



CARPO  
Center for Applied Research  
in Partnership with the Orient



funded by

DAAD



09

BRIEF

20.03.2018

# Enhancing Women's Role in Water Management in Yemen

*Bilkis Zabara*

## Background and Challenges

The ongoing armed conflict in Yemen, preceded by an ongoing political crisis that has engulfed the country since 2011, has had significant negative effects on the Yemeni water sector. Already weak, the water sector is now on the point of collapse due to the partial and in some places total damage of infrastructure. It is extremely challenging to maintain facilities and restore essential service delivery while the varying conflict parties control access to

## Executive Summary

This brief addresses the relationship between gender and natural resources in conflict-affected Yemen. It describes the impact of the war on women's access to water resources and sanitation facilities and analyzes the role of women in decision-making and water-distribution processes. It finds that the involvement of women at all levels of water management and governance is of utmost importance if the access to water as a basic human right is to be guaranteed.

Among the most pertinent recommendations in this brief are thus the promotion and integration of gender mainstreaming into the existing water law; the development of a national strategy for sanitation in public and private institutions, with emphasis on safe and separate well-maintained facilities for girls/women and boys/men; the investment in the development of a gender-responsive recruitment policy and natural resources management policy, including gender-sensitive budgeting; the opening of water service centers for women to enhance their access to water, such as truck water, and involving women in the planning and distribution process on the local level; and ensuring women's ownership rights of water resources.

essential goods such as water services. Additionally, customers no longer have the means to pay water fees, and the decline, since 2011, in collection rates of monthly water bills has negatively affected the water sector as well. This payment deficit is attributed to the rising number of men who have lost their source of income (as they are generally the household providers in Yemen). Due to unpaid wages of public employees since summer 2016, the number of households that can pay their water bill has declined even further. The resulting lack of funds puts additional stress on the capacities of the public water sector.

In addition, the prolonged fuel crisis and electricity outages paralyze the operation and functionality of local authorities and autonomous utilities throughout most of the country, and thus impact the core of the public water sector. Due to the inability of public sector institutions to continue delivering the services, the unregulated private sector has stepped in to fill the gap – unfortunately with higher prices and questionable quality. Both the public and the private sector do not generally collaborate with each other, despite pursuing the same goal: supplying water to the population. Prior to the war, a potential Public Private Partnership was discussed in a number of policy papers, but has never been implemented.

Women and girls have been more severely affected by this situation than men and boys. Traditionally, especially in rural areas, it is mainly the female members of the household who fetch water and thus ensure the existential requirements of their families in an increasingly insecure environment. It is important to note that in the Yemeni water sector, the gender gap between those affected by Yemen's water crisis and those who take decisions on its management is particularly high: Despite several attempts made by local, national and international actors to improve equitable access to water and sanitation services, women are almost invisible when it comes to decision- and policy-making regarding vital water resources. Developing and implementing an inclusive and gender-sensitive approach to sustainable water management should therefore be one of the first priorities in Yemen.

## **Water, Sanitation and Gender in Yemen**

The provision of water, sanitation and hygiene was already deficient prior to the 2015 war in Yemen.<sup>1</sup> Women and girls in rural areas often collect water from far distances, exposing themselves to sexual harassment, drowning in open water reservoirs and suffering

---

<sup>1</sup> See, for example: CARE (2015): Rapid Gender Analysis: Yemen. Available at <http://gender.care2share.wikispaces.net/file/view/Rapid+Gender+Analysis+-+Yemen+-+FINAL.pdf> (06.12.2017). Or: CARE/GenCap/Oxfam (2016): From the Ground Up: Gender and Conflict Analysis in Yemen. Available at <https://www.carenederland.org/wp-content/uploads/care/uploads/2016/11/Yemen-gender-conflict-analysis-201016-en.pdf> (06.12.2017).

from miscarriages caused by carrying heavy water containers.<sup>2</sup> Moreover, open water resources (mostly rainwater cisterns) are often highly contaminated and render a high risk for waterborne diseases.<sup>3</sup> For girls, this means less time is left for school attendance; and for women, less time is available for earning an income or taking care of their own and their families' health. With access to water becoming ever more difficult, the many additional hours women and girls now spend on providing water for their households increases their deprivation of basic education, adequate health services, food security and personal development as well as poses a risk to their physical safety.

The situation is worsened by the lack of sanitation facilities in many homes, which forces people to defecate in open spaces. In order to be able to use the cover of darkness, women and girls prefer to wait until evening for their toilet hygiene. This self-imposed restriction exposes them to psychological stress, urinary retention and bladder infections, in addition to physical attacks and the psychological stress of fearing to lose their dignity and honor. Additionally, the disastrous conditions, or even absence, of sanitation facilities in schools make families reluctant to send their girls to classes. As dozens of schools have been either hit by air strikes or temporarily used by militias and internally displaced persons (IDPs), the likelihood for girls

to go to school has even further decreased. Disputes over water access repeatedly surface between IDPs and host communities, moreover, especially in regions with high temperatures and scarce water resources.

## Gender and Decision Making in the Water and Sanitation Sector

Yemen is a water scarce country, relying mainly on its fossil groundwater resources, which supply about 70% of water use. Of these, about 90% are used for irrigation while the rest goes to domestic and industrial purposes as well as for consumption in mosques. In addition to the use of groundwater, people harvest seasonal rainwater and spring water for irrigation and domestic uses.

Groundwater abstraction in the Sana'a basin, for example, is four times higher than its recharge,<sup>4</sup> a ratio that will only increase with the rapid population growth rate of about 3%. Tens of thousands of water wells are owned by males, with only extremely few exceptions of female ownership. This deprives women of their right to access and make decisions over these resources and to benefit from the lucrative water industry business. This is particularly striking as about 90% of abstracted water goes into agriculture, a sector in which 60% of the workers are women (primarily, an unpaid labor force).<sup>5</sup> Despite

2 Jadallah, Alma Abdul Hadi (June 2015): Conflict Analysis of the Republic of Yemen. Available at [http://activity.scar.gmu.edu/sites/default/files/Yemen\\_CDA\\_Final\\_July.13.2015-2.pdf](http://activity.scar.gmu.edu/sites/default/files/Yemen_CDA_Final_July.13.2015-2.pdf) (10.02 2018).

3 Zabara, Bilkis and Al-Moyed, Khaled (2008): The Health and Socioeconomic Impacts of Silver Impregnated Ceramic Filters in Four Villages in Amran Governorate, Sana'a. Available at [http://www.silverfilters.org/Documents/Amran\\_Final\\_Report.2008.pdf](http://www.silverfilters.org/Documents/Amran_Final_Report.2008.pdf) (15.12.2017).

4 Interview with a senior water expert at the World Bank, July 2017.

5 CARE/GenCap/Oxfam 2016.

this fact, managing irrigation water and selling harvested crops is considered a male task in most regions. While women therefore make up the majority of the workforce in the agricultural sector, the decision making and the financial profits are left to the men. Such facts of women's marginalization are generally not discussed in men-dominated official committee meetings, therefore women's interests and concerns remain invisible and the necessity of their participation in water management unrecognized.

## The Regulatory Framework

The water sector in Yemen is governed via a number of institutions that operate under the umbrella of the Ministry of Water and Environment (MWE). The National Water Resources Authority (NWRA), the National Water and Sanitation Authority (NWSA), the General Authority for Rural Water Supply and Sanitation Projects (GARWSP) and the Environmental Protection Authority (EPA) are the executing entities. The MWE and NWRA have the mandate to oversee, allocate and monitor the water resources. Water and Sanitation Local Corporations (WSLCs or LCs) have the mandate to establish water tariffs and business plans and are subjected to the approval of the MWE. On the governorate level, LC branches work independently from the NWSA, which oversees only 5% of the urban water supply.

Essential elements of the regulatory framework urgently need to be revised for gender sensitivity in all aspects; and most importantly, their implementation needs to

be monitored. The Yemeni Water Law (law 33/2002) is gender neutral, and does not consider the differing needs of women and men, boys and girls. It should be noted that this law was drafted by an all-male committee. Later, in 2004, a number of women were involved when the MWE, in collaboration with the Ministry of Agriculture and Irrigation (MAI), issued the National Water Sector Strategy Investment Program (NWSSIP 2004–2009) to reorganize the water sector. However, the input of the handful of women in the five NWSSIP working groups is barely visible and limited to addressing hygiene education and domestic water management in the section on rural water supply. In spite of the involvement of a number of female international experts, the NWSSIP does not address gender mainstreaming at all – not even in relation to agriculture, despite the high female labor force in this sector as mentioned earlier. Sadly, clear statements on the actual implementation of gender mainstreaming or the institutionalizing of gender are not part of the policy. And while the importance of reaching the MDGs until 2015 is repeatedly mentioned in the NWSSIP, the involvement of women is not.

## Gender in the Public Water Sector: Representation and Perceptions

### *National Level*

Many male employees of the water sector see water resource management as a male profession; that is, a very technical issue which requires the expertise of engineers and technicians who are able to serve this sector with

their professional knowledge and skills to develop and maintain the water and sanitation network.<sup>6</sup> The absence of women in the public water sector is, however, also due to the fact that there were very few female secondary school graduates when public universities in Yemen opened in the early 1970s; and initially, if they were allowed to study, female university students mainly joined the Faculty of Education, as the teaching profession was considered socially acceptable for women. Only in the mid-1980s did a few females gradually begin to register for subjects hitherto reserved for male students, such as natural sciences and environmental studies. By then, men had already taken over decision-making positions in the public sector, while women were employed as their secretaries and cleaning staff. With the increased enrollment of women in basic and higher education, their recruitment into the continuously expanding institutions also increased. However, despite backgrounds in chemistry, geology, biology, civil engineering, laboratory sciences, etc., positions for women remain restricted to the lower- and mid-career jobs, while men are more likely to hold higher positions as general directors, advisors, vice ministers and ministers (the latter two positions have been exclusively male since the establishment of the MWE).

During interviews conducted in Sana'a in 2014/2015, male employees of mid-level to top positions in the public water sector in Sana'a expressed their conviction that female employees have no background in installing equipment such as pumps and pipes nor know how to operate the water pumping system. The interviewees further presumed

that male relatives would prevent female employees from going on any field visit at all; or, if allowed, women would not be suitable for trips with irregular hours or to distant sites. The results of such a perspective are obvious not least at the laboratory of the Sana'a LC, where women exclusively work as technicians but not in the management, despite their professional qualifications.

Male water sector employees in Sana'a also believe that their female colleagues based in the North face more socio-cultural pressure than women working in the South (i.e. in Aden's water supply sector). Southern women are seen as more mobile (i.e. it is easier for them to travel) and more respected by male colleagues because their male relatives are considered more open minded. Then again, the perception of men towards their female colleagues in Sana'a is that they work honestly, do not leave their working place as men often do and perform their assigned tasks with full responsibility. One male interviewee noted that this treatment of women in Sana'a has thus resulted in qualified women in the water sector preferring jobs with international organizations, where they are more respected and earn significantly more than in the public sector.

According to the General Directorate for Women (GDW) affiliated to the MWE, only 22 out of 130 employees at the MWE are women. The highest position held by a woman is the General Director of the GDW itself, established in 2008 to improve women's access to water and sanitation. While three women compared to 15 men hold the position of Head

<sup>6</sup> Interviews with male employees at the MWE in 2014.

of Department (which roughly corresponds to the overall female/male ratio of 1:5), 11 women compared to 25 men hold the position of a Head of Office.<sup>7</sup> However, the latter position does not exist in the employment structure of the Yemeni Civil Service, which highlights the fact that women are preferably given positions without real power.

Not a single woman heads any of the water utilities and branches across the 20 governorates despite the fact that females are the ones responsible for managing household water on a daily basis. The absence of women's representation in decision-making positions results in the water sector's omission to address gender issues in their projects and roundtable meetings. Urgent needs of women on the ground are therefore not met.

The director of the GDW accordingly reports that she is often excluded from decisive meetings and not taken seriously when trying to gain equal rights for female and male employees, such as access to professional trainings. The widespread stereotype that women are better suited for household duties, secretarial or cleaning tasks remains, and constraining social concepts such as honor, norms and traditions are put forward as further arguments to restrict professional access to women. However, these constraints could be managed, for example, by adjusting training hours.

The MWE has not provided a budget to actively develop the GDW, despite frequent promises made by high-ranking politicians. This lack would strongly suggest that the GDW is considered only a tool to attract foreign aid under the cover of enhancing gender equality. For example, gender budgeting is not mainstreamed in MWE policy. In contrast to what many men in the MWE seem to think, however, the purpose of gender budgeting is not to produce separate budgets for women but to incorporate a gender aspect in the budgeting process.

### *Subnational Levels*

A recent analysis found that, in spite of the war, "local councils are among the few functioning institutions in Yemen capable of keeping local services running".<sup>8</sup> Unfortunately, women are not sufficiently represented in these councils nor in the local water basin committees. Recently, however, support by international organizations to sustain livelihoods in these difficult times is on the rise. The Food and Agriculture Organization of the United Nations (FAO), for example, promotes women's inclusiveness in Water User Associations (WUAs).<sup>9</sup> As an example, women's roles in the WUA administrative body of the Sana'a Basin include, but remain limited to, social aspects and communication, women's issues, rural development, extension and production improvement

<sup>7</sup> Numbers are obtained from employment records of the MWE.

<sup>8</sup> Cummings, Andrew and Al Madhaji, Maged (05.10.2016): 'Local councils should play a role in stopping famine in Yemen', in: The National Opinion. Available at <http://www.thenational.ae/opinion/comment/local-councils-should-play-a-role-in-stopping-famine-in-yemen> (15.12.2016).

<sup>9</sup> WUAs are officially registered entities with a bylaw regulating their structure and operation. Their main objective is to manage water (rainwater, groundwater and spring water) on the basin and the local levels, particularly for irrigation purposes. Their functioning is thus essential for the agricultural sector, in which women play a major role.



and water and environment awareness representation. While this is an impressive list of tasks, women are excluded from higher-ranking positions, such as the head of WUA, the secretary-general or the financial officer as well as from positions in operation and maintenance. For socio-cultural reasons, women still face many challenges when trying to attain higher management positions. "We are not ready to raise our voices in front of all these men", a female representative acknowledged.<sup>10</sup>

In case of disputes over water resources, moreover, these local institutions are meant to solve them collectively. This task, too, is explicitly reserved for men in formal and informal gatherings while women may occasionally play an informal role, if any at all. Social norms do not allow mixed informal gatherings of men and women in general, they gather separately on all occasions. Women's exclusion from contributing to such processes may have negative implications on their access to water resources and their management.

Female only WUAs were founded in a few districts of Sana'a and Dhamar governorates in 2008, but they remain mainly inactive due to the member's lack of capacity in literacy and management skills. They also face challenges in raising funds, writing proposals and

implementing administrative tasks. Female and male WUAs have the same function: to manage water resources on the local level and to attract funds for water projects. While working in a water project, the author noted that the head of a local women's WUA was the wife of the head of the male WUA in the same locality. This suggests that men influence the decisions of women, even in exclusively female committees. Still, male heads of WUAs frequently affirm their support to their female counterparts and stress that female members get more training opportunities than males.<sup>11</sup>

## Private Sector

The de facto unregulated and uncontrolled private water sector consists primarily of private well water provision in urban and rural regions (supposedly supervised and controlled by the NWRA and GAWRSP), water trucking (completely unregulated) and the bottled water production industry. This sector often covers more than 50% of the water supply in major cities, Sana'a being an example, and lies solely in the hands of men. The private water sector remit includes the entire process of producing and selling bottled water, well water management, maintenance and deepening of wells, operating water pumps, driving water trucks from wells to the point of use

<sup>10</sup> Interview with a female social and communication representative of a WUA in Sana'a Basin in September 2017.

<sup>11</sup> At the management level of WUAs, whether male or female, all have to be literate. Women trained with support of donor organizations are then often supposed to train other local women. Illiteracy among women is still very high (about 70%), which reduces the chance to access information, to become a candidate for WUA's leadership positions and to benefit from professional training. The closure of literacy classes since the beginning of the war adds to the deprivation of women from their basic right to education and to consequently develop their skills for the welfare and benefit of their families.

or distribution, maintaining water systems in agricultural areas and distributing water for irrigation. Hence, men are the sole water providers in the private sector, an industry that has been flourishing in times of crisis and conflict. Women do not operate wells, nor do they drive water tankers.<sup>12</sup> Whenever a household runs out of water, women are seldom allowed to call for a water tanker. This is the task of male household members, and the final decision when to order a water truck and when to deliver this precious resource is at their discretion. All water-related issues, such as cooking and cleaning, and consequently other tasks, including going to work or school, have to be accordingly adjusted. In many areas, therefore, women are entirely dependent on men what water provision (and its timing) is concerned.<sup>13</sup>

After the 2011 upheavals, the male-dominated private water sector strengthened its position in the water market due to the collapsing public water utilities. Vulnerable people who could not keep pace with soaring water prices were disproportionately affected. Currently, moreover, an increasing number of middle class families are also no longer able to afford paying water trucks and are becoming increasingly dependent on water distributed free of charge by INGOs and local benefactors. In rural areas, moreover, even though they and their children are the ones who predominantly collect water and carry the heavy loads to their homes, women have no control over the resources or access to decision-making processes. Women rarely

own a well; and when they do, the well is usually registered under the name of a male relative at the NWRA, rather than under the name of the woman herself.

## Interventions of Locals and International Organizations

With the nearly defunct urban public water supply system operated by the LCs, women are forced to search for alternative water sources for cleaning, cooking, washing and drinking. Since 2011, local wealthy men and women, as well as international organizations, have been providing access to water and sanitation to a number of schools, for example in Abyan and Lahj, aided by the participation of locals and IDPs, particularly women and youth.<sup>14</sup> They also distribute water tanks in several regions of larger cities, such as Sana'a and Ta'iz, and finance the delivery of water. Yet, this distribution system can also cause social tensions as the amount of water allocated per family is limited. This has become a major concern especially for larger families. Also, women and children are often forced to wait in queues for hours to access water. Very often violent conflicts erupt over who is next and the amount taken. Men are usually responsible for distributing the water and seldom interfere in fights among the women or children who are there to collect it. Involving more women in the distribution process could help de-escalate these tense situations.

<sup>12</sup> Occasionally, women may own water tankers, yet operating them is the sole responsibility of a male relative or employee.

<sup>13</sup> Moreover, for many female-headed households, private water is unaffordable as women have very limited access to financial resources.

<sup>14</sup> See for example: Gesellschaft für Internationale Zusammenarbeit (2014): Water Sector Program Yemen. Guaranteeing the Yemeni Population a Basic Drinking-water Supply and Sanitation Service Provision, Eschborn. Available at <https://www.giz.de/en/downloads/giz2014-en-water-sector-programme-yemen.pdf> (14.12.2016).



## Conclusion and Recommendations

Depriving women from land ownership, and hence from owning wells, and excluding them from decision-making processes limits their control over water resources and livelihoods and deprives women of equal access to water as a basic human right. On the one hand, women become more vulnerable in times of conflict, as discrimination against them increases and as they often have to take on the extra work of providing for their families when their men are absent. Gender roles have changed in many Yemeni localities, subjecting women particularly to higher risks of gender-based violence and marginalization. On the other hand, changing gender roles help breach social, political and economic participatory barriers, at times empowering women on the local level. To prevent any backlash, these gains must be recognized and supported. In other words, natural resources management can serve as a starting point to women's empowerment, and ultimately to efficient development.

### *Recommendations to the MWE Community*<sup>15</sup>

- Promote and integrate gender mainstreaming into the existing water law to serve the specific demands of men and women, girls and boys.
- Develop a national strategy for sanitation in public and private institutions, with emphasis on safe and separate well-maintained facilities for girls/women and boys/men.
- Invest in the development of a gender-responsive recruitment policy and natural resources management policy, including gender-sensitive budgeting, and develop indicators to monitor and evaluate these regularly.
- Promote women's water and land ownership through the development of efficient legislation, enabling women to control and manage their property effectively.
- Remove obstacles and create enabling conditions to enhance female capacities in the water sector through the provision of professional trainings.
- Mobilize financial resources to develop income-generating businesses for women in the water sector, and provide technical assistance.
- Open water service centers for women to enhance their access to water, such as truck water or bottled water, and involve women in the planning and distribution process on the local level.
- Allocate financial resources to hire gender specialists or institutions with gender specialization who mainstream gender dimensions in terms of reference for significant studies and recommend actions.

<sup>15</sup> See also UNEP, UN Women, PBSO and UNDP (2013): Women and Natural Resources: Unlocking the Peacebuilding Potential, New York. Available at <http://www.undp.org/content/dam/undp/library/crisis%20prevention/WomenNaturalResourcesPBReport2013.pdf> (02.21.2018).

*Recommendations to the international community*

- Ensure that at least 15% of investments towards water-management programs is allocated to women's empowerment and gender equality in line with the UN's plan of action on gender-responsive peacebuilding.
- Pay more attention to the local socio-cultural context in projects and programs by consulting local female experts in water resources management.
- Invest in studies related to women and water management (and their possible relation to peacebuilding), including the collection of gender and age-disaggregated data for baseline development and M&E of peacebuilding and recovery programs that have an implication for water management.
- Monitor and evaluate whether gender is effectively and efficiently mainstreamed in donor-supported projects and programs.

## About the author

Bilkis Zabara is Director of the Gender Development Research and Studies Center (GDRSC) at Sana'a University. She coordinates a master program in International Development and Gender (MIDG) that aims to graduate creative development professionals. In her teaching and the research she supervises, she tries to link gender issues with natural resources and development. She has also been coordinating a master program in Integrated Water Resources Management (IWRM) since 2005 at the Water and Environment Center (WEC), Sana'a University, and holds lectures in 'Water Chemistry' and 'Gender and Water'. She also worked in consultancy projects related to water and gender issues in Yemen for the World Bank, GIZ, IUCN and others. Bilkis holds a PhD in Physical Chemistry from Sana'a University (2004).

Contact: [bzabara@gdrsc.net](mailto:bzabara@gdrsc.net)

*The editing and lay-outing of this report have been financed through the DAAD-funded project 'Academic Approaches to Peacebuilding and State Building in Yemen' at the Institute of Oriental and Asian Studies at the University of Bonn in partnership with the Gender Development Research & Studies Center at the University of Sanaa and CARPO. It is also gratefully acknowledged that the early phases of the research for this paper were supported by Roskilde University. The positions and opinions presented here are those of the author and not those of Roskilde University, the DAAD or the project partners.*

## About CARPO

CARPO was founded in 2014 by Germany-based academics trained in the fields of Near and Middle Eastern Studies, Political Science and Social Anthropology. Its work is situated at the nexus of research, consultancy and exchange with a focus on implementing projects in close cooperation and partnership with stakeholders in the Orient. The researchers in CARPO's network believe that a prosperous and peaceful future for the region can best be achieved through inclusive policy making and economic investment that engages the creative and resourceful potential of all relevant actors. Therefore, CARPO opens enduring channels for interactive knowledge transfer between academics, citizens, entrepreneurs, and policy makers.

## About this project

This brief is published in the framework of the project "Academic Approaches to Peacebuilding and State Building in Yemen", which is funded through the German Academic Exchange Service's (DAAD) Transformation Partnership. The partners in the project are the Institute of Oriental and Asian Studies at the University of Bonn, the Gender Development Research & Studies Center at the University of Sana'a and CARPO. Against the backdrop of the ongoing war in Yemen, this project aims to contribute to peacebuilding and state building in the country. This objective is to be achieved by strengthening ties between researchers, academic staff, students and experts in the policy and development community through workshops, summer schools, conferences as well as a series of publications.

Project website: [bonn-sanaa.de](http://bonn-sanaa.de)

© 2018, CARPO – Center for Applied Research in Partnership with the Orient e.V.  
All rights reserved.

ISSN 2364-2467

CARPO – Center for Applied Research in Partnership with the Orient e.V.  
Kaiser-Friedrich-Str. 13  
53113 Bonn

Email: [info@carpo-bonn.org](mailto:info@carpo-bonn.org)  
[www.carpo-bonn.org](http://www.carpo-bonn.org)