

REACH

Improving water
security for the poor



Research brief

Emerging themes on considering water equity

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Who we are

REACH is a global research programme funded by the UK Department for International Development (DFID) to improve water security for the poor by delivering world-class science that transforms policy and practice. REACH is led by the University of Oxford in partnership with UNICEF and a global network of collaborators:

- Bangladesh University of Engineering and Technology
- International Centre for Diarrhoeal Disease Research, Bangladesh
- International Food Policy Research Institute
- International Water Association
- University of Nairobi
- IRC International Water and Sanitation Centre
- Skat Foundation hosting the Rural Water Supply Network
- University of Dhaka
- University of Nairobi
- Water and Land Resource Centre, Addis Ababa University

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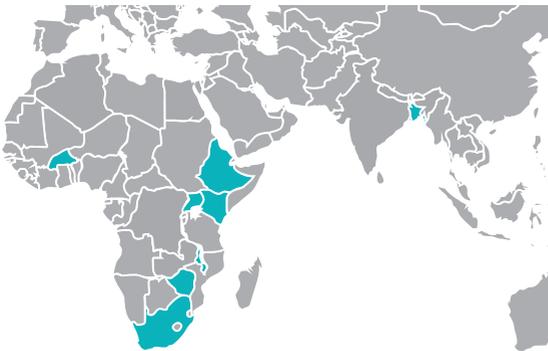
Introduction

The REACH programme aims to generate improvements in water security for the poor by working at the interface of water security, risk and poverty research and practice, spanning across the themes of resource sustainability, inclusive services and sustainable growth. Recognizing social inequalities forms a critical element of the programme, as it is a vital building block for enhancing and maintaining water security for all.

By early 2019, there were 23 studies within the REACH programme that included exploration of differentiated (particularly gender driven) experiences, practices and needs related to water. In addition to their individual study goals, they aimed to:

1. Follow the agenda of the Sustainable Development Goals for 2030, which aims to “leave no one behind”, to end extreme poverty in all its forms and to reduce inequalities among individuals and groups¹;
2. To understand differentiated needs and practices of different groups, via producing sex-disaggregated data or exploring gender² as a social construction; and
3. To investigate the approaches that could promote equality and equity³ in the water sector.

While the studies are mostly on-going, this research brief has been developed to spur interest and awareness in four areas that are underexplored in academia and underrepresented within development agencies. Findings are preliminary and should be treated as such.



23 studies in

8 countries across Africa and Asia

Full details of all the studies are provided at the end of this document to help the reader track their progress.

Water for working⁴ women

Gendered aspects of urban water are underexplored, and the knowledge we have often heavily relies on the findings from rural settings⁵. With some exceptions in academic literature⁶, it is rare that people's different daily activities, family environment and income generation are addressed in relation to water. An underexplored topic highlighted across REACH's studies is access to water by women who work outside the home.

This gap seems to arise from two assumptions: that provision of tap water in the house is enough, an assumption fostered by the Millennium Development Goal focus on households; and that women who earn a stable income are somewhat empowered⁷. Our studies range across urban scales

from Wukro, a small town in Ethiopia [1, 2]; to Hawassa, a small city in Ethiopia whose development is fuelled by an industrial park with Ready Made Garment factories [3]; to Dhaka, a megacity with established Ready Made Garment industry in Bangladesh [4]. These studies portray a category of women who are mostly young, often single (as in Wukro and Hawassa) and are mostly rural-urban labour migrants (Dhaka, Hawassa, in many cases in Wukro). They have limited opportunities to rely on an extended network of relatives and close friends. They work outside their homes, either formally employed in factories for long shifts (Dhaka, Hawassa) or at their own small business outside the home environment (such as coffee shops in Wukro).

These realities of life for working women are restricting their effective water access⁸ in two key ways:

Women in the garment industry, Bangladesh. Credit ADB-Abir Abdullah





Water collection and storage in Wukro, Ethiopia. Samrawit Mebrahtu

1. Being at work or rushing for water?

In Wukro, irregular and unpredictable water provision by the water utility makes water access for working women difficult. Women who cannot reach home at the designated time during the day may be unable to access tap water for weeks at a time [1].

In Dhaka, it is the landlords who control the timing of water supply, which can make it difficult for women working long hours to access water on their 6 working days in a week [4]. Full-time employment of women does not trigger sharing water related responsibilities with men, but responsibility can be transferred to daughters, sisters or mothers, where these networks are accessible. However, access to water by small children is not always granted by landlords. Renters never ask for more water due to unequal relationships with landlords, therefore most water-

related tasks are performed on the one work-free day, leaving little time for rest.

These power relations and the role of water in them is another important, yet underexplored and unaccounted, aspect both within the circles of researchers and stakeholders. Viewed together it raises the question: What is the additional burden for water access for working women?

2. Can they drink water and use toilets freely?

Water, sanitation and hygiene (WASH) access at work for factory workers [3, 4] is restricted, even where appropriate services are provided. Workers report using water and sanitation facilities sparingly due to the pressure of work, as time taken to go to the toilet reduces the likelihood of meeting production targets, opening women up to verbal abuse by managers.

“To maintain the production target, I hurt my body. I feel tired. I do not drink water more than once or twice [per shift] because of fearing of going to the bathroom.” A woman about factory work in Dhaka [4]

This lack of access is further compounded by water access restrictions outside work and time poverty that affect daily life, work and well-being. In Dhaka, women have reduced opportunities to practice good hygiene due to their very limited time outside work, coupled with high rates of sharing of bathrooms in rented accommodation. This is particularly the case for women as it is not culturally appropriate for them to undertake their ablutions in an open space [4].

Access to WASH needs to be assured for women who work outside the home, including access to water for use in the

home, as well as access to adequate facilities, including for menstrual hygiene management in factories and other workplaces. Guidelines that ensure proper WASH management at work (e.g. using WASH@Work guidelines by the International Labour Organization) can help with provision of proper infrastructure. Additionally, guidelines need to ensure access to WASH is effective - free from restrictions, abuse and penalties - to deliver better working conditions for women.

Coffee preparation in a coffee shop, small scale business. Wukro, Ethiopia. Marina Korzenevica



Equitable benefits for smaller users

While there is a plethora of research that discusses the political economy of water, and the differentiated provision of water for the poor compared to the better off [see overview: 5], we have identified two groups of people across our studies whose different needs are not well recognised in academic and practice literature:

1. Small-scale (formal and informal) businesses

Small businesses offer an important trajectory for livelihood improvement and for the urban economy. However, the water needs of small businesses, both when they are legally recognized, as in case of Wukro, or not, as in case of Kampala, Uganda, are often overlooked. This leads to a lack of adequate water provision for productive uses, and tariffs that are not well aligned to the needs of small businesses [2, 6]. Moreover, this lack of adequate water supply provision, as in the case of Wukro, lessens the possibilities for economic independence of women-business owners, who we have studied, who are often young, single and migrants. When water availability is limited for small businesses from the piped system, there is a need to be dependent on illegally sold water from nearby homes who are often unwilling to sell water to

newcomers, even more so during water shortages. That reduces the stability of women's businesses and highlights their vulnerability as migrants [1, 2].

2. Small-scale irrigators

A study across five countries in sub-Saharan Africa [7] identified the persistence of the colonial system of water permits that is disadvantageous for smaller users. Permit systems were introduced in Africa since the 1920s and designed to meet the interests of the minority colonial settlers. The system remains biased towards large-scale water users, mainly for irrigation, mining, industry, hydropower generation and municipalities. Water use for millions of small-scale irrigators was criminalised, since it has been administratively impossible to grant sufficient permits to such large numbers of water users. Micro-scale users, exempted from the obligation to apply for a permit, have a weaker legal status so they are categorically marginalized. The current permit systems have multiple administrative weaknesses as the number of water users requiring permits demands more state resources than are available. This is reflected in the relatively small numbers of permits granted so far.

The authors of this study recommend that a hybrid system of water use rights [7] can strengthen smallholder irrigation rights, increasing resilience to drought. The options within a hybrid system include:



Woman irrigating crops, Mozambique. Marcos Villalta/Save the Children

- a) Focusing on permits for high-impact water users, considering water use and pollution,
- b) Putting customary law on an equal footing with permit systems, recognizing the continued relevance of the former for millions of small-scale water users,
- c) Raising the threshold of exemptions to reduce the number of users requiring permits,
- d) Providing collective permits for water user associations or other groups of small-scale water users, and
- e) Prioritising water uses that respond to constitutional rights to water and food.

Within our research with smallholder irrigators, benefits from sustainable land management programmes are gendered,

at least partly due to inequalities in the size and quality of plots [8]. Therefore it is essential, when designing an intervention, to integrate gender strategically at all three stages, prior, during and after implementation. A project that does not consider gender can potentially worsen gender inequality and exclusion. To address this, a guidance tool has been developed for use when promoting small-scale irrigation technologies [9]. It consists of assessment questions, key questions for investigating the risks in the adoption and continued use of technology, as well as detailed indicators for measuring and evaluating project success. For developing inclusive irrigation it is essential that projects are seeking to ensure they do no harm, empower women, and/or reach a new market segment, identifying such gender differences in the process of technology adoption.



Gendered aspects of affordability

Affordability⁹ of drinking water drinking water is a normative requirement for SDG6.1 with ongoing global consultation led by UNICEF and WHO on determining appropriate data and metrics for monitoring and measurement. REACH [10] is contributing to this global work and have identified the necessity to consider decision-making and different water responsibilities within the household for a broader understanding of water affordability.

Studies have shown that in relation to control over finances, income generation and water collection men and women have different responsibilities that can be fairly inflexible [11, 12] or dynamic [13]. It points to the necessity to explore whether the main water collector can access cash to make a water choice decision that reflects what is preferred and affordable, considering the household's income and competing demands (such as food, energy, education or health), as well as considering the environmental context and water

supply infrastructure.

For instance, in the semi-arid northern areas of Kitui county, in rural Kenya, where farming and pastoralism are the main income sources, research [11] demonstrates that women often lack regular income and lack credit arrangements in water access, as well as limited access to benefits over agricultural resources and produce. These limitations are exacerbated at times when men are away as women have a limited role in crop selling. This means women have limited cash, and as a result, limited options on where to access water, choosing non-preferred water sources where they can accrue debts, leverage social networks or pay-as-you go, sources which are often more costly than regular access. Additionally, women with limited cash may choose to use sources that are less expensive which are located either further away or have worse quality water.

Empowerment and water

WASH is widely advocated as a pathway to empowerment, particularly for women¹⁰. Empowerment is a relative¹¹, contested, complex and nuanced concept, where qualitative evidence highlights the inappropriateness of simplistic assumptions.

Based on the Women's Empowerment in Agriculture Index, REACH have developed and tested an Empowerment in WASH index [14] in rural Burkina Faso to measure

agency, participation and voice in the WASH sector. The Empowerment in WASH index enables changes in empowerment to be quantified. The set of indicators in the index can be compared over time and space for the purposes of diagnosing areas for improvement, evaluating effectiveness of gender-mainstreaming approaches, or in studying the relationship between empowerment and other outcomes, such as wellbeing, education or livelihoods associated with WASH programming. The Empowerment in WASH index, combined with the Women's Empowerment in Agriculture Index, allows water managers and decision-makers to understand gendered differences in water and to develop appropriate actions.

Children going out from school, coastal Bangladesh. Md Jobayer Hossain



Building a richer literature

While the themes highlighted here are the most novel coming out of the studies at the current time, they are only a snapshot of the REACH studies on marginality and gender. Many of the studies have reinforced existing knowledge on the inequalities in the water sector:

- While women bear the burden of water collection [11, 13, 15-21], life events, illness and changes in modes of access increase involvement of men [15, 17, 18]; social networks provide a critical coping mechanism for water problems [2, 15, 21].
- The differential vulnerability to climate variability and coping by women, men and children [11, 12, 16] highlights the significantly increased burden on women due to longer water collection during water scarcity [11, 13, 16], the impact of dry season on school attendance [11] and children's health [16], gendered aspects of the socio-economic

implications from floods and their aftermath [12] and the necessity to consider the emotional burden on men during droughts [16].

- Our research continues to address equity in participation and influence over water related decisions, including the reasons behind the lack of women's voices in the water sector [11-13, 15, 17]. To challenge poor visibility of women stakeholders in water, REACH has initiated Women in Water Stakeholders forum in Kitui and Lodwar, bringing together prominent women in leadership and the main water sectors in the county [22].
- The association between water scarcity and social struggles, such as quarrels and verbal abuse during the water collection process [12, 20, 21], including between water use for domestic purposes and for livestock [13, 15]
- Lack of differentiation of gendered impacts of water related risks in Bangladesh media [23].

Conclusions

This research brief has sought to highlight the key themes emerging from our work on how differentiated water experiences highlight or reproduce various inequalities, particularly in relation to gender. In this we have drawn on the experiences of researchers in their primary research from over eight countries, bringing together very different contexts geographically, and from across the range of water security research. While we have sought to find synergies and themes, the differences in these contexts remain important, and we encourage readers to explore the findings as they emerge in full.

The work presented here helps to inform REACH's water security research agenda, discussions and recommendations. The findings entangle additional layers of complexities in Observatories, signaling the need for multi-level and creative solutions for water security that benefits all. We believe our interdisciplinary approach, grounded within collaborative partnerships such as have already delivered this work, can stimulate both practical and strategic changes in eliminating inequalities. Looking forward, we will continue to generate evidence on gendered aspects of different interventions and household level decision-making, with a breadth of research ranging from policy making to the daily activities, providing a strong foundation for informing policy changes to help ensure no one is left behind.

Awash River Basin, Ethiopia. Catherine F. Grasham



REACH studies

1. Johnson*, Z. *Gender, youth and progress in Tigray, Ethiopia: Portraits of young women in Wukro's buna bets*. 2018. <https://reachwater.org.uk/research/where-we-work/small-town-pathways-to-water-security/> *University of Oxford
2. Zerihun*, Z.; Tafere, K.; Zegeye, L.; Alemayoh, S.; Tesfagabir, D.; Egzabher, A. G. *Water and Gendered Negotiations towards Economic Independence: The Case of Wukro Town, Ethiopia*. 2018-2019. <https://reachwater.org.uk/6358-2/> *Mekelle University
3. Koehler*, J.; Korzenevica, M.; Charles, K.; Cardascia, S. *Women's WASH conditions in work transitions, Hawassa, Ethiopia*. <https://www.csae.ox.ac.uk/research-areas/governing-the-african-transitions> * University of Oxford
4. Joshi*, D.; Singh, J.; Haque, S.; Kamrunnahar; Shahinur T.; Hoque, N. Md. *Public Lives, Private Water: a study of Gender, Water and Empowerment among Ready-Made Garment women workers in Dhaka*. 2018-2019. <https://reachwater.org.uk/public-lives-private-water/> *International Water Management Institute and the Water
5. Grasham*, C. F., Korzenevica, M. and Charles, K. *On considering climate resilience in urban water security: A review of the vulnerability of the urban poor in sub-Saharan Africa*. 2019. Wiley Interdisciplinary Reviews: Water. Doi: 10.1002/wat2.1344 * University of Oxford
6. Kayaga*, S.; Fisher, J.; Goodall, S.; Kanyesigye, C.; Ahebwe, G.; Kitakufe, R.; Nambiro, M.; Otema, J.; Mafunguro, R. *Livelihoods from enhanced water services for people in slums, Kampala, Uganda*. 2016-2017. <https://reachwater.org.uk/funding/catalyst-projects-call-1/livelihoods-from-enhanced-water-access-for-the-poor-in-slums/> *Loughborough University
7. Van Koppen*, B.; Schreiner, B. *Water law reform to improve water security for vulnerable people in Africa*. 2017-2019. <https://reachwater.org.uk/funding/accelerated-grants/water-law-reform-improve-water-security-vulnerable-people-africa/> *IWMI International Water Management Institute, Schreiner Pegasys Institute
8. Edward*, K.; Mekonnen, D.; Tiruneh, S.; Ringler, C. *Gender Gaps in Sustainable Land Management and Implications for Agricultural Productivity: Evidence from Ethiopia*. 2018-2019. <https://reachwater.org.uk/research/where-we-work/water-security-fragile-environments/> *International Food Policy Research Institute
9. Theis*, S.; Bekele, R. D.; Lefore, N.; Meinzen-Dick, R.; Ringler, C. *What Happens after Technology Adoption?* 2018. <https://reachwater.org.uk/wp-content/uploads/2018/12/Gender-Toolkit-IFPRI.pdf> *International Food Policy Research Institute

10. Hoque, S. and R. Hope, *Examining the economics of affordability through water diaries in coastal Bangladesh*. Water Economics and Policy, 2019. **In revision**
11. Bukachi*, S. A.; Omia, D. O.; Wambua F.; M.; Musyoka M. M.; Korzenevica, M.; Hope, R. *Gender analysis of vulnerability and resilience to household water insecurity in Kitui county, Kenya: Implications for institutional and policy response in the face of climate variability*. 2018-2019. <https://reachwater.org.uk/6370-2/> *University of Nairobi
12. Zaman*, S. *Gendered Culture and Water Security: an exploratory study in some selected coastal areas of Bangladesh*. 2017-2019. <https://reachwater.org.uk/research/where-we-work/coastal-water-security/> *University of Dhaka
13. Dickin*, S.; Segnestam, L.; Daoure, M. S. *Gender dimensions of water and sanitation security risks in the Nakanbe basin (Burkina Faso): lessons for climate adaptation*. <https://reachwater.org.uk/funding/catalyst-projects-call-1/understanding-womens-wash-vulnerability/> * Stockholm Environment Institute
14. Dickin*, S.; Bisung, E.; Nansi, J.; Wurtz, A.; Charles, K. *Developing an Empowerment in WASH Index*. 2018. <https://reachwater.org.uk/funding/accelerated-grants/empowerment-vulnerable-people-address-household-wash-security-risks/> *Stockholm Environment Institute
15. Balfour*, N.; Gardener, J. and Mutuku, C. *Empowerment and water security among pastoralist women in the Maasai and Samburu communities of Northern Kenya*. 2016-2017. <https://reachwater.org.uk/funding/accelerated-grants/5139-2/> *Centre for Humanitarian Change
16. Grasham*, C. F. *Social research for improving water security in the Awash River basin, Ethiopia*. 2017-2019. <https://reachwater.org.uk/research/where-we-work/sustaining-growth-through-water-security/> *University of Oxford
17. Nigussie*, L.; Barron, J.; Haile, A. T.; Lefore, N.; Gowing, J. *Water security risk science: local knowledge for participatory resource management, Ethiopia*. 2016-2019. <https://reachwater.org.uk/funding/accelerated-grants/water-security-risk-science-local-knowledge-participatory-resource-management/> *International Water Management Institute (IWMI), Addis Ababa, Ethiopia
18. Hoque*, S. *Household survey, Khulna, Bangladesh*. 2017-2018. <https://reachwater.org.uk/research/where-we-work/coastal-water-security/> *University of Oxford
19. Akhter*, T.; Naz, M.; Tanjim, S.; Hoque, S.; Salehin, M.; Rahman, R.; Hope, R. *Drinking water security risks and implications for SDGs: experience from South-west coastal Bangladesh*. 2017-2018. <https://reachwater.org.uk/research/where-we-work/coastal-water-security/> *Bangladesh University of Engineering and Technology

20. Prodhan*, S. *A gendered analysis of river use behaviour in Dhaka, Bangladesh.* 2016-ongoing. <https://reachwater.org.uk/research/where-we-work/water-security-for-an-urban-river/> University of Dhaka
21. Hoque*, S. and Hope, R. *Water diary, Khulna, Wukro, Kitui, Lodwar.* 2018-2019. <https://reachwater.org.uk/resource/the-water-diary-method-proof-of-concept-and-policy-implications-for-monitoring-water-use-behaviour-in-rural-kenya/> *University of Oxford
22. Opondo*, M. *Women in Water.* 2018-2019. <https://reachwater.org.uk/research/where-we-work/small-towns-fragile-environments/> *University of Nairobi
23. Fischer*, A. *Constraining risk narratives: a multi-decadal media analysis of drinking water insecurity in Bangladesh.* In press at Annals of American Association of Geographers, 2019
*University of Oxford

You can access all of the REACH gender publications at:

<https://reachwater.org.uk/resources/>

Endnotes

1 - Stuart, E. and E. Samman, *Defining 'leave no one behind'*. 2017, London: Overseas Development Institute.

2 - While sex refers to biological differences, gender refers to socially constructed differences between the sexes, norms and cultural expectations on women/girls, men/boys; and how femininity and masculinity is defined (SIDA, Gender Analysis- Principles& Elements. *Gender Tool Box*. 2015, Stockholm: SIDA)

3 - Equality and equity imply both the non-discriminatory equal rights, life prospects and opportunities, but also situated fairness, recognition of the specific needs and disadvantages of some social groups prohibiting them from access to or benefit from the same opportunities compared to others.

4 - By work we mean exclusively small-scale business owners and women in formal employment

5 - Harris, L., et al., *Intersections of gender and water: comparative approaches to everyday gendered negotiations of water access in underserved areas of Accra, Ghana and Cape Town, South Africa*. Journal of Gender Studies, 2017. 26(5): p. 561-582.

6 - Allen, A. and P. Hofmann, *Relational Trajectories of Urban Water Poverty in Lima and Dar es Salaam, in Women, Urbanization and*

Sustainability: Practices of Survival, Adaptation and Resistance, A. Lacey, Editor. 2017, London: Palgrave Macmillan UK. p. 93-117.

7 - See, e.g. in Kabeer, N., *Reflections on the measurement of women's empowerment, in Discussing Women's Empowerment: Theory and Practice*, A. Sisask, Editor. 2001, Stockholm, Sweden: Swedish International Development Cooperation Agency.

8 - Access means "the ability to benefit from things-including material objects, persons, institutions, and symbols. By focusing on ability (...) this formulation brings attention to a wider range of social relationships that can constrain or enable people to benefit from resources without focusing on property relations alone." (Ribot, J.C. and N.L. Peluso, *A Theory of Access*. Rural sociology, 2003. 68(2): p. 153).

9 - Affordability of drinking water implies regularity of payments that do not jeopardize sustainability of a service and does not reduce consumption of other basic household services or overall welfare of water users [10]

10 - E.g. WaterAid Canada, *Water, Sanitation and Hygiene: A Pathway to Realizing Gender Equality and the Empowerment of Women and Girls*, Position Paper. 2017, Canada: WaterAid Canada.

11 - Read more about "relative empowerment" in Nussbaum, M.C., *Women and human development: the capabilities approach*. 2000, New York: Cambridge University Press.

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Farmers collecting water from a shallow well in Kitui, Kenya. Marina Korzenevica



A woman carrying drinking water from a Pond Sand Filter, in Khulna, Bangladesh.
Mohammad Jobayer Hossain.



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