e. in an urban or rural context.

We define masculinities as referring to the socially constructed but embodied (multiple) ways of being male, while following Connell's (2006) argument emphasising that there are multiple masculinities. There is not one fixed way of being a man but rather there are hierarchies between masculinities with hegemonic masculinity at the top, complicit masculinities supporting them and subordinate masculinities marginalised. These are collective masculinities which are socially constructed and actively maintained. Conflict affected settings can make it highly challenging to live up to the expected norms of being the "protectors and providers", which can lead to "thwarted masculinities" (Dolan 2002, 57; see also Dolan 2009; Wright 2014).

We refer to the complex and contested issues around sexual orientation and gender identify in this article using the abbreviation for Lesbian, Gay, Bisexual,

Fig. 9.1 Steps towards a gender-relational approach to water and peacebuilding (the authors)


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1. Gender and Peacebuilding        2. Gender and Water
   • Trends                           • Trends
   • Connections                      • Connections
   • Crosscutting themes              • Crosscutting themes
   • Gaps                             • Gaps


3. Gender-relational Approach to Water and Peacebuilding
   • Crosscutting themes
   • Gaps
   • Guiding questions
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Transgender and Intersex persons (LGBTI), while acknowledging the limitation of this umbrella term which implies a homogeneity between the very different experiences and challenges between them, as well as implying non-existing, neat distinctions between what can be fluid and changing identities. We also acknowledge that this is a Western terminology which fails to capture the diversity of indigenous forms of non-binary relationships and identities.

Peacebuilding is a collective term for "activities and interventions that are designed to influence events, processes and actors to create new outcomes, so that peaceful conditions are gained and/or maintained" (International Alert 2010, 6).

Following the UN Water definition, we define the water sector referring to "all means and activities devoted to creating net 'added value' from the water resources available on a given territory. It operates in a complex interplay between water resources and the socio-economic and environmental system in a given country, comprising two main segments: (1) "Resource activities" that influence the spatio-temporal distribution or the quality of the water resources with a view to manage these resources as an asset; and (2) "use activities", that use water in a transformation process for social uses (e.g. water supply), economic uses (e.g. agriculture, industry, energy), and environmental uses (e.g. functioning, restoration and conservation of ecosystem services)" (UN Water 2009, 11).

This chapter is based on a review of the academic literature and programming documents of key international donors and organisations in the development and peacebuilding field. We have selected documents from two major donors influential in the gender, peace and security sector both through their political influence as well as due to the impact and reach of their sizeable funding portfolios: The United Kingdom (UK) Department for International Development (DFID), which sees itself as a global leader in this sector and provides thematic and financial support on gender, peace and security to other states and civil society (e.g. DFID 2006). In 2014, 86% of the UK's oversees development assistance was provided by DFID (DFID 2015). The United States Agency for International Development (USAID) was chosen due to their global influence, funding might and their history of engagement in the field (see USAID 2010; US Department of State 2016).

We supplement this review with own experience gained in Kenya and Nepal while working for International Alert, a peacebuilding organisation which is engaged in conflict, gender and natural resource management issues (International Alert 2016). The examples from Kenya and Nepal are important because they show how a gender-blind approach can lead to project failure and how out-migration of men has dual effects on the remaining women.

9.3 Gender and Peacebuilding

States and organisations undertaking peacebuilding efforts increasingly seek to integrate gender into their policies and programming. In the following sections we first provide a general overview (Sect. 9.3.1) before we identify gaps in understanding (Sect. 9.3.2) and illustrate them with an example from Kenya (Sect. 9.3.3).

9.3.1 General Overview

After centuries in which international relations and security studies were shaped by implicit assumptions around their default subjects being male, gender was formally recognised as integral to security – and therefore peacebuilding – on October 30th, 2000, when the United Nations Security Council Resolution (UNSCR) 1325 on Women, Peace and Security was unanimously adopted in New York (United Nations Security Council 2000). This was ground breaking in acknowledging two key issues: first, the right of women to participate in decision making related to peace and security issues, and second, the gendered needs and vulnerabilities of people affected by conflict, such as the vulnerability to and need for protection from sexual and gender based violence (SGBV). This resolution, and subsequent sister resolutions focusing particularly on SGBV, have led to increased attention and funding for gender and peacebuilding issues, partly through the institution of National Action Plans in more than 50 countries (see United Nations Security Council 2013; UN Women 2012; Tiessen 2015; Shepherd and True 2014; Davies et al. 2014). Despite increasingly progressive and advanced policies and understandings of gender, peace and security of international institutions like the United Nations (UN), European Union (EU), donor states and conflict affected states, there remains a gap in the implementation of the spirit of these resolutions. More attention (and funding) has been devoted to tackling prosecution of sexual violence in conflict, exemplified by the global Summit on Ending Sexual Violence in Conflict in London in June 2014 (Myrttinen and Swaine 2015), rather than comprehensive approaches addressing the gendered power inequalities which form the root causes of sexual violence in intergroup and intra-household conflicts (GAPS UK 2015; Kirby 2015). The issue of changing power dynamics and increasing women's meaningful access to decision making and leadership has been comparatively side-lined. Within peacebuilding and gender, issues of SGBV, security, justice, political participation, development, economic growth, health and education have been addressed (see for example Jennings 2014; Fawole 2008; Dolgopol 2006; Ellerby 2013; Gizelis 2011; Bastick and Valasek 2008). However, less attention has been paid to the gender dimensions of peacebuilding related to natural resource management including land and water.

The UK government, like many European and conflict affected countries, has adopted a National Action Plan for the Implementation of UNSCR 1325 and subsequent "Women, Peace and Security" resolutions. This lays out policy and

programming under the following four UNSCR 1325 pillars; (1) political participation of women, (2) relief and recovery, (3) conflict and violence prevention, and (4) protection of women and girls from violence. The 2014 International Development Gender Equality Act legally obliged the UK government to consider the impact of its overseas aid spending on reducing gender inequality (UK Parliament 2014). Despite promising dimensions such as "working with men and boys" being one of its guiding principles, the UK National Action Plan (NAP) (and its Implementation Plan) is primarily focused on women, peace and security (UK Foreign and Commonwealth Office 2014a, b). A recent external evaluation of the NAP concluded that it focuses too much on the symptoms rather than the root causes of conflict and discrimination against women and girls, which is needed to achieve sustainable advances in reaching the goals of UNSCR 1325 (Social Development Direct 2015; see also EPLO 2013).

USAID, the federal agency that manages US foreign assistance, promotes gender equality as a shared agency responsibility. Their "Guide to Gender Integration and Analysis" even states that "This [gender equality] is not only the right thing to do; it is 'smart development'" (USAID 2010, 2), a concept further developed in the 2012 World Bank's report on gender equality and development (World Bank 2011). USAID stresses that gender integration strongly builds on strategic planning and project design of development activities. A fundamental part of USAID's gender analysis is to recognise, understand, and address the impact of gender inequalities. Specifically, USAID suggest to (1) analyse sex-disaggregated data and information, (2) assess roles and responsibilities/division of labour, (3) consider access to and control over resources, (4) examine patterns of decision-making and (5) to use a gender perspective in any data analysis. Further, USAID recommends to their staff to carry out gender analysis separately for particular sectors (e.g. education, health, etc.) and to additionally include the historical and contemporary social context to investigate and understand the different effects of development work on men and women. LGBTI are not mentioned by USAID in this context.

9.3.2   Critique and Gaps in Understanding

There is a gap in the research on LGBTI and peacebuilding, especially related to water or natural resource management. The (limited) existing research has highlighted the need to take into account the specific needs and vulnerabilities of sexual and gender minorities including LGBTI, who are often targeted with violence in conflict affected settings (López Castañeda and Myrttinen 2014). Sexual and gender minorities often face disadvantages due to the homophobic discrimination institutionalised in government or international institutions or their local representatives (see SMUG 2016). For example, after villages in Sunsari, Nepal, were destroyed by floods in 2008, families with LGBTI members were forced into sex work and migration to India because they only received half of the relief given to other families (Knight and Sollom 2012). Gender relational approaches to addressing gender in

conflict affected settings need to be cognisant of these risks and open to explore these unexpected dimensions by recognising the binary dichotomy of the 'default' research mode, unconsciously repeating and perpetuating it. Binary approaches to questionnaires or interviews may miss out on seeing the LGBTI dimension and subsequently fail to capture such discrimination or additional challenges faced by LGBTI persons. Investigating local forms of non-binary identities and relationships can help researchers and practitioners to improve their understanding of the nuances of fragility and resilience related to water and peace. Further, such investigation can foster better understanding of the intersectional impact on power and privileges related to water, or the particular vulnerabilities to violent abuse and support needs of specific groups.

To date, not enough research is open to such nuances, which means that an important dimension is missed out. This can be seen in our examples from Kenya (Sect. 9.3.3) and Nepal (Sect. 9.4.3) where LGBTI were not considered in the initial research process.

9.3.3 Example from Kenya

The following example from Kenya illustrates a gender-blind approach to peace-building and highlights the importance of including gender not only in guidance notes but in actual project design, implementation and monitoring. In the arid to semi-arid northwest of Kenya, pastoral groups fight over scarce water, land and livestock resources. Particularly the Turkana and Pokot steal livestock from each other in so called raids. The main actors of violence are men in their 20s and early 30s (Schilling et al. 2012). Because of their role as raiders and guards of the community, it is mostly men who are killed and injured in the inter-communal conflicts. Efforts by the Kenyan government and non-governmental organisations have therefore mostly focused on men. Women have been hardly considered in peacebuilding programs as their responsibilities to fetch water, prepare meals, raising children and taking care of smaller domestic animals has not been associated with the conflicts and raids (Myrttinen et al. 2015). If women are invited to peacebuilding meetings such as the Lokiriama Peace Accord, their role is limited to performing dances and singing while the discussions are almost exclusively dominated by men. This gender-blind approach is likely to be one of the reasons why the conflict between Turkana and the Pokot has not been resolved yet. Women affect and are affected by the raids. Because a successful raid increases the wealth and social status of the raider's family, some women encourage their husbands to raid by performing dances and rewarding returning raiders with opulent meals (Schilling et al. 2012). The majority of women however disapprove of their husbands' raids because of the associated risk of getting wounded, being shot dead or being captured by the enemy. Turkana and Pokot women have further expressed an interest in a peaceful resolution of the conflict because it creates an omnipresent feeling of insecurity in both communities. The perceived insecurity in turn results in inefficient use of water and

pasture resources (because neither of the conflict parties dares to access contested areas) and changes in behaviour, particularly for women. In a village located in a conflict hotspot, women reported being afraid to pick berries or even perform biological functions nearby the village because of the danger to get killed or raped (Schilling et al. 2012; see also Pike et al. 2010; Pike and Wlllliams 2006).

A gender-sensitive peacebuilding approach in this case would therefore not only include women and their potential to discourage men to go raiding but it would also take the relationship and dynamics between men and women into account (see also Myrttinen et al. 2015). This implies understanding why men go to raid. Studies suggest that hunger and drought are key motivations on the Turkana side, while the payment of dowry and increasing of wealth were the most prominent motivations of the Pokot raiders (Schilling et al. 2012; Meier et al. 2007). All four motivations are related to social norms ascribing men the role of provider for the family and the community. Further studies suggest that raiding is also culturally driven by men's desire to prove their strength and to reach adulthood (de Vries et al. 2006; McCabe 2004). Successful raiding is therefore linked to performances of masculinity, which is thereby constructed as different to the activities undertaken by women, youth or elders.

Gender-sensitive peacebuilding would hence capture these gender-relational motives in the analysis and respond to them by promoting alternatives to raiding that still let men provide for the community, earn dowry, reach markers for adulthood/masculinity and preserve cultural values without resorting to violence. This would imply some social change. For the Turkana and Pokot societies it would mean de-emphasising the link between masculinity and the act of raiding, and replacing it with other activities to reach adulthood and earn respect in the community. Such activities could be the protection of the community against enemies (without retaliating), protection of livestock, protection of the environment and natural resources, and economic activities not linked to violence, for instance herding and trading. This might open the way for more acceptance and respect for other types of masculinities, less linked to violence and demonstrations of courage, and more linked to empathy and tolerance, or seeing the identification of peaceful solutions to differences as a strength rather than a weakness.

Recently oil has been discovered in the very conflict area between the Turkana and Pokot. While the employment opportunities for unskilled labour in the oil sector is limited, security guards, road marshals and other casual labour is needed (Schilling et al. 2015; Schilling et al. 2016). This provides another potential opportunity for men to provide for the family without going to raid. To have a mobile phone-based bank account (which is usually needed to receive a salary) could replace the gun as a status symbol and a marker of masculinity for men.

However, there are potential conflict risks if employment opportunities are perceived to be given unfairly to one community over another, which could exacerbate tensions between the Turkana and Pokot, or risk of heightened competition over water if the method of oil extraction is water intensive or if spillages occur (Schilling et al. 2016). In addition, the accessibility of monetised employment can lead to boomtown effects such as increases in gambling, prostitution, domestic violence,

teenage pregnancies and sexually transmitted infections, which can be detrimental to gender equality objectives (see Naujoks and Hartlief 2015; International Alert 2014). This could reinforce negative masculinities and exacerbate gender inequalities.

Further, initiatives are promising that are improving women's access to new job opportunities and strengthening of their role in decision making. For instance, women could be integrated into the (purely male dominated) council of elders in meaningful roles (going beyond cooking of meals). However, this should not be misunderstood as a "women empowerment" approach that solely focuses on women. One has to be aware that this implies sustained change to the underlying social norms and traditions, which is likely to be more successful when growing bottom-up from within the community, rather than being perceived to be initiated by external actors such as non-governmental organisations. Changing social norms requires long term approaches starting with education and involving the constructive engagement of men, women and (potential) LGBTI in creating these changes.

9.4 Gender and Water

States and organisations undertaking efforts in the water sector increasingly seek to integrate gender into their policies and programming. In the following sections we first provide a general overview (Sect. 9.4.1) before we illustrate the need for incorporating gender into actions aiming at improvement of water and sanitation services (Sect. 9.4.2). This overview is complemented with a section on examples from Nepal and Kenya (Sect. 9.4.3).

9.4.1 General Overview

Water and gender had emerged as a theme resulting from the 1977 United Nations Water Conference at Mar del Plata and the International Drinking Water and Sanitation Decade from 1981 to 1990 (WMO 1992; WHO 1981; Worthington 1977). In 1992 the International Conference on Water and the Environment was held in Dublin. While the third principle of the conference stresses the role of women in providing, managing and safeguarding water, the second principle describes the best practices in the water sector, promoting "water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels" (WMO 1992). In 2000 the United Nations Millennium Summit agreed on the eight Millennium Development Goals (MDGs) which include goal 3 to "promote gender equality and empower women" (UN 2015c, 28) and goal 7C to "halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation" (UN 2015c, 58). Succeeding the MDGs, which phased out in 2015, the UN General Assembly

adopted the Sustainable Development Goals (SDGs) as guideline principles for the coming 15 years (2015–2030). As a continuation of the MDGs, the SDGs took up their main issues and extended them to an overall global sustainable development plan including SDG 5 to "achieve gender equality and empower all women and girls" (UN 2015a) and SDG 6 to "ensure availability and sustainable management of water and sanitation for all" (UN 2015b).

In order to fulfil the agenda defined by the MDGs and later the SDGs, the United Nations High Level Committee on Programmes formalised the United Nations inter-agency coordination mechanism for all freshwater related issues, including sanitation (UN Water 2009). One important campaign advanced by UN Water was the International Decade for Action "Water for Life" between 2005 and 2015, which highlighted the importance of involving both men and women in water development and management and consequently mainstreaming gender in implementing water policies. "Water and gender" was one of the 14 focus areas of this decade, enhancing the understanding of gender not only referring to the biological differences between men and women but rather to their socially determined qualities, behaviours and identities.

Throughout the UN decade and the process of implementing the MDGs, water was first recognised as a human right by the UN Committee on Economic, Social and Cultural Rights (UN CESCR) in 2002 and later by the UN General Assembly and the Human Rights Council in 2010 (UN General Assembly 2010; UN CESCR 2003). Further, in 2013, the Human Rights Council stated that "the human right to safe drinking water and sanitation is derived from the right to an adequate standard of living and inextricably related to the right to the highest attainable standard of physical and mental health, as well as the right to life and human dignity" (UN General Assembly 2013, 3). Such past achievements were again enhanced in the UN Water Strategy 2014–2020 which sets the strategic dimensions and describes realistic expectations for achieving the SDGs.

Throughout the literature, three main trends and connections between water and gender have been identified: (1) From empowerment towards participatory ownership; (2) From enforcing western modernity towards in-situ grown consumerism; (3) From male dominated agriculture towards a feminisation of agriculture. The following analysis of these three trends indicates why water and gender cannot be treated separately and stresses the importance of a gender-relational approach to water and peacebuilding. Already in the 1970s, the gendered roles and experiences of women in their communities and especially in managing the community's water resources were recognised by the mainstream development policy makers (Coles and Wallace 2005). Ever since, development projects in the water sector have mainly focused on two issues, namely; (1) seeking to empower women in their local communities and (2) understanding and using women's knowledge of and role as local water suppliers and resource managers. While in the 1980s only their labour was used to increase project efficiency, they soon got involved in project planning and decision making through a "bottom-up" approach. This approach aimed to initiate and sustain a lasting social change while empowering women and giving them the opportunity to take responsibility over their own work as well as over their

community's water management. Further it was suggested that women's participation in male dominated working areas could reduce men's workload and work related burden which was henceforth thought to bear the potential of reducing domestic violence (Coles and Wallace 2005).

9.4.2   Critique and Gaps in Understanding

The above mentioned progression indicates the process of mainstreaming gender and addressing the relational dimensions of inequality and inequity which have been part of the Gender and Development agenda (GAD). However, the GAD still focusses only on "helping" women and girls. Perrons (2005) adds that this incorporation of gender into development policies lacks a concomitant analysis of the economic discourse and market oriented views of larger donors. She argues, that gender efforts of large donors, as for example the World Bank, are organised around pre-existing conceptions of *homo economicus*, a universal and highly masculinised category, narrowed down to market-willingness and economic rationality. Additionally, practitioners complain that policy commitments have often "evaporated" during the translation from theory to practice (Porter and Sweetman 2005) and consequently call for a systematic incorporation of gender into development projects and programmes through "easy to use practical tools" (Warren 2007, 188). Without a clear vision of the objective of such gender efforts, the frameworks for incorporating gender into development and peacebuilding efforts will remain meaningless. Ferguson (2010) further adds that research on the links between policy-making and practice at different levels – global, national and local – remains largely unexplored leading to confusion and contradiction of policy-making, programme design and project implementation. And while gender in development policies has passed through these several states of theory and practice, it still remains to be fully and comprehensively implemented in all facets of development work. This would entail nuanced gender analysis of water related development work in conflict affected settings considering femininities, masculinities and LGBTI persons. And taking into account their specific needs and vulnerabilities, gendered expectations of behaviour, agency, and how this links to exacerbating violence or developing peaceful solutions that contribute to building social cohesion, tolerance and gender equality.

While water practices in many countries are still one of the predominant ways of acting out and defining gender roles and social relationships, the empowerment discourse within mainstream development practices implicitly assumes that women are "subordinate in society, stuck in domestic roles, and unhappy with their position in society" (Van Houweling 2016, 1075). Consequently, it is assumed, that improved water infrastructures and concomitant decrease in workload for water collection, would free time for women to enter new productive roles and challenge the traditional division of labour (van Houweling, 2016). However, this simplistic, standardised and technical approach fails to recognise social relations, the division of labour and the social and cultural context (Joshi and Fawcett 2001). And indeed,

opposed to common expectations, women reaffirmed their "traditional" roles as mothers, wives, farmers and caretakers while spending more time completing domestic activities and farming or enjoying their families (Cornwall 2003). These findings underline that women's decision-making is highly dependent on the framing value system, emotions and intimate relationships and cannot be based only on economic calculations converting time savings, active participation in trainings, or water planning and management groups into income (Joshi and Fawcett 2001). It has to be acknowledged that women's agency to make their own decisions within this value system needs to be respected (van Houweling, 2016). More research on women's agency alongside structural constraints is needed in order to analyse whether the next generation would take the same decisions or challenge the traditional cultural notions and expectations of a "good wife".

Women were always seen as the main water carriers and users of domestic water and therefore used by the development organisations as "naturally" the most suitable people for the promotion and implementation of water-related development projects (Coles and Wallace 2005). Indeed, women in all parts of the world are socialised by their societies and cultures with a strong emphasis on being devoted caregivers to their families and communities. Consequently, development actors started to use this "positive synergy between women's interest and the management and conservation of natural resources" (Ray 2007, 423) for their purposes. However, the narrow focus on women within the gender debate ignores men's roles and implies that women are the only domestic water collectors neglecting findings from other countries, such as Mongolia where men strongly participate in water collection (Hawkins and Seager 2010). However, this approach was criticised since the social relations of women within their community who individually influence their actions and decisions were not respected (Ray 2007; O'Reilly 2006). Further critiques state that their relationship to natural resources has rather been created by the society and adopted by the development actors for economic reasons which has perpetuated the exploitation of women through utilisation of their mostly unpaid labour. According to Samman et al. (2016), women spend on average 3.3 times as much time on unpaid work than men which might even be further increased by adding economic or water management responsibilities to their already existing domestic responsibilities. Since their life at home and in society is constrained by power and rights inequalities, critics argue that project strategies have to consider a transformation of these restrictive structures, leading to women's participatory ownership of water management, before adding responsibilities to their daily life through a purely "women-centred" empowerment strategy (Ray 2007). Such holistic approaches can transform the underlying gender power structures for example through communal workload analysis in combination with targeted community dialogue sessions. Such measures emphasising communication and dialogue are first steps towards a mutual understanding and joint decision-making between the genders and bear the potential to reduce gender inequalities at community level (El-Bushra et al. 2013). Further, approaches of sharing domestic responsibilities like childcare between men and women and among women, through the establishment of crèches or mutual support in domestic duties, could alleviate the double or

triple burden and foster the design of a more gender-equal community structure. However, any project aiming to empower women needs to sensitise the whole community in order to reduce potential risks and possible violence against women from (male) relatives who have not been informed and sensitised (Myrttinen et al. 2016b).

The empowerment discourse as described above is clearly gendered, always addressing women living in the traditional structures of their village communities. According to O'Reilly (2006), the term "empowerment" is closely linked to modernity, implying that being empowered means being modern. She argues that since men are already empowered this way of thinking implicates that men already achieved the goal of being modern and that women remain to be empowered. Within this aspect of empowerment, water and gender are often linked to modernity in development discourses and acts. O'Reilly (2006) adds that new responsibilities and increased mobility of women in rural areas are seen as indicators of women who became "modern" (O'Reilly 2006, 958). Gupta (1998) criticises that this type of gendered modernity narrows the development discourses to the one-and-only goal of achieving western socio-economic standards, without respecting the needs and goals of local communities and their culture. Instead women should be conceded the right to escape the victim role and to develop their own skills.

In the previously described SDGs some weak connections between gender and water can be identified. However, gender formulations within the SDGs again strongly focus on women and girls, hardly mentioning men and completely ignoring LGBTI. And while the SGDs focussing on water have a specific gender target, the nexus of gender, water and peacebuilding can hardly be recognised in the SDG framework. Development cooperation should stop seeing women as a target group but rather as active players and goal setters in the project process. Women, as agents of change, will be able to shape this transformation process according to their own needs and aspirations (Wendoh and Wallace 2005).

Changing environmental conditions and related migration of mostly men from rural to urban areas change the societal conditions in many of the more traditional rural communities (e.g. Gioli et al. 2016; Gioli et al. 2014b). Women's capacity to participate in agriculture and irrigation management has been restricted by rigid gender norms prescribing role-appropriate behaviours, cultural traditions, religious constraints, and high reproductive pressure on women (Hussain 2007). However, "feminisation" of agriculture has been observed since migration of men to the cities increased. Gioli et al. (2014a) have documented this process in Pakistan and Schilling et al. (2013) in Nepal. The recent decline of marriages, as Mascarenhas (2012) describes in his case study from India, has further contributed to a stronger involvement of women in agriculture.

While women always indirectly profited from irrigational water for domestic and livelihood purposes, they increasingly take part in the active irrigation management. However, the loss of male heads of households and the lower status of women in the society weakens the community's resilience (Mascarenhas 2012). Further, women are often not trained in the techniques that are used within the irrigation networks and consequently encounter challenges in maintaining the traditional systems. Facing a lack of knowledge and the loss of men in rural areas, women often find

mutual support within their community by forming platforms for gathering knowledge and discovering new ideas (Mascarenhas 2012). Such solidarity among women, maybe even across ethnic divisions or individual political aspirations, seems pertinent but does not develop naturally when facing climate vulnerability, fragile democracies or other risks to which women and girls are particularly vulnerable. However, reality shows that concerns of power and politics can also prevail over camaraderie and empathy (Joshi 2014). Different interests and identities going beyond those of environmental or gender challenges, can be enforced by women in power who are shaped by complex combinations of individual, socio-political, institutional or other contextual realities. Therefore, development actors should go beyond the narrow, apolitical and technocratic ways of defining and "doing gender" (Joshi 2014, 253) and take into account different interests and identities of women in their socio-political context.

9.4.3   Examples from Nepal and Kenya

The following examples from Nepal and Kenya illustrate the dual effect of the previously introduced feminisation of agriculture and a gender-blind approach to water and peacebuilding.

International Alert carried out research in mid-west Nepal to understand community resilience and adaptation measures to environmental and socio-economic changes (see Schilling et al. 2013; Vivekananda et al. 2014). As seen in the previous section, migration by young men was found to be an important adaptation strategy in response to several push and pull factors. The push factors included decreased predictability of rainfall and increasing costs of agricultural production which resulted in difficulties to produce reliable harvests. Further, environmental risks such as floods, droughts and landslides increased the community members' motivation to leave their rural settlements. The pull factors included income opportunities and existing networks of relatives in urban areas (Schilling et al. 2013).

The migration of young men to urban settlements resulted in a higher number of female headed households. While women took over some of the roles in agriculture, including water management, the decrease in labour force reduced agricultural output and hence negatively affected food production. However, the remittances the women received from their men compensated and partly over-compensated the reduction of the agricultural production (see also Kunz 2011). On the one hand the women had more financial assets and autonomy in decision making, but on the other hand they faced increased responsibilities in taking care of their families and fields alone. In addition, the absence of husbands left more women exposed to external violence and rape, although few of the interviewed women actually reported a higher level of insecurity (Schilling et al. 2013). The example shows that male migration leads to more than the feminisation of agriculture. Male out-migration affects women in the sending area in multiple ways and thereby changes the expectations for and role of women in rural societies.

In Kenya, we observed a development project which aimed to set up a borehole in a conflict hotspot to mitigate the Turkana-Pokot conflict described in Sect. 9.3.3. The vision of the implementing development organisation was that members and particularly women from both communities would come to the borehole and share the water resources peacefully. This was expected to improve the overall relations between the communities. The opposite happened. After the borehole was opened in 2011, conflicts between the Turkana and Pokot over access and control over the new resources escalated to such a degree that the development organisation had to close the borehole again to prevent a further escalation of violence. This is a good example of how a development project seeking to improve the water supply and community relations failed due to a misconception of the role of women and gender norms shaping men and women's behaviours: While women in both the Turkana and Pokot society are the ones fetching water, (armed) men were attracted by the new resource which they felt obliged to defend against the enemies – with the gendered expectation of men as protectors inadvertently turning protective intentions into sources of conflict and violence.

9.5   A Gender-Relational Approach to Water and Peacebuilding

A gender-relational approach refrains from considering women as "objects of development" who need to be "empowered" or "modernised" through external interventions. Instead it recognises women as active agents of change without romanticising them or glorifying their capabilities. A gender-relational approach places the relations and power dynamics between men, women and LGBTI at the centre of analysis, cognisant of intersectionality and without trying to make women or LGBTI superior to men or assuming homogeneity between the different actors. Implementing a gender-relational approach initially requires "dealing with more complexity" (Myrttinen et al. 2016b, 6) and an expansion of the budget as well as more time and human resources. But the efforts will likely pay off in terms of inclusiveness, sustainability, effectiveness, resource use and overall project success.

In particular, the example from Kenya has illustrated how peacebuilding and water projects can fail if gender issues are insufficiently taken into account.

The intersection in the centre of Fig. 9.2 shows the gender themes that are important to address in a gender-relational approach to water and peacebuilding projects. Such an approach takes a broader understanding of gender by expanding it to incorporate heterosexual women, men and LGBTI, but also a deeper one, by looking at how gender relates to other factors, such as age, social class, disability, ethnicity, religion, culture, marital status and geographical location. As Hudson (2009, 289) points out "gender mainstreaming requires cultural sensitivity". This also applies to the other identity markers which do not exist in separation from gender identities, roles and expectations but in close interrelation with them (see also Ahlers and

Fig. 9.2 Gender as a crosscutting theme between water and peacebuilding (the authors)
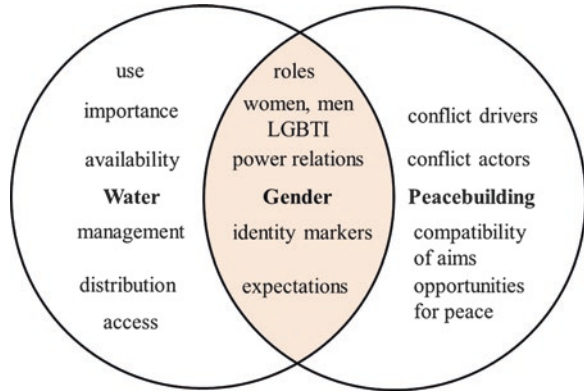
Zwarteveen 2009). This implies the necessity to understand gender roles and identities as being constructed through the power relations between men, women and LGBTI – as well as through the power relations within these groups. Based on this understanding the use, importance, availability, distribution of and access to water should be analysed. Table 9.1 provides some key questions to guide a gender-relational approach to water and peacebuilding. The questions are designed to raise awareness among researchers, practitioners (for example programme designers and implementers) and policy makers. They are encouraged to ask themselves these questions when designing policies, programmes and (research) projects but also when interviewing the respondents who ideally represent all relevant groups, including heterosexual women and men, and LGBTI.

The overall aim of Table 9.1 is to contribute to a better understanding of gender, water and peacebuilding and to identify the relations between the three. For example under power relations, the question on the power basis of each group might reveal that access to water (next column to the right) is important to gain or stay in power. This in turn is important to answer the question on power relations between the conflict parties and how these shape conflict (next column to the right). Of course the table should not only be read horizontally but also across columns. For example, the power relations between women, men and LGBTI will likely influence who is using the water and for which purposes. Table 9.1 makes no claim of completeness. Rather, the questions offer a first entry point into a gender-relational approach to water and peacebuilding.

9.6 Conclusion

Taking gender into account means more than just focusing on women or adding female participants to project activities of peacebuilding and development programmes. "Just women" is simply not enough. A gender-relational approach means to not only look at the roles, strengths, weaknesses, expectations, challenges and inequalities women have and face, but also of those experienced by heterosexual

Table 9.1 Guiding questions for a gender-relational approach to water and peacebuilding (the authors)

	Gender	Water	Peacebuilding
Roles	What are the key roles of women, men and LGBTI in the community?	Who is responsible for water management and distribution?	What roles do women, men and LGBTI play in (potentially) contributing to or mitigating the conflict?
	How do the roles of women, men and LGBTI interact?	Where is the source of the water?	Have interactions of gender roles played a role in past conflicts? And if so, how?
	Who makes decisions at the household and community level?	Who is using the water and for which purposes?	What role does water play in the conflict?
	Who participates in community meetings and how?	What changes can be noted in the water use?	How can differences in the importance of water for different groups be utilised to strengthen cooperation between groups?
	Are there gender norms limiting women's, men's and LGBTI participation?	How important is water for women, men, LGBTI and the community overall?	How do (seasonal) changes in the availability of water affect relations between different groups?
		What is the cultural value of water?	
		How does the water availability change intra and inter annually?	
Power relations	What are the power relations between women, men and LGBTI?	How is the access to water structured/organised?	What are the power relations between the conflict parties and how do these shape the conflict?
	What is the power of each group based on?	Who has control over water and who can access it?	Are power imbalances between women, men and LGBTI, especially with respect to access to water, a conflict driver?
	Who owns assets?	How do the power relations influence the access to water?	How can power relations be used to improve cooperation and access to water and?

Table 9.1 (continued)

	Gender	Water	Peacebuilding
Identity makers	How do age, social class, disability, ethnicity, religion, culture, marital status and geographical location relate to and interact with gender?	Are people with certain identity markers excluded from the access or use of water?	Does the conflict run along ethnic, religious or other identity marker-related lines?
			Who mostly benefits/suffers from the conflict?
Expectations	What are women, men and LGBTI expected to do or not to do?	What are the different water users expected to achieve?	How can management of the expectations of conflict, actors and water users contribute to peacebuilding?
	Do women, men and LGBTI agree with these expectations? Why or why not?	Who expects to benefits the most/least from water?	How can the management of resources contribute to peacebuilding?
	What changes would women, men and LGBTI like to see for themselves?	Are women, men and LGBTI satisfied with the water situation or which changes would they expect?	Do the expected changes bear opportunities for peace or conflict?

men, boys, girls and LGBTI. We need to understand the relations and dynamics within and between these groups. A gender-relational approach further requires a sound understanding of other key identity markers, such as age, social class, ethnicity, religion and culture and how these are interlinked with gender and power relations. This chapter provides some guidance and with Table 9.1 also a practical tool to help researchers, practitioners and policy makers to explore the connections between gender, water and peacebuilding.

For researchers and practitioners a gender-relational approach is useful to uncover the roles, power relations, identity markers and expectations in the water and peacebuilding sectors, and to avoid project failures as shown by the examples from Kenya. The first Kenya example illustrated how a gender-blind approach can fail to end men's raiding by ignoring women's role in inciting such behaviour, while the borehole example demonstrated how an intervention inadvertently provided a new source of conflict due to ignoring predominant masculine norms spurring men into violence in order to "protect" the new resource. For policy makers a gender-relational approach can be helpful in developing policies that move away from the binary men-women understanding of gender towards one that specifically includes LGTBI and their needs, vulnerabilities, roles and expectations.

The next step would be to apply the gender-relational approach to actual water and peacebuilding projects and to develop it further. For example, one promising avenue might be to explore how ideas of positive masculinities and non-violent

problem solving can be integrated in trainings to encourage peaceful and inclusive water management. This is particularly important in contexts shaped by gender discrimination and inequality where a women-focused intervention could lead to a backlash (such as domestic violence) if men feel undermined in their gender roles. Further research is needed that explicitly focuses on the connections between gender, water and peacebuilding. For example, researchers should not only study how the out-migration of men affects women and their involvement in the agricultural sector and water management, but also what this means for societal stability and entry points for peacebuilding. On the other hand, there is a need for research on how peacebuilding efforts affect gender dimensions of water management. Particularly, the effects on and roles of LGTBI in the water sector and peacebuilding efforts are highly under-researched.

Moreover, researchers have paid little attention to the gender impacts of large scale development projects. For example, there is very limited research on how the displacement and relocation of communities caused by the construction of hydropower dams, affects subsistence agriculture and the gender division of labour.

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Chapter 10
Calming the Waters, Ploughing the Sea – Can Gender-Responsive Approaches to Intra-state Water Conflicts Lead to Peacebuilding? Evidence from Lebanon and Nepal

Henri Myrttinen

Abstract Access to water, among other resources, has been and continues to be an implicit or explicit driver of intra-state conflict, and both access to water and conflicts are intimately linked to gendered power dynamics in any given society. While water as a conflict driver and the gendered nature of conflict have received relatively extensive attention from academics, policy-makers as well as practitioners of peacebuilding, the more positive approaches of using water and/or gender relations as entry points to conflict transformation and societally inclusive peacebuilding have been less researched. Drawing on case study examples from Nepal and Lebanon, the chapter explores some of the possibilities, necessary conditions and challenges of gender-responsive peacebuilding in the context of intra-state water conflicts.

Keywords Gender • Peacebuilding • Nepal • Lebanon • Intersectionality

10.1 Introduction

As the contributions to this book highlight, water can play a major role in conflicts, and in multiple ways. It can affect the lives of people differently depending on their location and position in society, with gender often playing a key role in determining potential vulnerabilities or possibilities of agency (see also Schilling and Naujoks, Chap. 9 in this volume). In the context of conflict and peacebuilding, issues around access to water, water usage, and water services have mostly been approached either on the very practical level, or at a more abstract, analytical level. In the former case, the scope of analysis tends to be at the micro-level, for example examining water as an issue that needs to be addressed to ensure the survival of a given vulnerable population (e.g. refugees and internally displaced persons – IDPs) through WASH

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(water, sanitation and hygiene, see also Mosello et al., Chap. 6 in this volume) needs assessments and technical briefing notes.[1] At the macro-level, the analysis has mostly been theoretical, for example examining water as an implicit or explicit driver of conflict, be it between or within states, with less of an examination of micro-level impacts and dynamics. As outlined for example in Wolf et al. 2005, these examinations of water as a conflict driver include inter-state conflicts over access to and management of water resources, or conflicts over water-related issues such as irrigation or the direct and indirect impacts of dams (see also Braun 2011; Zwarteveen 2006).

In terms of research and policy, water has been considered as conflict-driver, as an essential need, access to which needs to be guaranteed even in times of conflict, and as a means to potentially achieve transnational co-operation (see for example Chellaney 2013; Wolf 2004, Wolf et al. 2005; Zeitoun and Mirumachi 2008). There has, however, been far less discussion and research on water resources, their control and access to them as a potential entry point for peacebuilding, or on how people's direct relationship and need for water at the micro-level interacts with more macro-level peace or conflict dynamics. The exceptions in terms of research on water as a peacebuilding platform are analyses of international structures dealing with bodies of water, such as commissions for rivers or the littoral states of a particular sea or major lake;; and analyses of efforts to mitigate negative impacts of water-related infrastructure projects (Goulet 2005; Mehta and Srinivasan 2001; Mirumachi and Allan 2007; Wolf 1998; Wolf et al. 2005; Zeitoun and Mirumachi 2008). However, the use of water regulation mechanisms as an *intra*-state rather than inter-state peacebuilding opportunity has been less explored, and especially from a comprehensive gender perspective.

This chapter examines two case studies from Lebanon and Nepal on how water and access to it can potentially be used as a peacebuilding opportunity, and the role that gender analysis can and should play in this. Peacebuilding in this context is understood as a process of making societies more peaceful by making them more equitable and socially inclusive, and promoting non-violent ways of addressing conflict. The two cases show the potential of water to bring together diverse sections of society and for using the space and the process to help build more inclusive societies – including in terms of gender equality. Both cases focus more on 'small c' conflicts at the local level, which are however indirectly yet intimately linked to 'big C' conflicts at the national and/or regional levels. The case study analysis is based in part on my own field research and personal observations in both countries in 2013 (Nepal) and 2014–2015 (Lebanon), but also draws on secondary research, including 'grey' NGO literature.

Before elaborating on the case studies, I will first lay out the case for taking a broader, deeper and relational approach to incorporating gender into the analysis of, as well as policies and interventions around water, conflict and peacebuilding.

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[1] For examples of these, see Oxfam's WASH technical briefing notes collection at http://policy-practice.oxfam.org.uk/our-work/water-sanitation-and-hygiene/wash-technical-briefs

10.2   Gender, Conflict, Peacebuilding

Gender – understood to encompass the ways in which we are, and are expected to be, women, men, girls, boys, trans or intersex persons – is a central element in both conflict and peacebuilding. I use gender here as follows:

> Gender is one of the factors that influence, positively and negatively, the ability of societies to manage conflict without resorting to violence. Since gender analysis can help us understand complex relationships, power relations and roles in society, it is a powerful tool for analysing conflict and building peace. (International Alert 2010, 19)

Therefore, "building inclusive, sustainable, positive peace in societies affected by violent conflict requires analysing and addressing gendered power dynamics as well as gender roles and expectations" (Myrttinen et al. 2014, 10). The various elements are in a dynamic, mutual relationship: gender roles, expectations and identities, as well as gendered power differentials both affect conflict and peacebuilding, and are themselves affected by these processes.

Gender roles, identities and expectations are socially, culturally and politically constructed through the power relations between men, women and those identifying with other gender categories – as well as through the power relations within these groups. They are also constructed in relation to each other: for example, the masculine is defined in relation to the feminine; the heterosexual in relation to what is societally defined as the homosexual. Gender is, however, broader than just people's identities, their roles, relations and expectations placed on them. Gender is also about societal power dynamics, about institutions, practices and the symbolic meanings attached to them (Cohn 2012). For example, both the institutions that play key roles in war and conflict, such as the military, and the domain of warfare itself, are predominantly coded masculine and dominated by men. Care work and caring for children, the elderly or the sick tends, on the other hand, to be coded feminine, and much of the public and private care work globally is undertaken by women. When it comes to water, private and small-scale use tends to be coded feminine, while decision-making masculine, in particular with regard to major water projects (e.g. dams), community use, control and dispute (cf. Braun 2011; Zwarteveen 2006).

Although gender is often a key variable in determining one's position in society, it is not the only determining factor: vulnerability to violence, poverty, disease or other forms of physical harm can often be heightened for example by low social or economic status, age-related factors or diverse sexual identity. Gender identities, roles and expectations and gendered power differentials thus do not exist in separation from other identity markers, such as class, age, marital status, disability, sexuality and the like, but are closely tied to these in multiple ways, co-defining each other as well as defining positions of agency and/or vulnerability. Gender, in its interplay with other identity factors, is central to power dynamics and identities that form both conflict and peacebuilding.

Taking these dynamics into account in practical peacebuilding work requires a comprehensive, gender-relational approach, based on the premise that "peacebuilding can be more effective if built on an understanding of how gendered identities are

constructed through the societal power relations between and among women, men, girls, boys and members of sexual and gender minorities" (Myrttinen et al. 2014, 5). The need to take gender into account in understanding conflict and building more peaceful and inclusive societies has not only been accepeted in research (e.g. Cohn 2012; El-Bushra 2007; Väyrynen 2010) and policy (Conciliation Resources 2015; Rehn and Sirleaf 2002; Wright 2014) but has also been enshrined in a series of United Nations Security Council Resolutions (UNSCR) starting with UNSCR 1325 (2000).

With respect to water, conflict and peacebuilding, this means for example that depending on a given society, it may be either men or women (often of a certain age or class) who are charged with water collection, with taking decisions in a water users' board, on when to evacuate in case of a flood, or who have access to information regarding water-related issues (cf. Braun 2011; Mustafa et al. 2015; Zwarteveen 2006). Those in the weakest positions of the gender hierarchy (e.g. poor transgender persons, widows) often experience an exacerbation of their gendered vulnerabilities in times of conflict or disaster (Mustafa et al. 2015). With respect to conflict, it is often men, also of a certain age or class, who are more likely to be forcibly recruited or expected to fight and also be targeted as potential combatants, or face other gendered vulnerabilities due to societal expectations placed upon them (Carpenter 2006; Turner 2016). Women and girls, on the other hand, may be expected to take on non-traditional tasks men are not able to carry out or be more vulnerable to sexual and gender-based violence (SGBV) (Cohn 2012; Rehn and Sirleaf 2002). The positions of gendered vulnerability or agency, as well as the gendered expectations which women, men, girls, boys and those with other gender identities find themselves in in situations of conflict, can often be contradictory and fluid. For example, women may be both able and forced to out of necessity to take on new roles, which can be both empowering and burdensome, while expectations on men to be protectors and breadwinners can both lead to them joining armed groups or fleeing a conflict zone (Khattab and Myrttinen 2017; Utas 2005).

Gender norms and expectations also change depending on particular contexts, and unless this is understood and taken into account, peacebuilding interventions can easily end up missing their stated objective or even exacerbating vulnerabilities. Assumptions, for example, of women's and girls' 'innate peacefulness' have often led to a side-lining or ignoring of female ex-combatants and support troops in re-integration programmes; focusing solely on female survivors of SGBV has often left male, trans- and intersex survivors without aid; and heteronormative assumptions of family structures have often left people with diverse sexual orientations and gender identities, but also heterosexual women and men living in arrangements other than families without outside aid in disasters and conflict (Coulter 2008; Dolan 2014; Dominey-Howes et al. 2014; Mustafa et al. 2015; Myrttinen et al. 2014; Naujoks 2016; Richards 2010). Equating women and girls in conflict with passive victimhood or with essentialised notions of feminine peacefulness has also often led to a side-lining of women from other political processes in post-conflict arrangements (Cano 2015; Debusscher and Martín de Almagro 2016).

10.3 Water, Conflict and Peace

While academic literature has mostly addressed water as a resource over which inter- and intra-state conflicts are fought, the relationship between water and conflict, and therefore peace, is more complex. In addition to possibly being one of the resources over which there is (violent) conflict, water and access to it also can play a role in contributing to other conflict drivers, exacerbating tensions and either increasing or decreasing people's vulnerabilities. Echoing the introductory chapter of this book, the relation between conflict, water and gender can change over time, depending on the stage of the conflict and the situation of the people in question. Water, be it through scarcity or overabundance, can be:

- a direct or indirect source of, or contributing factor to conflict, (e.g. directly in cases of conflicts over access to water or indirectly in cases of conflict over loss of land due to the construction of a dam),
- a necessary resource and source of vulnerability or resilience in a conflict-affected situation (e.g. for displaced persons), or
- an external factor that either exacerbates or diminishes conflicts, (e.g. in the case of the 2004 Indian Ocean tsunami, which exacerbated tensions in the Sri Lankan civil war but was a motivating factor for finding a peace settlement in Aceh, Indonesia).

These conflicts can be both inter-state and intra-state (Wolf et al. 2005), or, as for example in the case of Helmand Province in Afghanistan, be a mixture of both, where local, intra-state water conflicts contribute to a complex conflict involving local, national and international actors as one of the root drivers (Martin 2014).

Beyond being a factor in exacerbating or diminishing conflict, the need to access water resources, which is often a task women, girls and boys rather than adult men are expected to carry out, can often expose them to violence, including SGBV. While this is something that occurs in peacetime as well, risks around water collection are exacerbated in times of violent conflict (Anwar et al. 2016). As with risks and vulnerabilities generally, these are heightened or lessened through the interplay of gender with other social identity markers such as age, ethno-religious background, dis−/ability or marital status (e.g. married, woman-headed household or widowed), the saliency of which changes in different contexts.

Water resources and peoples' relationship to them can, however (at least potentially), also act as a peacebuilding opportunity. These potentialities have mostly been explored at the inter-governmental, macro-level, examining the potentials of institutions for rivers such as the Danube Commission, the Nile River Basin Initiative or the International Commission for the Protection of the Rhine, or the Baltic Marine Environment Protection Commission and the Black Sea Commission for marine bodies. What has received far less attention both in terms of research and of peacebuilding programming is how water has been, is and could be used for addressing broader societal conflict drivers and dynamics of exclusion at the local level, thereby diffusing intra-state conflict. The following two examples from

Lebanon and Nepal will showcase two imperfect cases, where water, rather than gender or peacebuilding, were at the centre, but which nonetheless highlight the possibilities of using water as an entry point on these broader issues.

10.4   Lebanon – Water as a Convening Issue

Lebanese society is in many ways marked by the shadows of past wars and its immediate proximity to several on-going armed conflicts. In addition to the long-term impacts of the Lebanese Civil War 1975–1990 and war with Israel in 2006, the country also still hosts over 450,000 Palestinian and perhaps 8000 Iraqi refugees as a legacy of the Israeli-Arab wars since 1948 and the wars in Iraq. Following the outbreak of the Syrian Civil War in 2011, Lebanon, with its estimated population of 4.5 million people has seen an influx of an estimated 1–1.5 million Syrian refugees. Already prior to the influx of Syrian refugees, access to and control of increasingly scarce resources in a small and highly populated country had caused tensions. The stark rise in additional people has placed an immense strain on an already fragile, at times poorly managed and often over-stretched provision system for basic services, including for water (Banfield and Stamadianou 2015; Bekdache 2015, World Bank 2013).

Gender identities in Lebanon are often closely tied to location and confessional background, with the two often overlapping, as confessional groups tend to coalesce in particular areas, be it in the cities or the countryside. While age and class also play a major role in defining gendered positions of power, in many ways confession is a key determinant. In part this is because a number of laws and regulations pertaining to personal status, which often have different provisions for men and women regarding for example marriage, divorce or inheritance, are not defined by national law, but rather formulated and judged upon by the respective confessional groups (Khattab 2016). Furthermore, confessional background interacts with family and clan networks, which often overlap with economic and political networks of power and patronage, all of which have historically been male dominated (Johnson 2001). Access to these networks often is a key factor mediating access to services, be they private or public.

The impact of the Syrian refugee influx has been felt across the country, although some areas have far higher concentrations of refugees than others. The feelings of insecurity caused by the influx vary regionally and often with gendered differences, such as women in northern communities expressing concerns over real or perceived increases of sex work and men focusing on economic aspects (Khattab and Myrttinen 2014). The strains placed by the dramatic increase in population on public and private services as well as on natural resources have caused resentment in host communities. With respect to water, the already precarious situation, due in part to poor management of water resources, was exacerbated in 2014 by a drought (Bekdache 2015).

Water has and continues to play both a direct and indirect role in conflict and peacebuilding in the western Asian region which Lebanon is a part of (Beaumont 1997; Fröhlich 2012). The role of water as a possible regional conflict driver has

been especially prominent in public and policy debate (e.g. Homer-Dixon et al. 1993), as has its corollary, in particular cross-border water co-operation along the River Jordan (e.g. Wolf 1998). Following the outbreak of the Syrian Civil War, the degree to which drought has been a contributing factor has been keenly debated (Fröhlich 2016, Selby et al. forthcoming). Restricting the civilian population's access to water has also been directly used as a weapon during the Lebanese Civil War, such as for example in the Tal al-Zaatar massacre in 1976 (Khalili 2007).

The following analysis is largely based on the findings of a project focusing on three communities in different parts of the country with different confessional identities[2]:

- Wadi Khaled, in the north of the country, close to Syria, predominantly Sunni,
- Hermel, in the east of the country, close to Syria, predominantly Shi'a, and
- Badghan, in the central region of the country, predominantly Druze.

The project aimed to first understand people's perspectives on the conditions in their regions before and after the influx of refugees into their communities, after which workshops were conducted on conflict analysis and advocacy. Following on from this, representatives of the three communities were brought together to formulate a joint advocacy plan. Out of the multitude of issues initially raised, the participants chose water as their common platform for advocacy. Water was seen by the participants as a pressing issue that affected all community members, and also one that was simultaneously neutral enough to work on without exacerbating political or sectarian divisions but connected enough to other problematic issues to allow for an entry point to discuss these.

In addition to capacity-building on advocacy, networking and conflict management skills, participants were also trained on the water sector in Lebanon and water projects being implemented in other regions. Through this joined platform on water, the project not only sought to build local resilience and social cohesion, but also build linkages between the three communities from different parts of the country with different confessional compositions and political allegiances. In addition to building more inclusive community relations, the project also sought to improve state-citizen relations. Furthermore, by focusing on root causes of water scarcity, the project also sought to diminish mistrust and resentment between the Lebanese host communities and Syrian refugees, which has at times crystallised around access to scarce resources and services (Bekdache 2015).

Arguably, one of the elements which was given less attention at this stage of the project was gender, although both men and women were actively involved in its implementation, including in advocacy. The gendered dynamics of water usage (e.g. by women in charge of domestic chores), access to water, decision-making on water as well as socio-political issues more broadly was not explored in detail due to a lack of resources. Future projects, in order to better understand the gendered dynamics of local-level decision making in Lebanon, need to focus more on how this varies depending on locality, confessional background and political affiliation, and

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[2] The project, 'Harnessing local capacities for resilience in the face of the Syrian crisis', was jointly implemented by International Alert and the Lebanese NGO Permanent Peace Movement.

what openings this might offer for building a more inclusive and peaceful society. As argued above, gender needs to be approached intersectionally to account for the different positions of power and vulnerability. Nationality and refugee status play an obvious role here, but so do confessional background and socio-economic status, which for example places different Lebanese citizens into different positions of agency (cf. Khattab 2016). Considerations of refugees' vulnerability have in the past often failed to consider male refugees' vulnerabilities (e.g. International Rescue Committee 2016; Turner 2016) or those of diverse sexual orientations and gender identitites (Myrttinen et al. 2017), but also differences between Syrian refugee women (cf. El-Masri et al. 2013; Syria Research and Evaluation Organization 2013). These gendered positionalities also need to be seen as dynamic, and positively empowering dynamics can be encouraged, such as in this case the emerging increased participation of Syrian refugee women in refugee communities in the Bekaa valley which we have witnessed over the course of the project.

10.5 Nepal – Water for More Inclusive Politics

One of the main driving forces of the civil war in Nepal (1996–2006), which pitted the Royalist government against Maoist insurgents, was the structural exclusion of a vast majority of the population from access to power and resources. This exclusion was based on a complex feudal system of stratification based on caste, ethnicity, religion, age, location, and gender. This system also laid and continues in part to lay down the societal expectations of what it means to be a man or a woman of a given caste, age, ethnic origin, and so on. The complex web of expectations and norms means for example that in some instances, lower caste women may find themselves in positions of relatively more freedoms, but also of more vulnerability, than higher caste women (Tamang 2002), or place expectations on some men to engage in physical violence but not others (Maycock et al. 2014, Sharma and Tamang 2016). The Maoists, at least rhetorically, demanded an overthrow of the feudal regime, including calls for the empowerment of women, creating among their cadres and supporters expectations of a more or less radical re-structuring of Nepali society (Myrttinen et al. 2015; Sharma and Donini 2010; Shrestra-Schipper 2009). During the conflict, Maoists explicitly campaigned against traditional practices of gender- and caste-based discrimination in areas they controlled, although the post-conflict period has seen a degree of roll-back in this respect (Naujoks and Myrttinen 2014; Naujoks 2016).

As in all societies, Nepali gender roles develop and change over time, with different gendered expectations placed on men, women and other gender identities of different ethnic, regional, cultural, religious and social backgrounds. Caste, in conjunction with gender, continues to play a major role in many parts of the country in terms of the expectations placed on men, women, boys, girls and third gender persons, as well as in terms of their possibilities and vulnerabilities (Maycock et al. 2014; Naujoks 2016; Naujoks and Myrttinen 2014). In spite of the broad variety, there are certain traditional expectations that tend to transect most social, religious

and ethnic groups – such as respect for elders and the pre-eminence of men over women. These values and expectations underpin traditional family structures, which can often be an important source of support and care; however, they can also be a source of repression and violence, especially in contexts of economic pressure and social change (Naujoks and Myrttinen 2014).

One of the water-related projects International Alert was working with was in Kailali district in the southwestern Terai region. The Terai covers the Nepali side of the plains of the Ganges river basin, and has been a historically marginalised part of the country, which saw heavy fighting during the civil war. Following the end of the war, feelings of continued marginalisation have led to repeated protests and even the formation of armed groups, often mobilising around Tharu and Madhesi ethnic identity (UNRCHCO 2013; Naujoks 2016). Many of the Hindu communities in the Terai are highly patriarchal and continue traditions such as the dowry system, early marriage, preference for sons, the stigmatisation of widows, seclusion (*purdah*) of women and *chhaupadi* (the physical segregation of women during menstruation), practices which the Maoists had sought to, and partially succeeded in abolishing (Naujoks and Myrttinen 2014; UNRCHCO 2011). Decision-making, especially in public fora, tends to be an exclusively male privilege in the more traditional Hindu communities in the Terai, and women's economic activities are limited, although in some matriarchal Tharu societies gendered roles can be quite different (Verma 2009). On the whole, however, power tends to be concentrated in the hands of older, majority-ethnic, higher caste men, while much of the economic power in the rural areas is in the hands of absentee landlords (Maycock 2012; Pandey and Myrttinen 2014).

In the target area of the project, community participation in the irrigation system was very high as the systems were managed by the farmers themselves (cf. Sugden et al. 2014; Suhardiman et al. 2015). A traditional system of irrigation management called *Deshawar* is still in place, in which thousands of farmers from each household in the area contribute their labour and time for at least a week annually to clean the silt from the mouth of each irrigation system and to repair any damages. This process would be led by *Badghars,* who are elected traditional leaders/elders, almost always male.[3] In addition, *Badghars* in a given area lead water users' committees (WUSC), which regulate the use of canal water for irrigation (Pandey and Myrttinen 2014).

Although the Tharu indigenous population are involved in the *Deshawar* process, most of the agricultural land in the district is not owned by them. Participation in decision-making has also traditionally been limited to non-existent for women, members of lower castes and ethnic minority groups. Furthermore, a bonded labour system called *Kamaiya* has existed, and to an extent still exists despite a ban, wherein men and women, as well as girls and boys, were tied to mostly non-Tharu landlord families and forced to work for them (Cheria 2005; Pandey and Myrttinen 2014).

Following the end of the civil war, the new republican government has sought to address some of the root causes of the Maoist insurgency by seeking to ensure more

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[3] One Badghar is elected among a certain area/population and is responsible for decision making for his own group of people. Traditionally, the position was passed down dynastically, whereas currently Badghars are locally elected.

gender-, class-, caste- and age-equitable access to and control of natural resources, including water. As with other decision-making bodies, WUSC are in theory required to have one third women members as well as be representative of ethnic minorities and members of lower castes. Our research in Kailali showed, however, that while in some places important steps had been taken towards more gender equality and social inclusivity, often the changes were either symbolic or non-existent in practice (Pandey and Myrttinen 2014). These findings were also echoed in our assessment of Asian Development Bank funding for WUSCs in Baglung District (Stephen 2014).

While the setting up of more inclusive provisions are an important step forward in terms of peacebuilding and social inclusion, these are on their own not enough to guarantee more equitable access. In spite of being nominally on the board, our field research showed that women's voices were often ignored (if they spoke at all), decision-making often continued to be in the hands of dominant men, often from ethnic majority groups or higher castes. Women who did participate were often linked in one way or another to powerful men (Myrttinen et al. 2015; Pandey and Myrttinen 2014; Stephen 2014). Dominant patriarchal and caste-based social norms continue to promote deference and prevent challenges to the authority of men and high caste individuals in both public and private spheres, making participation a symbolic act (Stephen 2014).

One of the aims of the work in the Terai has been to promote a symbiosis of traditional forms of inclusive governance (e.g. Badghars and Deshawar) and more egalitarian and inclusive approaches which incorporate women more generally, as well as members of marginalised castes. This is in line with the broad goals of the post-war settlement that strives for a more inclusive and equal Nepal, even if progress on this has frequently stalled due to a lack of political will and the staying power of entrenched interests and established ways of decision-making.

10.6   Conclusions

The two cases presented here from Lebanon and Nepal show how, albeit imperfectly and tentatively, water can be used as as an entry point for peacebuilding in conflict-affected societies by increasing social cohesion and inclusivity, including more gender equality. In both cases, water provided an opening, be it for cross-confessional advocacy in Lebanon or for more inclusive resource management practices in Nepal. Neither have been all-out, immediate successes, but given the entrenched nature of societal norms, including on gender, this should not surprising. Societal change processes require time, and can not be imposed from the outside. Given the centrality of water to people's lives, it can be seen as a pressing, relatively non-partisan issue that needs to be addressed (Lebanon case) or as a comparatively un-political and practical issue to be addressed as a matter of course (Nepal).

Gender, as a salient co-determinant of societal power and/or vulnerability, was addressed more in the Nepal case than in Lebanon, in part due to the nature of the

post-war settlement in the former. Both cases, however, show that simply equating the promotion of gender equality with adding women is not enough – even if it is an important first step. In Nepal, where women were 'added' based on a quota, their participation was often symbolic or reduced to attendance rather than active participation, let alone influence. In Lebanon, women along with men participated in the capacity-building and advocacy, yet the gendered nature of the power dynamics that are in part at the heart of the woes of water management in Lebanon were not explicitly raised. Both cases thus, through their shortcomings, highlight the need for a comprehensive, broader and deeper understanding of gender for peacebuilding to be successful. While women's political and social empowerment is immensely important, it needs to be promoted along with a critical engagement with men's roles and expectations, as well as of the patriarchal power structures co-produced by women and men alike. Gender needs to be approached not only as a technical 'add-on' whereby women's involvement is increased numerically. Rather, gender needs to be analysed intersectionally and examined in the way it plays a relational and dynamic role in determining access to power and resources for different individuals. Such an analysis can inform understandings of vulnerabilities of individuals and communities, but also help in discerning drivers of conflict and openings for peacebuilding.

Understandings of gender in relation to conflict, peace and water resources have tended in the past to focus on women, often treating women as a homogenous group. The debate should be broadened to examine the roles, needs and positions of power of men and boys, and also include the needs and vulnerabilities of those whose sexual orientation and gender identity transcends dominant heteronormative ideals. The understanding of gender should also be deepened by examining it intersectionally: not all men in the Terai have the same needs, vulnerabilities and possibilities of agency; nor do all women in Lebanon. Gender needs to be examined in conjunction with other determining factors that may be influential, such as age, location, marital status, class, dis−/ability, ethnic background, or in the case of Lebanon confession, and in Nepal caste. Although peacebuilding may often seem like an act of ploughing the sea, the entry points of gender and water can potentially be the beginning of longer-term processes of societal change, and, thereby, of calming the waters.

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Chapter 11
The Role of Women in Transboundary Water Dispute Resolution

Lynette de Silva, Jennifer C. Veilleux, and Marian J. Neal

Abstract Within decision-driven organisations that address water management and conflict mediation, there is much to be learnt about the role of women. At the provincial organisational levels, women's participation in water management decision-making processes is more prevalent, while there is a gender disparity at the higher levels of the governing domain. Filling this void will bring greater perspective to water issues and challenges; bring recognition to a wider range of potential solutions; showcase women in multifaceted roles; and expand networks to better help address immediate, mid-term, and long-term concerns. The academic literature tends to categorise the role of women working in water, in terms of their contribution to community health; or their contribution to rural communities, in developing countries. Missing is the role of women as brokers of transformation within the water decision-making sphere. While many governments and nongovernment entities have emphasised women's participation, efforts to achieve gender equality as a fundamental component emerging out of conflict towards peace and security, needs to be applied with conviction. Until a gendered approach to water management is applied as a matter of principle; and the gender gap in economics, politics, property rights, and cultural roles are closed, the valuable voice of at least half of the global population remains silent or underutilised in the process of conflict dispute when it comes to the world's more than 300 transboundary freshwater shared resources.

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11.1   Introduction

There is a gender divide in decision-making organisations that deal with water and conflict mediation from the highest levels, down through to community organisational level. Strengthening the representation and capacity of women in transboundary water management within public administration organisations will contribute to enhanced democratic norms, respect for human rights, and contribute to improved social cohesion in general.

While women's participation in water management decision-making processes is more prevalent at the local and community level (Earle and Bazilli 2013), the high-level positions of influence and decision-making are still dominated by men (de Moraes 2015; Earle and Bazilli 2013). Earle and Bazilli (2013) state that if water cooperation among states is regarded as an asset, then gender representation should be demonstrated and reflected in transboundary water frameworks, water management policies and governance architecture.

Women bring a unique perspective by presenting greater diversity of experience, new and different networks, more inclusive dialogues and richer collective outputs and outcomes (Yerian et al. 2014). Without this, the perspectives of the disenfranchised may not be heard, leading to unharnessed potential within communities, and in community water management schemes (ibid.). Women should participate in all aspects of the legal and political, and technical processes related to water management (Earle and Bazilli 2013).

Most academic literature examining the role of women in relation to water fall into two broad categories: papers from the health sciences or from the natural and social sciences perspective. In a recent *Web of Science* search on women and water, the vast majority of the more than 10,000 papers are concerned with health-related issues. The majority of the papers are concerned with water and women's health related to water access and water quality and defined women from the perspective of a water user. When the keyword 'decision' is included in the search terms, the resulting number of relevant articles drops to less than 200 records. No overarching studies or reviews were found that examined the role of women as agents of change within a decision-making, transboundary water context and almost every paper that promised to do so in some way, ended up focusing on specific developing countries and women as direct water users.

In order to better understand how women can contribute to water dispute resolution in transboundary shared water resources in a more effective role, this chapter will highlight a gap in our knowledge of how women influence the decision-making domain in general and in the field of transboundary water resources in particular; understanding the role of women in the conflict cycle; the foundations needed to enhance the role of women from a security, political involvement and economic perspective; and we conclude by highlighting the importance of elevating this topic in various public fora and training initiatives.

11.2   The Role of Women and Water

We present the following sections to highlight the differences of how women are presented in relation to water resources, especially how their role is socially contracted within the academic space.

11.2.1   *Vulnerable Group vs. Agents of Change*

To demonstrate presence in the literature on the topic of women and water as users or decision-makers, on July 18, 2016, we conducted an assessment of records contained in the *Web of Science* search engine, owned by Clarivate Analytics. The timespan included is 1977–2016. Of this, there are 10,439 records of papers that include women and water as combined key words, 90% of which are journal articles (Fig. 11.1). Almost half of all the records were added after 2010. Of the top ten *Web of Science* categories for this keyword search, nine are health sciences related, and the other category is environmental sciences with 731 records. Water resources as a category comes in as 20th in category ranking, with some 174 records (Fig. 11.2).

  To further refine the search, the key word 'decision' was added. 178 records spanning a more diverse set of categories returned in the top 10 to include economics, planning and development, water resources, environmental sciences, environmental studies as well as health related fields. Only 2% of papers fall within a Women's Studies category, while 12% fall within a Water Resources category (Fig. 11.3).

  Comparing the overwhelming 10,439 records that consider women and water as a topic primarily falling within the health sciences with the 178 records returned for women and water including decision, indicates to us that women and water is a topic mostly concerned with women's use of water and relationship with water as a

Field: *Web of Science* Categories	Record Count	% of 10439	Bar Chart
NUTRITIONAL DIETETICS	1482	14.197 %	■
PUBLIC ENVIRONMENTAL OCCUPATIONAL HEALTH	1252	11.993 %	■
ENVIRONMENTAL SCIENCES	731	7.003 %	▪
ENDOCRINOLOGY METABOLISM	730	6.993 %	▪
SPORT SCIENCES	728	6.974 %	▪
OBSTETRICS GYNECOLOGY	579	5.547 %	▪
MEDICINE GENERAL INTERNAL	495	4.742 %	▪
PHYSIOLOGY	462	4.426 %	▪
TOXICOLOGY	431	4.129 %	▪
PHARMACOLOGY PHARMACY	417	3.995 %	▪

Fig. 11.1 A *Web of Science* topic search revealed, 10,439 records for keywords: women & water. The top 10 categories include mostly health topics with the only exception being environmental sciences. (From *Web of Science*, owned by Clarivate Analytics, and accessed on July 18, 2016)

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SPORT SCIENCES	728	6.974 %	■
OBSTETRICS GYNECOLOGY	579	5.547 %	▪
MEDICINE GENERAL INTERNAL	495	4.742 %	▪
PHYSIOLOGY	462	4.426 %	▪
TOXICOLOGY	431	4.129 %	▪
PHARMACOLOGY PHARMACY	417	3.995 %	▪
RADIOLOGY NUCLEAR MEDICINE MEDICAL IMAGING	386	3.698 %	▪
NEUROSCIENCES	350	3.353 %	▪
UROLOGY NEPHROLOGY	284	2.721 %	▪
ONCOLOGY	252	2.414 %	▪
DERMATOLOGY	227	2.175 %	▪
FOOD SCIENCE TECHNOLOGY	212	2.031 %	▪
MEDICINE RESEARCH EXPERIMENTAL	196	1.878 %	▪
BIOCHEMISTRY MOLECULAR BIOLOGY	192	1.839 %	▪
CLINICAL NEUROLOGY	183	1.753 %	▪
WATER RESOURCES	174	1.667 %	▪
BEHAVIORAL SCIENCES	173	1.657 %	▪
SURGERY	170	1.629 %	▪
MULTIDISCIPLINARY SCIENCES	164	1.571 %	▪
GERIATRICS GERONTOLOGY	156	1.494 %	▪
INFECTIOUS DISEASES	155	1.485 %	▪

Fig. 11.2 The top 25 categories of this *Web of Science* topic search reveals water resource as holding 174 records (20th listing). So, environmental sciences and water resources constitute 851 records out of the 10,439 records that include the words women and water. (From *Web of Science*, owned by Clarivate Analytics, and accessed on July 18, 2016)

matter of use rather than as a matter of decision-making (Fig. 11.3). Within the water resources category articles (22 of the records), the vast majority, more than 90%, of the papers are focused on communities in developing countries. There is a definite gap in the literature concerning women's role as decision makers when it comes to water resources and high levels of decision making. Ray (2007) indicates that more collaborative work between "gender scholars and water policy analysts" can help bridge this gap.

11.2.2   *Feminist Theory*

Political ecology is one interdisciplinary theoretical construct that captures a range of concerns regarding the environment and the impacts of changing environments on people's lives and livelihoods. This is a popular theoretical framework within

Field: *Web of Science* Categories	Record Count	% of 178	Bar Chart
PUBLIC ENVIRONMENTAL OCCUPATIONAL HEALTH	26	14.607 %	▪
WATER RESOURCES	22	12.360 %	▪
ENVIRONMENTAL SCIENCES	20	11.236 %	▪
ENVIRONMENTAL STUDIES	11	6.180 %	▪
OBSTETRICS GYNECOLOGY	11	6.180 %	▪
MEDICINE GENERAL INTERNAL	10	5.618 %	▪
NURSING	10	5.618 %	▪
NUTRITION DIETETICS	10	5.618 %	▪
ECONOMICS	9	5.056 %	▪
PLANNING DEVELOPMENT	9	5.056 %	▪
AGRICULTURE MULTIDISCIPLINARY	7	3.933 %	▪
AREA STUDIES	7	3.933 %	▪
PEDIATRICS	7	3.933 %	▪
SOCIAL SCIENCES BIOMEDICAL	7	3.933 %	▪
TOXICOLOGY	7	3.933 %	▪
ENGINEERING CIVIL	6	3.371 %	▪
GREEN SUSTAINABLE SCIENCE TECHNOLOGY	5	2.809 %	▪
ECOLOGY	4	2.247 %	▪
ENGINEERING ENVIRONMENTAL	4	2.247 %	▪
PSYCHOLOGY MULTIDISCIPLINARY	4	2.247 %	▪
SPORT SCIENCES	4	2.247 %	▪
WOMENS STUDIES	4	2.247 %	▪
PSYCHOLOGY CLINICAL	3	1.685 %	▪
SOCIAL SCIENCES INTERDISCIPLINARY	3	1.685 %	▪
SUBSTANCE ABUSE	3	1.685 %	▪

Fig. 11.3 A *Web of Science* topic search revealed, 178 records for keywords: Water AND women AND decision. Fifty-three (53) records of the top 10 categories fall within Water Resources, Environmental Sciences, Environmental Studies, Economics, and Planning and Development. When taking the top 25 records into account, only 4 fall within Women's Studies as a category. (From *Web of Science*, owned by Clarivate Analytics, and accessed on July 18, 2016)

which to explore the complex issues of transboundary water management and cooperation because it provides an inter-disciplinary framework for looking at impacts, and describes unequal power-relations on the basis of sex, age, class, education, and political representation.

A feminist perspective on political ecology looks explicitly at the ways in which diverse understandings of masculinity and femininity shape people's control over natural resources such as water. Feminist political ecology (FPE) is a subfield that brings feminist theory, objectives, and practices to political ecology, an analytical framework based on the assumption that ecological issues must be understood and analysed in relation to political economy (and vice versa). Three bodies of work are particularly relevant to the consolidation of FPE: ecofeminism, feminist science studies, and feminist critiques of development. Feminist political ecologists suggest gender is a crucial variable in constituting access to, control over, and knowledge of

natural resources management. Feminist political ecology asks compelling questions about who counts as an environmental actor in political ecologies and how ecological knowledge and power are constituted (Robbins 2004).

Feminism is an ideology promoting the social, political, and economic equality of the sexes. Feminists fight for the equality of women and argue that women should share equally in society's opportunities and scarce resources. The burden of promoting feminism is not exclusively in the domain of women, there are many prominent men that support gender equality both in theory and practice; there is however a level of responsibility that women should shoulder to promote gender equality when they are in an enabling position.

11.2.2.1 Feminist Foreign Policy

The Swedish Government is leading the way by creating an enabling environment for women to participate and engage in international politics. It has recently adopted a 'Feminist Foreign policy' which is built on four R's: Reality, Rights, Representation and Resources. If we want to promote women as agents of change in the water decision-making domain and advance the conception of women beyond simply water user, then we need to embrace these four R's and contextualise them in the transboundary water purview, for example:

- *Reality*: understand water conflict situations through a gendered political economy analysis;
- *Rights*: communicate the benefits of gender equality in transboundary water management – "women's rights are human rights";
- *Representation*: include women in transboundary water management at the policy and the decision making level (i.e. gendered Track I diplomacy);
- *Resources*: undertake tailored capacity building for mid-career women water professionals in key river basins in order to elevate female participation in knowledge generation and social learning.

11.3 Some Key Terms

11.3.1 What Is Transboundary Water?

Globally there are approximately 310 transboundary river basins and 600 transboundary aquifers. In this context, transboundary refers to water that is shared across an international border or denotes an international border. Increasing water scarcity and water stress due to climate change ever-rising demands for water due to a growing population create a politically challenging water management and allocation environment. Tensions over transboundary water resources are cross-cutting and often lie at the heart of national security priorities with close linkages to a wider

set of economic, social and geopolitical issues. At the international level, tensions over water resources can impact negatively on regional development, trade, dampen resilience to climate change and contribute to raising the risk of geopolitical instability.

11.3.2 What Is Dispute Resolution?

The term dispute resolution refers to processes to resolve conflict and mitigate the conflict through settlement. Dispute resolution is often referred to as alternative dispute resolution or appropriate dispute resolution, abbreviated ADR; it's an alternative to having a case tried through the court system. It includes, but is not limited to, arbitration, negotiation and mediation. This process is typically less expensive and may be less time consuming. Through a less formal court process, arbitration is heard by an arbitrator, who in binding arbitration determines the outcome. However, in nonbinding arbitration, the parities retain the right to trial. Negotiation is typically an informal mechanism to reaching an agreement that can be orchestrated directly by the parties or through third party actors. Mediation provides a less structured format than the court system, providing more flexibility than the traditional and predictable, legal approach. It allows for a mediator to help the parties. It is an atmosphere in which parties can respectfully hear all sides of an issue, to generate creative solutions, and improve relationships. The process offers confidentiality. And, since the outcome has to be agreed upon by each party, it allows the parties to maintain control of the outcome, rather than have it determined by a jury or judge.

11.3.3 How Does Conflict Differ from Dispute?

For the purposes of this chapter, a conflict is defined as one or more parties believing another party is preventing a goal from being accomplished, and that "power" is used to "overcome the perceived blockage" (Frey 1993; Delli and Wolf 2009). Disputes are milder than conflicts, and involve "nonviolent tensions among parties, including political, legal, or economic actions" (Delli and Wolf 2009).

11.3.4 The Conflict Cycle and Dispute Resolution

Oregon State University's International Water Event Database (TFDD) catalogues water interactions at the national and international level on a linear scale, ranging from +7 (for most cooperative, voluntary unification into one nation); 0 (for non-significant acts for the inter-nation situation); to −7 (referring to the most conflictive outcome, all-out war). Table 11.1, shows that the spectrum of these disputes/

Table 11.1 Water Event (BAR) Intensity Scale.

BAR Scale	Event Description
-7	Formal Declaration of War.
-6	Extensive War Acts causing deaths, dislocation, or high strategic cost.
-5	Small scale military acts.
-4	Political/military hostile actions.
-3	Diplomatic/economic hostile actions. Unilateral construction of water projects against another country's protests; reducing flow of water to another country, abrogation of a water agreement.
-2	Strong verbal expressions displaying hostility in interaction. Official interactions only.
-1	Mild verbal expressions displaying discord in interaction. Both unofficial and official, including diplomatic notes of protest.
0	Neutral or nonsignificant acts for the international situation.
1	Minor official exchanges, talks, or policy expressions – mild verbal support.
2	Official verbal support of goals, values, or regime.
3	Cultural or scientific agreement or support (nonstrategic). Agreements to set up cooperative working groups.
4	Nonmilitary economic, technological, or industrial agreement. Legal, cooperative actions between nations that are not treaties; cooperative projects for watershed management, irrigation, poverty alleviation.
5	Military economic or strategic support.
6	Major strategic alliance (regional or international). International Freshwater Treaty.
7	Voluntary unification into one nation.

Modified from Yoffe et al. (2003)

conflicts can be characterised as verbal expressions, diplomatic-economic actions, political-military interactions or the declaration of war (De Stefano et al. 2010; Delli and Wolf 2009; Yoffe et al. 2003).

At the international water level, disputes manifest as poor political interactions and/or poor water governance among the nations, leading to inefficient water practices; and water tensions that can last decades before being resolved (Delli and Wolf 2009). Within a nation, at the sub-national water level, violence is more prevalent than at the international level; disputes may occur between geopolitical sectors, social groups and/or economic groups. At the regional or local water level, water disputes can arise over loss of freshwater, impacting human wellbeing and livelihood. This has the potential of escalating poverty, causing mass migration to cities and neighbouring countries, and potentially destabilising a region (ibid.).

Much effort in the security and international relations literature has been made to understand how and why conflict arises, develops, erupts and de-escalates. "Conflicts are dynamic and can develop and change at astonishing speed. They can also take long periods of time to gestate unnoticed before they suddenly erupt into overt violence" (Ramsbotham et al. 2011, 12). Parallel to this body of literature is the development of a typology of responses that could be undertaken in order to address conflict at various points in its development. For the purposes of this chapter, we crudely divide the conflict side of the continuum into three phases which will be explored separately in relation to the role of women; these phases are pre, during, and post conflict.

11.3.5   The Role of Women: Pre-conflicts

Creating an enabling environment for cooperation rather than conflict can be achieved by ensuring that there are appropriate governance institutions and organisations in place prior to any form of dispute.

Designing governance structures, such as river basin organisations, that articulate a shared understanding and commitment to the mandate, core functions, roles, workplans and associated resources for both political decision making bodies and technical advisors will greatly contribute to mitigating potential areas of dispute before conflicts arise while ensuring that negotiations take place in an integrative rather than competitive mode. The absence of pre-defined procedures for resolving disputes can contribute to festering conflict, especially in basins where riparians are initially adverse to sharing information or where riparians share a history of conflict.

There has been no systematic content analysis on the articulation of gender equality or gender issues or the representation of women in river basin organisations, but a quick reference to three River Basin Agreements illustrates that there might be a missed opportunity here. Referring to the composition and competencies required in the River Basin Organisations established under the *Convention on Cooperation for the Protection and Sustainable use of the Danube River,* Article 18 and Annex IV (Article 1); the *Agreement on the Establishment of a Permanent Okavango River Basin Water Commission,* Article 2; and *The Indus Water Treaty,* Article 15 – there is no consideration of gender equality in the selection of river basin representatives. Some recognition of the importance of gender equality is seen in the proposed regional governance arrangement for the Lower Jordan River. The suggested generic set of articles for a proposed future Jordan River Basin Commission states that the members of the organisation and its related bodies will have "adequate gender representation" (Yaari et al. 2015, 22).

11.3.6   The Role of Women: During Conflicts

The fields of water dispute resolution and water conflict management offer process tools for building trust, confidence, consensus and capacity (Wolf 2010). They include, but are not limited to: encouraging inclusive dialogue with stakeholders; practicing and implementing active listening (Cosens, et al. 2012); watching for cultural differences, and when appropriate working at different levels to find needs, values and uniting elements that people have in common; thinking of 'conflict' as an opportunity for more communication and deeper understanding. In addition, focusing on interests and needs, rather than positions; employing facilitators and mediators, and when needed thinking of ways to integrate seemingly conflictive ideas by reframing questions as, *How can we address "A" and at the same time build "B"?* (Wolf 2010).

Other tools include, introducing Sadoff and Grey's (2002) analytical framework approach to cooperation and benefits on international rivers, to more fully explore mutual benefits; improving governance; creating situation maps/conflict maps to understand the interconnectivity and dynamic nature of an issue, to more readily identify gaps in communication; identifying the best alternatives to a negotiated agreement; and learning to implement the art of negotiating. These tools can be utilised by women to strengthen their bargaining skills, increase their ability of getting what they need and want, in all aspects of life, but also as it relates to their roles in transboundary freshwater dispute resolution.

11.3.7   The Role of Women: Post Conflicts

Many governments, the UN and donor agencies have emphasised women's participation and efforts to achieve gender equality as crucial elements of post-conflict reconstruction. In 2000 the UN Security Council adopted Resolution 1325 on *Women, peace and security*, highlighting the interdependence of post-conflict gender equality, peacebuilding and security. Women are acknowledged as playing important roles in peacebuilding and in sustaining security.

However, according to a study on the implementation of the Resolution, "even though the participation of women in formal peace processes has been inching up, a study of 31 major peace processes between 1992 and 2011 revealed that only 9% of negotiators were women. Only 3% of the military in UN missions are women, and the majority of these are employed as support staff. These two areas of peacemaking and peacekeeping are among the most persistently challenging for ensuring women's equal and meaningful participation" (UN Women 2015, 14).

Peacebuilding and post-conflict building is a process of transformation: sometimes rapid, sometimes gradual and incremental. It brings opportunities—and responsibilities—to create more inclusive and less discriminatory institutions and organisations.

11.4   Laying the Foundations for More Inclusive Participation

While we have established how women are portrayed or involved in decision-making on water in the previous sections, we now explore how women are impacted and where the opportunities can be found for more inclusion. The following sections outline how dispute resolution can be shaped by several factors including how conflict impacts women's security, how women can participate or are represented politically, and how women's involvement in local economics can shape water resources decision-making. The current treatment of women in relation to dispute

and conflict as victims prevents full involvement of their voices as decision-makers and negotiators. This outlook is ubiquitous across the globe from the highest decision-making institutions, such as the United Nations, to community leadership at the village level.

11.4.1 Women's Security in Fragile, Conflict and Post-conflict Situations

Conflict results in the erosion of the fabric of society and creates a gendered dimension where women and girls are particularly vulnerable to sexual and domestic violence. This violence tends to increase during and after war (Sida 2015). "[U]sing rape and sexual violence in conflict more generally, as a method in warfare, should absolutely be banned and considered a war crime" (The Dag Hammarskjöld Lecture 2012). Goal 5.2 of the SDGs reinforces this view by stating that all forms of violence against women and girls in public and private spheres should be eliminated. Women continue to experience heightened levels of violence in Egypt during and since the 2011 Revolution as new documentaries and news reports have been and continue to reveal in media (Amnesty International 2015). The rule of law is unreliable in fragile states, sexual violence and war crimes are prevalent in conflict zones, and people live and survive trauma in post-conflict circumstances that impact on the realisation of sustainable development objectives.

Although an imperative, framing women's rights as solely a question of personal security has narrowed the notion of equality. Protection is a prerequisite to security but must go hand in hand with the recognition of the role of women play as agents of change and in achieving sustainable peace. There are an array of women's organisations and local women leaders that are involved in conflict resolution and peacebuilding activities. One example is the women's rights organisation *Association des Femmes des Médias* (AFEM), a partner organisation of the Swedish Kvinna till Kvinna Foundation. AFEM organised leadership training for women in the violence-affected district of Shabunda in the Democratic Republic of Congo. One of the trainees, Josephine Kimbembe, was empowered to negotiate with the Municipal Council regarding the lack of access to water. As a result of her efforts there are now three water taps in the community which means that women no longer have to walk long distances to collect water for household use (Kvinna till Kvinna 2016). Another example is the Syrian Centre for Women's Empowerment that organised a campaign with the Atmeh Internally Displaced People camp to combat the proliferation of small arms within the camp after a dispute over the public water tap resulted in shooting. The campaign message included 'No wasting water or fighting over the waiting line' and 'No using of weapons inside the camp' (Ghazzawi et al. 2015).

These two examples not only illustrate how women are agents for peaceful change but also that conflicts and disputes over water can occur at a very local level: around the water tap. Integrated Water Resource Management (IWRM) advocates

that water should be managed at the lowest appropriate level (GWP 2000). Because women are often the primary users and collectors of water in rural households, it makes sense that they would often be the best source of local knowledge for water resource planning and management at the local level. This local-level concept is however incredibly complex and nuanced and cannot simply be viewed as a collection of homogenous people that think and behave in the same way. Each household and community is made up of individuals and groups who command different levels of power, wealth and influence and agency; ability to express their needs, concerns and rights and have them met. Often the local level contains competing interests in how water should be allocated and managed. When resources are scarce those with the least power are marginalised and disadvantaged, in many cases this translates to women.

Addressing the basics such as personal security and recognising women's rights as human rights is a foundational imperative that creates an enabling environment for women to gain confidence and thrive in any decision-making domain. The inclusion of women as agents of change in a conflict and post-conflict environment reduces the burden of transformation.

11.4.2   Political Representation and Participation of Women

Women have the right to participate on equal terms in peace, security and negotiation processes. However, statistics on peace processes indicate that 93% of participants in peace negotiations and 98% of signatories to peace agreements are men (UNIFEM 2010). Women's participation in decision-making must be strengthened in countries at peace, countries in conflict and countries in which reconstruction is under way. Throughout these dynamic processes it is essential to ensure that meaningful and inclusive participatory processes are embedded at all levels of decision making.

At the local level, depending on the culture and social norms, women's involvement in meetings may not be culturally accepted. In many countries, strong patriarchal cultures subordinate women and girls in private life and exclude them from participation in public life. For example, in the Marsabit District in Kenya, semi-nomadic livestock herders demonstrated that women's membership in a water management committee was not "particularly effective" (Yerian et al. 2014). However, more favorable outcomes resulted when women communicated through separate women committees, in an advisory capacity on issues related to the management of domestic water supplies (ibid.). If women in this community want to enhance their decision making capacity, it will require creative solutions by both the men and women. It may involve information regarding the benefits of joint decision making, and determining ways to equalise the decision making process, while respecting cultural values.

At the 2015 World Water Forum, the topic of "Gender Equity for a Water-Secure Future" was raised. A panel of prominent women including, Ms. Nomvula

Mokonyane, Minister of Water and Sanitation, South Africa; Ms. Flavia Nabugere, State Minister of Environment, Uganda; and Ms. Margaret Wahlstrom, Special Representative of the UN Secretary General for Disaster Risk Reduction, among others, discussed this issue at the national and international level (World Water Forum 2015; Global Water Partnership 2015). The focus was on the role of women, and women leadership in water management. It was stipulated that a minimum quota of "40% women in water governing bodies at all levels and ensure women voices are actually heard when assigning roles and reporting." It was recommended that paths to achieving this include funds to empower women's education, and vocational training; and increasing outreach to raise the awareness of the needs of women and girls, as it relates to public sanitation and schools (Women for Water Partnership 2015). Also noteworthy, was the signing of a memorandum of understanding to assist with gender strategy implementation with Global Water Partnership and Women for Water Partnership (WfWP) as its signatories (World Water Forum 2015; Global Water Partnership 2015). It encourages a global approach to the "availability and sustainable management of water and sanitation of all, with the full participation of women and girls." Areas of collaboration and cooperation between these organisations include strengthening communication, information sharing, identifying joint projects at the country and regional scale, and fundraising activities. The partnership encourages and supports joint action "for gender mainstreaming and women's inclusion in water management processes and initiatives" (ibid.). Agreements such as this, when followed through, help forge cooperative gains, build institutional capacity and broaden the discourse (Delli and Wolf 2009).

For the inclusion of women in decision-making matters, both a top-down and bottom-up approach is needed. Miranda (2005) indicated that in developing countries, many women at the local, national, regional and international governance levels, when asked, say there is a need for greater participation of women in politics. However, Miranda (2005) and Wängnerud (2009) indicate that the outcome of whether more women in politics results in the same or a different outcome is not so easy to determine. However, if politicians, whether male or female, can bring about gender equality and equity, it lays a foundation for the inclusion of women in the decision making domain.

11.4.3   Empowering Women to Boost Economies

Women are contributing trillions of dollars to the global economy, yet many are without secure employment or high-paying positions; it is estimated that it will take "70 years to close this gender pay gap" (UN Women Annual Report 2015). To comprehensively include women, Lagarde (2014) stresses changing economic policies, laws and institutions (Mokonyane 2015); and attitudes and cultural perspectives. One effective path for women to participate in economic growth and security is through water resources management and development (GWP-TEC 2006; Earle and Bazilli 2013). Earle and Bazilli (2013) suggest that such contributions can

provide significant social and economic benefits. Such measures are essential to eradicating poverty (UN 2002), and mitigating 70% of the 1.2 billion women and girls subjected to living on less than $1 per day (Canadian International Development Agency 2012). However, for any community to thrive economically, government must invest in the social fabric of society (Lagarde 2014). This is rooted in Maslow's hierarchy of needs, tapping physiological necessities, along with emotional, intellectual and spiritual needs. This principle is fundamental to the Four Stages of Water Conflict Management, in which Delli and Wolf (2009) state that water rights, claims, needs, benefits and equity goes hand in-hand with building trust, skills, consensus and capacity.

Ways in which women do not have their needs met as it relates to water management, especially in patriarchal societies includes: women being deprived through gender discrimination from gaining land titles, or accessing investment funds, or gaining equal pay for equal work. For example, actualising the right to land and water in the Nepali farm-managed systems requires labor contributions to communal pipelines (Pradhan and Meinzen-Dick 2010). Social norms prevent women from directly contributing labour, but women are overcoming these hurdles by employing men to do the labor requirements; also, donors and government regulated projects, now grant water access as a "livelihood need" (Pradhan and Meinzen-Dick 2010). Contracts and project laws, along with other overlapping jurisdictional laws can be used in negotiations to strengthen women's land and water claims, and economics (Pradhan and Meinzen-Dick 2010). Although women are presented formally with obstacles to inclusion, they continually find informal ways around social norms or gender-biased legislation.

South Africa has the world's most progressive national water policy and participation of women formerly written into the policy is one example of that superlative. One national water resources management initiative, aimed towards women being in all aspects of water resources management, including department services, and women-owned businesses was announced by South Africa's Minister of Water and Sanitation, Ms. Nomvula Mokonyane, on August 31, 2015. This three-year national Women in Water Program, is intended so that "women should not only fetch water for their households, but they must also be suppliers of pipes and manage reservoirs" (Javan 2015). This effort recognises the necessity to diversify stakeholder representation, and broaden water resources management plans, thereby building institutional capacity for conflict resolution and resilience (Delli and Wolf 2009).

Another form of inclusion is through grassroots collective action. Take the case of the semiarid environment in northwest Brazil, highly vulnerable to the impacts of climate change (Güntner and Bronstert 2003), where approximately two million families lacked access to safe drinking water (de Moraes 2015; Araujo 2008). Nongovernmental organisations (NGOs) provided safe drinking water through a rainwater-harvesting programme, "One Million Cisterns" (de Moraes 2015; Frayssinet 2010). Women fought for inclusion through grassroots collective action to build cisterns; eventually learning and teaching other women, through a train-the-trainer approach (de Moraes 2015). In this way, providing food and water security

and economic growth to regional communities; while gaining respect, as active community members (de Moraes 2015).

These case studies illustrate ways in which strides can be made to enhance women's economics, by eliminating barriers and increasing opportunities for women. Another area of improvement can be to increase women's opportunity for employment relative to their male counterparts. If parity is achieved by 2020, this could boost gross domestic product (GDP) by 5%, 9% and greater than 30%, in US, Japan and Egypt, respectively (The Economist 2012). After all, economic empowerment can enable social mobility and marketplace advancement; proving skills, resources and institutional opportunities to assist women in making decisions that address personal and community needs (Government of Canada 2013).

11.5   Spreading the Word

11.5.1   Conferences

Conferences can be an effective tool to disseminate information, share ideas, network, socialise, and inspire. Attendance at such venues can enhance professional growth; giving a sense of community, involvement and inclusion (Smiljanić et al. 2016). Knowledge of the accessibility of water conferences for women may provide some insight into the social network structure of women in water.

Women's conferences, characterised as formal meetings focused on women's concerns, generally center on women's empowerment; social justice; and/or community health issues. Such conferences, gained notice nationally and globally as early as 1848, when the *Women's Rights Convention* was held in Seneca Falls, New York (National Women's History Museum 2007). Other historical women's forums, have included the *International Conference of Socialist Women* held in Stuttgart, in 1907, attended by 58 delegates from 15 countries; forums in Copenhagen in 1910; and Berne in 1915; with a less formalised convention, held in Stockholm in 1917 (Callesen 2006). Another early noteworthy mention was the *All India Women's Conference* founded in 1927.

In the twenty-first century, with more women in the job market and in positions of influence, the number of women's conferences are at an all-time high (Haughney and Kaufman 2014). While the number of women's conferences is not known, the "space has become very crowded" (Haughney and Kaufman 2014). Crowded with conferences such as: The *United State of Women Summit*; *Texas Conference for Women*, matched by similar forums in most (US) states; the *Forbes Women's Summit – Forbes Conferences; International Women's Day Conference*; *Energetic Women Conference*; *Invest In Women*; to name a few.

Through the July 18, 2016, *Web of Science* search, dating back to 1977, of the limited search results for environmental sciences and water resources, 97 records are for proceedings papers from conferences. None of the results listed women and water specifically as users, actors or otherwise. Through the AllConferences.com,

an online searchable conference directory, a July 24, 2016, search for "women" related conferences held between January 1, 2000 and December 31, 2016, yielded 1720 conferences on record. And, a search for "water" related conferences held during the same timeframe, yielded 2263 results. Within this directory, no conference results are listed in the category that combines "women" and "water."

Focused on conferences whose sole aim is centered on "water" and "women," a July 24, 2016, Google search was carried out combining the keywords, "women," "water" and "conference." Excluded were water conferences, such as the *World Water Week*, and *World Water Forums* that might typically dedicate several sessions to women's issues; also excluded from the search results, were women sports conferences, and religious women's affiliated events. The initial search captured 88,400,000 results, the top 250 results were reviewed manually, since Google rankings are associated with high-quality relevance (Brin and Page 1998). Not restricted to any conference timeframes, this search yielded a dozen entries. Among the earliest recorded results, were the *African Women and Water Conference* held in Nairobi, Kenya, in June 30 to July 5, 2008; *Women in Water and Environment Conference*, in South Africa, in August 20–21, 2012; and the *National Conference on Women-led Water Management,* in Haryana, India, held in November 5–6, 2012. And more recently, *Africa's Women in Water Conference*, in May 27–28, 2015; the *WASH and Women, Women Deliver Conference 2016,* held in Copenhagen, Denmark; and *Women, Water and Peace Conference*, held in Istanbul, March 18–19, 2016.

There are countless empowering and inspiring women-centric conferences on the rise. However, there are very few opportunities to attend water conferences solely focused and dedicated to women's water concerns, unless one attends a session that is part of an international or national water conference. Other opportunities, though not exclusive to just women and water, also include women's conferences that focus on land stewardship, environmental issues, and climate change.

11.5.2   The Pipeline

To raise the number of women in the workforce, but also raise the numbers of females in leadership roles, good education is essential (Jain 2014). Inclusion through training, partnership and mentorship is invaluable. Networks like Water Women, Inc., present opportunities for meaningful mentorship for women in water. Takei (2012) expands on the notion of mentorship, and suggests that it may be equally important that women not only mentor women, but also bring about change through mentoring men. Gender synchronising strategies can help reshape, and challenge our gender norms (Ty 2014) and build more capacity for women (Greene and Levack 2010).

An increasing number of women are being trained in water management, at all levels; women are entering the workforce and gaining competence and confidence. Women are creating opportunities for themselves and each other. The November 2015 issue of the *Global Water Intelligence Magazine* lists the 20 top women in

water and among them are Melanie Schultz Van Haegen, Dutch Minister of Infrastructure and the Environment; Gina Mccarthy, Administrator of the US Environmental Protection Agency; Nomvula Mokonyane, Minister of Water and Sanitation, South Africa; and Charafat Afilal, Moroccan Water Minister. Beyond agencies, this list of influential women in water, include CEOs in industry, engineering firms, and international water development and cooperate firms (GWI 2015) . These women bring remarkable expertise, and a "new wave of water management" (The Value of Water Coalition 2015), with more strategic planning and approaches geared to the next generation (Jain 2014).

11.6 Conclusion

Though women have a multiplicity of roles in transboundary freshwater dispute resolution, few have high levels of influence. Women continue to strive for readily accessible clean water and infrastructural improvements; gender equality and social justice; and support systems and decision-making involvement. These issues are complex and nuanced. However, organisations like SIDA; and United Nations, through their Sustainable Development Goals (SDGs) emphasise gender equality as a human right, indicating that it is pivotal to reducing poverty and bringing about social, economic and political transformation.

The authors have found that there is a definite gap in the literature concerning women's role as decision makers when it comes to water resources and high levels of decision making. Women-focused conferences dedicated to water management can bring *women in water* together to continue this dialogue to determine how they can contribute to water dispute resolution, foster a more complete representation of women in water in the literature, and create opportunities for joint water projects. Additionally, more collaborative work between "gender scholars and water policy analysts" can help bridge this gap (Ray 2007). There is also a need for a systematic content analysis on the articulation of gender equality or gender issues or the representation of women in river basin organisations. Incidentally, some solutions to assist *women in water* may also come from the fields of water conflict management and dispute resolution, since they provide negotiation tools that can empower women.

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