



Satkhira District,
Bangladesh
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Learnings From WASH-SDG: Research on Women's and Girls' Empowerment

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Summary

This report evaluates how female leadership and social status influence equity in WASH (Water, Sanitation, and Hygiene) services in Nepal, Uganda, and Bangladesh under the WASH SDG Programme. Despite reaching over 4 million people, systemic gaps remain for women and vulnerable groups. The research investigates the question:

“How can female leadership help close gender, social inclusion, and sustainability gaps in WASH policies?”

Framework

The Women’s and Girls’ Empowerment Model (Gates, 2014) guided the analysis, emphasising on resources (e.g. income, literacy), agency (e.g. leadership, collective action), and Institutional structures (e.g. norms, policies)

The model also incorporates intersectionality, acknowledging how caste, class, disability, and gender interact to shape exclusion. WASH SDG examples, such as menstrual hygiene initiatives in Bangladesh and women-led committees in Nepal and Uganda, show how empowerment translates into inclusive outcomes.

A mixed-methods approach combined: Quantitative analysis of 10,352 household surveys (2018–2023) and 13 expert interviews from Uganda, Nepal, and Bangladesh. Chi-square tests identified equity gaps; interview themes were coded using Atlas.TI.

Key Findings

- **Gender:** Nepal showed consistent gender gaps; Uganda and Bangladesh had fewer.
- **Education:** No-education households had significantly worse WASH access across all countries.

- **Wealth:** Strongest predictor, poorer households lacked safely managed services and clean toilets.
- **Barriers:** Illiteracy, limited access to finance, tokenism, patriarchy, and cultural norms constrain inclusion.
- **Leadership impact:** Female leaders improved affordability, accessibility, and inclusion in WASH design and implementation.

Policy Recommendations

1. Enforce gender quotas and address and monitor participation
2. Create finance mechanisms for women-led WASH enterprises
3. Use need-based inclusive infrastructure design with input from vulnerable groups
4. Address literacy and leadership skill gaps
5. Engage men in gender-transformative WASH work
6. Apply intersectionality in all policies
7. Use disaggregated data to adaptively track inclusion

Conclusion

Addressing WASH inequities requires more than infrastructure; it demands systemic change. Empowering women and vulnerable communities as leaders and decision-makers is key to sustainable, inclusive WASH.

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List of Abbreviations

Abbreviation	Definition
JMP	Joint Monitoring Programme
SDG	Sustainable Development Goals
UNICEF	United Nations Children's Fund
WASH	Water, sanitation, and hygiene
WHO	World Health Organisation

1. Introduction

Access to safe water, sanitation, and hygiene (WASH) is a fundamental human right and a prerequisite for health, dignity, and sustainable development. Despite significant global efforts, approximately 3.5 billion people still lack access to safely managed sanitary facilities, and over 2 billion are without safely managed drinking water (Shalamzari & Zhang, 2018). These deficits are disproportionately concentrated in the Global South, particularly in Africa and Asia, where communities face compounded risks of waterborne diseases such as cholera, diarrhoea, and polio that together contribute to over 1.6 million deaths annually (Prüss-Ustün et al., 2019; Rahut et al., 2022).

To address this challenge, the United Nations adopted the Sustainable Development Goals (SDGs) in 2015, among which SDG 6 targets universal and equitable access to safe and affordable drinking water, sanitation, and hygiene by 2030 (Lee et al., 2016). The Joint Monitoring Programme (JMP), initiated by WHO and UNICEF, serves as a global tracking mechanism to monitor WASH progress against these benchmarks.

Within this global framework, the Netherlands-supported WASH SDG programme was launched in 2017 across seven countries, including Nepal, Uganda, and Bangladesh, with the aim of driving systemic, inclusive, and sustainable WASH services. Rather than focusing solely on first-time access, the programme emphasised long-term systems strengthening, pro-poor financing strategies, inclusive governance, and gender equality (Abella et al., 2024).

The WASH SDG programme reached impressive milestones, such as providing sustainable drinking water to 454,500 people, sanitation to 2.24 million, and improved hygiene to 4.07 million individuals, surpassing its original goals (Abella et al., 2024). These results were achieved through an integrated Theory of Change that leveraged three

pathways: demand creation via behaviour change, improvement in service delivery and affordability, and the strengthening of WASH governance systems.

Central to the programme's equity and inclusion goals was a strong focus on the role of women and vulnerable populations. The programme demonstrated that meaningful participation of women in WASH decision-making led to better design, implementation, and sustainability of interventions (Abella et al., 2024). According to the WASH-SDG magazine, in Nepal, women trained in toilet construction and WASH marketing have become local entrepreneurs, ensuring the maintenance and uptake of latrines in rural communities. Women were also empowered as entrepreneurs, community leaders, and advocates, especially in the context of menstrual hygiene management, inclusive sanitation infrastructure, and local WASH governance. For instance, a strong emphasis was placed on menstrual hygiene education and pad distribution by women leaders, directly improving school attendance and dignity for adolescent girls in Bangladesh (Abella et al., 2024).

Despite this progress, persistent challenges remain. Research reveals continued gaps in leadership opportunities, business sustainability, and equitable participation among women and low-income groups (Abella et al., 2024; Dery et al., 2019). Furthermore, many other programmes still emphasise infrastructure over long-term impact, failing to address structural inequities.

This report investigated these challenges by integrating quantitative data from Simavi's evaluations in Nepal, Bangladesh, and Uganda with qualitative insights from 13 expert interviews. It examined how gender and social status influence WASH outcomes, the roles of women in leadership and entrepreneurship, and the effectiveness of inclusive governance. The central research question answered was: "How can female leadership

help with the closing of gender, social inclusion, and sustainability gaps in WASH policies in Uganda, Nepal, and Bangladesh?”

Throughout the report, the findings of surveys and interviews are presented, and a list of policy recommendations is compiled. Chapter two presents the conceptual framework of the women’s and girls’ empowerment model, which is used for analysing the findings as well as the emerging questions that are answered in the report. Following chapter two, the methodology chapter gives detailed information about the data collection methods of the research. Lastly, the results of the report are presented in chapter four, which are later transformed into recommendations and a conclusion in chapter five. The report ultimately aimed to create actionable recommendations focused on inclusive WASH governance and sustainable leadership.

2. Framework

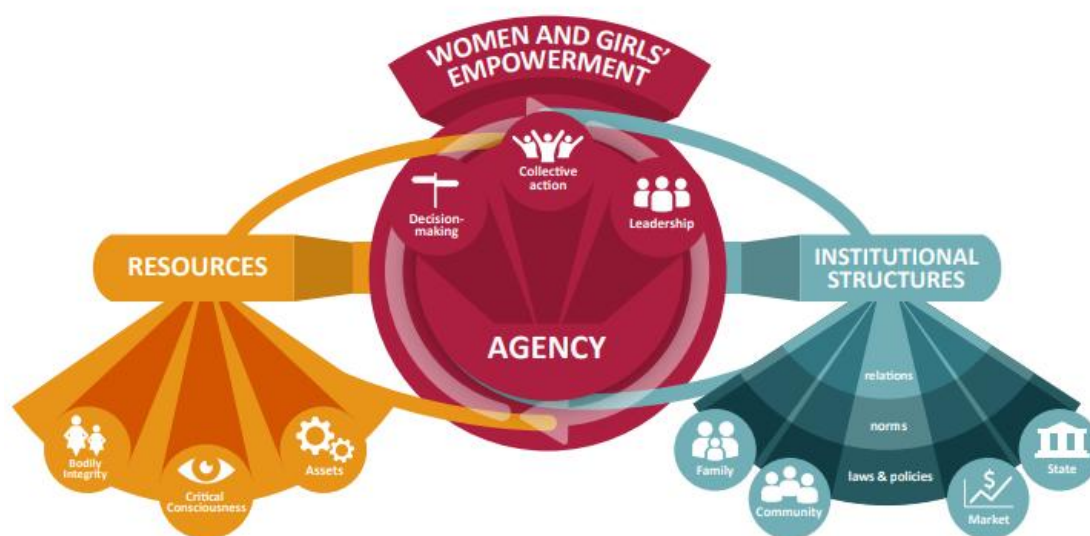


Figure 1. Women’s and Girls Empowerment Model. Source: Gates (2014).

A conceptual framework was vital to this report because it clarifies how female leadership shapes gender, social inclusion and sustainability gaps in Uganda, Nepal, and Bangladesh. The adapted women's and girls' empowerment model positions empowerment as the interplay of resources, agency and institutional structures. As the centrepiece, agency refers to women's and girls' capacity to take purposeful action without fear of violence or retribution (Gates, 2014). At its core, agency is made of decision-making, leadership, and collective action, which are not just additions to the agency but are ways that women and girls can present agency in their lives (Weldon & Htun, 2013).

Resources cover the expressions that enable participation in WASH, which include bodily integrity, critical consciousness, and tangible and intangible assets (Gates, 2014). Critical consciousness develops when women and girls acknowledge and challenge systemic injustices that impact their lives and cultivate self-awareness and assert their rights (Travers et al., 2013). Assets, ranging from monetary resources to social networks, either facilitate or hinder women's empowerment. Institutional structures, on the other hand, encompass the formal and informal rules that govern whose voice counts. These span laws, policies, and cultural norms shaping women's and girls' agency and control of resources (Cornwall, 2016).

Intersectionality is a crucial consideration in this framework, recognising that women's experiences are influenced by overlapping identities like class, race, caste, and marital status (Klugman et al., 2015). The involvement of men and boys is also essential to challenge gender-biased norms and support the empowerment process (Borkum et al., 2014).

Although this study applies the Women's and Girls' Empowerment Framework (Gates, 2014) as its conceptual foundation, the model is not exclusive to gender. It operates on

three interrelated domains, which are resources, agency, and institutional structures, that also capture the lived realities of vulnerable groups in WASH, including people with disabilities, low-income households, and ethnic minorities. The model explicitly incorporates intersectionality, acknowledging that social identities such as caste, class, disability, or marital status overlap with gender to produce unique forms of disadvantage (Klugman et al., 2015; Weldon & Htun, 2013). For example, as shown in the findings, women from privileged backgrounds may hold leadership positions without necessarily advancing the interests of excluded groups. Conversely, women from lower castes or with disabled family members often use leadership to advocate for broader inclusion. Therefore, while the framework is centred on women's empowerment, its structure is highly compatible with equity-focused analysis in WASH, aligning closely with principles from the WASH SDG programme and the Human Rights to Water and Sanitation (General Assembly, 2010; WaterAid, 2018).

Examples from the WASH SDG programme illustrate the framework's applicability (Abella et al., 2024). In Uganda, women participated in the development of inclusive sanitation infrastructure by leading youth WASH clubs and local decision-making bodies, demonstrating growing agency in planning and implementation. In addition, access to credit and technical training also enabled them to become micro-entrepreneurs in the sanitation value chain. In Nepal, the programme supported women, as well as the vulnerable groups in the community, in gaining leadership roles within WASH user committees, which not only increased their influence over local water governance but also contributed to more equitable service delivery. Meanwhile, in Bangladesh, women played a central role in menstrual hygiene management (MHM), leading product distribution initiatives and raising awareness in schools and communities, which enhanced both their critical consciousness and public leadership in WASH programming (Abella et al., 2024).

2.1 Sub-questions

To address the main research question, this report focused on the following sub-questions:

“How do gender, tangible and intangible resources, and sustainability issues correlate with WASH practices in sub-communities across Uganda, Nepal, and Bangladesh?”

This question used WASH SDG data and expert interviews to explore links between WASH quality and social variables such as income, education, and gender.

“How does having more female-led businesses and female leaders in WASH affect women's and vulnerable communities' agency, and ultimately their access to WASH?”

This question evaluated how entrepreneurship and leadership among women affect inclusive and sustainable access to WASH, using both expert perspectives and survey correlations.

“To what extent are vulnerable communities included in WASH institutional structures, specifically in policymaking, and how does female leadership affect the degree of social inclusion?”

This question investigated how institutional and societal rules, and leadership opportunities influence the meaningful participation of vulnerable groups.

3. Methodology

This study employed a mixed-methods approach combining quantitative analysis of household survey data with qualitative insights from expert interviews. Mixed-methods research enables triangulation between numerical trends and lived experiences,

increasing the depth and applicability of findings (Shorten & Smith, 2017). Specifically, this study followed an embedded design, where quantitative findings support the primary qualitative data derived from interviews (Greene et al., 2006).

3.1 Study Design

Quantitative data were drawn from the WASH SDG programme, coordinated by Simavi, using surveys aligned with JMP guidelines (WHO & UNICEF, n.d.). Surveys were administered at three key intervals, baseline (2018), midline (2021), and endline (2023), across households in Uganda, Nepal, and Bangladesh. The survey captured WASH indicators such as access to basic water and sanitation, household head gender and education, wealth quantiles, and observable WASH quality measures.

These data were complemented by qualitative data from 13 expert interviews, focusing on themes of female leadership, entrepreneurship, inclusion, and systemic barriers in WASH. Experts invited for an interview were practitioners from local organisations, whose daily work is focused on collaborating with the local communities. This integration allowed for an explanatory framework where numerical patterns could be understood in context.

3.2 Data Collection

The quantitative dataset included 10,352 households across the three countries. Data were anonymised and cleaned, with key variables extracted for analysis, including the gender of the household head, wealth index, water/sanitation/hygiene ladder positions, and infrastructure observations. Chi-square tests were used to assess the significance of associations ($p < 0.05$), with analyses conducted in Visual Studio Code.

Qualitative data were collected through 45-minute semi-structured interviews using Microsoft Teams. Respondents were selected via snowball sampling (Handcock & Gile, 2011) and included local WASH professionals from Uganda, Nepal, and Bangladesh who were involved in local community collaboration. Ethical approval and informed consent were secured, and identities were anonymised.

3.3 Data Analysis

Quantitative data were subjected to cross-tabulation and significance testing to compare equity variables (gender, education, wealth) over time and across countries. Thematic analysis of interview transcripts was carried out using Atlas.TI software. Coding followed a deductive analysis by using the framework based on Gates' empowerment model (Gates, 2014), while also allowing for emergent themes. Inter-coder reliability was enhanced through cross-checking.

3.4 Ethical Considerations

All participants received an information sheet and signed consent forms. Interview data were pseudonymised and securely stored. The study followed guidelines on gender sensitivity and power relations, acknowledging the ethical complexities of researching inclusion in development settings.

4. Findings

This section presents the key findings of the study by integrating both quantitative (survey-based) and qualitative (interview-based) insights to assess equity and inclusion outcomes of the WASH SDG programme in Uganda, Nepal, and Bangladesh.

In the next chapter, the quantitative analysis draws on household survey data collected during the WASH SDG programme's baseline, midline, and endline periods. It evaluates whether access to WASH and observed quality of household toilet and water differed significantly based on three key social determinants: gender, education level, and household wealth of the household head. It is important to mention that by contacting Simavi, a detailed overview of descriptive statistics of quantitative findings can be accessed.

Gender Findings: In Nepal, male-headed households had significantly better water, sanitation, and hygiene outcomes across all timelines, while Uganda and Bangladesh showed fewer consistent gender-related gaps.

Education Findings: Education level was a strong predictor of WASH outcomes across all countries. Households led by individuals with no formal education were significantly more likely to lack access to safely managed services and to report poor sanitation and hygiene conditions.

Wealth Findings: Household wealth was the most consistent and powerful driver of inequality. Lower-income households were persistently overrepresented in categories such as open defecation, unimproved water sources, and unclean toilets, while wealthier households scored highest in safely managed WASH services and cleanliness across all countries and timelines.

These statistical findings underscore how WASH access remains shaped by structural

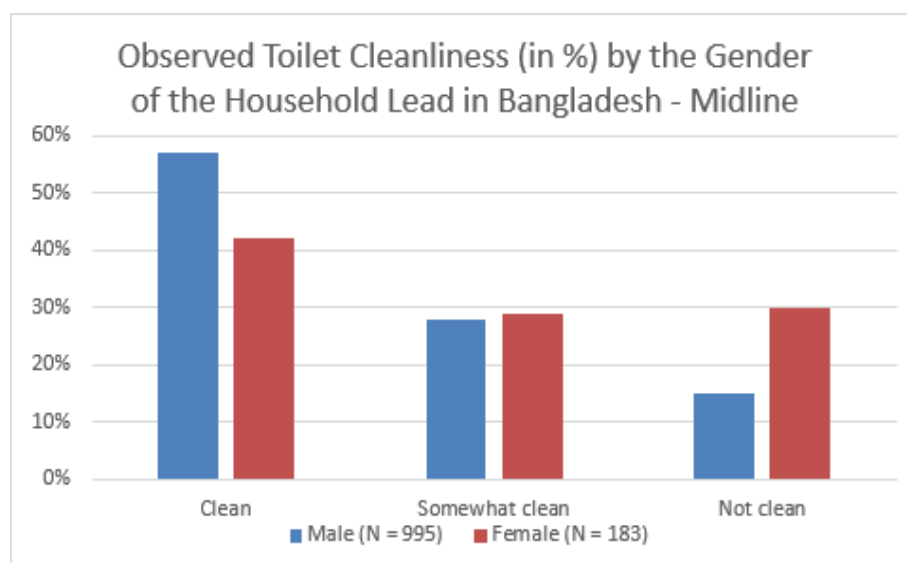


Figure 2. Percentage of households which scored clean, somewhat clean, and not clean on observed toilet cleanliness, compared with the gender of the household leader in Bangladesh at midline.

inequalities, despite overall programmatic improvements. The qualitative findings are introduced in Chapter 4.4.

4.1 Gender and WASH Outcomes

In Bangladesh, the gender of the household showed no significant gaps in access to WASH at baseline or endline, and only midline toilet cleanliness findings proved to be significant. According to this, female-headed households were more likely to have dirty toilets.

In Nepal, male-headed households had significantly better water access at both baseline and midline, while female-headed households lacked proper sanitation, hygiene, and endline water access and toilet cleanliness. As illustrated in Figure 3, more than half of the male-led households had cleaner toilets.

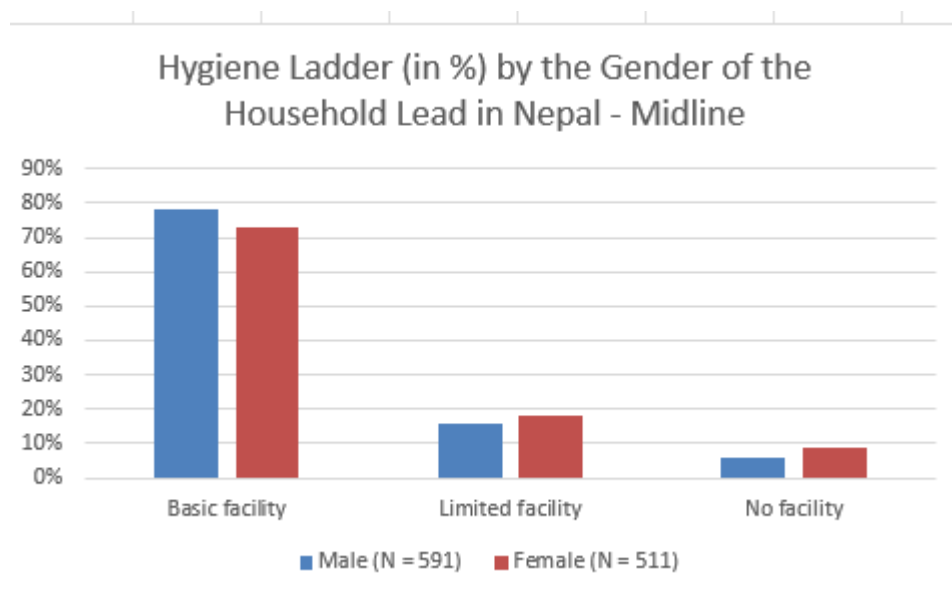


Figure 3. Percentage of households which scored basic, limited, and no facility on the hygiene ladder, compared with the gender of the household leader in Nepal at midline. Uganda showed no gender effect, and all indicators remained non-significant.

4.2 Education Level and WASH Outcomes

WASH outcomes for the education level of the household leader consistently differed in all countries. In Bangladesh, baseline data on toilet cleanliness and sanitation access showed that low-educated heads significantly had more dirty water and unimproved services. Midline differences persisted for water, sanitation, and hygiene.

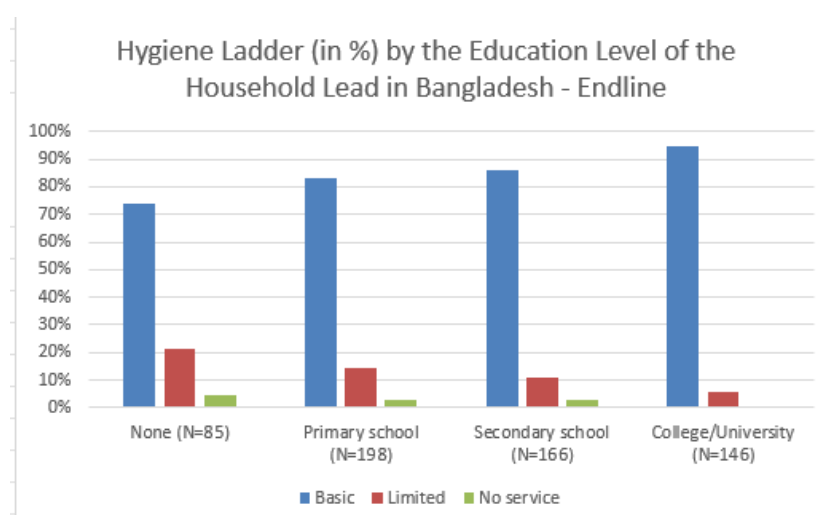


Figure 4. Percentage of households which scored basic, limited, and no facility on the hygiene ladder, compared with the education level of the household leader in Bangladesh at endline.

Nepal followed a similar pattern with midline gaps in access to water and unclean toilets.

In Uganda, midline gaps were strongest for sanitation, hygiene, and toilet cleanliness. As shown in Figure 10, 38% of households with no education reported open defecation. In contrast, households with college-educated heads showed more safely managed services.

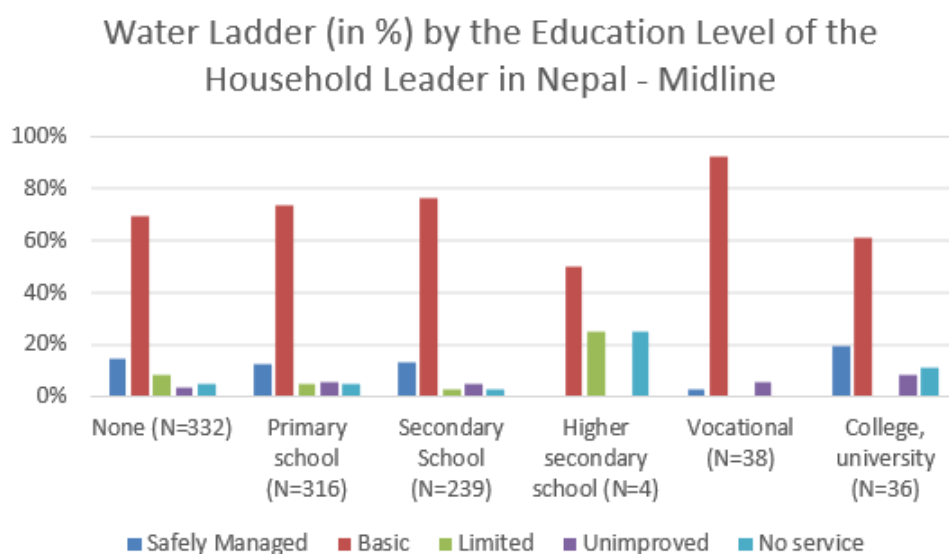


Figure 5. Percentage of households which scored safely managed, basic, limited, unimproved, and no service on the water ladder, compared with the education level of the household leader in Nepal at midline.

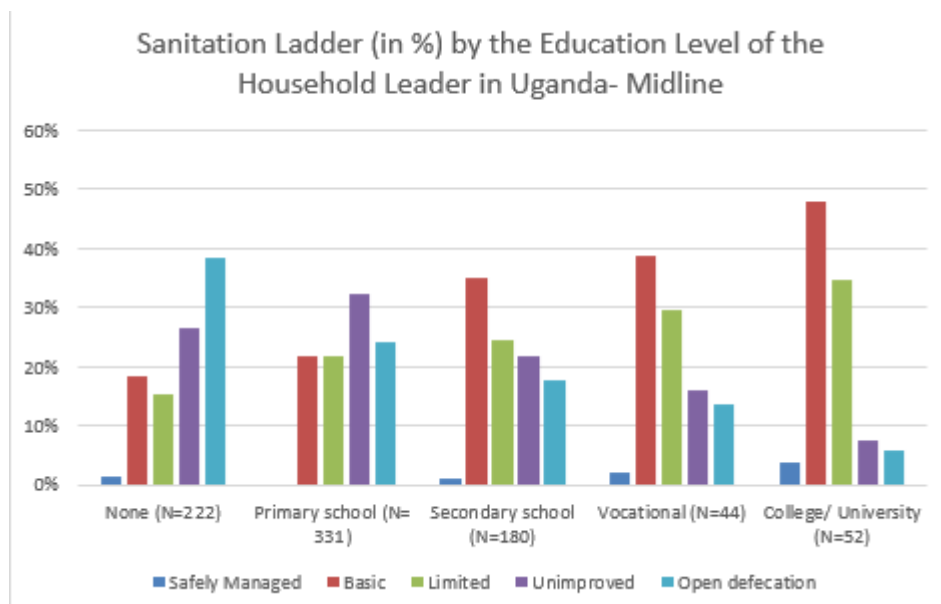


Figure 6. Percentage of households which scored safely managed, basic, limited, unimproved, and open defecation on the sanitation ladder, compared with the education level of the household leader in Uganda at midline.

4.3 Wealth and WASH Outcomes

Wealth showed significant differences in all countries. In Bangladesh, baseline differences emerged for access to water, with lower-quintile households concentrated in “Limited/Unimproved” ladders. By midline, wealth gaps widened in water, sanitation, and hygiene. Endline results showed wealth differences for toilet cleanliness, sanitation, and hygiene.

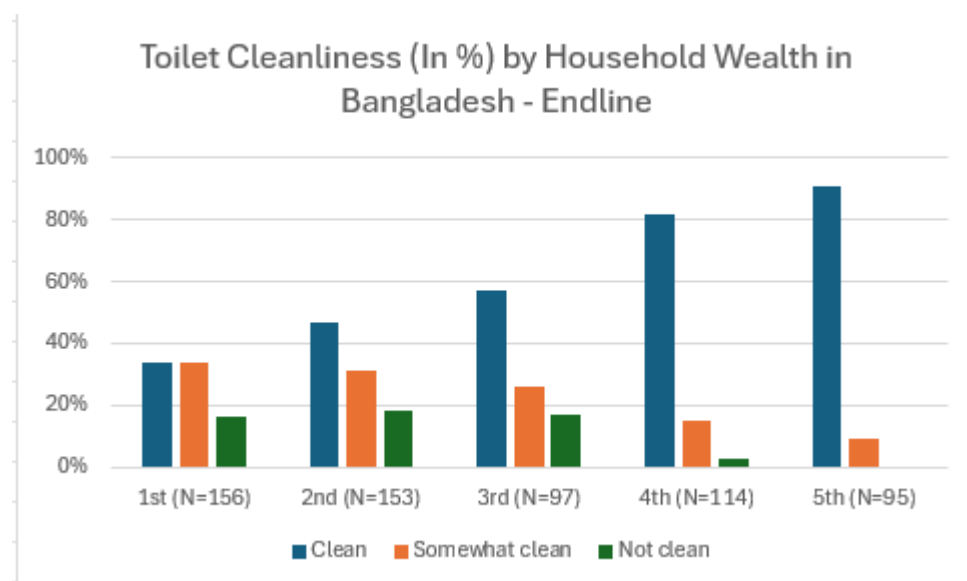


Figure 7. Percentage of households which scored clean, somewhat clean, and not clean on the observed toilet cleanliness, compared with the wealth quantile (1st=poorest, 5th=richest) of the household in Bangladesh at endline

In Nepal, wealth was associated with access to water at baseline and strongly at midline.

Toilet cleanliness also differed significantly at midline, with poorer households consistently underrepresented in safely managed services.

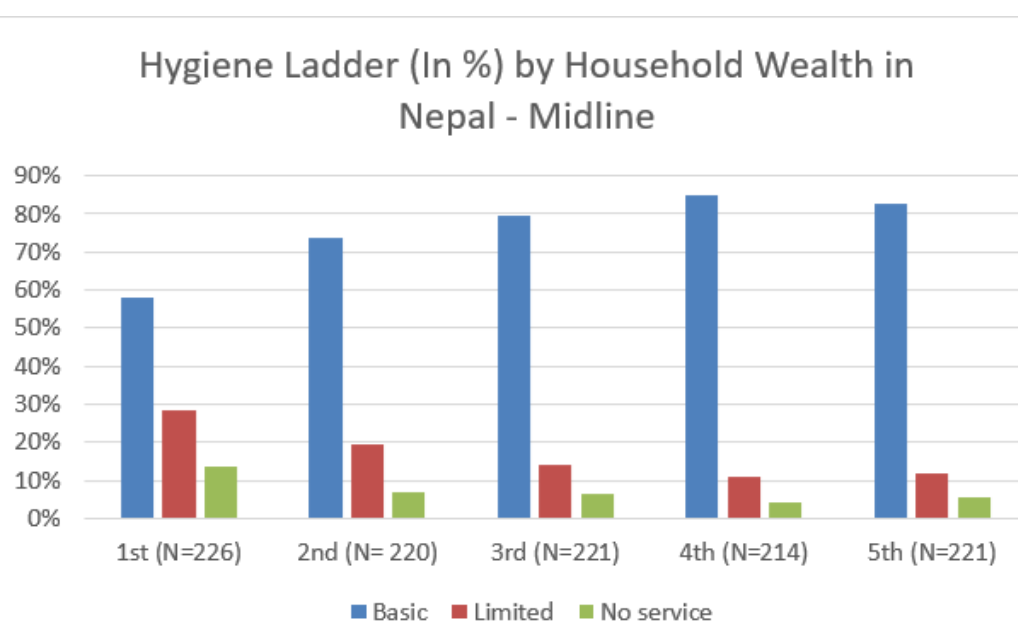


Figure 8. Percentage of households which scored basic, limited, and no service on the hygiene ladder, compared with the wealth quantile (1st=poorest, 5th=richest) of the household in Nepal at midline.

In Uganda, midline differences spanned all indicators: water, sanitation, hygiene, observed water quality, and toilet cleanliness.

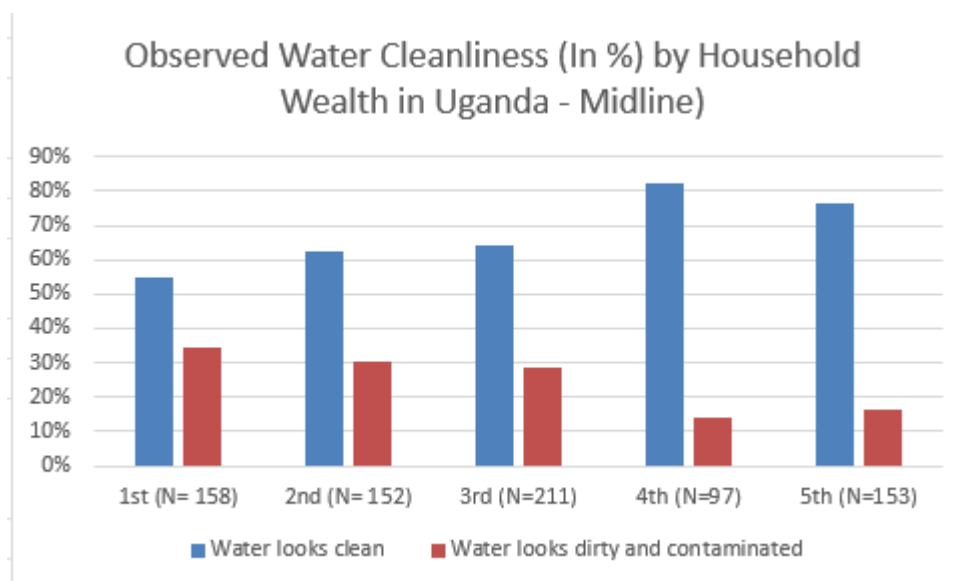


Figure 9. Percentage of households which scored water looks clean and water looks dirty and contaminated on the observed water cleanliness, compared with the wealth quantile (1st=poorest, 5th=richest) of the household in Uganda at midline.

4.4 Resource-bound Barriers

The qualitative portion is based on 13 expert interviews and is organised thematically according to the Women's and Girls' Empowerment Conceptual Framework, highlighting how resources, agency, and institutional structures influence WASH equity.

Under resource-bound barriers, which is the current chapter and the first theme, codes such as access to money and illiteracy were cited as persistent constraints on women's participation in WASH entrepreneurship. Regarding agency, the second theme (Chapter 4.5), interviewees described both the perception of female leadership and the problem of token participation, where women were included in name but lacked real influence. Collective agency, expressed through unity and the effectivity of women's leadership, was shown to improve project outcomes when women collaborated and shared decision-making. On institutional structures, which is the third theme (Chapter 4.6), deeply embedded cultural norms, patriarchy, and intersectional exclusions limited women's ability to influence WASH decisions, especially for the most vulnerable. Interviewees also provided forward-looking policy recommendations (Chapter 4.7) as the last theme, including improving the implementation of existing gender mandates, fostering economic

upliftment, and encouraging collaboration with men as allies in gender-inclusive WASH reforms.

Together, the statistical and thematic findings offer a multi-dimensional view of how gender and social status shape WASH equity, and how inclusive leadership and targeted interventions can begin to close the gap.

4.4.1 Accessing money.

The term "accessing money" refers to the methods, or lack thereof, by which women and vulnerable groups raise the funds necessary to start or grow WASH businesses.

Participants explained how, even when women have the skills or will to pursue entrepreneurship, their goals are limited by household budgeting conventions, widespread poverty, and the lack of gender-responsive financial solutions.

A9: "When it comes to budgeting at the household level, the woman is the first user of water. So, if she is not economically empowered, then even accessing clean water becomes a challenge, right?"

The respondent made a direct connection between personal income and access to WASH, stating that a woman cannot prioritise spending on clean water, much less engage in a WASH project, without having influence on the use of the household budget.

A8: "The other barrier, I might say, is poverty. Women who come from poor homes do not have a voice. Even if they are smart enough, or they have been around long

enough to see things and to share views that are from a well-informed point of view. They still won't have a voice because no matter what they say, they won't be regarded as pieces that contribute so much to society."

Here, poverty is shown by the participant to silence women in two ways: it limits their financial capacity to act and erodes their social credibility in decision-making spaces. The respondent reported that a lack of money not only constrains investment but also undermines the perceived legitimacy of women's ideas.

A11: "Women engage with the WASH business and then participate in specific financing initiatives. But these are rarely focused on women. ...and the banks that have financing projects for women, the government has something from the Ministry of Gender, but most of this is within agriculture."

The participant pointed out that although there are various financing programs, they rarely focus on WASH or take into account the needs of women; the majority of available gender-focused budget is allocated to agriculture. The participant claimed that this mismatch reinforces gender disparities in the WASH sector by depriving aspiring female entrepreneurs of specialised financial paths.

4.4.2 Illiteracy

Illiteracy illustrates how women's deficient reading and writing abilities prevent them from expressing their ideas, obtaining information, or filling out the necessary paperwork for WASH committees and enterprises. Respondents emphasised that cultural norms that

devalue girls' education are closely linked to illiteracy, which worsens women's exclusion from business-related and decision-making opportunities in the WASH sector.

A7: "Then the literacy, it is also linked with the first one (cultural norms), because people did not think that women should go out for education or higher education would not bring any benefit to the parents, because after some time, they (women) would get married, and they would go to their husband's house."

The participant connected patriarchal expectations to illiteracy, arguing that parents saw little return on their educational investment if girls were presumed to leave the birth home. According to the respondent, women's later involvement in WASH governance or entrepreneurship is restricted by the ensuing literacy gap.

A2: "Often, when you go to community discussions, you can hear men saying, she's illiterate, she won't know anything, don't ask her, or she can't even say her name, so what's the point in asking her? I think shifting that mindset from they can't do to they can do would be the first step, especially at the grassroot level."

According to the respondent, women are silenced in public places by using illiteracy as a weapon. A critical first step towards inclusive grassroots decision-making, according to the responder, is to shift these dismissive attitudes so that potential is seen rather than inadequacy.

4.5 Agency

Agency is the power of women and girls to take purposeful action without fear of retaliation. As a result of the interview and survey analysis, the agency appears in six forms in this report: household leadership, experts' perception of female leadership and entrepreneurship, token participation, unity, effectivity, and the inclusion of vulnerable groups. The household leadership in the quantitative analysis and the rest of the elements are present in the interview findings. In the case of the gender of the household leader, there was only a significant gap in WASH access in Nepal, which the gap disappeared by the endline. The respondents mentioned that in WASH-related meetings, women and vulnerable groups are not listened to, and their participation is taken in a tokenistic manner. Moreover, respondents highlighted that female leadership brings unity among the community, brings effective and inclusive solutions that favour vulnerable groups.

4.5.1 Perception of female leadership and entrepreneurship

Perception reflects the description and the image of female leadership and female entrepreneurship that is present in an expert's mind based on their past experiences in the WASH field. According to the respondents, female leadership and entrepreneurship are more than women being in leading positions, it is an interconnected role that relates to women's position in different levels of society.

A2: "For me, I think female leadership is when one has the courage and the confidence to lead any activity or any action without feeling any sense of self-doubt or any sense of feeling others not trusting them."

Respondents collectively indicated that to lead something, one requires inner courage and to feel trust from others. Here, they also mentioned that leadership comes in many forms, such as community leadership and leading a company.

A4: "When women become entrepreneurs, the surrounding people also get motivated "If she can work and she can earn money, I can also do that". So, it gives women a positive impression."

In this quote, the respondent is giving an outcome of female entrepreneurship. According to the respondent, every successful female entrepreneur provides peers with new opportunities, which inspires others and changes local views of women's economic roles from passive to proactive.

4.5.2 Token participation

Token participation describes circumstances in which women or vulnerable groups attend public meetings or WASH committees in person but have little to no actual control over the choices and deliberations. According to the participants, their voices are frequently ignored or disregarded due to social hierarchies and a lack of facilitation.

A2: "At the local government level, there is a mandate from the local government or in any committee that there needs to be 33% women's involvement. Sometimes this is taken in a tokenistic manner where they would put female members in as part of the committee just to fulfil that mandate of 33%."

The respondent emphasised how meeting quotas can turn into a box-ticking exercise: women are brought to the committee in order to reach the 33% criterion, but their meaningful contributions are not always given due consideration due to the committee culture. To the respondent, this serves as an example of how numerical representation by itself is inadequate in the absence of concurrent initiatives to guarantee that women's involvement in decision-making.

A4: "Government people and community women were at a WASH meeting, but initially women didn't participate or speak up, so it needed a lot of advocacy, a lot of work to do because the women are busy till 3:00 PM because they have to cook, clean and everything."

This participant described how domestic responsibilities limit women's ability to prepare for or fully engage in meetings, resulting in silent attendance or no attendance at all.

4.5.3 Unity

Unity highlights instances in which women and vulnerable groups join official or informal collectives to share resources, learn from one another, and increase their negotiating power in the WASH sector. According to the respondents, unity acts as a catalyst that transforms individual vulnerability into group strength, empowering participants to get beyond financial obstacles, bargain with home decision-makers, and more successfully promote inclusive WASH policies and services.

A5: "When women are collective together, they can share experiences, they can comfort each other in case of trouble. They can share knowledge; they can share skills and or they can even access credit as a collective."

The participant emphasised the several advantages of starting women's organisations, including joint credit access, peer learning, emotional support, and skill transfer.

4.5.4 Effectivity

The term "effectivity" describes the real impact that women and vulnerable group actors have on WASH decisions, influencing what is constructed, how much services cost, and whose needs are given priority. According to the respondents, when women go beyond token roles, their viewpoints expand the criteria for choosing solutions beyond just technical or financial factors to include affordability, accessibility, and user comfort for all members of the community.

A8: "Feelings are not put into consideration; you are highly likely to make a decision that is not fully inclusive as a man. That is why I say women will always be better decision makers when it comes to society, because they look at society from different perspectives and different aspects."

According to the speaker, women's decision-making offers a multi- and sympathetic perspective that challenges male decision-making, which is limited. The respondent mentioned that female participation improves the overall quality and social reach of WASH programs.

A4: "For example, sanitary napkin entrepreneurs, people cannot buy the products made by big companies because they are expensive. When these female entrepreneurs produce sanitary pads, it becomes affordable, and it becomes more accessible because people can buy from nearby places."

The respondent mentioned how women's entrepreneurship in this case immediately alters market outcomes by giving the example of locally made sanitary pads, which reduce costs, allowing more users to buy the products.

4.5.5 Inclusion of vulnerable groups

Inclusion of vulnerable groups refers to the degree to which such groups are included in the WASH decision-making and power-holding positions. Participants mentioned several examples where vulnerable groups, such as the elderly or the disabled community, were included by female leaders in WASH.

A6: "There was a mother in her 50s with a son who was disabled, and they were not able to construct their latrine because that was a challenge. Other households came to help. In the end, we came back and saw the latrine and how the disabled man could use the latrine."

The participant gave an example of a household with a disabled member that now has an accessible latrine thanks to the effort and design modifications provided by community members who were recruited through the women's organisation.

A10: "Women replicate. They don't just stay at the implementation level, but to replicate what they do in the communities, and then they try to amplify even the voices of other vulnerable people where they work. They adhere to inclusion."

This respondent highlighted advocacy and scale: female leaders purposefully elevate more voices of the vulnerable and spread inclusive practices from one context to another.

4.6 Institutional Structures

This section analyses both the formal policies and informal cultural norms that can either amplify or negate women's efforts. Respondents mentioned that although all three countries mandate at least one-third female representation in local WASH bodies, gender biases often prove those mandates useless. Moreover, women and vulnerable groups face exclusion due to cultural norms and patriarchal mechanisms within WASH decision-making.

4.6.1 Cultural & societal norms

Cultural and societal norms refer to deep-rooted beliefs, religious values, gender roles, and everyday practices that prevent women and vulnerable groups from taking part in WASH decision-making. Respondents explained how these norms function at the institutional, community, and family levels, which limit time, prevent mobility, and influence opinions about who is "fit" to attend or have a say in WASH decision-making. By bringing these stories to light, the respondents highlighted the invisible social structures that female leaders must navigate before they can have an impact on WASH policy or enterprises.

A7: "There is some negative attitude towards women that women should work in the house, and they should not go outside of the house or do business meetings with people. Right now, things are changing, but it is still a challenge and definitely one of the most powerful challenges."

All participants highlighted a common belief that restricts women to the home and portrays interactions with others or business transactions as inappropriate.

A8: "If I could look at people with disabilities from the aspect of inclusion, they are resourceful people in society. These are people who often get undermined, and yet they actually have a lot to offer, but just because of their physical incapacities, they are left behind."

In this quote, the participant highlighted that one of the barriers for vulnerable communities, in this case, people with disabilities, is the ableist standards of the general public. Respondent mentioned that even if a disabled person has lots to offer in WASH decision-making, it is common for the public to disregard that due to their physical incapacities.

A2: "What would be good is to move away from a society that primarily thinks that women are responsible for more household kind of work, but really to see them as

equal and to give and open up spaces for women because they haven't done justice to women in the past."

This respondent called for a shift from viewing women as caretakers to recognising them as equal decision-makers, arguing that historic injustice necessitates proactive space-opening measures.

4.6.2 Patriarchy

The patriarchy describes how decision-making practices, household structures, and male-centred ownership rules shift power over WASH-related assets and decisions in favour of men. Participants demonstrated how deeply rooted gender stereotypes can limit women's influence over sanitation and water infrastructure by denying them control over land, budgets, or construction, even in cases when they are knowledgeable or have financial resources.

A10: "Land in Uganda is hardly owned by women, apart from some of us who managed to buy some. But land in Uganda is inherited by men basically. And even when you're buying land, even if you may have contributed, the money is put in his (husband's) own name. So, assessing alone whether you want to construct a latrine or do anything related to WASH, it's hard."

The speaker made a connection between ownership of land and WASH autonomy, arguing that women lack the legal authority necessary to decide on the construction of

latrines or other home WASH improvements because traditional inheritance and titling favour men.

A12: "In most parts of Africa, men are the leaders of the home. But also, in every space where you put a man together with a woman, there is that frequent mindset of predominance. Usually, in a home setting, you find that the man will have his headship for dominance."

Here, the participant defined patriarchy as a "headship for predominance", in which men are expected to be the leaders of the household by default. According to the participant, this assumption is present in all mixed-gender settings outside the house.

4.6.3 Intersectionality

According to intersectionality, "women" are not a single, homogenous category; rather, each woman has a variety of intersecting social positions, such as caste, class, race, or marital status, which influence her opportunities and limitations. Intersectionality raises the idea that empowering "any" woman does not necessarily equate to empowering all women in WASH programs. As a result, while supporting female leadership and entrepreneurship, policy or project design must take into account several types of privilege and exclusion.

A2: "If the woman in that leadership position is from a socially excluded group, then I think that would help in the inclusion of that vulnerable community. But if let's say a more upper caste woman is in a higher position of leadership, it may not necessarily always mean that inclusion of the excluded group would be part of their agenda."

According to this participant, a leader who shares the lived experiences of an excluded community is seen as more likely to further the interests of that community, thus connecting leaders' social identities to their agendas.

4.7 Policy Recommendations

Here, the study's results are compiled into practical recommendations for governments, development partners, and sector stakeholders by this last theme, which builds on the insights from agency, resources, and institutional structures to provide a recommendation for each theme.

4.7.1 Implementation - institutional structures & agency

Implementation is the process of putting current WASH policies and committee mandates into action daily, transferring them from written provisions to standard operating procedures. Respondents emphasised that without systematic implementation, consistent monitoring, and proactive support for women's involvement in decision-making bodies, well-written rules or quotas lose their revolutionary impact.

A1: "In the case of Nepal, I would say, policy-wise, there is not much problem. The only problem is in the implementation."

The participant made a distinction between the policy's text, which they believe to be sufficient, and the ongoing delay in implementing those regulations.

A13: "What we realised is that the WASH policy was recently approved with a good provision for the inclusion of women and women's leadership. Also, there is not much to include over there because they have recently been drafted, but the problem is that its implementation in the field, which is one of the crucial areas."

Many respondents highlighted the "implementation gap" while acknowledging progressive policies on women's leadership. According to the respondents, new policies may appear good on paper but putting them into reality is still a major obstacle.

4.7.2 Economic upliftment - resources

Economic upliftment includes policy suggestions meant to increase women's and vulnerable groups' ability to generate revenue through WASH entrepreneurship. According to the interviewees, increased financial accessibility, business-ecosystem support, and earnings control are factors that increase household welfare and provide women more control over WASH service and purchase decisions. These suggestions prioritise income production to transform involvement into real economic power that supports inclusive leadership.

A11: "You find that, in bringing women on board, there is still a gap in sustainable financing for these enterprises. So that's sort of an investment in understanding how these ecosystems of WASH entrepreneurship work. I think it is a critical thing for me that I would desire to see."

The respondent mentioned that long-term, targeted funding tools that address the distinct cash-flow requirements of women-owned WASH businesses, going beyond short-term grants, are required.

A7: "When a woman has income and they have the money in their hand, now they can give their own decision in the WASH-related procurement and other WASH-related things."

This respondent brought up the connection between purchasing power and personal income. Women can freely select water-service options, hygiene products, and latrine designs with their own money, integrating gender-responsive preferences into regional WASH marketplaces and procurement procedures.

4.7.3 Collaboration with men - resources & agency

The term "Collaboration with men" describes the intentional involvement of male supporters, including as household heads, community elders, and local opinion leaders, in WASH activities to undermine gender-biased norms and promote the empowerment of women and vulnerable groups. Respondents emphasised that male support could expedite the adoption of inclusive WASH policies by reducing resistance, redistributing household responsibilities, and validating female leadership.

A9: "Working closely with cultural leaders as opinion leaders in our engagements at the rural level and community levels, we've been able to deal with some of those unfair cultural norms that stop women from coming to meetings and talking."

The participant emphasises how strategically advantageous it is to collaborate with well-respected men, which helps tackle the “unfair” cultural norms targeted towards women.

A1: “If we want to work for women's empowerment, then we need to have men in our next campaign. We need to make male clear to them how their small help will be crucial for females doing things, and then how that will be helpful for them.”

Here, working together is presented as a win-win situation by the respondent. In order for even “small help” to become an appealing, self-reinforcing contribution, the respondent argued that campaigns should highlight the tangible advantages men enjoy, such as increased household welfare.

5. Conclusion & Recommendations

This study evaluated the intersection of gender, education, and wealth with WASH access in Uganda, Nepal, and Bangladesh using both quantitative household survey data and expert interviews. The quantitative analysis demonstrated that education and wealth consistently shaped disparities in access to safely managed water, sanitation, and hygiene services. Female-headed households in Nepal and Bangladesh also experienced less access to clean water and sanitation at various stages of the WASH SDG programme. In contrast, Uganda showed fewer gender-based gaps, though inequities based on education and wealth persisted.

Qualitative findings highlighted the deeper, systemic barriers women and vulnerable groups face, especially in accessing resources (like finance or literacy), asserting agency, and navigating institutional structures dominated by patriarchal norms. While formal quotas and policies often exist to promote equity, the lack of meaningful implementation, combined with cultural norms and economic exclusion, limits their effectiveness.

Nevertheless, the study also identified promising opportunities. Women's collective action and entrepreneurship proved powerful in enabling inclusion and service improvement, particularly when paired with supportive institutional frameworks and the engagement of male allies.

5.1 Policy Recommendations

Based on this mixed-methods research, the following recommendations are directed at governments, development partners, and WASH stakeholders:

5.1.1 Prioritise policy implementation and monitoring

Ensure that gender and inclusion mandates, such as female representation on WASH committees, are not only adopted but also enforced with regular audits, training for male and female members, and public accountability mechanisms. Use this mechanism to eliminate tokenistic participation.

5.1.2 Support sustainable financing for women-led WASH enterprises

Develop targeted funding instruments and capacity-building initiatives that cater specifically to women entrepreneurs in WASH, moving beyond agriculture-based financial aid.

5.1.3 Design an inclusive infrastructure.

Integrate universal design principles in all WASH facilities, including those that accommodate users with disabilities and elderly populations, and involve women in the planning process to ensure accessibility and convenience. Throughout the decision-making process of such designs, include the vulnerable groups who are affected by the decision to make sure that the design is necessary and according to their exact needs. Unnecessary design is expensive, and without the need of the vulnerable group in question, it might prove to be useless.

5.1.4 Address structural literacy gaps.

Incorporate adult literacy and leadership training programmes into WASH interventions to enable women to participate meaningfully in decision-making processes.

5.1.5 Engage men as gender allies.

Actively include male community leaders, elders, and household heads in gender-transformative programming to shift entrenched power norms and reduce resistance to women's leadership. Use this strategy to not only engage with men but also to change the attitude of men towards women.

5.1.6 Institutionalise intersectionality in policy.

Develop policies that recognise how caste, class, marital status, and ability intersect with gender, ensuring that the most vulnerable women are not left behind in leadership and service access. By creating an inclusive policy that informs of the importance of intersectionality, quotas that are put for the inclusion of vulnerable groups and vulnerable women can become more targeted, enhancing their participation.

5.1.7 Use data to inform adaptive programming.

Regularly disaggregate monitoring data by gender, wealth, and education to track equity gaps in real-time and adapt interventions accordingly. Use the data to track the WASH access of vulnerable groups and women. Moreover, a focus on how female leadership enhances social inclusion is needed to find a significant effect, which can be done by collecting more data from programmes linked to female leadership.

In conclusion, addressing WASH inequities requires more than technical solutions. It calls for systemic change, empowering women and vulnerable communities not only to access services but to influence how those services are designed, financed, and governed.

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