

Using individual-level measurement to explore equity and empowerment in health care facilities:

Insights from WaterAid's SWISH Project



Key insights

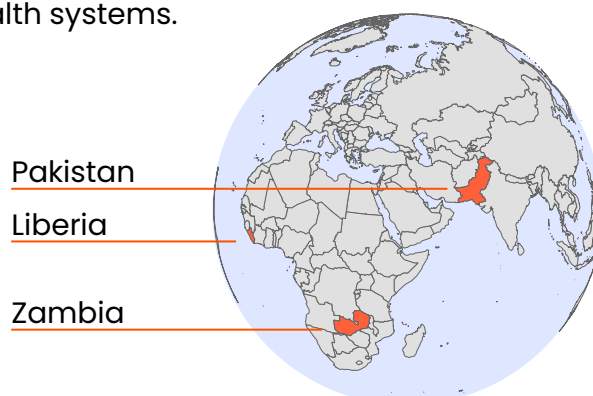
- 1. Access does not equal quality of experience:** WASH infrastructure or reported access does not necessarily translate into safe, reliable, private, or dignified user experiences.
- 2. Staff have strong awareness but limited decision-making power:** While staff actively identify and discuss WASH challenges, there are weak pathways for escalation and action
- 3. Social norms strongly shape resilience and service use:** Gendered expectations and caregiving burdens influence how people experience and continue to use services
- 4. Measurement design directly affects what is seen and understood:** Choices around survey structure, sample size, validation, and visualisation (e.g. dashboards) shape insights and their usability for decision-making.

Background

The Revealing Resilience initiative works to expand the use of individual-level measurement to strengthen inclusive climate resilience and sustainable development. The initiative is funded by the Australian government and led by the University of Technology Sydney – Institute for Sustainable Futures with the International Women's Development Agency's Equality Insights program.

In 2026, Revealing Resilience collaborated with WaterAid to support the use of individual-level measurement in a multi-country baseline assessment on gender equality and WASH (water, sanitation, and hygiene) in health care facilities, which comprise part of the basic social services needed for wider climate resilience. This brief shares findings and learnings from this undertaking.

The **Strengthening Wholistic and Inclusive Systems for Health (SWISH) project**¹ aims to enhance health outcomes in Liberia, Pakistan and Zambia by ensuring inclusive clean WASH services are available and integrated into health systems.



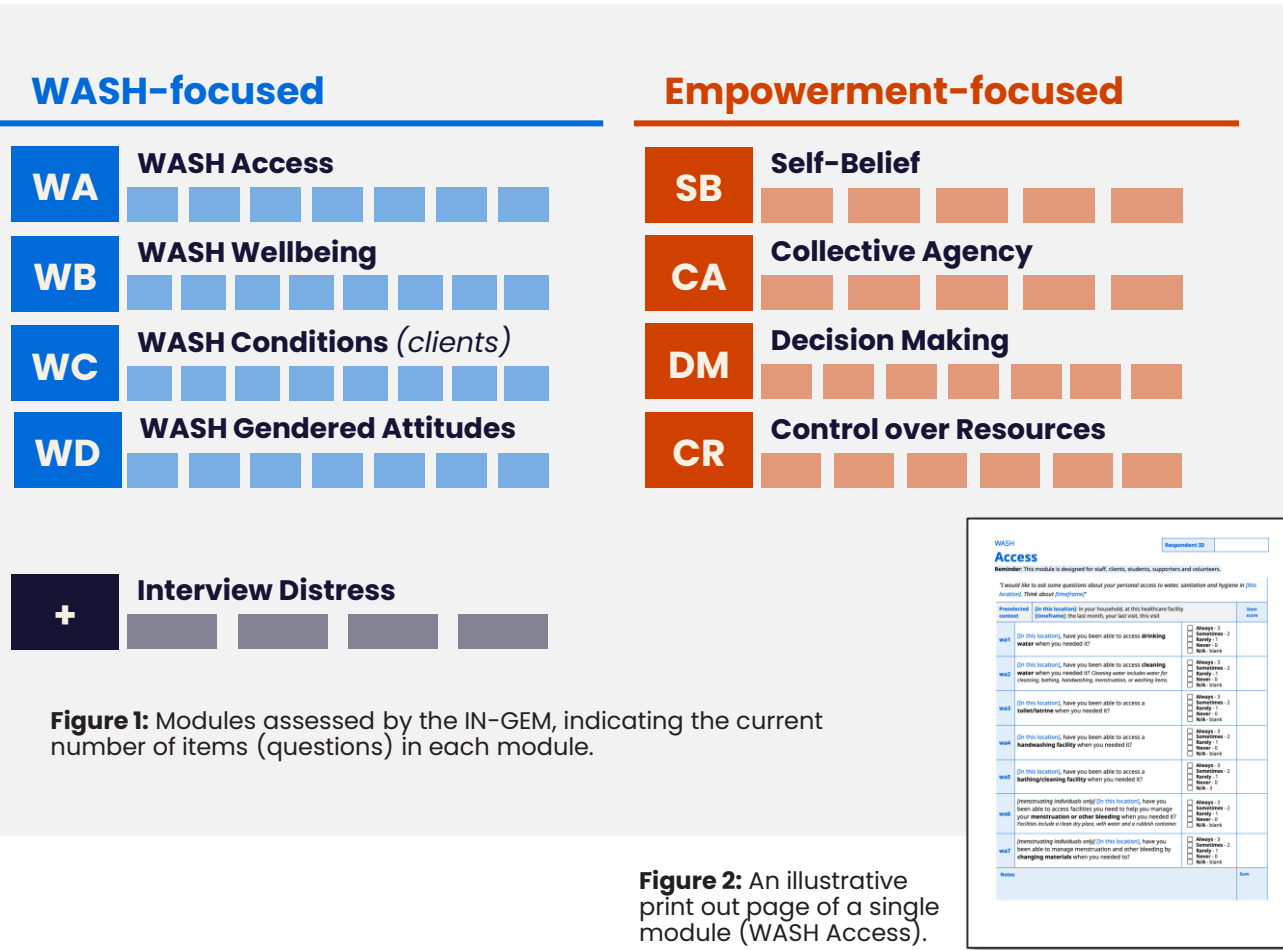
¹ Launch of the [SWISH Project](#)

Approach & Context

Through the SWISH project baseline, WaterAid piloted a tool to measure equity of service provision, empowerment and equality for clients and staff of institutions, with a project-focus on health care facilities (HCFs). The baseline used the IN-GEM tool, an institutional measure of gender equality, and adapts the Water, Sanitation and Hygiene – Gender Equality Measure (WASH-GEM)¹. Across all three project countries, resilient WASH access in HCFs remains low, leading to significant negative health outcomes, which disproportionate impact on women who attend HCFs to give birth.

As illustrated in Figure 1, the IN-GEM comprises of eight curated modules – evenly split between WASH and Empowerment. The IN-GEM’s modules were based on the project theory of change, which can be compared by gender, role, group, age, or other factors. The modules include a set of multiple-choice questions, each response has both a text and a numeric answer out of 3. For each module, the numeric responses are averaged together to create a module score out of 3. The modules are designed to be highly flexible for different institutional and WASH contexts; for example, menstrual hygiene management in schools, or water access in clinics.

In SWISH, HCF staff were asked about their experiences of using WASH and to what extent they felt they control decisions related to WASH in their healthcare facility. Clients were asked about their experiences on meeting their needs around water, sanitation and hygiene when they were at the HCF delivering their baby. A bonus module also tracked participant distress through the interviewing process.



Results

The IN-GEM piloting was included in the wider baseline survey which interviewed staff and clients of HCFs. The data collection and basic analysis was conducted by in-country consulting teams hired by WaterAid and supported by Revealing Resilience in targeted conversations. In parallel, the Revealing Resilience tested the modules for quality and validity using basic statistical techniques. All measures were found to be valid. A digital dashboard was designed in mWater to aid data visualization and sensemaking.

- In **Zambia**, the target groups consisted of HCF staff (83 respondents) across 12 HCFs, as well as clients at a household level (209 respondents) in two districts.
- In **Liberia**, the target groups also consisted of HCF staff (78 respondents) across 12 HCFs, as well as clients at a household level (198 respondents) also in two districts.
- In **Pakistan**, the target groups also consisted of HCF staff (97 respondents) across 10 HCFs, as well as clients at a household level (196 respondents) in one district.

Box 1: Categorizing scores and color-coding for easier interpretation.

The IN-GEM produces a series of numeric scores out of 3. To support interpretation and sensemaking, the project team explored different ways to illustrate and color-code results; ultimately landing on the use of a four-color system which divided scores into four categories like the questions' four response options.

Navy – 'Good'	Blue 'Okay'	Orange 'Poor'	Red – 'Bad'
Higher empowerment, higher wellbeing, better access, low survey distress			Low empowerment, low wellbeing, low access, high survey distress
[≥ 2.30 – 3.00]	[≥ 1.50 – 2.30]	[≥ 0.80 – 1.50]	[0.00 – 0.80]

Note: The scoring categories for interview distress are reversed to better indicate that high distress is bad and low distress is good.

Table 1: Average scores for HCF **clients** (all female)

	n=	WASH Access	WASH Wellbeing	WASH Conditions	WASH Attitudes	Survey Distress
Country						
Liberia	202	2.46	1.99	1.28	1.42	0.89
Pakistan	196	2.68	2.44	1.06	n/a	0.11
Zambia	212	2.36	1.91	1.56	1.73	0.74
Disability						
No	591	2.50	2.11	1.30	1.06	0.59
Yes	19	2.41	1.86	1.36	1.55	0.63
Age						
18-25	279	2.52	2.13	1.37	1.27	0.70
26-40	315	2.48	2.08	1.25	0.87	0.48
41+	14	2.39	2.04	1.35	1.65	0.57
Education						
Literacy-	189	2.52	2.21	1.04	0.55	0.40
Primary	172	2.39	2.03	1.34	1.28	0.70
Secondary+	242	2.55	2.10	1.49	1.30	0.65
Other	7	2.18	1.53	1.37	1.57	0.57
Summary	610	2.49	2.10	1.31	1.07	0.59

Average scores to each module were calculated for both staff and clients as shown in **Table 1** and **Table 2** by key characteristics. Clients were asked five modules, staff eight.

The colour categories visualise important differences between sub-groups. Yet, importantly, small sub-groups (less than 30 people) may not be big enough to make generalizable conclusions.

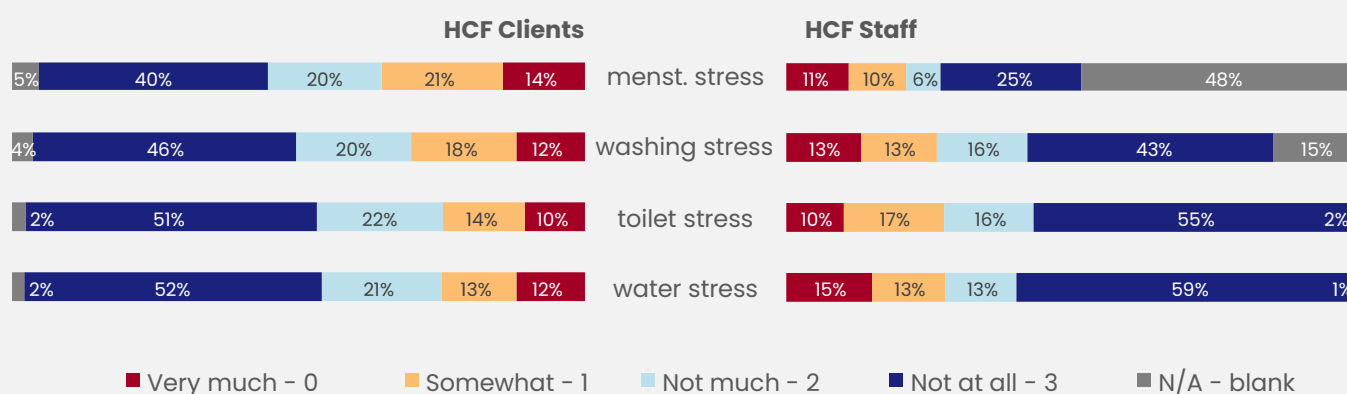
Note that some small differences in the counts are found in this table due to ongoing data cleaning.

Table 2: Average scores for HCF staff

	n=	WASH Access	WASH Wellbeing	WASH Attitudes	Self-Belief	Decision-Making	Collective Agency	Control over Resources	Survey Distress
Country									
Liberia	78	1.97	1.72	1.88	1.77	1.98	1.83	1.24	0.75
Pakistan	97	2.46	2.40	1.45	1.66	1.85	1.73	1.33	0.09
Zambia	90	2.13	1.75	2.14	2.08	2.41	2.19	2.04	0.50
Disability									
No	261	2.20	1.99	1.80	1.83	2.06	1.91	1.56	0.42
Yes	4	2.38	1.29	2.43	2.31	2.82	2.10	0.79	0.50
Gender									
Male	132	2.25	2.02	1.79	1.81	1.98	1.87	1.54	0.34
Female	133	2.15	1.94	1.84	1.86	2.17	1.96	1.55	0.51
Age									
18-25	18	2.48	2.26	1.65	1.48	1.78	1.53	1.66	0.17
26-40	162	2.20	1.98	1.86	1.84	2.11	1.97	1.61	0.43
41+	85	2.15	1.93	1.75	1.91	2.08	1.89	1.40	0.48
Education									
Literacy-Primary	13	2.16	2.00	2.08	0.80	1.40	1.43	1.78	0.69
Secondary+	38	2.24	1.90	1.52	1.68	1.92	1.87	1.36	0.30
	214	2.20	1.99	1.85	1.93	2.14	1.95	1.56	0.43
Summary	265	2.20	1.98	1.81	1.83	2.08	1.92	1.54	0.42

Box 2: Deeper exploration of four questions from the WASH Wellbeing module

The average scores displayed in Tables 1 and 2, can be further explored by examining the results for each question. For example, the WASH Wellbeing module includes four questions about stress related to menstruation, washing/bathing, toileting and collecting water illustrated below for all three countries. When comparing clients and staff, we see that broadly clients have a bit more WASH-related stress than staff, but that the staff results are strongly gendered. Not illustrated in the chart below, further exploration shows that female staff (31%) have much more stress about water collection than male staff (25% very much or somewhat stressed).



Methodological Lessons

- **Embedding the tool within baselines led to respondent fatigue.** In future uses of the survey, it is recommended to use the IN-GEM as an entirely separate tool or to condense the wider survey. In particular, women clients described having a hard time remembering their birth and related WASH experiences. Instead of a post-birth household survey, a shorter version of the survey could be included in a post-natal check ups or other follow ups.
- **Revealing Resilience support for validation the quality of the modules was highly valuable.** The Revealing Resilience team checked internal consistency, inter-item correlations, item difficulty and item discrimination to help check the quality of the IN-GEM modules using the software RStudio. As this validation requires specialised skills that are often not part of standard programme expertise, it may be more difficult to do these quality checks in the future.
- **Dashboard visualisation significantly strengthened interpretation of findings.** Building the dashboards in mWater helped make the results more accessible and helping to identify important issues. This also included backend scoring of each module and calculation of average scores which helps avoid the use of specialised software such as RStudio or even Excel which is not as secure.
- **Small sample sizes limited the strength of conclusions that could be drawn.** As study was exploratory there was not a deliberate oversampling of individuals with disabilities. This meant that some intersection analyses led to very small sub-groups (e.g. n=4, n=13) which could not be used to draw representative conclusions. Nonetheless, the study does reveal that there are few staff or clients which self-report functional difficulties as per the Washington Group Questions.
- **Clear survey design improved implementation and analysis.** Although the modules were being designed and tested in parallel, aspects such as uniform response options, clear scoring and well-defined demographic information were highlighted as important aspects to bridge the raw data and clear visualization for analysis and interpretation. In particular, having lots of options for education, while interesting proved difficult to analyse and cluster.
- **Resilient WASH in HCFs as a basic social service supports wider climate resilience.** Dimensions such as self-efficacy, decision-making roles, collective agency and control over resources give insight towards differential capacity to adapt and ensure resilient WASH in HCFs, itself needed for wider climate resilience.

Learning brief prepared by Jess MacArthur of University of Technology Sydney - Institute for Sustainable Futures with contributions from Water Aid Pakistan, Liberia, and Zambia.

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