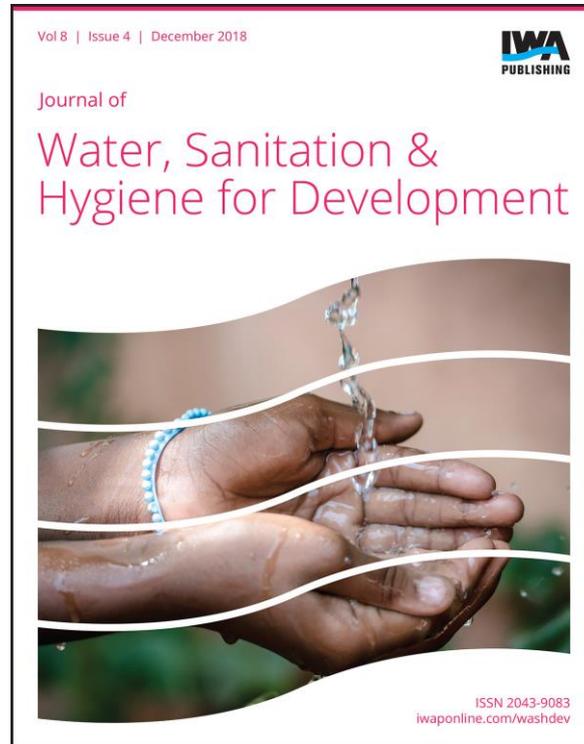


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Review Paper

Actively engaging women is helping solve the global water crisis

E. Allen, I. Maria Morazan and E. Witt

ABSTRACT

Water For People's programs strive to improve the quality of life for Everyone – every family, clinic, and school – Forever. However, women and girls are disproportionately affected by lack of access to safe water and adequate sanitation. This is due to having to spend time fetching water, looking for a toilet, or caring for sick family members instead of going to school and working. Actively striving for gender parity in community planning and decision-making brings a more holistic view to water and sanitation and encourages more women to become community leaders and water professionals. In Water For People's experience, the active participation of women increases understanding of community water and sanitation issues and enhances solutions to help end the global water crisis.

Key words | gender parity, inclusion, leadership, professional development, sustainability, women

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INTRODUCTION

Women are often targeted as the beneficiaries of solving the global water and sanitation crisis. Women and girls bear the burden of collecting water around the world. Collectively, they spend 200 million hours each day collecting water (United Nations Children's Fund (UNICEF) 2017), and those living without a toilet spend over 250 million hours each day finding a place to go (WaterAid 2012). Water mirrors gender inequality, and norms and practices related to water can exacerbate existing gender hierarchies (Das 2017). In addition to the time spent fetching water, a lack of appropriate sanitation facilities can affect women's participation in school, and later, in the workforce.

The United Nations' Sustainable Development Goal for water and sanitation calls for universal and equitable access to safe and affordable drinking water by 2030, and women are well-positioned to lead this effort. Females are rated more positively than males in crucial global leadership traits including worldview, self-awareness, cultural curiosity,

empathy, alignment, collaboration, and integration (Zenger Folkman 2012). Involving women can make water projects six to seven times more effective (Narayan 1995), and a more recent study shows that equal participation of women in all steps of developing community water and sanitation programs leads to improved sustainability (World Bank 2010).

Water For People brings women and girls into leadership roles at all levels. Girls lead school water and sanitation committees. Women work in water and toilet sales, are water system mechanics, and lead the microfinancing of toilets. Women serve as presidents of their district water, sanitation and hygiene (WASH) offices and community water committees. In Water For People's experience, an inclusive culture that engages women in the design, operation, and maintenance of water and sanitation systems leads to better responsiveness and customer satisfaction. As satisfaction increases, so does willingness to pay to service and maintain the systems, which is key to sustainability.

METHOD

Water For People operates in nine countries. Country Program teams provided anecdotal examples and program data to develop four case studies demonstrating women and girls as leaders at various levels. In addition to synthesizing qualitative data from program reports, interviews were conducted with Country Directors and staff to document stories and examples. The case studies are organized to showcase female leadership in schools, communities, districts, and microfinance, and focus on learnings and successes in gender inclusion.

DISCUSSION

Case 1: empowering girls to take leadership roles in schools

Anecdotal evidence indicates that women and girls may avoid eating and drinking sufficiently during the day so they can relieve themselves under the cover of night. This can lead to safety risks from walking to remote areas at night. In Water For People's experience, inadequate school WASH facilities impact attendance and dropout rates, especially for girls during menstruation, as girls lack privacy to change their pads during the school day (Nielsen 2011). School sanitation solutions and menstrual hygiene programming create a safe environment to meet the needs of adolescent girls. Engaging girls in the design of their own solutions has impact in the school environment and beyond.

Secondary school WATSAN committees in India

In India, inadequate school sanitation results in 23% of girls aged 12 to 18 dropping out of school (Nielsen 2011). Water For People has supported the formation of Water and Sanitation (WATSAN) committees in secondary schools in the two states of Bihar and West Bengal. WATSAN committee members serve as peer educators and are trained to ensure that the school toilet blocks are maintained in good condition. As shown in Figure 1, Water For People encourages equal representation among boys and girls,

and girls have naturally and enthusiastically embraced these roles.

Water For People has improved WASH facilities in 1,027 primary and secondary schools in India with over 350,000 students. Students are engaged in the design and planning process for toilet block construction, and Water For People is empowering girl students as 'engineers' to help design their own sanitation facilities. Girls have created facilities with separate changing rooms and hand-washing stations, wider bathroom stalls with mirrors to check saris for stains when menstruating, spare sanitary kits, and simple incinerators to dispose of used menstrual pads. Engaging girls directly in the design of their own bathrooms has provided them with a voice and encouraged use and maintenance of the facilities. Anecdotally, this participatory approach has improved school attendance rates, as students have a reduced risk of illness and girls do not have to skip school during menstruation. This participatory approach of including student voice in the design of toilet blocks is built into Water For People's programming when entering all new schools.

In Patharpratima, West Bengal, a local high school WATSAN Committee has 10 female members who participate in regular menstrual hygiene sessions. The girls' aim is for the whole school of nearly 1,000 students to understand menstruation and menstrual hygiene management. They raise awareness of the private washrooms, sanitary pads, and incinerators, and help break taboos related to menstruation. Committee members hold an assembly at the start of each school year and make themselves available to girls who need to talk about the changes happening to their bodies. Being WATSAN committee members has

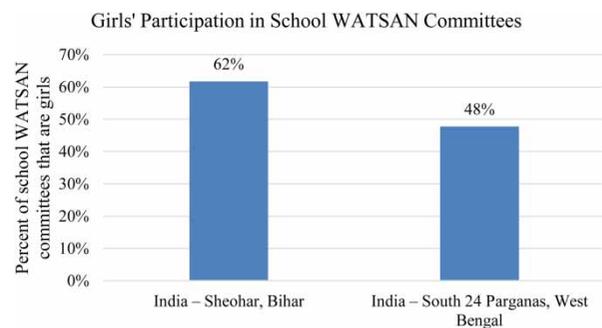


Figure 1 | Average annual percentages of girls participating in school WATSAN committees from 2012–2017, reported by Water For People country staff.

built the girls' confidence and helped develop their leadership skills. They feel a sense of ownership for their WASH facilities and now play a role in the health and hygiene of all students. The Government of India is helping to scale this approach by promoting the WATSAN committees at government schools.

In the Basantpatti village of Sheohar, Bihar, 80% of families and the local middle school did not have a toilet. The Sheohar Program is carried out jointly by Water For People and One Drop. In May 2016, the Sheohar Program worked with local partners to construct a toilet block and drinking water station at the middle school. Female students gained access to a changing room, spare menstrual hygiene products, and an incinerator to dispose of the used hygiene products. According to school records, overall attendance of the students has increased by 30% (from 55% to 85%) and school dropout rates have decreased by 30–35%. By the end of June 2017, approximately 45% of the students successfully motivated their parents to build household toilets. According to program reports, cumulative school, community, and financing strategies resulted in almost 70% of households in the village constructing toilets.

Menstrual hygiene management in Bolivia

Water For People's menstrual hygiene management work expands beyond India to all of its country programs. In partnership with the Inter-American Development Bank's Multilateral Investment Fund (IDB-MIF), Water For People conducted a study in Bolivia to improve menstrual hygiene practices, address negative behavior and bullying towards girls during menstruation, reduce diseases related to female hygiene, and increase school attendance. The

strategy included a hygiene campaign, sanitation infrastructure improvements, and the establishment of guidelines to mitigate the social and health issues surrounding female menstruation.

Both girls and boys were involved in project implementation, including health fairs and workshops with parents, teachers, and students. [Table 1](#) contains the breakdown of the more than 18,000 people training in menstrual management. After the training and infrastructure development, participating schools incorporated sanitation and menstrual health into their curriculums, started disseminating sanitary pads, and created a dedicated place for girls to dispose of hygiene products. Now girls have their own space and can speak openly about menstrual hygiene. Since initial project implementation, this approach has been replicated in 14 schools in five municipalities, reaching an additional 8,455 high school students. In Water For People's experience, the more instances of replication, the less likely a project is to fail.

Case 2: women as leaders in community water committees

In Water For People's model, water committees are critical partners in promoting behavior change and overseeing tariff collection, water quality assurance, maintenance, and repairs. Water For People strives for equal gender representation in water committees, and encourages women to lead committees in their communities. As the primary caretakers with responsibility for water collection and household WASH practices, women are acutely aware of the challenges surrounding water supply and water scarcity.

Table 1 | Boys and girls trained in menstrual hygiene management, according to IDB-MIF project report

Municipality	Girl students	Boy students	Public education officers	Public health officers	Mothers	Fathers	Teachers	Total
Arani	1,165	1,005	12	37	253	11		2,483
Cuchumuela			9	89				98
San Benito	1,146	2,110	32	60	207	58	16	3,629
Tiraque	3,412	3,525	10	295	900	228		8,370
Villa Rivera	1,464	1,447	21	36	404	138		3,510
Grand total	7,187	8,087	84	517	1,764	435	16	18,090

Water and borehole user associations in Malawi

In Blantyre, Malawi, Water For People supports Water User Associations (WUAs), which employ water sellers in low-income urban and peri-urban areas. In rural Chikwawa, Water For People supports Borehole User Associations (BUAs) that oversee volunteer water committees. As shown in Tables 2 and 3, there is strong representation of women in both WUAs and BUAs, as well as the community water committees they support. In addition to participating in policy decisions on the Boards of Directors, women are actively involved in the maintenance of water systems and recordkeeping.

Women serve as motivators in their communities, encouraging other women to take leadership roles. In districts where Water For People works in Malawi, the participation of women in leading positions on water associations and committees is between 50% and 70%. In Water For People's experience, women's leadership in these committees motivates communities to take responsibility and ownership of their water systems, allowing for better sustainability. According to Water For People annual monitoring data, since the establishment of the WUA and BUA structure, water point functionality has improved and been sustained over time.

Table 2 | Blantyre WUA Board of Directors and staff representation reported by Water For People country staff

WUA name	Board of directors		Staff		Administrator gender
	Men	Women	Men	Women	
Michiru	6	3	6	96	F
Mudi	5	4	11	63	F
Mitsidi	5	4	7	102	M
Bangwe	7	2	6	41	F
Namiyango	2	6	5	69	F
Soche-Misesa	6	3	13	98	F
Nkolokoti	10	2	11	86	M
Ndirande-Matope	4	5	7	70	F
Lunzu Pasani	8	3	1	30	M
Ndirande-Malabada	6	5	6	96	M
Total	59	37	83	751	

Table 3 | Chikwawa BUA Board of Directors representation reported by Water For People country staff

BUA name	Board of directors	
	Women	Men
Kakoma	4	7
Chithumba	2	8
East Bank (WUA)	6	5
Total	12	20

Water committees in Uganda

In Uganda, water committees are formed to operate and maintain boreholes, valley tanks, and piped water systems. During the formation of each committee, women are encouraged to participate in the key positions of Chairperson, Vice Chairperson, Secretary, and Treasurer. The target is to have at least one woman in these key positions, and, as shown in Table 4, the trend grows each year. A 2017 sector performance report shows improvement in the percentage of water committees with at least one woman in a key position. The majority of water sources with a woman serving as Chairperson were found to be functioning normally or fully functional (81.2%). For water sources where men occupied similar positions, just over half (54.1%) were found to be functioning normally (Government of Uganda 2017). Though illustrative, this comparison does not account for factors other than gender that may have accounted for the difference in performance.

Water For People in Uganda trains women's groups to promote the benefits of household latrines, hand washing, personal hygiene, household cleanliness, improved toilets, the safe water chain, and payment for water. Women also serve as well caretakers, extension workers, and hygiene

Table 4 | Percentage of water committees with at least one woman in key positions in Malawi

Water system	Percent of water committees with at least one woman in key positions	
	2012/2013	2016/2017
Boreholes	82%	86%
Valley tanks	57%	73%
Piped systems	45%	82%

and sanitation teachers. Women can easily scale up technologies, such as household rainwater tanks, and are effective in promoting good hygiene and sanitation practices by way of example in their own homes.

In Kamwenge District, Uganda, Aisha is a local water point caretaker. She is a respected leader in her community, committed to the health of her neighbors and passionate about hygiene. Two years ago, Water For People rehabilitated a well near Aisha's home which now reaches 14 families with reliable water service. The community established a water point committee and chose Aisha to lead it. She has also led efforts to develop model sanitation villages as a member of the Village Health Team. Through these leadership roles, Aisha is demonstrating how women can be catalysts for change around community water, sanitation, and hygiene. She is one of many women caretakers in Kamwenge who are critical to keeping the water flowing in their communities.

Case 3: women as leaders in district-wide WASH efforts

Water For People's district-wide approach focuses on systems building with local governments to ensure sustainability. At the district level, women are key partners in advancing WASH efforts.

Director of municipal department of basic sanitation in Bolivia

In the districts where Water For People works in Bolivia, Municipal Departments of Basic Sanitation (DMSBs) are district-level service authorities responsible for providing direct support to community water service providers. While many women have served as WASH field promoters on the DMSB teams, men tend to have the technical civil engineering degrees historically preferred for the role of DMSB Director.

In 2017, Yanine Gutierrez was promoted from field promoter to DMSB Director in San Pedro, making her the first woman director among all five Water For People districts in Bolivia. Gutierrez is now responsible for all technical and social aspects of water and sanitation in the district. Gutierrez's experience in the field working with water committees, conducting sanitation training, and constructing household

toilets prepared her for the technical aspects of the role and allowed her to form strong relationships with communities. She understands their challenges and has created partnerships with water committees and mayor's offices. She continues to support communities while implementing a 15-year plan for WASH in the district.

Within the district office, Gutierrez has built a team that is responsive to communities' needs. She is professional, industrious, decisive, charismatic, and community members trust her. Gutierrez is aligned with Water For People's Everyone Forever model and a champion for sustainability. As of 2017, her district of San Pedro was Water For People's first district (of 32) globally to reach every family, clinic, and school with reliable water service.

District school health and nutrition coordinator in Malawi

In Blantyre, Malawi, Marjory Matthews Banda works as a District School Health and Nutrition Coordinator for the Department of Education. Banda is a strong, passionate leader who has played a major role in strengthening and advocating for improved WASH in public primary schools. With capacity building support from Water For People, Banda ensures availability, proper usage and sustainability of WASH in schools. She has been instrumental in training and mentoring school sanitation clubs, sanitation teachers, and school management committees to enhance ownership and sustainability of WASH facilities.

With her charismatic approach, Banda has become a role model in the school WASH sector, particularly for girls, and her leadership has positively influenced behavior change. Students are now taking responsibility and leadership roles in maintaining clean latrines. School management committees are prioritizing WASH in their school budgets, including funds for school WASH action plans. Banda has linked and mobilized WASH stakeholders, ensuring resources and efforts are not duplicated and are directed toward schools with the highest need.

Case 4: women leading WASH microfinance

In Latin America, inadequate sanitation is often due to lack of funds to invest in building a bathroom. Access to micro-credit for sanitation loans has helped accelerate coverage

and improve the quality of sanitation services. In Water For People's experience, engaging women in the process of educating community members about microfinance accessibility has significantly improved coverage.

MiCrédito partnership in Nicaragua

Water For People has worked with several microfinance institutions (MFIs) in Nicaragua to provide small loans to families for household sanitation. The first was Aldea Global, a coffee cooperative in Jinotega, where home improvement and sanitation loans are made to coffee producers and affiliated families. In partnership with FUNDENUSE, Water For People was able to reach more communities through branch offices across the country. Tables 5 and 6 contain the percentage of women clients in each MFI's portfolio.

Anecdotally, in Latin America, women are the drivers behind improving sanitation in their homes. Women push for change because they spend more time in the household and deeply understand the benefits of improving household conditions, including water and sanitation needs. Traditionally, men are the landowners and tend to invest in land to increase the value of their homes. Women are motivated to create safe, hygienic, and healthy living conditions and play a key role in convincing men to take out sanitation loans to improve quality of life for their families.

Table 5 | Proportion of women among Aldea Global clients and repayment rate

Aldea global clients - Nicaragua	
Total clients	6,837
Women clients	32%
Percentage of portfolio loaned to women	22%
Women repayment rate	98%

Table 6 | Proportion of women among FUNDENUSE clients and repayment rate

FUNDENUSE clients - Nicaragua	
Total clients	30,857
Women clients	54%
Single women clients	37%
Average credit to women (USD)	\$760

In Nicaragua, Veronica Herrera is founder and CEO of the largest MFI in Nicaragua, MiCrédito, and President of the Nicaraguan Association of MFIs. Ivette María Morazán is the Country Director of Water For People in Nicaragua. Together, they formed a partnership to bring sanitation loans to families throughout the country. In September 2017, Water For People and MiCrédito signed an agreement to provide over 400 rural families with access to financial resources to improve their sanitation facilities. This access to the national network of all MFIs in the country is a major step toward replication and sustainability.

Borehole banking in Malawi

In rural Chikwawa, Malawi, Water For People supports BUAs that oversee and support volunteer water committees. As water committees send water tariffs to BUAs, BUAs start to realize savings and need to safely manage the additional cash until funds are needed for repairs. Water For People supported the development of 'borehole banks' as an informal, community-based microfinance model to provide small, short-term loans to water users, thereby building a financial capital base for repairs and eventual replacement of the water system.

In Water For People's experience, women play a major role in borehole banks, both in managing and receiving the loans. They facilitate the issuing of loans, ensure loans are repaid on time, track defaulters, and monitor progress of the banks. Women take out loans to make additional income to support their families. In Chikwawa, loans are mostly used to support small businesses, such as selling bricks, vegetables or fried breads, farming, and beer brewing. They are also used to pay school fees for their children. For all borehole banks, the default rate is higher for men than women, and the women's default rate is close to 0%. Table 7 shows the repayment rate for borehole bank loans in Malawi. According to Water For People program data, water points with borehole banks have higher functionality and more funds for maintenance and future repairs, which is a strong indicator of sustainability.

In Chamera, Malawi, Regina was chosen by her community to serve as Treasurer for the new water point committee that was established by the local government. In this role, Regina experienced many challenges collecting tariffs, and she visited other communities to learn how they did so

Table 7 | Borehole bank loans to women in Malawi and repayment rates reported by Water For People country staff

Name of borehole bank	Number of women who have received loans in the past 6 months	Loan repayment rate
Chamera	6	100%
Chambakata	3	100%
Nkosa	7	100%
Dausi	2	100%
Chingetemani	4	100%
Gadama 2	7	100%
Total	29	100%

successfully. She learned about borehole banking and, without any training, implemented one in her community. In Regina's borehole bank, women are taking out loans and starting small businesses. Regina has seen women take small loans of US\$15.00 and make 60 times as much through small businesses. The bank has grown to include contributions from households in other villages, and now has enough savings that Regina is planning to expand and invest in a new water point. Regina is one of many women in Chikwawa who are entrusted to manage funds generated by water committees and borehole banks.

Joint liability groups and sanitation groups in India

In India, village-based Self-Help Groups (SHGs) make small savings contributions until there is enough money in the group to begin lending. In districts where Water For People works, SHGs provide sanitation loans and conduct hygiene education in their communities, and women's SHGs have facilitated nearly 26,000 household toilet constructions. In the Sheohar district of Bihar, Water For People and One Drop Foundation support the formation of Joint Liability Groups (JLGs), a type of SHG that provides access to small, short-term sanitation and livelihood loans through the Center for Development Orientation and Training (CDOT). Because women are seen as less risky than men, the JLGs are only open to women. They are comprised of five to 10 women that hold each other accountable and spread risk in case someone defaults on their loan. [Table 8](#) shows the number of women who have received sanitation and livelihood loans from CDOT.

Table 8 | CDOT loans to women in JLGs

Type of loan	Number of women recipients
Sanitation	892
Livelihood	1,336
Total	2,228

Sanitation loans are used for the construction of individual household toilets. The livelihood loans are used by women for income generation activities, such as opening small tea or grocery shops, or agricultural activities, such as cattle rearing. Since these loans are given to the women of the household, men have to take the loan in the name of their wives, creating a sense of empowerment among the women. According to Water For People program data, around 70% to 80% of the women who took a sanitation loan have completed construction of their toilet. The repayment rate is 100%, and none of the groups have defaulted to date. In addition to creating awareness around toilets, these women are setting up their own small businesses and have income to contribute towards their families. Women in the JLGs have a greater sense of confidence and are motivating others in the community to take out sanitation loans for toilet construction. In Water For People's experience, participation in these groups leads to increased social cohesion, which supports the likelihood for sustainability.

CONCLUSIONS

In Water For People's experience, empowering women to have a greater role within the WASH sector leads to substantial improvements in the governance, transparency, and sustainability of water and sanitation services. Water and sanitation programs that include women and girls in the planning and development phases, and in leadership roles, are more effective than those that do not. Women help move WASH efforts forward more rapidly and sustainably. Women are still the minority gender in the WASH labor force and represent a fraction of the policy-makers, regulators, management, and technical experts.

Through global programs, Water For People is working to change that.

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