**Gender Equality, Water Governance and Food Security with a Focus on the Near East and North Africa (NENA)**

***Prepared by Mayra Gómez and Inga Winkler***[[1]](#footnote-2)

***Global Initiative for Economic, Social and Cultural Rights***

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# List of Acronyms

ADB Asian Development Bank

AMCOW African Ministers’ Council on Water

Cap-Net Capacity Building for Integrated Water Resources Management

CARE Cooperative for Assistance and Relief Everywhere

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

CESCR Committee on Economic, Social and Cultural Rights

CFS UN Committee on World Food Security

CGIAR Consultative Group on International Agricultural Research

FAO Food and Agriculture Organization of the United Nations

GEWAMED Mainstreaming Gender Dimensions into Water Resources Development And Management In The Mediterranean Region

GIZ Gesellschaft für Internationale Zusammenarbeit

GWA Gender and Water Alliance

GWP Global Water Partnership

HLPE High Level Panel of Experts (of the Committee on World Food Security)

HRC Human Rights Council

ICARDA International Center for Agricultural Research in the Dry Areas

ICESCR International Covenant on Economic, Social and Cultural Rights

IDS Institute of Development Studies

IFAD International Fund for Agricultural Development

IFPRI International Food Policy Research Institute

IIED International Institute for Environment and Development

IRC International Water and Sanitation Centre

IWMI International Water Management Institute

MDGs Millennium Development Goals

MEAS Modernizing Extension and Advisory Services Program

MENA Middle East and North Africa

mm millimetre

MRS Mubarak Resettlement Scheme

MUS Multiple Use Services

NCARE National Center for Agricultural Research and Extension

NENA Near East and North Africa

OHCHR Office of the UN High Commissioner for Human Rights

OPHI Oxford Poverty & Human Development Initiative

Para. Paragraph

PPPs Public-Private Partnerships

RNE Regional Office for Near East and North Africa

SDGs Sustainable Development Goals

SEAGA Socio-economic and Gender Analysis

SIDA Swedish International Development Cooperation

SR Food United Nations Special Rapporteur on the Right to Food

SR WatSan United Nations Special Rapporteur on the human right to safe drinking water and sanitation

UAE United Arab Emirates

UN United Nations

UN-Women United Nations Entity for Gender Equality and the Empowerment of Women

UNCSD United Nations Conference on Sustainable Development

UNDP United Nations Development Programme

UNESCO United Nations Educational, Scientific and Cultural Organization

UNICEF United Nations Children's Fund

USAID U.S. Agency for International Development

WEF World Economic Forum

WFP World Food Programme

WGF Water Governance Facility

WUA Water User Association

WWAP World Water Assessment Programme

# Definitions of Key Concepts

**Intersectionality:** The interconnected nature of social categorizations such as race, class, and gender as they apply to a given individual or group, regarded as creating overlapping and interdependent systems of discrimination or disadvantage.[[2]](#footnote-3)

**Gender equality** refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not mean that women and men will become the ‘same’ but that women’s and men’s rights, responsibilities and opportunities will not depend on whether they are born male or female. Gender equality also implies that the interests, needs and priorities of both women and men are taken into consideration, recognizing the diversity of different groups of women and men. Gender equality is not a ‘women’s issue’ but should concern and fully engage men as well as women.[[3]](#footnote-4) For FAO, gender equality is equal participation of women and men in decision-making, equal ability to exercise their human rights, equal access to and control of resources and the benefits of development, and equal opportunities in employment and in all other aspects of their livelihoods.[[4]](#footnote-5)

**Governance:** Governance refers to *formal and informal rules, organizations, and processes through which public and private actors articulate their interests and make and implement decisions*. Governance issues arise in a wide variety of settings, both public and private, from local communities, farms and cooperatives, business organizations and large-scale enterprises, to local, regional, national and international contexts. Strengthening governance is essentially concerned with enabling effective and efficient problem-solving in ways that are regarded as legitimate by the stakeholders who are involved, enabled, or otherwise directly affected by the decisions and actions undertaken within or by any governance structure or regime.[[5]](#footnote-6)

**Food security:** According to FAO, food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.[[6]](#footnote-7)

**Near East and North Africa (NENA) region (FAO member countries):** Algeria, Bahrain, Egypt, Iran (Islamic Republic of), Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen.

**Substantive (*de facto*) equality:** Substantively equal enjoyment of rights cannot be achieved through the mere passage of laws or promulgation of policies that are gender-neutral on their face. Gender-neutral laws and policies can perpetuate gender inequality because they do not take into account the economic and social disadvantage of women; they may therefore simply maintain the status quo. *De jure* equality does not, by itself, provide *de facto* equality. De facto, or substantive equality, requires that rights be interpreted, and that policies and programs - through which rights are implemented - be designed in ways that take women’s socially constructed disadvantage into account, that secure for women the equal benefit, in real terms, of laws and measures, and that provide equality for women in their material conditions (Montréal Principles 2004: Para. 9).

**Water use:** Any deliberate application or utilization of water for a specific purpose. There is an important distinction between consumptive water use and non-consumptive water use. Important non-consumptive water uses include navigation, recreation, waste assimilation and dispersion. Although hydropower and power station cooling are not a major net consumptive user of water, they do have a major impact on the hydrological cycle, and release water at times and temperatures that impose costs on other water users. Reservoirs also cause evaporation losses.[[7]](#footnote-8)

**Women’s empowerment:** Women's empowerment has five components: women's sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally.[[8]](#footnote-9)

# 1. Introduction

##

## 1.1 Scope and Objectives

This paper focuses on gender equality and women’s empowerment at the intersection of water governance and agriculture for food security. By spotlighting these unique linkages, this paper aims to uncover some of the main challenges to the achievement of gender equality within this context, and to point towards possible solutions to address those challenges. The paper puts a particular focus on investigating the situation in the Near East and North Africa (NENA) region, the most water scarce region in the world. It also integrates good practices from around the world, which can be considered in the development of gender-responsive policies and practices relevant to agricultural water governance. Going beyond the rhetoric of women’s participation, the paper seeks to clarify what it means to create an environment, which is conducive to gender equality and women’s meaningful and active participation in water governance, particularly as related to agriculture for food security.

This paper provides concrete recommendations to governments and other stakeholders, including FAO, on how to effectively address gender inequalities in water governance with the objective of improving food security and nutrition. In terms of gender equality, FAO’s main objectives are to achieve equality between men and women in 1) access to and control over resources, services, opportunities; 2) participation in institutions and decision-making bodies and in shaping policies, strategies, programmes and investments; and 3) by reducing women’s work burden.[[9]](#footnote-10) With regards to food security, the paper is intended to contribute to FAO’s Strategic Objective 1 on eradication of hunger, food insecurity and malnutrition, as well as its Strategic Objective 2 on increasing and improving provision of goods and services from agriculture, forestry and fisheries in a sustainable manner. In particular, it seeks to inform FAO’s participation during the October 2015 session of the Committee on World Food Security, in which there will be a policy roundtable on Water for Food Security and Nutrition.

## 1.2 Mapping the Linkages between Gender Equality, Water Governance and Agriculture for Food Security

Women play a critical, yet often times undervalued, role as agricultural producers in all parts of the world, and as such are key players in agriculture, rural development, food security and nutrition. Women’s role as small-scale farmers and producers is vital to ensuring overall food and nutrition security – a link which has been well documented: It is estimated that at least half of the world’s food is grown by women (Mehra and Rojas 2008: 1), although clear estimates are difficult to ascertain.[[10]](#footnote-11) Nonetheless, women face many challenges as farmers, and often have less power in decision-making and less access to resources than their male counterparts. Closing the gender gap in agriculture in terms of assets, resources and services is fundamental to increase agricultural productivity and achieve FAO’s goal of a world free from hunger (FAO 2011a). FAO has recognized that “[c]losing the gender gap in agriculture would generate significant gains for the agriculture sector and for society. If women had the same access to productive resources [including water] as men, they could increase yields on their farms by 20–30 percent,“ which would contribute significantly to the objective of eradicating hunger, food insecurity and malnutrition (FAO 2011a: 5).

At the same time that women’s specific role in agriculture is more and more recognized, the link between water governance and food security is gaining increasing attention (HLPE 2015). However, the connection between water governance and food security is rarely seen through a gendered lens and women’s specific needs and perspectives as farmers and agricultural water users are still not well reflected in water governance. As a result, agricultural water legislation, policies and institutions have not been gender-responsive. In many instances, they have not attended to women’s multiple uses of water (e.g. for irrigation, home gardening, livestock, personal and domestic use). Women remain under-represented and disadvantaged when it comes to decision-making on the use, allocation and governance of water, despite the fact that they have a key role to play in the development of sustainable practices and in building systems aimed at ensuring food security. Many women bring a distinctive perspective and knowledge to the task. For example, women farmers may have different needs in terms of irrigation technology, and they may be carriers of knowledge, such as rainwater harvesting. They should be seen as partners in coping with some of the water and food security related challenges the world faces (and will increasingly face) in the light of climate change, population growth and an increasing demand for water.

To illustrate the gap in making the linkages between gender equality, food security and water governance, the Women’s Empowerment in Agriculture Index considers five domains of empowerment: production, resources, income, leadership and time, but does not explicitly include (access to) water as a resource to contribute to agricultural production (USAID, IFPRI and OPHI, 2012). While significant attention is given to the intersection between water governance and gender equality in the context of water for personal and domestic uses, there is limited focus on women’s contribution to water governance when it comes to water for agricultural and productive purposes. An exclusive focus on domestic uses, however, ignores the significant role that women play in agriculture worldwide and risks a setback for gender equality at a broader level, by reinforcing the role and responsibilities of women in the household and cementing gender stereotypes in that regard. Therefore, this paper will not reiterate the importance of involving women in water governance as far as personal and domestic uses are concerned, but will focus on water governance and agriculture for food security.

In the NENA[[11]](#footnote-12) region, the linkages between food security, water governance, and gender equality are manifold. Water scarcity in the NENA region, and the resulting need to import food and associated challenges, is undeniable. Yet, above all food security – from the perspective of human rights and gender equality – is about the individual’s food security, not a country’s food security. All too often the latter shapes the current debates. In this context it cannot be stressed often enough that food security is about *access to food*, not so much about its general availability (FAO and ADB 2013: 12-13; see also UN Women 2014: 58). Assessing food security through national averages can hide disparities within countries between women and men, as well as between rural and urban areas. In an assessment of how the 2007-2008 food crisis impacted livelihoods and food security in the region, UNICEF (2011) highlighted that across the MENA region, female-headed households were affected disproportionately by high food prices and that under such circumstances women are compelled to spend more time growing and cooking their own food, rather than buying it. In addition, when food needs to be rationed within the home due to scarcity, it is usually women who lose out (Jones et al. 2009: 30). In the NENA region, food insecurity is most acute in rural areas (Domenech and Ringler 2013: 7-8). Many rural farmers live in poverty while struggling for self-provision reflecting the long-recognized irony that rural food producers, often women, are most often among those experiencing food insecurity (Bush and Habib 2012: 10).

While the role of women in agriculture has increased significantly in the region, their rights are often restricted, including in relation to land and natural resources (FAO 2011a). Women in the NENA and elsewhere often lack formal rights to the land which they farm and the water resources they need for irrigation. Many women work in agriculture as farm helpers or wage labourers, but do not have the opportunity to farm on their own account. Women may lack status in their communities to influence natural resource governance decisions and practices. It is often assumed that their needs and perspectives can be subsumed under those of the ‘household,’ or represented by their husband or male relatives.

Closing the gender gap in agriculture requires that women’s empowerment in the area of water governance be considered in greater depth (FAO 2011a). The most direct links between water governance and food security become evident in the context of irrigation and agricultural water use more broadly, for example, when using water for growing crops and watering livestock. This includes water management in rain-fed agriculture, including practices such as rainwater harvesting and supplemental irrigation. Fisheries and aquaculture also show an obvious link to water governance.[[12]](#footnote-13) More broadly, there are important linkages and synergies between water governance, water conservation and watershed management and women’s livelihoods, income generation, food security and nutrition.

What does gender equality mean in the context of water governance, agriculture and food security? The answer to this question is not as straightforward as in the context of personal and domestic water use. Not all women are farmers, and for many women agricultural water use is not a day to day concern. However, gender equality in agricultural water governance can be seen as one barometer of women’s empowerment. Using Kabeer’s (1999) empowerment framework as a starting point, women’s empowerment is about *acquiring the ability to make strategic life choices*. This ability to exercise choices has three inter-related dimensions: access to material and social resources, agency in decision-making and power to negotiate, and achievements in terms of well-being.

In the context of water governance and agriculture for food security, these dimensions underscore the importance of ensuring that women enjoy equality both in terms of decision-making and in the enjoyment of the benefits of agricultural water use for well-being, food security and health. Equality means that agency in decision-making must be experienced by women on the basis of equality with men. Women must have access to and control over resources needed for achieving food security and improved livelihoods on an equal basis, including land and water resources. Women’s empowerment also means the right to determine choices and to have the power to control their own lives. Women’s empowerment within the context of agricultural water governance must correspond to increased choice and autonomy for women (not less). There is a need to better understand women’s aspirations and choices. By itself, an increased role for women in agriculture and water governance does not automatically result an empowerment, but could be one more additional task to be accommodated and shouldered by women whose lives are already overburdened. To be truly effective, there must be achievement in terms of women’s actual well-being. In other words, women’s increased involvement in agricultural work and water governance should be transformative: promoting gender equality, and alleviating (and not increasing) women’s overall work burden or time poverty.

Achieving gender equality is not (only) about women. Gender equality is by definition about the relationship between genders. In the case of water governance, gender-responsive water governance aims to address both men’s and women’s specific needs and priorities on equal terms. Women’s empowerment is needed as discrimination prevents them from participating in and benefitting from governance processes on an equal basis with men. Gender relations are deeply entrenched in societies, and seeking to change these means acknowledging that there are no quick fixes, but a need for transformation at all levels (including household, community, society and government institutions).

This paper helps to clarify how gender-responsive water governance can effectively address women’s specific needs and priorities by taking into account the ways in which women and men use water, as well as of overall access and control to water resources. Such an approach can break down stereotypes about women’s positions in society – for example, by recognizing their role as farmers – and actively promote equal participation to amplify women’s voices. It can lead to more equal sharing of resources in practice and to improved livelihoods and food security for women and their households.

## 1.3 Methodology

The analysis presented in this paper has mainly relied on secondary data collection via desk research and a review of relevant published and grey literature, as well as official UN and government documents. We have also sought to collect primary data through interviews on selected countries/case studies. To surface the case studies and research good practices, we reached out to various networks, organizations, and individuals working in the area of water, land, agriculture and food security, gender equality and human rights. In total, over 50 individuals were consulted (Annex 1).

While not all of these contacts were active in the NENA region, reaching out to them enabled us to be referred to others active in the region, as well as to learn about challenges women face in the context of water governance and food security at a broader level. While the methodology of desk review and expert interviews in the NENA region via phone/skype coupled with language constraints faces inherent limitations, it allows nonetheless to surface key insights and trends as well as to identify gaps that could be addressed through further research.

### 1.4 Structure of the Paper

Following this introduction, **Section 2** of the paper reviews the trends and shifts in legal frameworks and policy commitments on gender, water and food security at the global level since 1992. **Section 3** delves into water governance and agriculture for food security, and gender equality in the NENA region and attempts to highlight good practices in the formulation of gender-responsive policies and practices. In this section, additional experiences, lessons learned and good practices are presented from selected countries (in Sub-Saharan Africa, Latin America and Asia) in order to broaden the scope of the analysis. These examples are included because, while not always specific to the NENA region, they nonetheless tackle fundamental issues or problems which are common to women across regions. Finally, **Section 4** summarizes the main findings of the study and presents recommendations to contribute to achieving gender equality in the context of water governance and agriculture for food security.

# 2. Review of Trends in Legal Frameworks and Policy Commitments on Gender Equality, Water Governance and Food Security

Gender equality is a human right in itself underpinned by international human rights law, and in particular the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW). Women have a right not only to equality under the law, but also to equality in practice (substantive equality). Only by going beyond the law and tackling patriarchal power structures and gender relations that generate and perpetuate gender inequalities can such equality in practice be achieved (Kabeer 1999; WGF 2014: 9). States are therefore required to take positive measures to dismantle discriminatory practices and to redress existing inequalities. Art. 14 CEDAW addresses rural women specifically. It requires States parties to “take into account the particular problems faced by rural women and the significant roles which rural women play in the economic survival of their families, including their work in the non-monetized sectors of the economy, and shall take all appropriate measures to ensure the application of the provisions of the present Convention to women in rural areas.“ It refers to measures States shall take including the benefit of extension services (Art. 14(2)(d)) and access to agricultural loans, appropriate technology and equal treatment in land reform (Art. 14 (2) (g)).

While gender discrimination and inequality may affect all women to one degree or another, women are not a homogenous group. The CEDAW Committee recognizes the concept of ‘intersectionality’ which means that certain groups of women, in addition to experiencing discrimination directed against them as women, also experience other forms of discrimination (based on race, ethnic or religious identity, sexual orientation, level of education, disability, age, class, caste or other factors), resulting in multiple discrimination and intersecting inequalities. The Committee highlights that such discrimination may affect these women primarily, or to a different degree, or in different ways than men, and that States should take temporary special measures to eliminate these multiple forms of discrimination.[[13]](#footnote-14)

With this understanding of gender equality in mind, this section looks at existing standards on gender, water and food security and their linkages at the global level since 1992. Full details on the relevant standards are included in Annex 2. Many documents and standards reference women and women’s rights explicitly and are foundational in terms of gender equality more broadly. However only rarely are women’s roles in terms of agricultural water governance specifically acknowledged. Rather, most standards have tended to look either at women’s rights to food security and land rights on the one hand, or to water and participation in water governance on the other hand.

In the context of water governance, the Dublin Principles (1992) and the Johannesburg Plan of Implementation (2002) stress women’s right to participation in water governance. Similarly, several standards exist on food security that address women’s rights to participation, and recognize their equal rights to natural resources including land and water. They encourage States to adopt specific reforms in term of law and practice aimed at making these rights a reality for women. Relevant instruments include Rome Declaration on World Food Security (1996), The Voluntary Guidelines on the Right to Food (2004), The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (2012), and the Global Strategic Framework on Food Security and Nutrition (2014). These sector-specific commitments are complemented by the Beijing Platform for Action (1995), which highlights various aspects of women’s rights to equality in relation to water, food security and agriculture.

Taken together, these instruments provide useful standards related to:

* *Women’s right to participate at all levels in water governance, including decision-making and implementation;*
* *Women’s right to access to information related to water resources management;*
* *Women’s right to gender-responsive water infrastructure and services;*
* *Women’s right to equal access to and control over resources, including land and water.*

In addition, the post-2015 development agenda currently being negotiated includes relevant

commitments. The proposed Sustainable Development Goals (SDGs) include:

* *End hunger, achieve food security and improved nutrition and promote sustainable agriculture (Goal 2);*
* *Achieve gender equality and empower all women and girls (Goal 5), which includes a specific target addressing women’s rights to land and natural resources (5.a.);[[14]](#footnote-15) and,*
* *Ensure availability and sustainable management of water and sanitation for all (Goal 6).*

Apart from political commitments, treaty based standards also provide important guidance. The UN human rights treaty bodies adopt General Recommendations/Comments on substantive areas as a means to give States parties authoritative guidance on how to implement rights enshrined in human rights treaties. The Committee on Economic, Social and Cultural Rights and the Committee on the Elimination of all Forms of Discrimination against Women have provided relevant guidance through their interpretation of the International Covenant on Economic, Social and Cultural Rights and the Convention on the Elimination of all Forms of Discrimination against Women. By the late 1990s, the treaty bodies were including language on issues of water and food security, including General Recommendation No. 24 on Women and Health (1999) by CEDAW, and General Comment No. 12 on the Right to Food (1999), General Comment No. 15 on the Right to Water (2002), and General Comment No. 16 on the Equal Right of Men and Women to the Enjoyment of all Economic, Social and Cultural Rights (2005), all by the CESCR.

Taken together, these General Recommendations/Comments offer important standards, which make clear that under the international human rights legal framework, States are required to:

* *Guarantee and facilitate women’s equal access (both physical and economic) to productive resources, including land and water.*
* *Prohibit discrimination against women in access to food or resources for food and ensure that women have access to, or control over, means of food production;*
* *Ensure that women farmers have access to water and water management systems, including sustainable rain harvesting and irrigation technology;*
* *Ensure that women are able to participate in decision-making processes concerning water resources and entitlements.*

Taken as a whole, there exists a solid normative foundation protecting women’s rights to food security, to water, and to participate in natural resource governance. It lays out the interconnections between gender equality, water governance and food security in a strong and comprehensive framework. The norms and standards identified above can be woven together to help build the foundation to advance gender equality within the context of water governance and agriculture for food security.

Indeed, these standards address many of the key challenges that will be identified in the next section, namely women’s unequal participation in decision-making in water governance, unequal access to and control over natural resources such as land and water, limited access to irrigation and labour-saving technologies and services, and the role that negative gender stereotypes play in perpetuating these inequalities.

These existing norms and standards help to demonstrate the importance of integrating human rights in development, underscoring that non-discrimination and equality are vital pre-requisites to sustainable development outcomes. They can be used to inform an analysis of the extent to which agricultural water governance is gender-responsive and meets the needs of women farmers. On that basis, these standards should be translated into concrete regional and national legislation and policies on water governance and should inform measures towards their implementation.

# 3. Gender Equality, Water Governance and Food Security in the NENA Region: Identifying Challenges and Good Practices

This section provides an analysis of the characteristics of the NENA region in terms of water governance, food security and gender equality, and looks specifically at the role that women play in agriculture, food security and water governance. It generalizes to some extent drawing on regional data, while recognizing that the physical characteristics in relation to water, social and economic development, and the challenges women face vary across countries and regions. Various factors can either impede or facilitate gender equality in water governance and agriculture for food security. These include participation in decision-making and institutions, women’s role in irrigated and rain-fed agriculture, extension services, and land rights, which are all deeply intertwined with gender relations. In the NENA region, these take a certain form because of prevailing cultural and religious norms. How these norms intersect with the very practical process of water governance and access to water is explored further in this section.

## 3.1 Gender Equality and Women in Agriculture

### 3.1.1 General Trends on Gender Equality

The latest Millennium Development Goals (MDGs) report shows significant progress in gender parity in all regions, including Northern Africa and Western Asia (UN 2014). The indicators associated with the goal on gender equality measure the proportion of women in national parliaments, the ratio of girls to boys in education, and the share of women in wage employment in the non-agricultural sector. The 2014 Gender Gap Report issued by the World Economic Forum draws on a wider set of variables. Overall, the Middle East and North Africa region receives the lowest scores, and the regional average is a gender parity score[[15]](#footnote-16) of 0.6 out of 1 compared to, for instance, 0.7 in Latin America and the Caribbean (WEF 2014: 13-14). Yet, in terms of progress, the region as a whole has experienced significant improvement in closing gender gaps compared to the previous assessment in 2013 (WEF 2014: 24).[[16]](#footnote-17) In the realm of educational attainment, the region surpassed the Asia and Pacific region (WEF 2014). Women’s education levels have improved, but this has not translated into their integration in the workforce, the economy and in decision-making to the same extent (WEF 2014). The rate of women aged 15 and above who participate in the labour market is only 25.2 % in the MENA region compared to more than 50% in most other regions of the world (World Bank 2013: 7). The World Bank 2013 report on gender equality in the region speaks of the “gender paradox” (World Bank 2013: 3): Progress in human development has not yet translated into higher female participation in economic and political life. The report argues that the explanation for this paradox lies in a combination of the legal and institutional framework, gender norms and limited opportunities and incentives for women (World Bank 2013: 10).

Average figures on progress mask disparities. Looking at education, there are significant rural-urban and other disparities in education. For instance, in rural Upper Egypt, the illiteracy rate for girls and young women is 24%, which is 10% higher than the national female average and twice as high as the rate for boys and young men in the region (World Bank 2013: 7). In Morocco, the female illiteracy rate in rural areas was still 89%, as of several years ago (FAO AQUASTAT 2014: 9).

### 3.1.2 Gender Relations: Norms, Expectations and Stereotypes

Gender equality is heavily influenced by social and cultural norms as well as gender roles, expectations and stereotypes. Patriarchal gender roles are anything but unique to the NENA region. These roles and perceptions are not static – they change with time and often with increasing education. Yet, the value placed on women’s role within the household still tends to be higher than average in the NENA region (World Bank 2013: 13). Women continue being restricted in terms of mobility, exercising choices and accessing opportunities – sometimes through the legal framework, sometimes through socio-cultural norms (World Bank 2013: 4). Laws and regulations play an important role, both in a negative and a positive way, as culture is not static. Laws can reinforce socio-cultural norms and values, or stimulate social change and transformation.

Socio-cultural norms play an enormous role in influencing women’s rights and determining whether women have voice, space and influence. Socio-cultural processes and power relationships that shape gender relations are of great complexity. Gender norms become manifest in many different ways. For instance, “prevailing beliefs about appropriate male and female behaviour – for example, talking in public meetings in front of male elders – restricts active female participation” (GWA, UNDP, IRC and Cap-Net 2006: 71). Intra-household inequalities reflect “deeply held cultural assumptions that [women’s and girls’] lives are less valuable than those of men and boys” (IDS 2014: 23). And the fact that there is hardly any quantitative data on intra-household inequalities due to the way household surveys are structured is, again, not by accident but caused by the default image of the male “head of household” (Ray 2007: 433). All of these stereotyped ideas have practical bearing upon women’s day-to-day choices and autonomy as farmers, irrigators and decision-makers and on their ability to effectively utilize resources – such as land and water – to realize their right to food. While issues such as irrigation or monitorin­­­­­­­g frameworks may seem technical, they reflect socio-cultural processes and societal priorities. The former Special Rapporteur on the Right to Food argues that only by addressing these processes can the root causes of discrimination against women be addressed effectively (SR Food 2012: para. 2).

**Jordan: ‘Wise Water Woman’**

In Jordan, the Ministry of Water and Irrigation supported by GIZ initiated a programme called “Wise Water Women” that trained women in rural areas in maintaining and fixing water facilities in the home. The rationale was that plumbing is traditionally perceived as a male domain. Women started providing the service in household, and the initiative also linked to local authorities to increase women’s participation in decision-making processes (Sunagic 2014: 17). Such initiatives could be transferred to the area of irrigation, for instance by training women in operating pumps and challenging the perception of irrigation as a predominantly male domain.

**Egypt: ‘She Cultivates, She Irrigates’**

To start with, the male default image of farmers and irrigators needs to be acknowledged and exposed. The video “She cultivates, she irrigates” exposes how gender relations, traditions and customs in Egypt influence women’s role in irrigation, interviewing both men and women, including women whose husbands are abroad. The films illustrates the challenges women face and how deeply embedded traditional thinking is in both men’s and women’s perception (APP 1998), as such seeking to contrast existing stereotypes and to enhance the visibility of women in the irrigation sector. The project FarmHer goes a step further recognizing that most images of farmers portray men. To change this common perception, the project seeks to collect images of women farmers around the world (see [www.farmher.com](http://www.farmher.com)).

Dynamics within the household also impacts on women’s opportunities. Households are not a homogenous unit, but have competing interests and embedded power asymmetries (Ahlers 2005: 8-9). These power asymmetries add to women’s disadvantage and often prevent them from even entering into decision-making processes in the public sphere. Studies have found that women often receive little support from their husbands who consider that outside involvement interferes with their wives’ domestic responsibilities (Kevany and Huising 2013: 54).

What is needed to address inequalities in gender relations is at least a two-pronged strategy combining short- and long-term measures. In the short term, the particular difficulties and challenges such as mobility restrictions and security risks women face need to be taken into account to enable them to take part. This means, for instance, that meetings should not be held in places and at times where and when women have difficulties attending. In the long term, however, these very constraints women face must be tackled. Restrictions on women’s mobility should be lifted, and societal structures should be adapted, and indeed transformed, in a way that women are not forced to perform in a male-dominated environment, but on their own terms. Only then can women truly take part in decision-making processes, the work force and society more broadly on the basis of equality.[[17]](#footnote-18)

Changing societal gender norms, socio-cultural expectations and deeply embedded stereotypes will need to reach far beyond the agricultural sector and the water sector. Processes of change usually depend on a range of mutually reinforcing factors. Where women benefit from new opportunities, their achievements “often trigger changes in societal values regarding the type of work that is appropriate for women, their rights to control their own incomes, their decision-making roles within the family and society, and the opportunity cost of investing in girls’ education and women’s skills training” (CGIAR 2014: 7).

A critical issue in the involvement of men in this change. The global alliance MenEngage is made up by networks that include hundreds of NGOs that seek to develop capacities and share information on how to engage men to advance gender justice through questioning men’s and women’s attitudes and expectations (MenEngage 2015). A truly transformative approach is needed that promotes men and women’s social status and widens their opportunities and choices in life, including in the context of agriculture, water governance and food security.

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### 3.1.3 Women in Agriculture

FAO estimates that women comprise 43% of the agricultural labour force in developing countries (FAO 2011a: 7). In the NENA region, the percentage has risen sharply over the last decades, from about 30% in 1980 to 45% in 2010 (FAO 2011a: 9), which is faster than in any other region of the world (FAO 2011a: 10). In several countries, women make up more than 60% of the agricultural labour force, giving rise to what has been termed the “feminization of agricultural labour” (Abdelali-Martini et al. 2003; Abdelali-Martini and Dey de Pryck, 2014).

Across the NENA region, there is a trend for rural-to-urban migration in a number of countries including Egypt, Lebanon, Morocco, Syria and Tunisia. Young people, in particular, do not find sufficient employment opportunities and income in the agricultural sector in rural areas (UNESCO 2012: Vol. 2, 708). In many instances, men move into jobs in industry or services, or they migrate to urban areas or into the Gulf countries for work (SR Food 2011: para. 20; UN Women 2014: 64), with women becoming more involved in agriculture, wage labour, irrigation, and water management as a result (UNESCO Chair 2007: 76). In most countries, where male migration from rural areas is important, the migrants are mainly males from the same household who are unemployed, whereas the male head of the household remains to manage the farm, deal with the market and other institutions outside the household boundaries, and more women are drawn into the agricultural labour force to perform mainly manual operations and tasks (Abdelali-Martini et al. 2003).

However, in other areas, such as the plains of the Sais in Morocco, farming is being professionalized in the context of land privatization and the introduction of modern techniques and planting high-value crops. This process offers new opportunities for young men, while making it increasingly difficult for women to engage in farming activities (Bossenbroek and Zwarteveen 2015: 152-153, 162).

Generally speaking, working in agriculture covers a range of different activities and arrangements, from subsistence agriculture to commercial farming, and from gardens and crop production to livestock raising. Almost two thirds of agriculture in the NENA region is rain-fed. Among these farmers are many small-scale farmers, many of whom cultivate less than two hectares. Women farmers tend to have smaller acreage and less irrigation than male counterparts (FAO AQUASTAT 2014: 9, on Egypt, Minoia 2007: 23).

The role that women play is very diverse ranging from being farmers on their own account, to labourers, to unpaid workers on family farms (FAO 2011a: 7). Although information on the exact roles women play is limited, available data at national level shows that unpaid labour is very common (UN Women 2014: 63). In Yemen, women usually work as unpaid labourers on family farms (UNESCO Chair 2007: 75). In Morocco, data from the Ministry of Planning indicates that most women engaged in agriculture (84%) are farm helpers on family farms, although more recently the share of women in waged agricultural labour is increasing, especially in irrigated areas (FAO AQUASTAT 2014: 9). Similarly, in Tunisia, according to a survey conducted during the 2000/2001 crop year, 87% of women active in farming were farm helpers on family farms while only 13% were wage labourers. As far as seasonal workers in Tunisia are concerned, women’s share had risen to 37% at the time (FAO AQUASTAT 2014: 9).

Women wage labourers are more likely to receive low wages and to hold part-time or seasonal employment (FAO 2011a: 22). A study carried out in Tunisia, Algeria and Morocco found that where women where employed as wage labourers, their wage tended to be 30-50% lower than that of male counterparts (FAO AQUASTAT 2014: 19; similarly Abdelali-Martini and Dey de Pryck 2014 on Syria). However, recent developments and creation of jobs in export-oriented agriculture, such as high value fruit, may also offer new employment opportunities for women (FAO 2011a: 22). In Syria, female labour contractors and female wage labourers have emerged (Abdelali-Martini and Dey de Pryck, 2014).

In most countries in the NENA region, women only represent a small minority of farm managers on their own account, although there is a need to look at individuals within the households and their relation to water use and management to decipher actual gendered patterns of decision-making which cannot be grasped entirely through household surveys in their current form. Nonetheless, data from the early 2000s for Morocco, Tunisia and Algeria indicate that only between 4 and 6% of women were farm managers (FAO AQUASTAT 2014: 9). In Lebanon, the share of female agricultural holders is 7.1%, whereas it is only 0.8% in Saudi Arabia (FAO 2011a: 121). Women tend to be farm managers only in instances where there is no adult man in the household due to rural-to-urban migration. The recent study carried out by AQUASTAT found the following across the four geographical areas studied: 22% of women farmers were farm managers (up to 50% in Algeria). Usually widows, unmarried, or divorced women, but not married women, are farm managers and in many cases have become responsible for new productive tasks (FAO AQUASTAT 2014: 16-17).

Where women’s access to land is restricted, livestock raising is very attractive. FAO estimates that worldwide there are about 400 million poor livestock keepers, two thirds of whom are women (FAO 2011a: 14-15). Recent studies found that animal husbandry and livestock plays an important role in supporting women’s livelihoods in Morocco (CGIAR 2014: 10; also Khattabi et al. 2013: 171). Another study in Iran also found that a significant number of women were livestock owners (Effati et al. 2012: 36) and that women considered support for livestock production an effective way to support their livelihoods (Effati et al. 2012: 38). However, in many instances women are responsible for taking care of the animals, while men take decisions on expenses and income (HRC Advisory Committee 2012: para. 24), so that women contribute with their labour while men are the decision-makers.

In summary, while changes are taking place, in many instances women’s work continues to be under-recognized and risks being invisible (IDS 2014: 16), in particular where women work as unpaid help on family farms. Women’s activities in agriculture are often not seen as active work (Minoia 2007: 19). Where men migrate into cities or to the Gulf States, women are increasingly in charge of farms and may *de facto* manage the farm, while not being the land holder officially and not having formal rights to water and irrigation services (World Bank, FAO and IFAD 2009: 230).

Against the trend of the feminization of agricultural labour in its various forms, from a gender equality perspective, the question is if and how the increasing involvement of women in the labour force translates into increased visibility, status, income, influence, and power. Does women’s increasing involvement in agricultural work only add to their burden, adding agricultural work on top of the domestic chores and the burden of caring? Does increasing involvement in the workforce lead to empowerment? What are the benefits for women?

Women’s empowerment is not the automatic result of increased labour force participation. Care must be taken not to add to the burden women bear when seeking to strengthen their role in agriculture. All too often, an increasing role for women (for instance in irrigation) means merely adding to their responsibilities without transforming power relations with the risk that women do not benefit from increased decision-making power and/or income. Most clearly, where women work as unpaid labourers on family farms, their burden is likely to increase without corresponding benefits. There is a risk of reinforcing gender roles that disadvantage women (IDS 2014: 49). Preliminary results from a study in Syria indicate that the increasing role women play in agriculture as waged labourers did not go hand in hand with reducing the burden of domestic or caring work or with a redistribution of task between women and men. Yet, it also found that women valued their paid work because they enjoyed working in community and the income they earned increased their self-esteem (Abdelali-Martini and Dey de Pryck 2014). Where women take on roles as *de facto* farm managers, in some instances, this position may still allow them more control over resources and the ability to exercise choices at least during the times of men’s absence (Khattabi et al. 2013: 175). In some instances, women have gained more bargaining power in the household (Interview with Nozilakhon Mukhamedova). Women’s empowerment is not necessarily a linear or clear-cut process. Some aspects of life may be empowering while others are not, showing the complexity of transforming gender relations.

## Women’s Participation in Water Governance

### Water Availability and Water Governance in the NENA Region

The countries in the NENA region are among the most water scarce in the world. Precipitation is low; in the Middle East region, the average annual precipitation is 238 mm/year, but with significant variation ranging from 62 mm/year in Oman to 823 mm/year in Lebanon (FAO 2009: 31). Groundwater is an important water resource in the region, although it is increasingly depleted. Abstraction is often unsustainable and goes beyond the rate of replenishment leading to declining water tables (FAO 2011b: 42). The region also has deep, non-renewable groundwater aquifers that store significant amounts of freshwater, but recharge rates are very low so that they will be progressively depleted (FAO 2009: 34). The FAO warns that “the ‘open access’ characteristic of groundwater has led to unregulated development, inequitable access and competitive over-pumping, resulting in rapid depletion in many locations, accompanied by deterioration of water quality and saline intrusion“ (FAO 2014a: 7).

Transboundary rivers contribute to available water sources in many countries of the region making them highly dependent on shared water resources. The Middle East has five main water bodies: the Euphrates-Tigris Basin, the Jordan River Basin, the Arabian Peninsula Basin, the Nubian Sandstone Aquifer, and the Nile Basin shared between countries (Wessels 2012: 371). This leads to multiple countries often vying for control of water resources. Against these trends, many countries in the region increasingly use and re-use wastewater (grey water) and desalination (FAO 2009: 35), the latter being particularly relevant to more affluent countries in the region, such as Israel, Saudi Arabia, UEA and Kuwait (World Bank 2012; Wessels 2012: 372).

Altogether, the total renewable water resources per person per year in many countries in the region are well below the threshold of 500 m3/person/yr, which is taken to indicate extreme water scarcity (FAO 2009: 32). In addition, FAO warns that “per capita fresh water availability has decreased by 2/3 over the last forty years and will probably decrease by another 50% by 2050“ (FAO 2014a: 2).

In many parts of the NENA region, water withdrawals are already beyond a sustainable level with 80-90% of withdrawn water used for agricultural purposes (FAO 2011b: 26). In fact, in Northern Africa, freshwater withdrawal is at 201% of the internal renewable water resources, far in excess of the critical threshold set at 40% (FAO 2011b: 28). As groundwater tables deplete, farmers need to drill wells for irrigation that go deeper and deeper. For instance, small-scale farmers in Lebanon need to pump groundwater from over 350m deep to irrigate their land (UNESCO 2012: Vol. 2, 709). Many small-scale farmers do not have the means for such pumping, further exacerbating their often already disadvantaged position. This affects women farmers disproportionately because they often do not have access to the appropriate technology, extension services and financing as will be outlined below.

Against this background, the NENA region has made much progress in improving water laws, policies and institutions (FAO 2013b: 11; UNESCO 2012 Vol.2, 717). A number of factors are particular noteworthy: namely demand management, pricing and subsidies, decentralization and participation.

Many countries in the region have traditionally sought to develop new water resources to augment water supply and meet the demand of all water users. They are only slowly shifting to demand management and Integrated Water Resources Management (Arafa et al. 2007: 1). Water pricing can be an instrument of demand management to create incentives for efficient water use. In many NENA countries, subsidies were widespread as a strategy to support and incentivize agricultural production. Pricing has been disconnected from the actual value of water (FAO 2013b: 13). Subsidies often remained in place long after water withdrawals have become unsustainable. By now, most countries have revised pricing policies and increased fees to recover operation and management. However, these pricing schemes are not always fully implemented (FAO 2014a: 6). In many instances, pricing is largely based on considerations of efficiency with the aim of allocating water to the highest-value use. This might clash with the need to establish an equitable system of pricing that meets the needs of poor and marginalized farmers, including women farmers, and may require a reform of subsidies that ensures targeting the most disadvantaged or differentiated pricing.

While most irrigation systems in the NENA region are still managed by government officials or private enterprises, Water User Associations (WUAs) have been and still are regarded as a key instrument of decentralization and community level participation in the water sector. Some States in NENA such as Morocco and Tunisia have empowered WUAs, while others such as Algeria or Libya have not (yet) done so or are only in the early stages as in Egypt (FAO 2013b: 12). A recent assessment of existing WUAs in the NENA region found that many associations are not effective and their performance fell short of expectations (Ghazouani et al. 2012: 50). WUAs in the NENA region are regarded as “weaker” than in some other regions, which might be attributable to their lack of sufficient empowerment, authority and legal recognition (FAO 2014a: 5). The reasons for this vary across countries. In some instances, farmers and irrigators were not aware of the existence of WUAs or who represented them in that association. Moreover, WUAs usually focus on management by users at the tertiary level, but lack the power to address broader questions of water distribution (Ghazouani et al. 2012: 50).

### Women’s Participation in Decision-making Processes

In the context of agricultural water use, the involvement of farmers in water and irrigation management through WUAs was expected to result in increased sustainability and ownership (IFAD 2007: 12). Much of the discussion around women’s participation has focused on WUAs or similar bodies created in the context of devolution of irrigation management. However, any discussion on meaningful participation needs to look beyond the narrow context of WUAs, as will be discussed below.

As far as WUAs are concerned, women often are not considered as farmers, and as such they are hardly recognized as irrigators who would need to participate in WUAs (Minoia 2007: 16). Ensuring women’s participation in the context of agricultural water use is much more difficult than in context of domestic water, and there is large skepticism whether women can participate meaningfully in WUAs (Ray 2007: 435).

Participation in WUAs is often linked to the ownership of the land, which reduces female participation and disadvantages women in water allocation decisions in irrigation schemes (GWA, UNDP, IRC and Cap-Net 2006: 70; Khuri 2014: 15). Even where women do own land, they are often represented by male relatives (IFAD 2007: 12). In other instances, membership in WUAs is limited to just one person per household or to the “head of household” (Ray 2007: 435), which will in most instances result in men participating in the association. Women are assumed to benefit indirectly through their husband’s participation (GWA, UNDP, IRC and Cap-Net 2006: 70). Membership fees can also be barriers to women’s equal participation. The times and places of meetings of associations can be further constraints (Minoia 2007: 24) as women’s mobility is often restricted based on gender roles and socio-cultural expectations (Khuri 2014: 19). To address some of these challenges, quotas for women’s membership in WUAs and slightly lower membership fees have been suggested, where appropriate (e.g. IFAD 2007: 18).

However, even where women’s participation in WUAs has increased, the results are ambiguous. To some extent, bodies have become more gender-balanced – at least formally. In some contexts, quotas have been implemented to ensure women are part of WUAs (Ahlers 2005: 3). However, the mere presence of women in WUAs has not necessarily translated into increased influence decision-making (Ahlers 2005: 2). Women may be silent during discussions, or lack influence on decision-making (IDS 2014: 20). There is little evidence that being present in water institutions has been empowering for women (Ahlers 2005: 8). Where women joined WUAs on the basis of quotas, a study in Egypt found that “with time, women dropped out of the [associations] because they felt that their participation was ineffective in male-dominated conversations, or they were not re-elected, they got married and their husbands prohibited them from participating, and/or the engineers simply did not replace the women members who dropped out of the councils“ (Najjar 2015: 149). Similarly, in a study conducted in Tunisia, Morocco and Algeria women indicated that they generally do not participate in meetings of associations and cooperatives quoting a number of reasons: their workload; socio-cultural constraints, not being invited. They feel they are not sufficiently involved in water management at the local level. Instead, women rely on informal contacts and exchanges with other women active in irrigation such as meetings with neighbours and talks at the well (FAO AQUASTAT 2014: 28).

**Strengthening Participation through Women-only Groups**

In Yemen, efforts have been undertaken to increase the participation of women in WUAs through forming parallel women’s groups (IFAD 2007: 16; Arafa et al. 2007: 10) that can provide a forum for collective action. More generally, some have suggested that membership in formal institutions and associations should not be overemphasized and that informal institutions may play an important role in determining patterns of exclusion and inclusion (Minoia 2007: 11). A study in Kenya found that informal initiatives by women to resolve conflicts over water, for instance between livestock and domestic uses, were highly valued (Yerian et al. 2014). Women-only groups can help women strengthening voice and power and benefit them from social, personal and economic perspectives (IDS 2014: 20). Where such groups exist in parallel to formal WUAs, it must be ensured that the women’s group is linked to the larger decision-making process (World Bank, FAO and IFAD 2009: 244). In Tajikistan, women have organized as “water masters” and have started to teach younger people about irrigation. In some instances, their role has become “informally institutionalized” and accepted by the community, and they might even have been assigned a salary (Interview with Nozila Mukhamedova).

Many of the challenges with women’s participation in WUAs – and other processes – may be attributed to the fact that increasing participation has been considered a formal exercise: one of having more women at the table, maybe enforced through quotas. However, simply “adding” women to a process does not address questions of power (Sultana 2015). WUAs operate within existing political, social, and cultural systems and relationships (IFAD 2007: 12) and without addressing the underlying causes gender inequalities cannot be redressed. It is crucial to enable the circumstances that turn women’s presence into meaningful participation and translate into influence on decision-making (Ahlers 2005: 10).

To make participation meaningful, it is crucial to understand that women who join WUAs seek to enter a male-dominated environment with its already existing social and political – often informal – networks and processes of deliberation and decision-making. In such an environment, their participation is constrained by a range of factors, including social norms, perceptions of women’s abilities and strengths, and available literacy and numeracy skills (Sultana 2015). Moreover, poor and marginalized women – in contrast to better-off, better educated women – often feel constrained by existing dependencies: “Being seen to voice an opinion that may challenge existing power structures or ideas about water management is often deemed to be risky by those who need to maintain various kinship and social networks for their livelihoods.” (Sultana 2015: 269). For example, in Nepal IFAD has highlighted that “[w]here WUAs are required by law to establish a minimum quota of women, the membership is given to local elite women …. These women are often wives of influential farmers and are unfamiliar with the problems faced by poor women“ (IFAD 2007: 14).

Active and meaningful participation will not happen automatically, but needs deliberate efforts that enable women to influence decision-making processes. The experience of WUAs confirms a more general challenge of participation at the local or community level that is often exacerbated by the false understanding of communities as an integrated whole. They are not. Communities are characterized by entrenched hierarchies and inequalities, and without identifying, acknowledging and addressing these, ostensibly participatory processes will perpetuate and even reinforce rather than alleviate these patterns of inequalities (SR WatSan 2014; Sultana 2015).

**The EMPOWERS Approach to Water Governance in Jordan, Palestine and Egypt**

The EMPOWERS partnership developed a set of guidelines for inclusive local water governance based on participatory processes. Projects were implemented between 2003 and 2007 in Jordan, Palestine and Egypt. The guidelines advocate for collaboration and dialogue to promote change of relationships between water sector professionals and water users (Moriarty et al. 2007a: 1), explicitly addressing the needs of marginalized groups and people living in poverty, both men and women (Moriarty et al. 2007b: 29). The approach stresses “that mainstreaming gender and making water governance pro-poor are political decisions that need time and resources dedicated to them, as well as dedicated champions who are closely involved in the process” (Moriarty et al. 2007b: 29).

The guidelines suggest methods and tools for different stages such as assessment, planning, and implementation, including participatory rural appraisals, problem tree analyses, mappings, exercises for prioritization and rankings (Moriarty et al. 2007a). A particular focus of the approach lies on “involving the poor and marginalized” (Moriarty et al. 2007a: 111) acknowledging the constraints they face in participating in meetings and exercises. The guidelines suggest steps to identify the most marginalized in a community through mapping access to resources, for instance, and involving them on that basis. One suggested strategy is to work separately, in particular with women living in poverty, to counter the risk of intimidation (Moriarty et al. 2007a: 111-112, Silva Wells 2008: 13). In Qabatya, Palestine, meetings with women were organized that resulted in the establishment of a women’s association, to facilitate their active role in decision-making processes. The Association focused on water supply, but also addressed other concerns the women had, including elections, domestic violence, setting up a health clinic, and computer trainings (Silva Wells 2008: 13).

The Dublin Principles (1992, Principle 2) rightly stress that a participatory approach “means that decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects.” Yet, not all decisions can be taken at the local level. A mere focus on participation in WUAs and similar organizations is much too limited. Sometimes participation in fora such as WUAs is futile because such bodies are inefficient, they are not sufficiently empowered or their decision-making power is curtailed where decisions with broader implications are taken at a higher level. Even where women do take part in decision-making processes at the local level, such processes do not always have the envisaged impact. As outlined above, many WUAs in the NENA region in particular have been found to be rather ineffective. A study in Egypt’s New Lands, for instance, found that water councils in Sa’yda were only nominally formed, but had no concrete role (Najjar 2015: 155).

Article 7 (b) of the Convention on the Elimination of All Forms of Discrimination against Women guarantees women’s equal rights to “participate in the formulation of government policy and the implementation thereof.” Article 14 (2) (a) specifies that women living in rural areas have the right to “participate in the elaboration and implementation of development planning at all levels.” The Special Rapporteur on the Human Rights to Water and Sanitation points out: “Many far-reaching decisions shaping the overall direction of policies and priorities are taken at the national level. In other words, people must not only have the opportunity to decide on the location of a borehole or latrine, but also on the priorities set by the Government, the distribution and redistribution of resources and the strategic decisions on legislative and policy frameworks” (SR WatSan 2014: para. 57).

Capacity development for women on both technical and soft skills such as communication and negotiation can make a difference in encouraging them to take part in decision-making processes, to participate meaningfully and contribute to discussions without hesitation, and to take on leadership positions. At the same time, it is essential to target men to raise awareness of gender roles that discriminate against women and how challenging these may benefit both women and men, as well as entire communities.

### Institutional Leadership and Policy Commitments

Participation of women as water users in WUAs and participatory processes at a broader level is only one side of the coin. Such participation needs to be complemented by gender-responsive institutions and policies.

It has been pointed out time and again that many policy-makers and staff in water management institutions lack awareness and capacity to act in a gender-responsive way (e.g. World Bank, FAO and IFAD 2009: 229; Minoia 2007: 14). This applies across the board from ministries and other institutions at the national level, to local government and institutions, research institutions, and extension officers. On the one hand it relates to a lack of women in leadership positions (on Morocco see e.g. Arafa et al. 2007: 11). In 2012, only 6% of ministerial positions in the field of environment, natural resources and energy were held by women (Njie and Ndiaye 2013). Women in such positions can function as role models and give visibility, which may provide incentives for increasing the share of women at other levels. In Kenya, the “Presidential Directive on affirmative action for women” has resulted in greater visibility for women in institutions in the water sector (Kameri-Mbote and Kariuki 2015). Female extension officers, for instance, often have easier access to women farmers as long as socio-cultural norms restrict interaction with men. Yet, it must not be assumed that a better representation of women in institutions would automatically lead to gender-responsive institutions and policies. There is a need for structural change in institutions.

**Establishment of Gender Focal Points in Institutions**

Some institutions have started to establish gender focal points with the task of coordinating and promoting awareness for gender issues, including strengthening participation in irrigation and capacity development. For instance, Egypt has established a Gender Focal Point at the Central Department of Irrigation Advisory Services of the Ministry of Water Resources and Irrigation (Arafa et al. 2007: 12). Similarly, some ministries and governmental institutions in Jordan heave established gender units (Arafa et al. 2007: 14). Yet, further efforts are needed to ensure that such gender units have sufficient funding, knowledge, skills and tools (Arafa et al. 2007: 13).

**Akhawayn University Chair on Water, Women and Decision-Making**

Education and training, including how water resource management is taught in universities, also play an important role in achieving change in institutions. UNESCO established several chairs at universities that seek to address the need for institutional change through education, including the chair on "Water, Women and Decision-making" at the Al Akhawayn University in Ifrane, Morocco. It seeks to strengthen women’s role in water resource management through education and research. One of areas of work focuses specifically on strengthening women’s leadership in institutions.

Apart from participatory processes and gender-responsive institutions, policy commitments are also essential for advancing gender equality. As identified by FAO, it is important for countries to “advance gender equity for agricultural development and food security in the region … through the establishment of policy and institutional environments aiming to close the existing gender gap” (FAO n.d.). A number of institutions in the region have adopted gender policies and strategies that give greater visibility to the challenges of achieving gender equality.

**African Ministers’ Council on Water (AMCOW) Gender Policy**

AMCOW has adopted a gender policy to support water ministers in achieving gender equality in the water sector. Its objectives relate to policies, human and financial resources, implementation, strategic research, institutional capacity, cooperation and coordination, and monitoring and evaluation, calling for gender mainstreaming in all these areas (AMCOW 2011). The value of adopting a gender strategy at such a high level lies in giving gender issues greater visibility and may act as a trigger for legislative and policy reform at the national level. This visibility was reinforced through the Ministerial Declaration adopted at the Gender, Water and Development Conference held in November 2014 in South Africa. It *inter alia* committed to implementing the gender policy. It includes a number of specific commitments, such as establishing or strengthening national gender and water desk, establishing national targets and gender-sensitive monitoring frameworks.

**Nile Basin Initiative Gender Mainstreaming Policy and Strategy**

The Nile Basin Initiative (NBI) has also adopted a Gender Mainstreaming Policy and Strategy (NBI 2012), which builds on an assessment of existing international, regional and national policies and commitments as well as a situation analysis. The overall policy goal is to “achieve gender equity as an integral part of NBI’s socioeconomic development and environmental sustainability goals in terms of access, control and use of water resources, enjoyment of rights, availability of opportunities and decision making” (NBI 2012: 11). The strategy outlines a number of interventions such as sensitization to gender issues, gender-responsive planning, budgeting, reporting and monitoring, and capacity development (NBI 2012: 12-14). To help operationalizing the strategy, the document includes checklists for mainstreaming gender at the level of policy, operations, monitoring and evaluation, and action plans (NBI 2012: 19-21).

**Gender Strategy adopted by the CGIAR Program on Dryland Systems**

The CGIAR Program on Dryland Systems, which is led by ICARDA and addresses North Africa and West Asia as one of five flagship regions, has recently adopted a Gender Strategy (CGIAR 2014). It calls for the integration of gender research across the program’s cycle (CGIAR 2014: 27), for recruiting core staff for gender mainstreaming (CGIAR 2014: 29), and it recognises the need for capacity building on gender issues and analysis among the researchers (CGIAR 2014: 25). The strategy acknowledges that there are no simple technical solutions and that gender equality can only be achieved through social transformation (CGIAR 2014: 6), i.e. changing the ways in which men and women are typically perceived in society and what roles and responsibilities are assigned to them on that basis. The strategy suggests a research focus on the effects of cultural, ideological, normative and institutional factors on gender relations as well as “promising ways of facilitating (transformative) change in norms, attitudes and practices underlying gender disparities” (CGIAR 2014: 15), as such linking ICARDA’s more technical focus with an exploration and understanding of socio-cultural processes. Simultaneously with the adoption of the strategy, ICARDA has initiated a number of research projects in Jordan and Iran that explicitly incorporate the lens of gender equality (Khuri 2014; Sunagic 2014; Effati et al. 2012).

## 3.3 Women’s Access to Water for Agriculture

### 3.3.1 Women’s Access to Water in Irrigated and Rain-fed Agriculture

Irrigation is common in the NENA region. In 2006, an average of 19.7% of the cultivated land was irrigated. In Western Asia, the percentage is 36.6% while it is 22.7% in Northern Africa (FAO 2011b: 38). Groundwater use for irrigation is increasing rapidly, accounting, for instance, for 88% of irrigation on the Arabian Peninsula (FAO 2011b: 40). FAO estimates that most countries in the NENA region have reached or are reaching their irrigation potential (FAO 2011b: 54). While also contributing to food sufficiency within countries, a significant share of this irrigated agriculture is oriented toward urban and export markets (FAO 2014a: 3).

On the other side of the spectrum is rain-fed agriculture that still accounts for almost two thirds of the agricultural production in the region. These farmers largely grow cereals, and they often face poverty due to low productivity and the unpredictability of the rainfall on which they rely (FAO 2014a: 3). There is evidence that women play a more prominent role in water management in rain-fed and pastoral systems (Arafa et al. 2007: 6). For instance, in Yemen women are involved in rain-fed agriculture in the mountains, high plateaus, and intermediate areas. They often address water shortages with indigenous practices. Yet, the areas experience land degradation and soil erosion as traditional agriculture is often neglected in favour of irrigated systems (Arafa et al. 2007: 6). This affects women’s livelihoods, as they are often more involved in rain-fed agriculture and will not necessarily gain access to new irrigation systems.

**Water Resources Management in the Iraqi Marshlands**

The Iraqi Marshlands are the largest wetland ecosystem in the Middle East, but have become severely degraded resulting in loss of ecosystem services. The Women and the Environment Organization (WATEO) worked with women in marshland communities with training on sustainable consumption and engaging in decision-making processes. In this case, women’s involvement in decision-making at the community level was welcomed by community leaders who valued the women’s knowledge on the resources (WATEO n.d.).

Research shows that through irrigation technology smallholder farmers can improve yields, reduce risks associated with climate change, and increase incomes (Giordano et al. 2012). However, many female smallholder farmers in the NENA region have little or no access to irrigation water, technical training on water management, irrigation, rainwater harvesting, and other technologies. Each of these strategies is an important contribution when it comes to increasing agricultural yields and improving food security. For example, a study by ICARDA on rainfed wheat in Morocco, Syria and Turkey found that wheat yields could be increased by 60% to 150% in different parts of Morocco, 70% to 100% in Syria, and 50% to 200% in Turkey, using a combination of rainwater harvesting, supplemental irrigation, improved water-use efficiency, high-yielding varieties and improved agronomic management (Haddad et al. 2011: 168).

However, increasing women’s role in irrigation, water management, and rainwater harvesting is not an end in itself; the aim is women’s empowerment. When promoting an increasing role for women in practicing irrigation, such measures must carefully consider the context and the different roles women play in farming. Only a small percentage of women actively involved in agriculture in the NENA region farm on their own account, and where women are farm helpers or wage labourers, an increased role in irrigation might only add to their labour burden and responsibilities, but not to their empowerment in terms of access to resources, achievements in well-being, agency and decision-making power. However, where women farm on their own account and are excluded from practicing irrigation, such inequalities must be addressed.

There is great potential for many women farmers to benefit from small-scale irrigation, yet, in practice they find it difficult to claim and receive their water entitlements due to a variety of factors, especially when water is scarce. The Gender and Water Alliance and others organizations (GWA, UNDP, IRC and Cap-Net 2006: 69) have reported that “[i]rrigation planning and policies have typically ignored gender differentiated needs and priorities as they have focused on the construction and maintenance of systems, the efficient distribution of water and increased agricultural output, rather than the nature of crops grown or the impact of irrigation on labour markets or the co-existence of productive and consumptive water uses. … For example, small women farmers in rain-fed agricultural areas in Africa use less water for nutritious crops than is used in male farming systems growing one or few crops often including ‘thirsty’ ones like sugar and rice.“ Therefore, access to irrigation affects choices about what one is able to grow and by extension, what one is able to sell.

The Regional Water Demand Initiative in the Middle East and North Africa highlights: “When it comes to irrigation, the contribution of women is considerably less [compared with other agricultural activities], as irrigation is often a night activity, requiring significant strength and the uncovering of legs to plunge into water and mud. Also, violent conflicts among neighbours sometimes arise over water distribution and use. Since very few women own land, their ability to access credit in order to purchase water pumps, pipes and other equipment for irrigation is also limited, thus constraining their engagement in irrigation activities” (Arafa et al. 2007: 10). Similarly, IFAD highlights: “Women, like men, may also have clear opinions about how an irrigation system should be operated. Because of their workloads at home and their relatively lower flexibility in terms of time, women may have different preferences for irrigation operations and the scheduling of water deliveries.” (IFAD 2007: 7, see also 11, 16-17; see also World Bank, FAO and IFAD 2009: 230). Whether women have access to irrigation is a question that is heavily influenced by gender relations, social norms, stereotypes and entrenched hierarchies. Socio-cultural processes have a direct bearing on these seemingly technical questions and the need to address them must not be underestimated in order to achieve gender equality. The fact that women face limitations in practicing irrigation is linked in large part to the lack of perception of women as irrigators. The default image is that of a male farmer (Ray 2007: 433), which influences the technologies, processes and structures around irrigation and extension services.

Male networks, patronage and clientelism play an important role in water allocation at the local level (Zwarteveen 2008: 121). Women find themselves manoeuvring in the context of systemic inequalities and an environment that is shaped by men and masculinity. Women might be explicitly excluded or discouraged by men, or they might withdraw or exclude themselves, because it may be less stressful to uphold what is socially accepted in terms of gender roles and relations, at least externally (Ahlers 2005: 6-7). In yet other instances, it may be a combination of both factors. Acknowledging and understanding this complexity is essential for addressing deeply entrenched gender norms and stereotypes that marginalize, exclude and disadvantage women.

In many instances, the default image of the male farmer is not made explicit, but only implicit. As Zwarteveen argues that the “masculinity of irrigation actors is taken for granted rather than explored or questioned“ (Zwarteveen 2008: 111). In some instances, however, women have been able to enter and advance in irrigation when formal qualification was increasingly the determining factor rather than patronage, highlighting the possibility of transforming discriminatory attitudes and stereotypes about women as irrigators (Zwarteveen 2008: 122; for Tunisia, Mbarek and Tarhouni 2010). A study from Brazil demonstrates that women not only derived significant benefits in terms of access to water from involvement in a programme called “One Million Cisterns” but also took on new roles as cistern builders and members of water commissions that resulted in a transformational process of empowerment and inclusion (Moraes and Rocha 2013).

It is well acknowledged that people in rural areas often rely on the same water sources for multiple uses, including personal and domestic uses, irrigation, watering livestock, and livelihood purposes. Hence, the design of Multiple Use Services (MUS) is often promoted and water projects are increasingly adjusted to be multi-use (Koppen et al. 2006; IFAD 2007: 6). Such MUS schemes are also seen as beneficial from the perspective of gender equality as they tend to address women’s water needs and priorities alongside men’s (IFAD 2007: 19; Koppen et al. 2006: 11). Promoting MUS can help overcome the common perception that men are exclusively interested in water for irrigation, whereas women’s priorities are exclusively related to water for personal and domestic uses. Such a perspective overlooks women’s role as farmers and irrigators, reinforcing the stereotype of women and girls only responsible for the domestic use of water. When promoting MUS, care needs to be taken to address all roles women and men play. When done in such way, promoting MUS can actually help dissolving the barriers between domestic and productive water uses and respond more effectively to both women and men’s water needs and uses (World Bank, FAO and IFAD 2009: 237-238; see also FAO 2011c).

**Involving Women in Water Management for Irrigation**

Between 2007-2009 a project was carried out in water users' organizations for irrigated agriculture in the Peruvian highlands. The objective of the project was to strengthen the role of women in water management and to improve their condition as agricultural producers. A gender diagnostic first identified the different challenges that impede women’s participation in trainings and meetings. Following this initial step, a discussion was held about the importance of including women in water management and the benefits that accrue to the community as a whole. As a result the water users' organizations resolved to set specific targets for becoming more gender-inclusive, and reformulated the content and timing of their activities to allow a greater number of women to participate (De Nys et al. 2013). The project resulted in improved women’s technical skills, self-esteem and position in the water users’ organizations, and raised awareness among the community members about women's specific needs and expectations related to water management for irrigated agriculture. The participatory methodology used in this pilot has also been scaled up in the Sierra Irrigation Subsector Project (PSI Sierra) (De Nys et al. 2013).

In China, UN-Women designed a project to enhance the role of rural women in water management by equipping them with advanced irrigation technology and bringing in local experts (UN-Women 2012). Between 2011 and 2012, 161 female farmers were effectively trained to use, manage and maintain the irrigation infrastructure, and to ensure the sustainable and effective use of irrigation water (UN-Women 2012).

Where women participate in the design and implementation of irrigation projects, are provided with equal access to training, and operate irrigation technologies, interventions can lead to improved availability of nutritious food for women and their families/communities, as well as less economic dependency on men (Domenech and Ringler 2013; see also FAO 2001). In addition, gender-sensitive and/or labour-saving irrigation technologies, for example small-scale drip irrigation (Upadhyay 2004: 320), may also decrease the burden placed on women for water collection in general, and may help to reduce the amount of time they spend on unpaid domestic and care work (Domenech and Ringler 2013). Improving women’s access to irrigation and rain-fed agriculture can make a significant difference to promoting gender equality in water governance and agriculture for food security. However, these measures alone are not sufficient to create truly transformed, equal gender systems and that additional changes are needed to promote substantive gender equality (FAO and ADB 2013: X).

**The Matrouh Water Harvesting and Watershed Management Project supporting Bedouin Women in Egypt**

The Matrouh project is situated in a coastal area in Egypt where Bedouins have settled developing a sedentary lifestyle based on rain-fed agriculture and herding. In this project, the Government of Egypt together with the project partners aimed to combine concerns over sustainability regarding land, vegetation and water conservation with ensuring the full potential of dryland farming. Specifically, the project sought to enhance women’s involvement in watershed management, water harvesting and productive activities. It provided skills training and access to small loans, for instance for water pumps. The project also involved the construction of cisterns for water harvesting and storage encouraging home orchards. Linked to these activities, the project encouraged resource conservation to reduce erosion (GEWAMED 2007: 218).

### 3.3.2 Women’s Access to Extension Services

Closely related to issues of irrigation, gender-responsive agricultural extension services are also important, as these services typically provide farmer education, access to information, and technology and resource transfer. In the context of water for agricultural use, such training and information could include rainwater harvesting, irrigation technologies, or water conservation strategies.

### Extension and Advisory Service Delivery for Women’s Groups in Jordan

In Jordan, women are heavily involved in crop and livestock production (MEAS, 2015). In 2012, a project was launched aimed at strengthening the capacity of cooperatives and women’s groups in water-scarce areas. The project was funded by USAID through the Modernizing Extension and Advisory Services (MEAS) program, with research conducted in collaboration with the National Center for Agricultural Research and Extension (NCARE) (MEAS, 2015).

The project provides support to female farmers to attend a number of trainings designed to give them information and skills needed to improve their livelihoods and the market success of their products.  The project also sought to research how women could better access and benefit from extension and agricultural services (Ludgate 2013). As a result, several recommendations were made which aimed to ensure that extension services better reached rural women in the future, including 1) ensuring gender-responsive and participatory approaches to training, 2) providing women with equal access to information and not assuming that information given to men will be shared within the household, and 3) arranging extension training around times that women can be present without having to choose over their other responsibilities (MEAS, 2015).

Additional work in 2012 used focus group discussions with both men and women on the roles and contributions of women in agricultural production, livestock management, water resources management, and in the rural household. Such initiatives highlight the important role that extension services can play for women farmers in providing access to agricultural water resources information, technology and decision-making.

One FAO survey showed that, worldwide, female farmers receive only 5% of all agricultural extension services, and only 15% of agricultural extension agents are women (FAO 2013c; IDS 2014: 20). In some regions the figures were reportedly even lower: for example, in Egypt, a country where women make up more than half of the agricultural labour force, only 1% of extension officers were female (FAO n.d.). In Jordan, where women play a key role in livestock production, less than one fifth of women farmers were found to have access to state extension services and only 3% to private extension (Shukri Al-Rimawi 2003). More recent surveys continue to confirm that extension services do not benefit women and men farmers equally (World Bank 2010; Meinzen-Dick et al. 2010).

Part of the problem with the design, operation, and monitoring of extension services has to do with a male-biased idea of who is a farmer, and the lack of contact between women farmers and extension agents. At a basic level, women’s lack of access to extension services in practice means that they are not as likely to benefit from the water and irrigation related information and technological/practical innovations that these services provide to farmers, such as labour-saving technologies (see: MEAS 2013). It is therefore necessary to ensure that extension services effectively reach women farmers through gender-responsive capacity development, hiring more female extension officers, and other measures.

## 3.4 Women’s Secure Land and Water Rights

Access to irrigation and water in practice and water rights are closely related, but two different concepts. Water rights attempt to provide a framework for who has access to water resources, which is particularly relevant against the backdrop of scarce water resources in the NENA region. Throughout the region Islamic Shari’a law continues to regulate the use of water resources (Naff 2009; Farley 2010), while also exhibiting “contemporary legal approaches for adapting to the realities of climate change” (Farley 2010: 2). Nonetheless many countries in the region do not possess a water law, and rights can be held individually or collectively on the basis of customary and/or Shari’a law. In many parts of the region water rights are held via informal or customary systems (even where more formal rights are codified in law). This can lead to overlapping or confusing water rights. In many cases, water rights and land rights are closely linked and controlling land may also be the principle means of accessing water resources (Naff 2009; Farley 2010).

### Women’s Rights to Land

Evidence shows that smallholder farmers with secure land and property rights have greater incentives to make investments because they have greater confidence that they can recoup their investments over the long term. Secure rights to land and property for women can lead to increased agricultural productivity and production (FAO 2011a; SIDA, 2010). As such, land and food security for women are intimately connected, but what is perhaps not equally apparent is that secure land rights can also be critical to women’s access to water for productive uses. UN-Water (2006: 4) highlights that “lack of access (ownership) to land may be the underlying cause of women’s limited access to water and a key reason for the greater poverty of female-headed households …. In many countries … land ownership is a precondition for access to water.” The relationship holds not only for customary rights over water, but also in some cases in relation to formal rights as well: “regarding public water allocation, each MENA country has a scheme to allocate publicly-owned water but differences exist depending on whether water allocation is tied to the land or considered a separate right” (Farley 2010: 2). Land rights may encompass water use rights (as when land provides access to sources of water) or access to water may be predicated on being able to show secure rights over land. IFAD highlights the importance of land rights in facilitating access to water, as well as control over resources, capacity, and social networks (IFAD 2010; IFAD 2012).By extension, land allocation policy is also crucial to understanding water rights and allocations, and local norms can curtail women’s ownership and rights of access to water resources when women do not benefit from land allocation (IFAD, 2010). When women are excluded -- whether *de iure* or *de facto* -- from secure rights over land it almost necessarily means that they will also face limitations in terms of water rights.

Women face real challenges when it comes to secure rights over the land, which they farm in much of the world, including the NENA region where women face persistent discrimination in relation to land rights. In many countries in the NENA region, the result of gender-biased statutory laws, Shari’a law and customary law, traditions, and social norms and attitudes is that women often cannot independently access and control land. The application of ‘head of household’ provisions – wherein men are assumed to be the primary decision-makers about how land is to be used, or are assumed to represent the household as a whole – also undermines women’s equal rights to land, as well as to water (Jacobs 2002; see also UN-Women and OHCHR 2013). While the right of women to own land is generally recognized by national laws as well as by Shari’a law, discrimination continues particularly in matters of inheritance where women typically inherit only half of what a male counterpart would receive. In practice, women often face pressure to relinquish whatever rights to land and inheritance they do have in favour of male relatives due to various factors including illiteracy, dependency, customs, and pressure to conform with societal and family expectations (IFAD, n.d.).

Despite the challenges, there are good practices in achieving land rights for women and tools available to support these processes. The ‘Technical Guide on Governing Land for Women and Men,’ developed by FAO (2013c), provides important guidance on the implementation of the principle of gender equality found in the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. In addition, UN-Women and the Office of the High Commissioner for Human Rights have developed a Handbook on ‘Realizing Women’s Rights to Land and Other Productive Resources’ (UN-Women and OHCHR 2013). The Handbook provides detailed guidance for legislators and policy-makers, as well as civil society organizations and other stakeholders, to support the adoption and effective implementation of laws, policies and programs to respect, protect and fulfil women’s rights to land and other productive resources. While not addressing water rights specifically, it addresses many policy interventions that can secure women’s land rights, which often serve as a foundation to water access, use and control.

**Providing Land to Women in Egypt and Links to Water Governance: The Mubarak Resettlement Scheme and the World Food Programme**

In Egypt, the Mubarak Resettlement Scheme (MRS) provided women with unprecedented access to land in the context of land reclamation in the so-called New Lands. In large part this was because the World Food Programme (WFP) supported many of those resettled by providing food aid throughout the time period when land was being brought to fertility and until such time as it could sustain the needs of the community (interview with Dina Najjar). It was a condition of the WFP that food aid would only be provided to resettled communities if women were also allocated land title under the MRS, either jointly or individually (Najjar 2013).

Challenges were certainly present. For instance, the lack of services and schooling for children made relocation for women very difficult (Najjar 2015: 154) pointing to the need for comprehensive strategies. Nevertheless, land titles enabled women to make important gains in terms of water governance: they allowed women to enter WUAs and to engage in agricultural cooperatives, as well as to access training by IFAD and the government (interview with Dina Najjar). These entry points allowed women to participate in agricultural water governance at the local level and provided important opportunities for engagement and capacity development. For those women with joint title, husbands generally were still the ones to represent the family. However, for those women with a sole title to land, very often their status in the community was heightened by adopting new roles, to the point where men in the community would ask them to advocate on their behalf and to represent the community (interview with Dina Najjar).

### 3.4.2 Gendered Dimensions of Large-scale Land and Water Acquisitions

Large scale land acquisitions have received significant attention in recent years, and in particular criticism when such land deals have resulted in small-scale farmers being forced to leave their land. It has often resulted in decreased living standards for those dispossessed of their lands, and raises particular challenges for women small-scale farmers whose rights to land are often already insecure (Behrman et al. 2011).

Land grabbing has important international dimensions, in part because land grabbing is seen as a strategy to offset food insecurity. For example, “Persian Gulf states invest [in] countries such as Ethiopia, where the Saudis own tens of thousands of acres, Brazil, where the Qataris are producing sugar, and Sudan, where the UAE owns 700,000 acres of farmland” (Hermann 2014). Within the NENA region, research also indicates that there have been large-scale land acquisitions in Algeria, Egypt, Sudan and Morocco (Salih 2014). Four countries are responsible for more than 90% of the land grabbing in the region: UAE, Saudi Arabia, Egypt and Qatar (Salih 2014). Water grabbing is also a concern in the NENA region, and closely related to land grabbing as water is “both a target and driver” of land grabbing (Mehta et al. 2012: 193). In such cases “water scarcity may be a constraint even where land is available, and priority in water use may prove a source of conflict” (Cotula et al. 2009: 43).

Indeed, in Morocco, researchers have raised concern about the implications of privatization and public-private partnerships (PPPs) in the irrigation sector. PPPs have received considerable attention with respect to drinking water and sanitation water sector, but are relatively new with respect to irrigation (Houdret 2012: 285). In the case of the El Guerdane project, water grabbing was carried out through reallocation to citrus plantations resulting in new restrictions on local small-scale farmers and effectively reducing the availability of underground and surface water (Houdret 2012: 290-291).

Because women are the majority of the world’s small-scale farmers, this situation has special implications for them. As women already have tenuous rights over land and water, land and water grabbing can make their situation even more precarious by further depriving them of access to land and water, either entirely or by pushing them to more and more marginal land for farming. Land grabbing practices also spur rural to urban migration, a situation, which also has particular ramifications for women as discussed above.

The former Special Rapporteur on the Right to Food (Olivier de Schutter), in his ‘Minimum Human Rights Principles Applicable to Large-Scale Land Acquisitions or Leases’ advocates for the inclusion of sex-disaggregated data in undertaking impact assessments (SR Food 2009; see also Claeysa and Vanloquerena 2013). In addition, the ‘Nairobi Action Plan on Large Scale Land-Based Investments in Africa’ highlights the need to “maximize opportunities for Africa’s farmers, with special attention to smallholders and minimize the potential negative impacts of large-scale land acquisitions, such as land dispossession and environmental degradation, in order to achieve an equitable and sustainable agricultural and economic transformation that will ensure food security and development” (Preamble).

## Gender-sensitive Monitoring in the Context of Water Governance and Food Security

In many instances, available data related to access to water, food security and other resources is not disaggregated by sex and other dimensions (such as age, ethnicity, etc.) making it difficult to conduct quantitative assessments and to monitor trends.

As alluded to above, recognition of intersectional discrimination needs to inform interventions made to tackle any of the challenges highlighted here. Data collection should be sensitive to the fact that women are not a homogeneous group and that women’s experiences will vary on the basis of intersectional discrimination. The World Bank has noted that “it may be relevant to also consider ethnicity and caste alongside gender (both as comparative indicators and when collecting data), as women of lower castes or ethnic minorities are usually in the worst situation” (World Bank, FAO and IFAD 2009: 233). Unfortunately, quantitative data on gender inequality in the NENA region is generally limited and rarely further disaggregated.

The lack of sex-disaggregated data can be attributed to the sources used in the context of global monitoring, namely mainly household surveys. These are carried out at the level of the household, not the individual. It is true that questionnaires for household surveys cannot be expanded in an unlimited way, and there is a huge demand to include additional questions and modules. However, rather than accepting methods of data gathering as unalterable, one needs to seek to understand the underlying assumptions. Surveys reflect a unitarian understanding of the “household as a single decision making unit” (Cafiero 2012: 29). The implicit assumption is that there are no inequalities among household members (Cafiero 2012: 29). By conducting the survey with the usually male “head of household,” the implicit assumption is that he – as a benevolent patriarch – takes care of his family and distributes resources and services within the household on an equal basis. Such assumptions and the resulting structure of household surveys hinder the assessment of gendered dimensions of food insecurity – and qualitative data suggests that such intra-household inequalities exist (UN Women 2014: 63; IDS 2014: 22-23; Winkler et al. 2014: 137).

The development of indicators for monitoring of the SDGs presents an opportunity in several regards. Gender equality in general is gaining increasing attention and there is broad recognition that monitoring efforts and indicators in the context of gender equality will need to be constructed in a broader manner than for the Millennium Development Goals(Winkler et al. 2014: 126). There is also increasing awareness for inequalities more generally, accompanied by efforts to improve monitoring in this regard (JMP 2014; Winkler et al. 2014). Monitoring in other areas shows that disaggregation by sex and gender-sensitive monitoring is feasible. Data on the burden of water collection by women has been presented as a regular feature (JMP 2011). Moreover, for instance in the education sector, monitoring gender inequalities has long been standard practice.[[18]](#footnote-19)

Recently, new approaches to monitoring seeking to capture inequalities (including gender inequalities) in the context of food security and water governance have emerged. The Food Insecurity Experience Scale developed by FAO allows for an assessment at the individual level based on an experience-based scale. As such, it allows for analysing gender disparities. The method was piloted in 2013 in four countries through the Voices of the Hungry project and became operational at the global level in 2014 through inclusion in a Gallup World Poll (FAO 2014b: 15).

A different type of dataset is provided by AQUASTAT, FAO’s global water information system. It collects, analyses and presents data on availability of water resources, on different types of water uses, on water withdrawals, on irrigation and similar information (FAO 2015). AQUASTAT also seeks to include gender-sensitive and disaggregated data. In the recent country profiles of AQUASTAT, a specific paragraph on women and irrigation has been included. Moreover, AQUASTAT conducted a pilot study through the Center of Arab Women for Training and Research in Algeria, Morocco and Tunisia to collect gender-disaggregated data in water and agriculture with the aim of developing gender-sensitive indicators (FAO AQUASTAT 2014). The study provided very detailed and interesting information at local level, including on the gendered division of labour, decision-making, access to training, membership in organizations and other factors.

**Initiative on Gender-Sensitive Water Monitoring
by the World Water Assessment Programme**

On a broader scale, the ongoing initiative by UNESCO’s World Water Assessment Programme (WWAP) on gender-sensitive water monitoring seeks to develop a gender and water parity index and an associated indicator framework as a global standard. A comprehensive set of indicators has been developed that is currently being pilot-tested and will subsequently be validated before being promoted for global use. AMCOW has already endorsed these indicators. They cover the areas of water governance, WASH services, decision-making and knowledge production, transboundary water management, and water for industrial and agricultural uses. Acknowledging the complexity of gender relations, the methodology combines a number of different methods including individual and group interviews divided by gender, participant observation, self-assessments, and a combination of quantitative and qualitative data. Some suggested indicators are of particular interest in the context of the intersection of water governance and food security: number of male and female staff at different levels; intensity of male and female participation; perceptions of gender discrimination or equality in decision-making, including at household level; presence of gender strategy; percentage of irrigated farms owned / managed by men and women; and the gendered division of labour (Greco 2014). The full list of suggested indicators is reproduced in Annex 3.

One of the challenges in moving forward with the initiative will be to find a balance between collecting meaningful and detailed data and feasibility constraints in global monitoring processes. Yet, even at this stage, the initiative contributes to raising awareness for the need for meaningful gender-sensitive data on water governance and the fact that collecting such data is indeed possible.

# 4. Conclusions and Recommendations

Positive interventions can and must be taken to promote gender equality and women’s empowerment within the context of water governance and agriculture for food security. Using the NENA region as the focus helps identify some of the real and very practical challenges that women face in influencing decision-making around water governance, in accessing and controlling water resources, and in having their specific interests, needs and rights reflected at the policy level. Multiple and nuanced policy interventions are needed to address those challenges. These should be guided by the overall objective of achieving equality between men and women in 1) participation as decision-makers in water governance bodies and institutions and in shaping policies, strategies, programmes and investments; 2) access to and control over resources, services, and opportunities; and 3) by reducing women’s work burden. Policy interventions need to acknowledge the complexity of achieving substantive equality and women’s empowerment and the need for comprehensive strategies rather than isolated measures. Substantive equality is impossible to achieve without addressing the underlying, entrenched, patriarchal socio-cultural expectations, roles, stereotypes and assumptions.

There is a need to ensure that women’s increased responsibilities and agricultural labour (in particular in the context of migration, contract farming and the commercialization of agriculture) results in greater influence on decision-making, income, control over resources, and self-esteem and contributes to women’s empowerment. States should therefore be encouraged to adopt gender policies and strategies, and integrate gender in relevant policy fields such as water governance, agriculture, food security, natural resources management, and ensure policy coherence and cross-sectoral coordination. They should also incorporate gender commitments into national legislation and policies and translate high level commitments into national actions. They should ensure effective implementation and operationalize gender strategies through measures such as sensitization to gender issues, gender-responsive planning, budgeting, reporting and monitoring, and capacity development targeted at water governance, agriculture, food security, natural resources management authorities and others relevant to the implementation of gender policies and strategies.

The following are concrete recommendations to governments and other stakeholders, including FAO, on how to effectively address gender inequalities in water governance as it relates to agriculture for food security:

**Women’s Empowerment and Participation**

* Identify, acknowledge and address the specific barriers that women face in terms of participating in local water governance mechanisms, such as WUAs, for example, by ensuring that meetings are held during times and at a place which is accessible to them, that they are able to discuss their concerns openly, for example, by being attentive to gender dynamics in mixed gender or same gender groups.
* Ensure that women are able to effectively participate in WUAs and other water governance structures, independently and without needing to show ownership of land
* Evaluate under what circumstances participation in WUAs is the best strategy to improve women’s access to and control over resources, and consider other avenues for women’s participation, particularly at a higher level.
* Ensure that water governance authorities receive training on how to make decision making processes gender-responsive and consider the role of women in agriculture, and that they are held accountable to concrete standards aimed at ensuring women’s active and effective participation.
* Ensure that women have access to capacity development on both technical and soft skills, such as communication and negotiation which can make a difference in encouraging them to take part in decision-making processes.
* Support civil society groups including social movements, producers and farmers’ organizations, and NGOs as partners in policy processes to strengthen equal participation.

**Policies and Institutions**

* Raise awareness and strengthen the capacity of policy-makers and staff in water management institutions to prioritize women’s rights, address their needs, and build commitment by programme leadership and bring in gender expertise, for example through cooperation with women’s rights organizations.
* Take measures to ensure that more women are in leadership positions, among staff at all levels, and are adequately represented among extension officers.
* Take measures to achieve structural change in institutions, for instance through establishing gender focal points with the task of coordinating and promoting awareness for gender issues including strengthening participation in irrigation and capacity development.

**Transforming Gender Relations**

* Address inequalities in gender relations through a combination of short and long term strategies: In the short term, address the particular difficulties and challenges such as mobility restrictions and security risks women face.
* In the long term, tackle these very constraints women face with the aim of lifting mobility restrictions and transforming societal structures in a way that women are not forced to perform in a male-dominated environment, but on their own terms, and can truly take part in decision-making processes, the work force and society more broadly on the basis of equality.
* Raise awareness amongst both men and women on the negative impact of gender roles and stereotypes that discriminate against women and how challenging these may benefit both women and men, as well as families and entire communities.
* Take measures to challenge patriarchal gender roles and stereotypes for instance by changing the picture of farmers and irrigators, redistributing roles and tasks in the household, and involving men to advance gender justice through questioning men’s and women’s attitudes and expectations.

**Irrigation Practices**

* Ensure that women have access to appropriate, gender-sensitive and labour-saving irrigation technologies. Women farmers should be effectively trained to use, manage and maintain the irrigation infrastructure, and to ensure the sustainable and effective use of irrigation water.
* Improve women’s access to technical training on water management, irrigation, rainwater harvesting, and other smallholder irrigation technologies, and ensure that such training is gender-responsive and participatory.
* Support and promote MUS schemes to meet all water needs women may have and to overcome stereotypes alleging that women’s water use is exclusively focused on personal and domestic use.
* Support women who rely on rain-fed agriculture for instance through rainwater harvesting that could make the cultivation of fruit trees feasible in semi-arid areas and create grazing areas in more arid ones.
* Establish an equitable system of pricing that meets the needs of poor and marginalized farmers, including women farmers, and may require a reform of subsidies that ensures targeting the most disadvantaged or differentiated pricing.
* Seek to change gender stereotypes related to men being the only or most important farmer and irrigators, and raise awareness about the benefits and importance of women’s participation in irrigation.
* Ensure that extension services effectively reach women farmers and provide them with farmer education, access to information, and technology and resource transfer. Extension service officials should also receive training on how to make their outreach more gender-responsive.

**Land and Water**

* Positively transform customary or religious laws, traditions, and social norms and attitudes that perpetuate the idea that women cannot or should not independently access and control land, and raise awareness about the importance of women’s independent and secure rights to land.
* Actively discourage the practice of women relinquishing their rights to land and inheritance, and raise awareness amongst both women and men about the negative impact of the pressures women face to relinquish their rights.
* Actively provide quality farm land to women through land reform programmes and other schemes to ensure secure rights to land independently or jointly with their spouse.
* Ensure that large-scale land and water acquisitions do not have negative impacts on small-scale farmers, including women farmers, by putting them into a precarious situation that does not support their livelihoods or depriving them of access to water and land.
* Ensure the collection and use of sex-disaggregated data in undertaking impact assessments related to large-scale land acquisitions or leases, and ensure that women are adequately compensated for any losses they may incur.

**Research, Data and Monitoring**

* Support qualitative and quantitative research that provides a more detailed picture on gender equality in the context of agriculture for food security and water governance, helps to identify good practices and provides a clearer understanding of the reality women face, their aspirations, what empowerment means for them, and what choices and opportunities they wish to pursue.
* Support qualitative studies in the region that combine social science and technical science
* Gather disaggregated data on agriculture, food security and water governance, including on intra-household inequalities, and re-evaluate how data is being gathered through surveys for that purpose.

# Specifically, it is further recommended that FAO:

* Integrate gender equality and women’s empowerment in all forthcoming FAO publications on food security and water governance in the process of drafting to ensure they are gender-responsive.
* Integrate gender equality and women’s empowerment in the FAO Regional Initiative on Water Scarcity in the NENA region as well as the Regional Initiative on Sustainable Small Scale Agriculture for Inclusive Development.
* Expand its recently updated Gender and Land Rights Database to water governance with data on statistics on gender and water, as well as country-by-country overviews of the legal protections relevant to women’s water rights
* Support UNESCO WWAP’s initiative on gender-sensitive water monitoring with relevant data collection.

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# Annex 1: List of Organizations and Individuals Contacted

The following is a list of people and institutions that were contacted for the study. Individuals contributed in different ways, often by referring us to projects they had worked on or referring us to other experts who work more closely at the intersection of issues we are interested in for this study. The individuals marked with an asterisk are the ones that we reached out to, but were unable to establish contact with.

1. ESCR-Net Women and Economic, Social and Cultural Rights Working Group
2. Lisa Schechtman, WaterAid USA
3. International Land Coalition (Network)
4. Janette Amer, UN-Women\*
5. Lucinda O’Hanlon, OHCHR (Adviser on Women's Rights)
6. Seynabou Dia and Nada Darwazeh, OHCHR Tunis and Beirut\*
7. Lyla Mehta, Institute of Development Studies
8. Soma Ghosh Moulik and Rosemary Pop, World Bank\*
9. Karen Reinprecht, ICARDA
10. Juan Antonio Sagardoy, GEWAMED
11. Lani Frerichs and Kirsten Hagon, Oxfam
12. Hammou Laamrani, GIZ
13. Louisa Gosling, WaterAid
14. Anne Hellum, University of Oslo
15. Annabelle Houdret, German Development Institute
16. Simone Klawitter, UNICEF
17. Christoph Golay, Geneva Academy of International Humanitarian Law and Human Rights
18. Joanne Bourke Martignoni, Geneva Academy of International Humanitarian Law and Human Rights
19. Shiney Varghese, Institute for Agriculture and Trade Policy
20. Francesca Greco, UNESCO WWAP, Gender Focal Point
21. Isha Ray, Berkeley\*
22. Does Vandousselaere, Habi Center for Environmental Rights
23. Joseph Schechla and Emily Mattheisen, HIC-MENA\*
24. Venge Nyirongo, UN Women
25. Rhodante Ahlers
26. Christiane Fröhlich, Institute for Peace Research and Security Policy at Hamburg University
27. Allison Corkery, CESR
28. Hiba Qasas, UN-Women\*
29. Mays Abou Hegab, Care Egypt\*
30. Reem Saad, American University Cairo
31. Abdel-Mawla Ismail, Egypt
32. Rasha M.S. El-Kholy, Heliopolis University, Egypt
33. Bezaiet Dessalegn, ICARDA
34. Martini Malika, FAO-RNE
35. Dina Najjar, ICARDA
36. Asma El Kasmi, Al Akhawayn University in Ifrane, UNESCO Chair "Water, Women and Decision-making," Morocco
37. Margreet Zwarteveen, UNESCO- IHE
38. Edwin Rap, IWMI- Cairo, Egypt
39. Farhana Sultana, Syracuse University
40. Amena Sharaf, Egyptian Center for Economic and Social Rights \*
41. Yahia Shawkat, "10 Touba"
42. Nicoline de Haan, IWMI, Sri Lanka
43. Barbara van Koppen, IWMI, South Africa
44. Ragia Elgerzawy
45. Marianne Kjellen, Moa Cortobius and Alice Nassar Jaraiseh, UNDP Water Governance Facility at SIWI
46. Lamia el Fattal, ICARDA
47. Nozilakhon Mukhamedova, IWMI-Tashkent
48. Muna B., Amman\*
49. Lisa Bossenbroek, Wageningen University
50. Patrick Moriarty, IRC\*
51. Mark Zeitoun, University of East Anglia
52. Mariam Jaja and Razan Zuayter, Arab Food Sovereignty Network\*
53. Rami Zurayk
54. Theib Oweis, ICARDA
55. Jamila Tarhouni, Tunisia

# Annex 2: International Norms and Standards on Water Governance, Food Security and Gender Equality[[19]](#footnote-20)

## Non-Binding International Agreements: Water and Sustainable Development

Two of the strongest statements on the rights of women to participate in water governance include the **Dublin Principles** (1992) and the **Johannesburg Plan of Implementation** (2002). Principle 3 of the **Dublin Principles** highlights that women play a central part in the provision, management and safeguarding of water. It specifically requires “… positive policies to address women’s specific needs and to *equip and empower women to* *participate at all levels* in water resources programmes, *including decision-making and implementation*, in ways defined by them” (emphasis added). Principle 2 provides that “Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.” In addition, Principle 20 of the **Rio Declaration** (1992) states “Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.” **Agenda 21** (1992) also addresses the themes of food security, women and sustainable development, and water management and contains a specific chapter on women and sustainable development (Chapter 24) and a specific chapter on water management (Chapter 18).

Similarly, the **Johannesburg Plan of Implementation** includes agreement by governments to “… support capacity building for water and sanitation infrastructure and services development, ensuring that such infrastructure and services meet the needs of the poor and are gender sensitive” (para. 24 (a)). It further commits governments to “facilitate access to public information and *participation, including by women, at all levels*, in support of policy and decision-making related to water resources management and project implementation” (emphasis added, para. 24 (b)). It also highlights that “enhancing the role of women at all levels and in all aspects of rural development, agriculture, nutrition and food security is imperative” (para. 38) and requires enhancing “the participation of women in all aspects and at all levels relating to sustainable agriculture and food security” (para. 38 (f)).

## Non-Binding International Agreements: Gender Equality

While the **Beijing Platform for Action** (1995) does not *per se* elucidate the inter-connection between water, food security and agriculture, it does call for governments to promote knowledge and research on the role of women, particularly rural and indigenous women, in irrigation and watershed management and commits governments to “develop a strategy for change to eliminate all obstacles to *women’s full and equal participation in sustainable development and equal access to and control over resources*” (emphasis added, strategic objective K.2, para. 256 (g)).

## Non-Binding International Agreements: Food Security

Objective 1.2 of the **Rome Declaration on World Food Security** (1996) commits governments to “establish legal and other mechanisms, as appropriate, that advance land reform, recognize and protect property, water, and user rights, to enhance access for the poor and women to resources.” (para. 15 (b)). Moreover, while women are referenced repeatedly within the Declaration, Objective 1.3 specifically seeks to ensure gender equality and empowerment of women and lays out various provisions in this regard (para. 16). Similarly, Commitment 1 of the corresponding **World Food Summit Plan of Action** states “We will ensure an enabling political, social, and economic environment designed to create the best conditions for the eradication of poverty and for durable peace, based on full and equal participation of women and men, which is most conducive to achieving sustainable food security for all.”

The **Voluntary Guidelines on the Right to Food** (2004) integrate gender equality throughout and provide a specific Guideline on access to resources and assets. Guideline 8 includes sub-sections addressing land (Guideline 8B) and water (Guideline 8C) and in relation to women provides that “States should promote women’s full and equal participation in the economy and, for this purpose, introduce, where it does not exist, and implement gender-sensitive legislation providing women with the right to inherit and possess land and other property. States should also provide women with secure and equal access to, control over, and benefits from productive resources, including credit, land, water and appropriate technologies” (para. 8.6, see also para. 8.10).

The **Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security** (2012) embrace gender equality as one of the main guiding ‘principles of implementation,’ and stress the importance of compliance between all programmes, policies and technical assistance and the international human rights framework. However, due to the complicated nature of the questions addressed, the Guidelines do not address water governance. However, it is helpful to also look specifically at the Technical Guide on Governing Land for Women and Men, developed by FAO (FAO 2013c), which provides important guidance on the implementation principle of gender equality found in the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security, and provides specific guidance on irrigation and watershed management.

The **Global Strategic Framework on Food Security and Nutrition** (third version, 2014[[20]](#footnote-21)) gives special attention to women farmers and recognizes that “Women make vital contributions to the food security and nutrition of developing countries, but they consistently enjoy less access than men to the resources and opportunities for being more productive farmers” (p. 21). It recognizes continuing insecurity of land tenure and access to land, water and other natural resources, particularly for women farmers (p. 8) and encourages secure and equitable access to, and sustainable use of, natural resources, including water, for women and men without distinction (p. 24). The Global Strategy Framework makes a range of gender-sensitive policy recommendations aimed at improving food security and improving women’s roles in agriculture.

## Global Development Goals

The **Millennium Development Goals** (MDGs), which overlap with the ‘Water for Life’ Decade from 2005-2015, include goals and targets to be achieved by 2015 on reducing hunger (Target 1C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger), on water and sanitation (Target 7C: Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation), as well as on gender equality and empowerment of women (Goal 3: Promote gender equality and empower women). The targets under the goal on gender equality are rather narrowly constructed and do not relate to the policy fields of water and food security.

As the MDGs are set to eclipse in 2015, discussions and negotiations are well under way as to the global development framework that will replace them. In 2012, the United Nations Conference on Sustainable Development (UNCSD, aka Rio +20) adopted the outcome document, **The Future We Want**. The document includes a section on food security and nutrition and sustainable agriculture (paras. 108-118), and reiterates the importance of empowering rural women as critical agents for enhancing agricultural and rural development and food security (para. 109). It also includes a section on water and sanitation (paras. 119-124), with mention of integrated water resource management, but no reference to gender or women in that section. In the process of negotiating the post-2015 development agenda, the final draft for adoption has been adopted that includes the Sustainable Development Goals.[[21]](#footnote-22)

## Treaty-based Standards

For example, **General Recommendation No. 24 on Women and Health** (1999) of the Committee on the Elimination of Discrimination against Women (CEDAW Committee)provides that “… full realization of women’s right to health can be achieved only when States parties fulfil their obligation to respect, protect and promote women’s fundamental human right to nutritional well-being throughout their life span by means of a food supply that is safe, nutritious and adapted to local conditions. Towards this end, States parties should take steps to *facilitate physical and economic access to productive resources* especially for rural women, and to otherwise ensure that the special nutritional needs of all women within their jurisdiction are met” (emphasis added, para. 7).

Similarly, **General Comment No. 12 on the Right to Food** (1999)of theUN Committee on Economic, Social and Cultural Rights (CESCR) notes that States parties are obligated to “pro-actively engage in activities intended to strengthen people’s access to and utilization of resources and means to ensure their livelihood, including food security” (para. 15). Women in particular are also to be protected against “discrimination in access to food or resources for food” (para. 26). This should include guarantees of full and equal access to economic resources “including the right to inheritance and the ownership of land and other property, credit, natural resources and appropriate technology ….” (para. 26).

**General Comment No. 15 on the Right to Water** (2002) of theCESCR was adopted, explicitly arguing for the first time that the right to water has a legal basis in international human rights law. While its focus is on water for personal and domestic use, it provides perhaps the clearest language connecting the themes of gender equality, water and food security, stating that “*attention should be given to ensuring that disadvantaged and marginalized farmers, including women farmers, have equitable access to water and water management systems, including sustainable rain harvesting and irrigation technology*” (emphasis added, para. 7). Furthermore, States parties are urged to “give special attention to those individuals and groups who have traditionally faced difficulties in exercising this right, including women,” (para. 16) and to ensure that “women are not excluded from decision-making processes concerning water resources and entitlements.” (para. 16 (a)).

**General Comment No. 16 on the Equal Right of Men and Women to the Enjoyment of all Economic, Social and Cultural Rights** (2005) of theCESCR provides that States are required to address the ways in which gender roles affect access to determinants of health (such as food and water, para. 29). It also provides that women have a right to own, use or otherwise control housing, land and property on an equal basis with men, and to access necessary resources to do so (para. 28), and that States must ensure that women have access to, or control over, means of food production (para. 28).

# Annex 3: Reproduced List of Gender-sensitive Indicators Suggested by UNESCO’s World Water Assessment Programme

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| **Water Governance** |
| **1.a.** Number of M/F paid staff in public water-governance agencies, disaggregated by job category/level and decision-making capacity (and salary, if available), at:• national level • county/ province/state level • town/ village level (sample) |
| **1.b.** Number of M/F in **paid and** **unpaid** positions in **local** water governance formally-structured entities (water users associations, etc) at town/ village level (sample); disaggregated by nature of relationship to the entity (e.g., “member,” “board,” “executive,” “leadership,” decision-making group, etc) and types of tasks |
| **1.c**. Intensity of M/F participation in (sample/representative) meetings of public entity bodies sampled at national, sub-national, and local levels, including outcomes such as: ratio of contributions in decision-making meetings by women and men; percentage of decisions adopted from women’s contributions in meetings. |
| **1.d.** M/F perceptions of gender discrimination (or equality) regarding women’s participation in decision-making entities. |
| **1.e.** Number of M/F staff responsible for water issues (disaggregated by job level) in **gender ministry**/ lead agency. |
| **1.f.** Number of M/F staff responsible for gender issues (disaggregated by job level) in **lead agency for the water sector** |
| **1.g**. Designated ministerial responsibility for gender in relation to water policies ; the extent to which gender-specific agencies are included in water sector decision-making. |
| **1.h.** Presence and nature of gender sensitive training within responsible ministries/ lead agencies. Participation of M/F staff |
| **1.i**. The extent to which gender outcomes and gender-sensitive accountability indicators are included in M&E/ impact statements/ benefits analyses of national-level WASH-sector projects (project proposals and/or outcomes assessments). Sample projects. |
| **1.j.** The presence and nature of gender-specific objectives and commitments (or gender strategy) in national and sector-level water policies. |
| **1.k**. The nature and extent of gender-disaggregated data related to water and sanitation collected by responsible public entities at national and local levels (in relation to the totality of social indicators on water and sanitation collected). |
| **Safe Drinking Water, Sanitation and Hygiene** |
| 2.a. Percentage of households without water on premises, by sex of main person responsible for collecting drinking water and by type of household (using rural/ urban samples)  |
| 2.b. Unpaid time spent by individual household members in supplying water, making it safe for use, and managing it (M/F informants).  |
| 2.c. M/F perceptions of the adequacy of current water supply/ availability in both quality and quantity in the household |
| 2.d. Percent households with access to “improved” sanitation facility, by household structure and by nature of the “improved” facility |
| 2.e. Intra-household M/F use of /access to improved sanitation facilities  |
| 2.f. M/F prioritization of gaining access to improved sanitation facilities; willingness to allocate household budgets for such access |
| 2.g. M/F perceptions of the safety of sanitation facilities that are located outside the house; identified particular safety concerns |
| **Decision-making and Knowledge Production** |
| 3.a M/F participation in past decade of two major global international water meetings (and nationally-significant comparable meetings):• World Water Week (Stockholm)• World Water Forum (World Water Council) (could be topic specific or region specific) |
| 3.b. M/F inclusion on nationally and internationally convened scientific panels and advisory boards. |
| 3.c. Gender audit of WHO/ UNICEF “Joint Monitoring Program.” (could be topic specific or region specific) |
| 3.d. M/F perceptions of/ knowledge of current total household use of water, by category of use and by primary use |
|  3.e Household member primarily responsible for managing the household water : •M/F perceptions of the nature of their household decision-making process for water priorities and use; • M/F perceptions of the primary decision-maker on water issues within the household (if any); • M/F perceptions of how intra-household conflicts related to water (if any) are resolved.  |
| 3.f. M/F expressed priorities for water use within households  |
| 3.g M/F perceptions of household gender equality in water decisions |
| **Transboundary Water Resources Management** |
| 4.a. Number of M/F staff on transboundary water commissions (sample for pilot countries), disaggregated by job category/level and decision-making capacity (and salary, if available). |
| 4.b. The extent to which gender outcomes and gender-sensitive accountability indicators are included in M&E/ impact statements/ benefits analyses of transboundary agreements/ activities. |
| 4.c. The presence and nature of gender-specific objectives and commitments (or gender strategy) in transboundary agreements |
| 4.d. Intensity of M/F participation in (sample/representative) meetings of transboundary meetings, including outcomes such as: ratio of contributions in decision-making meetings by women and men; percentage of decisions adopted from women’s contributions in meetings. |
| **Water for Income Generation for Industrial and Agricultural Uses, including Unaccounted-for Labour** |
| 5.a. % irrigated farms in region under survey; % irrigated farms managed by/ owned by M/F. |
| 5.b. Average size of irrigated farms run by/ owned by women/ men |
| 5.c. Gendered division of labor related to irrigated farming: • gender- specific tasks related to irrigated crops, by nature of tasks;• gender differentiated daily time-use of household members involved in irrigated farming work. |
| 5.d. Decision-makers and participants in household-based decision-making process regarding irrigation (M/F informants/ perceptions)• decisions re allocation of time and financial resources; crops to be irrigated |
| 5.e. Decision-makers and participants in community-based decision-making process (if any) regarding irrigation (M/F informants/ perceptions)• decisions re allocation of time and financial resources; crops to be irrigated |
| 5.f. M/F perceptions of gender discrimination (or equality) regarding women’s participation in decision-making in relation to irrigation. |
| 5.g. M/F access to support services for irrigation:• participation in technical training• M/F access to bank loans/ credit, and incentives for the development of irrigated agriculture |
| 5.h. M/F membership in and intensity of participation in community-based irrigation committees. |
| 5.i % of directly water-related industries managed by/ owned by M/F. |
| 5.j % M/F employees in water-related industries  |
| 5.k Presence of women’s cooperatives in water-related industries |

1. The authors would like to gratefully acknowledge the very helpful feedback from all FAO reviewers on previous drafts of this paper. The authors would also like to express their thanks to all those interviewed for this paper, who kindly shared their expertise and insights. A full list of experts contacted is reproduced in Annex 1. [↑](#footnote-ref-2)
2. See: http://www.oxforddictionaries.com/us/definition/american\_english/intersectionality [↑](#footnote-ref-3)
3. See: http://www.un.org/womenwatch/osagi/conceptsandefinitions.htm [↑](#footnote-ref-4)
4. See: http://www.fao.org/gender/gender-home/gender-why/why-gender/en/ [↑](#footnote-ref-5)
5. See: MTP 2014-17 (cite provided by FAO). [↑](#footnote-ref-6)
6. See: http://www.fao.org/economic/ess/ess-fs/en/ [↑](#footnote-ref-7)
7. See: http://www.fao.org/nr/water/aquastat/data/glossary/search.html [↑](#footnote-ref-8)
8. See: http://www.un.org/popin/unfpa/taskforce/guide/iatfwemp.gdl.html [↑](#footnote-ref-9)
9. These objectives are reflected in the FAO’s Policy on Gender Equality, endorsed by Member Countries in 2012: <http://www.fao.org/docrep/017/i3205e/i3205e.pdf> [↑](#footnote-ref-10)
10. See: http://www.fao.org/3/a-am309e.pdf [↑](#footnote-ref-11)
11. The NENA region as defined by FAO overlaps significantly with the Middle East and North Africa (MENA) region as defined by other international institutions and research agencies. In this paper, whenever the MENA is specifically referenced as opposed to the NENA region, it is because we use research from a source which addresses the MENA region. [↑](#footnote-ref-12)
12. However, inland fisheries play a limited role in the NENA region (Rathgeber 2003: 19) and marine fisheries, which are significant in the region (GEWAMED 2007: 219), are beyond the scope of this paper as ocean governance is a distinct field from freshwater governance. [↑](#footnote-ref-13)
13. See CEDAW General Recommendation No. 28 (2010), The Core Obligations of States Parties under Article 2 of the Convention on the Elimination of All Forms of Discrimination against Women, available at: http://www2.ohchr.org/english/bodies/cedaw/docs/CEDAW-C-2010-47-GC2.pdf. [↑](#footnote-ref-14)
14. It reads “undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance, and natural resources in accordance with national laws.” However, women often face de jure discrimination in these areas, making the phrase “in accordance with national laws” problematic. [↑](#footnote-ref-15)
15. In the case of all subindexes in the report, the highest possible score is 1 (equality) and the lowest possible score is 0 (inequality). [↑](#footnote-ref-16)
16. Compared to 2006, the region saw the third-largest improvement on the overall Index score, just behind North America and Latin America and the Caribbean. The region has also shown the third largest relative change compared to its own 2006 overall Index score. [↑](#footnote-ref-17)
17. This also relates to recognizing the burdens women bear such as unpaid domestic and care work. Beyond recognition as such, it requires changing intra-household patterns, re-distributing tasks and encouraging men to share responsibilities with women (IDS 2014: 50). As the former Special Rapporteur on the Right to Food points out: “As long as we simply recognize the role of women in the ‘care’ economy by accommodating their specific needs, the existing division of roles within the household and associated gender stereotypes will remain in place, and could even be reinforced. Redistributing roles and challenging the associated gender stereotypes require a transformative approach, whereby the support provided to women not only recognizes their specific needs, but seen [sic] provides the opportunity to question existing social and cultural norms.” (SR Food 2012: para. 42). [↑](#footnote-ref-18)
18. See: www.education-inequalities.org [↑](#footnote-ref-19)
19. The relevant standards are of various types – they include, principles, declarations, frameworks, voluntary guidelines, international conference outcome documents, and authoritative interpretations of international human rights treaty obligations. To clarify the legal nature of the standards, they have been classified according to sub-heading and presented chronologically by type for the sake of plotting a trajectory in terms of development of trends. [↑](#footnote-ref-20)
20. The GSF is designed to be a dynamic document to be updated by the CFS Plenary on the basis of regular CFS processes and policy debates. [↑](#footnote-ref-21)
21. https://sustainabledevelopment.un.org/content/documents/7876TRANSFORMING%20OUR%20WORLD\_Text%20for%20adoption.pdf [↑](#footnote-ref-22)