

The persistence of failure in water, sanitation and hygiene programming

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Abstract

Introduction

Unsafe water, sanitation and hygiene (WASH) causes millions of deaths and disability-adjusted life years annually, particularly in low- and middle-income countries. Despite the vast sums of money invested, WASH programming continues to fail to improve health outcomes or be sustainable in the longer term, consistently falling short of internal key performance indicators and sometimes negatively impacting the wellbeing of local stakeholders. Although sector experts in high income countries have often provided explanations for such failures, rarely have those implementing WASH programming at the ground level been heard.

Methods

We conducted 96 in-depth interviews with 108 frontline WASH professionals in Malawi, South Africa, Tanzania and Zimbabwe on why they believe WASH failure persists. Through participatory analysis, including framework analysis with additional axial coding, and member-checking of our findings, we determined nine core reasons for WASH failure.

Results

Interviewees reported issues throughout implementation, from the engagement and commitment of intended users to unrealistic and idealistic expectations of funders and implementers, to a general lack of workforce and financial capacity. These reasons coalesce into an overarching problem: the projectization of WASH programming, particularly how it confuses issues of accountability and overly focuses on measurement, places high expectations on intended users, and assumes project 'handover' will lead to ongoing maintenance and behaviour change.

Conclusion

To achieve sustainable WASH programming that can in turn improve health outcomes, there must be a shift away from projectization led by 'experts' in high income countries, to longer term processes driven by local actors. Such programming will require genuine participation of all stakeholders in all aspects of its design, embedding accountability to intended users, and allowing for flexibility and experimentation.

Keywords

Failure

Participation

Development

Funding

Critical development studies

Key messages

What is already known on this topic

Water, sanitation and hygiene (WASH) programming is failing to be sustainable, and thus improve health outcomes. Due to the sensitivity of the topic, the reality of why failures occur at the implementation level has been largely unexplored.

What this study adds

This study hears from the WASH professionals who implement programming in low- and middle-income countries, spanning private sector, non-governmental organisations and government employees. They provide insights that would otherwise go unheard, and explain why past attempts to adjust WASH programming have largely failed due to the projectized approach of global health and international development.

How this study might affect research, practice or policy

This study provides practical recommendations for WASH funders on how they can improve sustainability through longer term financial and non-financial support and programming that is driven by local knowledge rather than overseas 'expertise,' accountable to intended users, and allows for flexibility and experimentation in developing sustainable solutions.

1. Introduction

1.1. The water, sanitation and hygiene imperative

1.4 million people die each year from diarrhea, acute respiratory infections, undernutrition and soil-transmitted helminthiases attributed to unsafe water, sanitation and hygiene (WASH), mostly in low- and middle-income countries (LMICs) (1). A further 74 million disability-adjusted life years are lost due to WASH-attributed morbidity of these diseases, and there is emerging evidence that poor WASH, particularly water insecurity, has detrimental impacts on mental health (2).

The importance of global action to improve WASH has been recognised since at least the United Nations (UN) Water Conference, which led to the Mar del Plata Action Plan (3). After decades of international efforts to achieve universal WASH, in 2015 member states of the UN General Assembly endorsed the Sustainable Development Goals (SDGs); within these, Goal 6, to “Ensure availability and sustainable management of water and sanitation for all (by 2030)” (4). The SDGs apply to all countries, but although there are sub-populations within high income countries experiencing very poor WASH conditions (5), most international efforts to improve WASH have continued to be directed towards LMICs, and we focus our study in such regions.

Since 2000 an extra 2.3 billion people have gained access to at least basic household water (including within a 30-minute roundtrip), and 3.0 billion to at least basic household sanitation (6). Whilst progress has been made, it is estimated that in order to achieve universal WASH by 2030 there will need to be a six-fold increase in current rates of progress for safely managed drinking water, a five-fold increase for safely managed sanitation, and a three-fold increase for basic hygiene services (6). To achieve such an acceleration, efficient and effective WASH programming is required. Yet, despite progress towards universal WASH, there have also been many failed ventures.

1.2. Failures in WASH programming

The primary goal of all WASH programming is to improve health outcomes¹ through achieving sustainable access for the intended users of services (certain stakeholders may have secondary goals, e.g., profit or political capital, but arguably these need to be accompanied by access). Programming which does not contribute to achieving sustained access can be considered to have failed. This may be a waste of resources (natural, human, financial), but WASH programming can also fail by having negative impacts on individuals. Examples of projects which have clearly not met their intended technical and/or social goals, or have resulted in unintended negative consequences, abound. In extreme cases, intended users (8, 9) or staff maintaining WASH infrastructure (10) have died or been injured. Many programmes have been deemed successful when they have been completed but have failed to be sustainable in the longer-term, for example, the now infamous example of Engineers' Without Borders Canada's unsustainable water project in Malawi (11). Others have been deemed successful by implementers, but denounced by users, for example, the urine-diversion dry toilets installed in e-Thekwini, South Africa (12). Multiple studies have identified the potential and actual negative impacts of community-led total sanitation (CLTS) and sanitation marketing programmes on individuals' mental health (e.g., 13, 14) and community social cohesion (e.g., 15, 16). Finally, implementers in LMICs (rarely in high-income countries, HICs) often encourage, sometimes require, intended users or local entrepreneurs to invest time and/or money to WASH programming. Although rarely discussed, when this programming does not succeed in improving WASH there are lost opportunity and actual sunk costs that have been invested by local stakeholders (particularly women intended users) (17, 18). These examples demonstrate how WASH programming – even that which may have achieved progress towards universal access – may be considered to have failed by at least some stakeholders.

¹ We note that there is still debate about how best to improve health outcomes through better WASH, e.g., discussions following the WASH Benefits and SHINE randomised control trials (7), but argue that there is sufficient evidence that poor WASH does negatively impact on wellbeing that WASH programming with the aim of improving health outcomes must continue.

1.3. Understanding causes of WASH failure

Identifying and attributing causes to WASH failures is not new. Although the failures of specific programmes are often not publicly discussed (19), WASH professionals have been highlighting risks to programming for decades. For example, in 1983, as part of the International Drinking Water Supply and Sanitation Decade (The Decade), the World Health Organization (WHO) conducted a global survey to understand the constraints the sector faced to achieving universal water and sanitation by 1990. These included funding limitations, lack of operation and maintenance, inappropriate institutional frameworks, lack of (sub) professional staff, import restrictions, logistics, insufficient efforts towards health education, intermittent water services, non-involvement of communities in programming, lack of government policy, lack of planning and design criteria, inappropriate technology, inadequate or outmoded legal frameworks, insufficient knowledge of water resources, and inadequate water resources (20). Many of these risks had already been alluded to in the 1970s, particularly the need to move away from capital to operational expenditure and to develop long-term management plans in collaboration with intended users (21).

Despite these causes of WASH failure being clearly identified in the 1970s and 1980s, WASH programming continues to fail. Recent publications indicate that WASH sector experts perceive causes of continued failure to be very similar to those identified as hindering the universal achievement of WASH in The Decade: priorities of intended users are not met; operation and management is not adequately budgeted for, and/or the processes for it are inadequate; lack of consideration of local social, cultural and physical contexts and their complexity; systems are not designed to be affordable to intended users; donors prefer to fund capital expenditure and infrastructure rather than operational costs; government support is inadequate; institutional weaknesses and bureaucratic processes inhibit success; guidelines from donors are too rigid; staff capacity and capabilities are insufficient; organisations and departments do not adequately

communicate and coordinate; WASH is a low political priority; and there is limited local engagement (22-36).

1.4. This study

Most of the opinions being publicly shared on why WASH failures keep occurring in LMICs are those of sector experts based in HICs (e.g., staff at multi-lateral organisations such as UN agencies, development banks, consultant evaluators and senior academics). Thus, we envisioned a study where those closest to programming – the WASH professionals who directly implement it – could share their views on why so many WASH initiatives fail.

Our team of researchers had a current and historical focus in sub-Saharan Africa (SSA), particularly Malawi, South Africa, Tanzania and Zimbabwe, and thus we endeavoured to hear from frontline WASH staff in this region. We anticipated that there may be local knowledge that had thus far been overlooked but which could – and should - be considered when attempting to prevent future WASH failures. We also wanted to understand whether the perceived causes of WASH failure in SSA were similar to other LMICs and identify whether there were obvious solutions to improving WASH access globally.

2. Materials and methods

This article is reported according to the Consolidated criteria for reporting qualitative research (COREQ) guidance (checklist included as Supplementary Material 1, 37). The research proposal itself, research tools (i.e., interview guide and instrument development and contextualisation workshop template), ethical paperwork (i.e., participant consent form and participant information sheet) and de-identified interview transcripts are available online via the Open Science Framework (doi.org/10.17605/OSF.IO/VX84M, 38).

2.1. Patient and public involvement

Three of the authors (DJB, RCS, ES) have been facilitating sector-wide discussions on where things go wrong in WASH since 2018. This has included running gameshows and seminars at international conferences, facilitating and taking part in online discussions, webinars and panels, and co-developing a manifesto for change with interested colleagues. Through these avenues it became clear that WASH professionals globally would like to prevent further failures through better understanding the mechanisms at implementation stage, and thus we convened a larger group of academics and practitioners to develop this study.

2.2. Study design

The Principal (DJB), Co-Principal (RCS) and Co-investigators (AC, TM, MNS, JB, TK, SK, KL, RDM, OM, AO, KTR, JR, ES, EW) developed an initial interview guide, which included a set of suggested prompts that would encourage participants to share their perceptions and experiences of failures in WASH programming. An instrument development workshop template, designed to contextualise the interview guide and train interviewers in each of the four countries, was also developed. The instrument development workshops were led by RCS and AO in South Africa, TM, KL and RDM in Malawi, AC and TK in Zimbabwe, and OM in Tanzania. The workshops had two aims: 1) contextualise the data collection instrument so that it would be appropriate in the local setting, including putting participants at ease when discussing sensitive topics; and 2) making data collectors familiar with the project and research tools and incorporating their feedback. Due to COVID-19 restrictions, in some locations the data collection instrument and delivery method were adapted for remote interviewing (i.e., via the phone or virtually).

The final data collection instrument in each country was an open-ended in-depth interview, where interviewers were specifically asked not to define WASH failures on behalf of participants. Participants were asked to discuss what they considered to have been failures in WASH programming that they had observed, including those which they believed had been 'fixed'. Interviewers probed participants to explain what had happened, why they think it happened, and how they think it might have been avoided, or how it was later addressed.

2.3. Sampling

Due to the exploratory nature of this project, and the sensitive nature of the topic, sampling and recruitment were conducted via purposive (to ensure a mix of private, public, non-governmental and academic participants) and snowball (to identify further participants) sampling. Appropriate participants were identified by the research leads in each country (RCS in South Africa, TM in Malawi, AC in Zimbabwe, and OM in Tanzania) from existing relationships and knowledge of the local WASH sector. The data collection teams approached potential participants in person, through email or by phone. Recruitment continued until all avenues were exhausted and the research team believed they had extended invitations to frontline WASH professionals from all relevant organisations within their networks (rather than through saturation). Records were not kept of how many potential participants declined to be interviewed.

2.4. Data collection

Local researchers collected data in each location in 2020; see Supplementary Information 2 Table S1 for a description of their backgrounds and relationships to participants. Although participants were invited to be interviewed individually, they could opt to be interviewed in a group if they wished. Interviews were undertaken in person (privately, in a location preferred by the

participant/s) or over the phone/online, depending on the preferences of participants and COVID-19 restrictions. All interviews were audio-recorded.

2.5. Analysis

Audio recordings of the interviews were transcribed verbatim and translated into English where necessary. Analysis was then conducted through a participatory method:

1. Members of the author team (DJB, JB, AC, TK, SK, KL, RDM, OM, TM, AO, KTR, JR, ES, RCS, MS, EW) were assigned a random sub-set of transcripts (five or six each) and prepared research memos (39) for all ninety-six transcripts. For each interview authors noted what participants perceived to be the main causes of WASH failures (themes).
2. DJB convened an online workshop to present and discuss the emerging themes. This allowed us to discuss our own biases and reality-check that we were interpreting the data itself rather than imposing our own views.
3. DJB and JB took notes and later reviewed all of the memos, identifying reasons participants provided for WASH failures. They developed and shared a coding framework with the rest of the author team (by email), which all agreed represented the overarching findings.
4. A research brief was prepared and a workshop convened in each location, where country teams shared a draft with participants to determine whether they agreed with the overarching findings, and to identify those findings which were specifically important in the local context. This was in lieu of member checking interview transcripts.
5. After some small alterations, the overall research brief (40) and briefs for Malawi, Zimbabwe and South Africa (41-43) were published online and shared widely within the WASH sector. A separate brief was not published for Tanzania as there was no content specific to the country that needed highlighting.

6. To enable a more in-depth analysis, DJB coded each of the transcripts using NVivo (44) through a process of both framework analysis (using the framework co-developed by the author team and approved by participants) and further axial coding (39); assigning new codes as they arose across multiple transcripts. DJB coded all the data and considered a theme saturated if it was present in at least 25% of the transcripts. A few minor themes arose in a handful of transcripts (<15%) and are not discussed in this manuscript.
7. DJB shared the project file (codebook and coded extracts) and her interpretation of each perceived cause of failure with RCS to confirm the validity of the findings. The final codebook as relevant to this manuscript is included as Supplementary Material 2, Table S1.
8. The coded content and interpretation of each perceived cause of failure was then provided to, and discussed with, the other co-authors to confirm that all agreed with the conclusions based on their experiences as interviewers and/or analysts.

2.6. Authors' positional

We are a group of researchers from a variety of research disciplines and a mixture of high-, middle- and low-income countries, with experience working on WASH in a variety of contexts (Supplementary Information 2 Table S2). Although each of our individual backgrounds could have introduced bias into our project design, analysis and reporting, we trust that our participatory method of analysis and member-checking, as well as our attempt to employ self-critical epistemological awareness (45), have allowed us to foreground the perceptions of our participants in our findings.

2.7. Ethical considerations

Workplace failures are a sensitive topic to discuss, and disclosure could have personal and professional ramifications for participants. We were thus cognisant from the outset that the utmost care would need to be taken to confirm invited participants understood the voluntary nature and risks of the study, especially if they were invited by a colleague or recommended by their superior.

Because the voices of frontline WASH professionals are rarely heard, we decided that transcripts would be shared open access (so they could be used by fellow researchers and practitioners interested in this topic) provided they could be both sufficiently de-identified (from the participant, their organisation and any colleagues or intended users discussed) and did not contain sensitive information which the team deemed could cause harm when shared. To do so, two members of the author team reviewed each transcript (different paired members for each transcript) to remove identifying information and determine whether it was too sensitive to be shared open access. Ninety-four (of ninety-six) transcripts which could be successfully de-identified and were not deemed sensitive are available online (38). Two transcripts have not been shared publicly as they contain sensitive information which could not be sufficiently de-identified.

The project received ethical approval from [University of Leeds \(Engineering and Physical Sciences Joint Faculty Research Ethics Committee, MEEC 19-009\)](#) to contextualise the data collection tool, train local data collectors, and conduct the research. Local ethical approval was received in Tanzania (Medical Research Coordinating Committee, [NIMR/HQ/R8.a/Vol/IX/3393](#), Ministry of Health, Community Development, Gender, Elderly and Children), Malawi (National Committee on Research in the Social Sciences and Humanities, National Commission of Science and Technology, [P.12/19/444](#)) and South Africa ([UKZN Humanities and Social Sciences Research Ethics Committee, HSSREC/00001420/2020](#)), and waived in Zimbabwe by [National University of Science and Technology's Research Office](#) (not required as research was not medical or biological).

3. Results

Ninety-three individual interviews and three group interviews were conducted with a total of 108 frontline WASH professionals (Table 1). Interviews were on average 30-60 minutes long. Participants identified a variety of definitions and examples of WASH failures: challenges within programming (which may or may not have been rectified later) and/or programming that did not meet pre-defined end goals on time and within budget, was not sustainable in the longer-term and/or did not meet the priorities of intended users. Although participants were able to discuss any WASH programming they deemed important, most examples provided were regarding time-bound projects funded by international donors.

Table 1: Interviews facilitated in each country

	Individual interviews					Group interviews		Total transcripts
	Government	NGO or CSO	Academic institution	Private sector	Community leader	Government	NGO or CSO	
Malawi	7	27						34
South Africa	3	3	2	5	2		1 FGD (2 individuals)	16
Tanzania	10	11		3		2 FGDs (13 individuals)		26
Zimbabwe	9	10	1					20
TOTAL	96 transcripts, 108 individuals							

Participants identified nine perceived core causes of WASH failures (**Error! Reference source not found.**), discussed here from most to least prevalent in the transcripts. This section provides an explanation of each cause and some illustrative quotes; additional illustrative quotes for each perceived cause of failure are provided in Supplementary Information 2, Table 3.

Table 2: Themes and codes given by interviewees **based on their perceptions** of why WASH programmes fail. Numbers in brackets indicate the number of transcripts coded to this theme as a percentage of all transcripts for that country/overall. Overarching themes are listed in order from most to least prevalent in transcripts.

Theme + child codes	Definition	Number of transcripts theme/code was identified in				
		Malawi (34 transcripts)	South Africa (16 transcripts)	Tanzania (26 transcripts)	Zimbabwe (20 transcripts)	Overall (96 transcripts)
Low levels of commitment from intended users	Failure caused by low levels of commitment of intended users regarding their roles in WASH programming	30 (88%)	9 (56%)	21 (81%)	17 (85%)	77 (80%)
Crime	Failure caused by small scale crime (e.g., vandalism, theft of WASH materials)	6	3	5	1	15
General	Failure caused by uncommitted intended users not coded elsewhere	16	2	11	10	39
Historical and/or cultural beliefs	Failure caused by historical and/or cultural beliefs around WASH practices	7	1	6	1	15
Ineffective local leadership	Failure caused by ineffective leadership at the very local level (e.g., committees, chiefs)	7	1	3	4	15
Insufficient knowledge	Failure caused by intended users not having adequate WASH knowledge	8	2	9	3	22
Remuneration expectations	Failure caused by intended users expecting payment for time and/or for WASH services to be provided for free	17	5	8	8	38

Theme + child codes	Definition	Number of transcripts theme/code was identified in				
		Malawi (34 transcripts)	South Africa (16 transcripts)	Tanzania (26 transcripts)	Zimbabwe (20 transcripts)	Overall (96 transcripts)
Poverty	Failure caused by the poverty of end users, particularly where WASH is not their highest spending priority	16	2	11	5	34
Inadequate engagement	Failure caused by implementers not adequately determining and/or considering the self-identified needs of intended users in planning and design, or not providing sufficient education and training on the intended programming	22 (73%)	8 (50%)	22 (85%)	14 (70%)	66 (69%)
General	Failure caused by inadequate engagement not coded elsewhere	8	3	3	4	18
Needs assessment, planning, design	Failure caused by a lack of engagement with intended users during needs assessments, planning and design	19	5	10	10	45
Programming education/training	Failure caused by a lack of education and/or training regarding the programme being implemented	6	3	16	6	31
WASH education	Failure caused by a lack of WASH education (particularly around the impacts of poor WASH) being embedded within programming	0	0	11	3	14
Idealistic planning	Failure caused by idealistic planning which assumes programme theories of change are correct from the outset, budgets and timeframes will not change, and programmes will be sustainable for a long period after implementation.	30 (88%)	5 (31%)	18 (69%)	12 (60%)	65 (68%)
General	Failure caused by idealistic planning not coded elsewhere	4	0	1	2	7
Inappropriate budgeting	Failure caused by implementers budgeting inappropriately	15	0	11	4	30

Theme + child codes	Definition	Number of transcripts theme/code was identified in				
		Malawi (34 transcripts)	South Africa (16 transcripts)	Tanzania (26 transcripts)	Zimbabwe (20 transcripts)	Overall (96 transcripts)
Post-project monitoring	Failure to be able to assess the sustainability as no monitoring is done following implementation	2	0	6	0	8
Project length	Failure caused by projects being too short to achieve their goals	5	1	1	5	12
Sustainability assumptions	Failure caused by assumptions that altered WASH behaviours will continue and users (or some other third party) will do or fund operation and maintenance after implementation	21	5	7	6	39
Politics and bureaucracy	Failure caused by political motivations and slow or overly complicated bureaucracy	21 (62%)	9 (56%)	14 (54%)	7 (35%)	51 (53%)
Bureaucracy	Failure caused by lengthy and complicated bureaucracy	6	4	7	0	17
General	Failure caused by politics and bureaucracy not coded elsewhere	4	4	3	4	15
Individuals' priorities	Failure caused by of the priorities of individuals (politicians, staff within government departments and community leaders) being considered above those of institutions/communities.	9	7	8	4	28
Political will	Failure due to WASH not being considered a priority of the government	9	2	7	1	19
Poor coordination and communication	Failure caused by poor coordination and communication between WASH sector actors and intended users	26 (76%)	6 (38%)	10 (38%)	7 (35%)	49 (51%)
General	Failure caused by poor communication and coordination not categorised elsewhere	7	2	4	0	13

Theme + child codes	Definition	Number of transcripts theme/code was identified in				
		Malawi (34 transcripts)	South Africa (16 transcripts)	Tanzania (26 transcripts)	Zimbabwe (20 transcripts)	Overall (96 transcripts)
Poor communication between WASH sector professional actors	Failure caused by poor communication and coordination between WASH sector professional actors (i.e., not including intended users)	24	5	7	6	42
Withholding of information	Failure caused by implementers purposefully withholding information from other stakeholders	4	1	1	1	7
Insufficient capacity	Failure caused by insufficient human resource capacity	15 (44%)	4 (25%)	15 (58%)	6 (30%)	40 (42%)
Staff capabilities	Failure caused by insufficiently trained implementation staff	14	3	15	5	37
Staff turnover	Failure caused by the constant turnover of implementation staff	4	2	0	1	7
Unrealistic funder expectations	Failure caused by unrealistic funder expectations which, combined with a competitive funding environment means that organisations find themselves overpromising in terms of activity and timelines, and reluctant to report problems as they arise	21 (62%)	1 (6%)	8 (31%)	7 (35%)	37 (39%)
“Funder knows best”	Failure because funders impose their own ideas about programming, rather than listening to implementers/intended users	14	0	1	1	16
General	Failure caused by unrealistic funder expectations not categorised elsewhere	7	0	4	1	12
Inadequate funding	Failure due to implementers having inadequate funds to achieve their goals	8	0	4	5	17

Theme + child codes	Definition	Number of transcripts theme/code was identified in				
		Malawi (34 transcripts)	South Africa (16 transcripts)	Tanzania (26 transcripts)	Zimbabwe (20 transcripts)	Overall (96 transcripts)
Limited flexibility	Failure due to lack of flexibility in timelines and budgets	7	1	2	2	12
Measurement priority	Failure due to funders prioritising outcomes that can be easily achieved and counted over those which require longer term behaviour change or qualitative measurement	5	0	1	1	7
Lack of funding	Failure caused by a general lack of funding	22 (65%)	4 (25%)	6 (23%)	4 (20%)	36 (38%)
Inappropriate technology	Failure caused by implementing WASH technologies which are inappropriate to the physical environment	16 (47%)	0 (0%)	7 (27%)	1 (5%)	24 (25%)
Climate	Failure caused by implementing WASH technologies that are inappropriate due to the current and/or changing climate	12	0	6	1	19
Soil and/or topography	Failure caused by implementing WASH technologies that are inappropriate due to soil and/or topography	4	0	1	0	5
Water table	Failure caused by implementing WASH technologies that are inappropriate for the depth of the water table	5	0	0	0	5

3.1. Low levels of commitment from intended users

The most cited reason for project failure was that participants did not consider the intended users adequately committed to WASH programming. Whilst in some cases intended users were clearly being blamed for WASH failures, other participants explained that programmes were not designed to meet the needs or priorities of intended users, so it was unsurprising when users did not participate as fully as programme designers and implementers may have wanted.

It was common for participants to attribute failure to poverty, where even if intended users were interested in improving their WASH situation, this was not their highest priority because *“sometimes issues of poverty can turn priorities upside down”* (Malawi, Government Participant 7). Participants also often mentioned small scale crime, such as theft and vandalism of WASH goods, although this was sometimes not blamed on intended users themselves because, e.g., *“they need to send their child to school, they need to buy food, they need to do these things”* (South Africa, Government Participant 1). Sometimes participants believed that intended users lacked sufficient knowledge to know the harms associated with poor WASH, and thus were not committed to WASH programming, and this lack of knowledge was sometimes linked to historical and/or cultural beliefs and behaviours around WASH, e.g., *their parents and grandparents did not have latrines and survived for generations”* (Zimbabwe, NGO Participant 1). Another reason given was ineffective local leadership, where chiefs and councillors do not command the respect required to facilitate WASH improvements. Finally, many participants attributed a lack of commitment by intended users to their expectation of payment for their time and/or that WASH services should be provided for free. Although this was sometimes attributed to historical expectations (where free services and allowances have been provided by other organisations or governments) or political motivations, e.g., *“provide me with the service because I vote”* (South Africa, Private Sector Participant 1), some participants did place negative judgements on intended users due to this expectation.

3.2. Inadequate engagement of intended users

Many participants identified the inadequate engagement of intended users throughout the WASH programming lifecycle as a cause of failure. Often this was because intended users “*are not involved in the development process of the project*” (Malawi, NGO Participant 12). Participants also identified that programmes often lacked training specific to the WASH programming, such that intended users did not know why the programme was being implemented, that it was for their benefit, and/or how to maintain the infrastructure/behaviour change in the longer-term. In Tanzania and Zimbabwe, participants also identified that a lack of WASH education within programming was contributing to failure.

3.3. Idealistic planning

Participants often identified idealistic planning by implementers as a cause of failure. This included a tendency for implementers to budget inadequately, or not consider where resources may be impacted by factors external to the project. Inadequate timeframes which did not account for delays, and funding that did not allow for extension, were also often blamed, e.g., “*researchers work on best case scenarios and researchers are people writing all the proposals.*” (South Africa, NGO Participant 1). Many participants also noted that projects assumed that intended users (or another agency) would carry out and pay for operation and maintenance of infrastructure and users would also continue with ‘changed’ WASH behaviours after funding ended, despite evidence that this assumption was flawed. This was compounded by a lack of monitoring after programmes had ended, which could provide evidence of the longer-term success or failure of different approaches.

3.4. Politics and bureaucracy

Just over half of the participants indicated that political motivations and bureaucracy contributed to failure. This was often attributed to politicians, government staff or local leaders directing funds to groups or individuals to win favour or elevate their own priorities, e.g., “[when] seeking votes from the people ... some standards such as borehole depth are compromised” (Malawi, NGO Participant 17). Sometimes failures were deemed to be due to a lack of political will, e.g., because governments “would rather use the money to buy drugs to treat diarrhoea rather than to implement activities that would help someone to prevent all diarrhoea infections” (Malawi, Government Participant 7). Lengthy or complicated bureaucracy was also often cited as a cause of failure, particularly delays in being able to release funds, e.g., “because of bureaucracy, we still have to go to tender ... we will stay a month with a toilet or an ablution block that is not working” (South Africa, CSO Participant 2).

3.5. Poor coordination and communication

Around half of the participants indicated that poor coordination within the sector, and poor communication between stakeholders, led to failure. This was mostly due to professional WASH actors failing to communicate and coordinate with one another, because “departments work in silos, department of housing is sitting somewhere planning their own thing. Whereas the department of water and sanitation is sitting somewhere planning their own thing” (South Africa, CSO Participant 2). Sometimes failure was perceived to have been caused by implementers purposely withholding information from other stakeholders, thus “the project was built using a baseline with false information” (Zimbabwe, Government Participant 1). This was sometimes attributed to stakeholders not wanting to disclose budget amounts to one another.

3.6. Insufficient human resource capacity

Several participants identified a lack of human resource capacity as contributing to failure. Often, this was related to implementation staff who did not have sufficient training in necessary skills, and in a handful of cases the sustained turnover of implementation staff.

3.7. Unrealistic funder expectations

The unrealistic expectations of funders were commonly cited as a reason that WASH programmes failed, particularly in Malawi. It was generally expressed that in preparing proposals for funders, implementers promised unrealistic results to appear competitive, and then were unable to deliver what was expected of them. Some participants in Malawi, Tanzania and Zimbabwe believed that implementers received inadequate funding (overall, or they were not allowed to spend on specific items, such as vehicles and staff/community allowances) to be able to achieve their goals. They also shared that once funded, there was very limited flexibility with regards to changing timelines or budgets (including moving funding between budget lines).

Several participants spoke about issues of funders dismissing the expertise of implementers or intended users, *“they dictate what they want to do ... decisions are done from far places like overseas”* (Malawi, Government Participant 7), rather than what implementers and intended users deem important. A few participants also indicated that some funders *“are more focused on figures than the sustainability of the project”* (Malawi, NGO Participant 15), prioritising outcomes that can be easily achieved and counted over those which require longer-term behaviour change or qualitative measurement, limiting the transformative and sustainability potential of WASH programming.

3.8. Lack of funding

Some participants attributed failure to a lack of funding. These were generally comments about an overall lack of funding in the WASH sector.

3.9. Inappropriate technology

The selection and attempted installation of WASH technologies that were inappropriate to the environment within which they were being implemented was sometimes mentioned as a cause of failure. Often, this was related to technologies that could not withstand changing climate conditions and associated hazards such as flooding. In a smaller number of cases this was attributed to technologies unsuited to the area's geology and topography.

4. Discussion

Frontline WASH professionals in SSA described narratives of staff trying to achieve sustainable WASH in complex contexts with limited resources, and under extreme time and budgetary pressure. They identified many of the same causes of failure that have been suggested by senior WASH professionals to have been occurring throughout LMICs since at least the 1970s and 1980s. Considering these impressions of frontline WASH professionals alongside the critical development literature, when taken as a whole (rather than individual excuses that many organisations have attempted to address through incremental improvements) it seems that a major, overarching cause of WASH failures in LMICs is the disbursement of WASH aid (and indeed, most global health and international development aid generally) as commodified projects (46). Here we discuss why such a projectized environment is contributing specifically to WASH failures, some of the issues our participants described even where WASH is not projectized, and some suggestions for short- and long-term change to prevent future WASH failures.

4.1. The projectization of WASH in LMICs

In most cities with functioning water and sanitation networks (the majority of which are within HICs), regardless of whether they are managed by private or publicly owned utilities, governments hold implementers accountable via regulations, and are nominally held accountable themselves by the general population, through democratic processes, to ensure these services continue to be delivered (47). Very rarely are users expected to participate in actual service delivery. By contrast, WASH programming in LMICs tends to be delivered as discrete time- and budget-constrained projects funded by external donors, often through NGOs, with increasing expectations of participation and long-term maintenance from intended users, often without their initial engagement in design, development and planning for the service (48).

4.1.1. Muddled accountability and measurement

Most of the WASH programming discussed by our participants was projects funded by international donors, and many participants spoke about pressure to satisfy their funders. Often this funding originated from governments in HICs and was provided via granting bodies (e.g., multi-lateral agencies or international NGOs) who in turn funded implementers (mostly NGOs). Intended users cannot hold anyone accountable under this model (49).

Due to short election cycles in most democratic countries, it is difficult for HIC governments to commit to the longer-term provision of WASH services in LMICs, and thus periodic funding of projects is the norm. In addition, to placate tax-payers, when such projects are evaluated there is often an *“excessive focus on what can be counted as opposed to what counts”* (50). What tends to be measured is how many of a particular WASH infrastructure have been built at project completion (e.g., number of toilets), how many intended users ‘should’ be served by a service in the longer term

(e.g., households served by a wastewater treatment plant), or how many users demonstrate (or verbally confirm) some prescribed behaviour at project end (e.g., handwashing), but these do not account for the long-term uptake of provided services, user experiences or health outcomes. Just because something can be counted does not mean it has significance to intended users (Natsios, 2010, p. 9). This focus on the outcomes of short-term projects has contributed to WASH programming which, even if deemed successful at project 'end', is proving to be unsustainable in the longer term and unlikely to improve health outcomes. This also links to project evaluation processes, including what is important to measure, and who deems whether a project has been a success – too often evaluations are conducted rapidly and superficially, with little consideration of what intended users may think about a project or what they believe is important to share (see a discussion on the 'White gaze' and evaluation in 49).

4.1.2. Participation as panacea?

For decades, WASH scholars and practitioners have spoken of the importance of participatory development, including the meaningful involvement of intended users (and other local stakeholders) in project design, implementation and management (e.g., see work of Robert Chambers and Deepa Narayan). Notionally, this advice has been heeded, with many funders requiring projects which prioritise 'participation'. Yet some of the most cited causes for WASH failures from our study suggest that even if participation is included in WASH projects, it is not always leading to sustainable programming. Sometimes this is because those interviewed believe participation of intended users is being inadequately incorporated and sometimes because they blame intended users for not being 'committed enough' to improving WASH in the ways the implementer and funder have envisioned. The point at which participation is incorporated to the programme was also raised as an issue, where the decisions around implementation may already be

made, and therefore to the intended users can seem tokenistic and one way. Overall, there is a fundamental tension between being able to engage intended users in WASH projects because users themselves believe they are necessary and a personal/community priority versus expecting users to participate in WASH projects because the implementers and funders believe they *should* be a personal/community priority. This has been critiqued in the international development literature for decades but still persists (e.g., see several chapters of 51) and in our work appears to be perpetuated by many frontline WASH staff trained, mentored and/or employed by organisations and experts based in HICs (as discussed in 52).

In addition to the general rhetoric of the WASH sector that participatory development, and ‘ownership’ by intended users, are important (e.g., 53), our results suggest that generally unrealistic expectations by funders, insufficient funding and inappropriately trained staff are also contributing to projects placing the burden of implementation, operation and maintenance onto intended users. As Ramalingam writes, “... *participatory development can simply end up reinforcing the status quo by defining upfront the kind of participation the aid agency wants, rather than thinking about the kind of participation that might be needed and appropriate to the context*” (50). What appears to have been overlooked in many of the projects discussed by our participants is that ‘ownership’ of WASH services cannot be engineered if intended users do not value, or prioritise, those services which are being proposed. This is not novel to WASH, “*NGOs [in global health and international development generally] have not been able to solve these problems because their efforts are not adequately tied to the aspirations and struggles of grassroots communities*” (54). It is thus no surprise when intended users choose not to engage in WASH programming. Similarly, where users do choose to engage, but projects fail because inappropriate WASH technologies have been implemented due to a lack of technical specialists (in favour of utilising the human resources of intended users), this is unsurprising, as intended users, although experts in their own context, are not experts in WASH.

4.1.3. The myth of project handover

WASH services require ongoing investments of time and money. International funders and implementers are not ignorant to this; even in the 1970s and 1980s it was known that implementing discrete WASH projects was not leading to sustainable WASH. To address this, two types of 'handover' at project completion have become commonplace (and sometimes hybridised): to intended users and their communities, and to local governments.

As discussed in the previous section, there is no guarantee that intended users have the ongoing capacity to operate, manage and/or financially contribute to an ongoing WASH service. Even if they have engaged in the short-term project, there is limited evidence that 'handing over' WASH services to intended users has resulted in sustainability, let alone health outcomes – for example, fast 'slippage' from improved sanitation back to open defecation is commonly reported (where an evaluation is actually completed) following many community-led sanitation programmes (55). The theories of change implementers design projects based upon, which suggest communities will sustainably manage a 'handed over' WASH project or continue a desired hygiene behaviour, appear to be based on assumptions derived from rare examples of positive deviants or wishful thinking on the behalf of project funders.

Another way in which WASH projects are 'handed over' at completion is to local government implementers, e.g., health departments and water utilities. But as with intended users, our evidence indicates that local government implementers are improperly engaged by project implementers (mostly NGOs) and unable to provide their own opinions on what WASH services are needed in their local area. Government implementers generally have their own plans for managing WASH, but these are often not considered by externally funded implementers, who instead design projects with unrealistic expectations of what services they believe local government implementers can, or should, sustain in the longer term (a persistent issue in global health and development more broadly, see 56).

4.2. A lack of flexibility and complicated bureaucracy

Throughout our study, even where longer term WASH services (i.e., not short-term projects) were discussed (e.g., service delivery in South Africa), failures were identified due to systems with limited flexibility, onerous bureaucratic requirements and complicated politics. Participants identified pressures to abide by the advice of international (generally White) experts over local staff and intended users and to implement solutions which were preferred by local politicians or agencies rather than intended users, both of which are observed time and again in global health and international development programming (57-59). In addition, due to contracting with international funders, participants generally could not move budget between line items/categories, alter timelines which became infeasible, or adapt technical approaches as the cracks in earlier assumptions arose, also not novel to our study (e.g., 60).

4.3. Preventing future WASH failures

We agree with Gordon et al. that *“delivering safely managed water and sanitation services requires significant strengthening of government systems, professionalization of service delivery and major increases in investment”* (61). Ideally, this will include a shift from projectized WASH programming to longer term investments in services with associated accountability to LMIC governments, and longitudinal measurements of WASH access to determine sustainability. Such a shift from projectized work will require a massive structural change to the way WASH, and global health and international development more generally, is funded and implemented.

Even working within the slowly shifting status quo of projectization, we suggest there are ways in which WASH failures may be prevented. For example, the engagement of intended users, local government implementers who will maintain WASH services in the longer term, and local

experts, must be incorporated into the initial steps of WASH programming planning, to determine their priorities, and design WASH infrastructure and services based on these priorities – with less value placed upon the opinions of external WASH experts simply because they have been educated in HICs or racialized as White (62). Only if these local priorities are met is it likely that programming will be successful. However, implementers must also accept – and perhaps expect – that for many intended users, WASH is not the highest priority on which to invest their time and money. They may choose not to engage not because they do not want WASH services – but because the participatory ask is too much, for example, they may not have the time or desire to clean and maintain public ablution blocks (63), or the lost opportunity cost of attending group events may be too great (64). Similarly, local government implementers may choose not to engage, or only engage tokenistically, because the agenda of the implementer does not align with their own district plans and existing budgets (56). If the primary goal of WASH programming is to achieve health outcomes via universal access, then this apparent lack of local engagement must not be seen as a reason to cease efforts to improve WASH – but to consider other ways in which it can be achieved.

Furthermore, increasing the flexibility in programming by accepting that WASH servicing is a complex system with myriad moving parts may offer a way to better address local needs and contexts. This includes the need to consider how WASH services can support other development areas and intended user priorities, adding value to wider programmes (e.g., education, food security and health), and encouraging an integrated whole system approach from donor and government level which support community level ambitions. Economist Lant Pritchett suggests that development work has a better chance of success where it employs structured experiential learning because, *“the reality is that with complex endeavours ... no one can know what will work in advance... Development projects are not like chemistry – where we can predict exactly how interactions will work under specified conditions... Some projects have to be authorized as a structural crawl over the promising parts of the design space”* (65). Implementing ongoing process evaluation practices as standard in

WASH programming would enable us to fail fast and adapt to provide this necessary iterative process which takes account of economic, social, cultural and environmental context.

5. Conclusion

Our research investigated failed WASH programming in four SSA countries, indicating that although there are some ways by which implementers can improve their practice to reduce WASH programming failure, much of this failure is tied to how WASH programming is projectized. Such projectization is common across LMICs, and thus likely contributes to many failures around the globe. The systemic change which must happen to improve WASH, and thus health outcomes, needs to occur at the much higher level of those who control the funding and the ongoing projectization of WASH. Donors are the ones who may be able to shift the status quo. If progress towards universal WASH is to accelerate, they must fund WASH programming which results in sustainable, long-term services, requires genuine participation of all stakeholders in all aspects of its design, embeds accountability to intended users, and allows for flexibility and experimentation.

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References

1. WHO. Burden of disease attributable to unsafe drinking-water, sanitation and hygiene, 2019 update. Geneva, Switzerland: World Health Organization; 2023.
2. Wutich A, Brewis A, Tsai A. Water and mental health. *Wiley Interdisciplinary Reviews: Water*. 2020;7(5 C7 - e1461).
3. United Nations. Report of the United Nations Water Conference. New York, USA: United Nations; 1977.
4. United Nations. General Assembly Resolution 70/1: Transforming Our World: The 2030 Agenda for Sustainable Development. New York, N.Y., U.S.A.: United Nations; 2015.
5. Brown J, Acey CS, Anthonj C, Barrington DJ, Beal CD, Capone D, et al. The effects of racism, social exclusion, and discrimination on achieving universal safe water and sanitation in high-income countries. *The Lancet Global Health*. 2023;11(4):e606-e14.
6. WHO/UNICEF. Progress on household drinking water, sanitation and hygiene 2000-2022: special focus on gender. Geneva, Switzerland: Joint Monitoring Programme of the World Health Organization and UNICEF; 2023.
7. Humphrey J, Pickering A, Null C, Winch P, Mangwadu G, Arnold B, et al. The WASH Benefits and SHINE Trials. Interpretation of Findings on Linear Growth and Diarrhoea and Implications for Policy: Perspective of the Investigative Teams (P10-136-19). *Current Developments in Nutrition*. 2019;3(Supplement_1).
8. Hanchett S. Scaling Up Rural Sanitation Long-Term Sustainability of Improved Sanitation in Rural Bangladesh. Washington D.C., U.S.A.: World Bank; 2011.
9. Kekana E. Eight years after Michael Komape's death we visited Limpopo schools to see if their toilets have improved. *GroundUp*. 2022.
10. Raghavendra RH, Kumar RA. Sanitation Workers: A Neglected Community of Indian Civilized Society. *Contemporary Voice of Dalit*. 2022;0(0):2455328X211069683.
11. Scott O. Near term success, long term failure. 2010 Failure Report: Learning from our mistakes. Toronto, Canada: Engineers Without Borders Canada; 2010. p. 8-9.
12. Mkhize N, Taylor M, Udert KM, Gounden TG, Buckley CA. Urine diversion dry toilets in eThekweni Municipality, South Africa: acceptance, use and maintenance through users' eyes. *Journal of Water, Sanitation and Hygiene for Development*. 2017;7(1):111-20.
13. A. A. N. Associates. UNICEF WASH Pakistan End of Programme Evaluation for Rural Sanitation in Flood-affected Districts (RuSFAD Phase III) 2011-12. Islamabad, Pakistan: Unicef; 2013.
14. Bartram J, Charles K, Evans B, Ohanlon L, Pedley S. Commentary on community-led total sanitation and human rights: should the right to community-wide health be won at the cost of individual rights? *Journal of water and health*. 2012;10(4):499-503.
15. Wicken J. Effectiveness of a sanitation marketing approach in rural Papua New Guinea: the ATPProjects Round Loo programme: Loughborough University; 2012.
16. Water for People Malawi. Rural Sanitation Marketing. Water for People; 2012.
17. Cherukumilli K, Ray I, Pickering AJ. Evaluating the hidden costs of drinking water treatment technologies. *Nature Water*. 2023;1(4):319-27.
18. Caruso BA, Ballard A, Sobolik J, Patrick M, Dsouza J, Sinharoy S, et al. Women in research: A systematic re-review of WASH interventions to prevent diarrhea and acute respiratory infection in low and middle-income countries. PREPRINT. 2023.
19. Sindall RC, Barrington Dani J, Shaylor E. Learning from and preventing failure in WASH. Brighton, UK: Sanitation Learning Hub, Institute of Development Studies; 2023.
20. World Health Organization. The International Drinking Water Supply and Sanitation Decade : review of regional and global data (as at 31 December 1983). Geneva: World Health Organization; 1986. Report No.: 9241700920.
21. Bradley DJ. Engineering, health and policy in developing countries - some strategic issues. *Progress in Water Technology*. 1978;11(1/2):1-4.

22. European Court of Auditors. European Union Development Assistance for Drinking Water Supply and Basic Sanitation in Sub-Saharan Countries. Luxembourg: European Court of Auditors; 2012. Contract No.: Special Report 13.
23. Starkl M, Brunner N, Stenström T-A. Why do water and sanitation systems for the poor still fail? Policy analysis in economically advanced developing countries. *Environmental Science & Technology*. 2013.
24. Starkl M, Brunner N, Flögl W, Wimmer J. Design of an institutional decision-making process: The case of urban water management. *Journal of Environmental Management*. 2009;90(2):1030-42.
25. WaterAid. Functionality of wastewater treatment plants in low- and middle-income countries. Desk review. London: WaterAid; 2019.
26. Katukiza AY, Ronteltap M, Oleja A, Niwagaba CB, Kansiime F, Lens PNL. Selection of sustainable sanitation technologies for urban slums - A case of Bwaise III in Kampala, Uganda. *Science of the Total Environment*. 2010;409(1):52-62.
27. Sujaritpong S, Nitivattananon V. Factors influencing wastewater management performance: Case study of housing estates in suburban Bangkok, Thailand. *Journal of Environmental Management*. 2009;90(1):455-65.
28. Cronin AA, Ohikata M, Kumar M. Social and economic cost-benefit analysis of sanitation in Odisha State, India. *Journal of Water Sanitation and Hygiene for Development*. 2014;4(3):521-31.
29. Eales K, Blackett I, Siregar R, Febriani E. Review of community-managed decentralized wastewater treatment systems in Indonesia. Washington, D.C.: World Bank; 2013.
30. Bao PN, Aramaki T, Hanaki K. Assessment of stakeholders' preferences towards sustainable sanitation scenarios. *Water and Environment Journal*. 2013;27(1):58-70.
31. Kaminsky J, Javernick-Will A, editors. Causes for sustainable maintenance and operation of on-site sanitation systems. *Construction Research Congress 2012: Construction Challenges in a Flat World*; 2012; West Lafayette, Indiana, USA: ASCE.
32. Murphy HM, McBean EA, Farahbakhsh K. Appropriate technology - A comprehensive approach for water and sanitation in the developing world. *Technology in Society*. 2009;31(2):158-67.
33. Muller M. Have Five Decades of Development Engineering Research Improved Sanitation in Southern Africa? *Journal of International Development*. 2020;32(1):96-111.
34. Hueso A. Is 'access to adequate and equitable sanitation' for all by 2030 achievable? Perspectives from sector experts on what needs to change to realise the Sustainable Development Goal. *Journal of Water Sanitation and Hygiene for Development*. 2016.
35. Rhodes-Dicker L, Brown NJ, Currell M. Unpacking intersecting complexities for WASH in challenging contexts: A review. *Water Research*. 2022;209:117909.
36. Davis A, Javernick-Will A, Cook SM. The use of qualitative comparative analysis to identify pathways to successful and failed sanitation systems. *Science of The Total Environment*. 2019;663:507-17.
37. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007;19(6):349-57.
38. Barrington D, J. Amplifying local voices to reduce failure in the water, sanitation and hygiene sector: Open Science Framework; 2023 [
39. Corbin JM, Strauss AL. Basics of qualitative research : techniques and procedures for developing grounded theory. Fourth ed. Los Angeles: SAGE Publications; 2014.
40. Barrington DJ, Sindall RC, Chinyama A, Morse T, Sule MN, Beale J, et al. Research brief: Amplifying local voices to reduce failure in the water, sanitation and hygiene sector. . 2021.
41. Luwe K, Malolo RD, Morse T, Sindall RC, Barrington DJ. Research brief: How to reduce failure in the Malawian WASH sector. 2021.
42. Chinyama A, Kativhu T, Sindall RC, Barrington DJ. Research brief: How to reduce failure in the Zimbabwean WASH sector. 2021.

43. Sindall RC, Odili A, Barrington DJ. Research brief: How to reduce failure in the South African WASH sector. 2021.
44. QSR International Pty Ltd. NVivo. 2020.
45. Chambers R. Whose Reality Counts? Putting the First Last. London: ITDG Publishing; 1997.
46. Freeman S, Schuller M. Aid projects: The effects of commodification and exchange. *World Development*. 2020;126:104731.
47. EurEau. The governance of water services in Europe. Brussels, Belgium: The European Federation of National Associations of Water Services (EurEau); 2018.
48. Tsekles E, Fonseca Braga M, Abonge C, Santana M, Pickup R, Yongabi Anchang K, et al. Community engagement in water, sanitation and hygiene in sub-Saharan Africa: does it WASH? *Journal of Water, Sanitation and Hygiene for Development*. 2022;12(2):143-56.
49. Shallwani S, Dossa S. Evaluation and the White Gaze in International Development. In: Khan T, Dickson K, Sondarjee M, editors. *White Saviorism in International Development: Theories, practices and lived experiences*. Wakefield, Canada: Daraja Press; 2023.
50. Ramalingam B. *Aid on the Edge of Chaos*. Oxford, United Kingdom: Oxford University Press; 2013.
51. Cooke B, Kothari U. *Participation: The new tyranny?* London, UK: Zed books; 2001.
52. Khan T. The Matriarchy Complex. In: Khan T, Dickson K, Sondarjee M, editors. *White Saviourism in International Development: White Feminist Disruption in Development*. Quebec, Canada: Daraja Press; 2023. p. 79-97.
53. Oxfam. *An introduction to community engagement in WASH*. 2019.
54. Mwangi N, Maghanga L. Introduction: Silences in the NGO Discourse. In: Mwangi N, Maghanga L, editors. *Breaking the Silence on NGOs in Africa*. Wakefield, Canada: Daraja Press; 2023. p. 1-3.
55. Kouassi HAA, Andrianisa HA, Traoré MB, Sossou SK, Momo Nguematio R, Yméle SSS, et al. Review of the slippage factors from open defecation-free (ODF) status towards open defecation (OD) after the Community-Led Total Sanitation (CLTS) approach implementation. *International Journal of Hygiene and Environmental Health*. 2023;250 C7 - 114160.
56. Makuwira J. Power and development in practice: NGOs and the development agenda setting. *Development in Practice*. 2018;28(3):422-31.
57. Shields KF, Barrington Dani J, Meo S, Sridharan S, Saunders SG, Bartram J, et al. Achieving Development Outcomes by Building Practical Authority in WASH Participatory Collectives in Melanesia. *Water Alternatives*. 2022;15(2).
58. Niederberger E, Glanville-Wallis T. Community Engagement in WASH Emergencies: Understanding Barriers and Enablers Based on Action Research from Bangladesh and the Democratic Republic of Congo (DRC). *Water*. 2019;11(4).
59. Samoff J, Stromquist NP. Managing Knowledge and Storing Wisdom? New Forms of Foreign Aid? *Development and Change*. 2001;32(4):631-56.
60. Anderson J-A. The 'Local' and White Saviorism in the Caribbean. In: Khan T, Dickson K, Sondarjee M, editors. *White Saviourism in International Development: White Feminist Disruption in Development*. Quebec, Canada: Daraja Press; 2023. p. 198-208.
61. Gordon B, Boisson S, Johnston R, Trouba DJ, Cumming O. Unsafe water, sanitation and hygiene: a persistent health burden. *Bulletin of the World Health Organization*. 2023;101(9):551-A.
62. Dickson K, Khan T, Sondarjee M. Introduction: Why White Saviourism. In: Khan T, Dickson K, Sondarjee M, editors. *White Saviourism in International Development*. Wakefield, Canada: Daraja Press; 2023. p. 1-26.
63. Roma E, Buckley C, Jefferson B, Jeffrey P. Assessing users' experience of shared sanitation facilities: A case study of community ablution blocks in Durban, South Africa. *Water SA*. 2010;36(5):589-94.

64. Barrington DJ, Shields KF, Saunders SG, Meo S, Sridharan S, Souter RT, et al., editors. Some lessons learned from engaging in WaSH participatory action research in Melanesian informal settlements. WEDC Knowledge Base; 2017; Loughborough, UK.
65. Pritchett L, Samji S, Hammer J. It's All About MeE: Using Structured Experiential Learning ('e') to Crawl the Design Space. Washington, D.C.: The Center for Global Development; 2013.

Table S1: Data collector attributes and reflexivity (Tong et al., 2007)

		<i>Tanzania interviewer 1</i>	<i>Tanzania interviewer 2</i>	<i>Malawi interviewer 1</i>	<i>Malawi interviewer 2</i>	<i>Malawi interviewer 3</i>	<i>Zimbabwe interviewer</i>	<i>South Africa interviewer 1</i>	<i>South Africa interviewer 2</i>
Interviewer/ facilitator	Which author/s conducted the interview or focus group?	Non-author	Non-author	Non-author	Non-author	FC	TK	AO	RCS
Credentials	What were the researcher's credentials at the time of the study? E.g. PhD, MD	Master of Sociology	Bachelor of Arts	Bachelor of Science	Bachelor of Arts	Master of Environmental Health Student	Doctor of Philosophy	Master of Development Studies	Doctor of Philosophy
Occupation	What was their occupation at the time of the study?	Researcher	Researcher	Researcher	Researcher	Student and secondary School teacher	Lecturer	Researcher	Researcher
Gender	Was the researcher male or female?	Man	Woman	Woman	Man	Woman	Woman	Man	Woman
Experience and training	What experience or training did the researcher have?	More than 7 years of data collection experience	Five years' experience in research activities	Experience in data collection as well as WASH project implementation	Experience in research and project management.	Experience in research through other engagements with the research centre and while working as a teacher	Research and teaching	6 years in qualitative research	10 years' research experience

Table S2: Characteristics of authors at time of research

Name	Gender	Current/previous countries of residence at time of research (>6 months)	Current/previous countries of WASH research/programming at time of research	Qualifications at time of research
D.J. Barrington	Woman	Australia, Nepal, United Kingdom	Australia, Bangladesh, Belize, Dominican Republic, Ethiopia, Fiji, Ghana, Haiti, India, Indonesia, Kenya, Lebanon, Luxembourg, Malawi, Mexico, Mozambique, Nepal, Nigeria, Papua New Guinea, Peru, Republic of South Africa, Sierra Leone, Solomon Islands, The Netherlands, Uganda, United Kingdom, Vanuatu, Zimbabwe, Zambia	Doctor of Philosophy Bachelor of Engineering (Honours) Bachelor of Science
J. Beale	Woman	United Kingdom, Mozambique	Bangladesh, Bhutan, Ethiopia, Ghana, Burkina Faso, Uganda, Kenya, Tanzania, Mozambique, Malawi, Zambia, Nigeria and others	Master of Engineering Chartered Water and Environmental Manager
F. Chikwezga	Woman	Malawi	Malawi	Master of Environmental Health Bachelor of Science in Education
A. Chinyama	Woman	Zimbabwe	Zimbabwe, South Africa	Doctor of Technology Master of Science Bachelor of Science (Honours)

B.E. Evans	Woman	United Kingdom, Sudan, Pakistan, India, United States of America	Afghanistan, Bangladesh, Bolivia, China, Egypt, Ethiopia, India, Japan, Kenya, Mozambique, Nepal, Pakistan, Peru, South Africa, Sri Lanka, Sudan, Tanzania, Uganda, UK, Vietnam	Chartered Engineer Master of Science (Development Studies) Bachelor of Engineering (Honours)
T. Kativhu	Woman	Zimbabwe	Zimbabwe	Doctor of Philosophy Master of Science Bachelor of Science (Honours)
S. Krishnan	Woman	India, United Kingdom	India, United Kingdom, Australia, Colombia, DRC, Jordan, Nepal, Bangladesh, South Sudan, Solomon Islands, Mexico, Ghana	Doctor of Philosophy Master of Arts Bachelor of Arts
K. Luwe	Man	Malawi	Malawi	Bachelor of Science
R. Malolo	Woman	Malawi	Malawi	Master of Public Health Bachelor of Science
O. Mcharo	Woman	Tanzania	Tanzania	Bachelor of Arts
T. Morse	Woman	Malawi, United Kingdom	Malawi, Uganda, Zambia, Zimbabwe, Kenya, Tanzania, South Africa, Ethiopia, India, UK	PhD Bachelor of Science (Honours)

A. Odili	Man	South Africa, Nigeria	South Africa, Morocco	Master of Development Studies PGD Sanitation Bachelor of Social Science (Honours) Bachelor of Arts
K.T. Ravndal	Woman	Norway, Switzerland, United Kingdom	Bangladesh, India, Norway, South Africa, Switzerland, United Kingdom	Doctor of Philosophy Master of Science Bachelor of Engineering
J. Rose	Woman	United Kingdom	Afghanistan, Thailand, Palestine and the Occupied Territories, Israel, Jordan, Sudan, South Sudan, Liberia, Somalia and Puntland, Mozambique, Tanzania, Uganda, Kenya, Ethiopia, Malawi, Vietnam, Zimbabwe, Zambia	Doctor of Philosophy Master of Science Postgraduate Certificate in academic Practice Bachelor of Science
E. Shaylor	Woman	United Kingdom, South Africa, Philippines, Denmark	South Africa, India, Bangladesh, Nigeria, Pakistan, Myanmar, Turkey, Haiti, Kenya, Philippines	Master of Science Bachelor of Science
R.C. Sindall	Woman	Canada, Kenya, South Africa, Togo, United Arab Emirates, United Kingdom	South Africa, United Kingdom	Doctor of Philosophy Master of Science Master of Engineering

M. Sule	Woman	United Kingdom, Nigeria	Colombia, Ethiopia, Ghana, Guinea Bissau, India, Kenya, Nepal, Nigeria, Senegal, Sierra Leone, Tanzania, United Kingdom	Doctor of Philosophy Master of Science Bachelor of Science
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E. Wozei	Woman	Uganda, United States of America, Kenya	Uganda, Tanzania, Eswatini	Doctor of Philosophy Master of Science Bachelor of Science
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Table S4: Illustrative quotes given by interviewees **based on their perceptions** of why WASH programmes fail. Overarching themes are listed in order from most to least prevalent in transcripts.

Theme + child codes	Illustrative quotes
<p>Low levels of commitment by intended users</p> <p><i>Failure caused by low levels of commitment of intended users regarding their roles in WASH programming</i></p>	
<p>Crime</p> <p><i>Failure caused by small scale crime (e.g., vandalism, theft of WASH materials)</i></p>	<p>“... you will see others vandalising the (WASH) items after getting drunk without realising that it is their own development.” – Malawi, NGO Participant 6</p> <p>“... we gave them a borehole and it did not take 3 months the borehole was stolen. Everything was stolen including the pipes.” – Malawi, NGO Participant 17</p> <p>“The other challenge is with vandalism by the communities, we get to find that some of the things which we gave them and were previously implemented for example the drums and plastic buckets are no longer there because people from the communities steal from the schools ...” – Malawi, NGO Participant 20</p> <p>“Even when they put the new taps...they put new taps today, the following day those taps are all gone, stolen. That's the big problem ... They say, they steal it because know it's not belong (sic) to someone, it's for the municipality. The municipality must come and put the new ones. That's one of the things. Other things in the toilets are like...they break, they break the toilets. They want to take the seats and go.” – South Africa, Community Leader Participant 1</p> <p>“... the problems are vandalism and theft. We've got to understand that if you...I'm giving an example...you have nothing, you own nothing, there is a tap that you can get money for. You're gonna take it ... vandalism it's because the community is ired with service delivery because another department has not provided what they need ... Or there's theft, it's because people need money. They need access to things. They need to send their child to school, they need to buy food, they need to do these things.” – South Africa, Government Participant 1</p> <p>“Because we constructed cement tanks but they stole taps, we bought plastic tanks and they destroyed (them).” – Tanzania, Female Focus Group Government Participant</p> <p>“beneficiaries of the project are also part of people who sabotage project, for example, engineer has inserted a wall, has build a DC, has put everything in order and has left the site, after some time he returns and find that some items installed were taken and some systems have been destroyed and when you ask you don't get cooperation from the community ...” Tanzania, Government Participant 3</p> <p>“... you find that people are given the project and they received it very well but after some time the wells get destroyed ...” – Tanzania, NGO Participant 7</p>

Theme + child codes**Illustrative quotes**

Historical and/or cultural beliefs

Failure caused by historical and/or cultural beliefs around WASH practices

“... what didn’t turn out well was the reception of the boys and also the community that the change rooms were associated to some other mythical beliefs because they were specifically constructed for girls to use during menses. So that component of the project did not turn out well ...” – Malawi, NGO Participant 8

“Some other people generally are just born unhygienic ...” – Malawi, NGO Participant 8

“Okay, sometimes it could be the district beliefs. Their beliefs, impact of the culture, beliefs has an effect on the project. For instance here in (location name withheld), there are a lot of early marriages ... young people have gotten married and have a home, in terms of sanitation they feel like that is responsibility of their parents and not them.” – Malawi, NGO Participant 9

“...in some other communities they do not use the latrines just because their fore fathers used to defecate in the bush. So if someone brings a point to say they need to have latrines for their own good health, to them I think that’s not acceptable because they are used, that’s the way of their life and they believe in that.” – Malawi, NGO Participant 13

“One of the key aspects which we have seen is that the communities think that a child has a specific age when he or she is supposed to have diarrhoea ...there are some communities which are so resistant and say “We have been drinking water from this source even before you were born and here we are” referring to unprotected water source.” – Malawi, NGO Participant 16

“the younger people are not supposed to clean toilets because there's a belief that they need to be washed and cleansed off because it's... you know it's faecal matter and all the stuff ... Some people have this believe that you can't have young women working with faecal matter because they won't get married. It is still a traditional belief that's there. So when it happens that that old Gogo passes on, then there's no one who's gonna clean the toilets. They just dig another one.” – South Africa, Private sector Participant 1

“... they have different beliefs; that I can’t share toilet with other people because when I go to use toilet I will see faeces of other people... he can’t use the same toilet if he knows that his son in law, her mother or other people are using that toilet, he thinks that is improper.” – Tanzania, Government Participant 4

“Some households just did not seem too concerned about not having latrines – citing that their parents and grandparents did not have latrines and survived for generations.” – Zimbabwe, NGO Participant 1

Theme + child codes	Illustrative quotes
<p>Ineffective local leadership</p> <p><i>Failure caused by ineffective leadership at the very local level (e.g., committees, chiefs)</i></p>	<p>“So, the power in the chiefs is not that much hence people don’t really respect them. In some areas chiefs would hold those without a toilet accountable and even make them pay and people would fear such, while in other areas people don’t fear or respect their chiefs and hence people don’t follow through.” – Malawi, Government Participant 3</p> <p>“Council level and local leaders we don’t speak one language. We do other things and the community is also doing different things. You give the leaders a concept to tell their people and you find that when it goes to the ground it changes shape. So, if we may talk one language when we meet with the local leaders, things could be working well.” – Malawi, Government Participant 6</p> <p>“The other contributing factor is our leaderships, each village has a chief, if the chiefs are not concerned on monitoring the wells, and for example most people say drawing water is for women, so if the chief does not have a concern of following up the projects then everyone else is silent.” – Malawi, NGO Participant 11</p> <p>“... community water committee did not perform its job properly, they were maybe selfish or they didn't have enough money for maintenance of the wells so wells stopped working because committee did not have enough money for maintenance and repair ...” – Tanzania, NGO Participant 5</p> <p>“The formed water point committees at times fail to mobilize the relevant resources.” – Zimbabwe, Government Participant 6</p>
<p>Insufficient knowledge</p> <p><i>Failure caused by intended users not having adequate WASH knowledge</i></p>	<p>“At community level, it is due to poverty and low literacy levels ... they are just lacking some kind of understanding the importance of latrine and hand washing facilities.” – Malawi, NGO Participant 4</p> <p>“... people up to now telling them the advantages of washing hands it prevents you from different diseases, they don’t get it and instead keep on the same old methods just because of the level of education.” – Malawi NGO Participant 9</p> <p>“most of the communities don’t have that connection between improved hygiene behaviours and their protection from disease ... If they don’t see cases of diarrhoea diseases, they don’t usually see the connection and they say, “Why should I build a latrine, why should I be covering the latrine hole as if there is the diarrhoea they are talking about?” So that can make them reluctant to change behaviour.” – Malawi, NGO Participant 16</p> <p>“In a country where literacy levels are low people struggle to understand things.” – Malawi, NGO Participant 22</p> <p>“some of the challenges is that we have young people and even old people that come from rural communities outside (location name withheld), to (location name withheld) and become part of these informal settlement communities and have never used a flush toilet before. And then sometimes you find that there is a lot of challenges when toilets get blocked and misused in different forms.” – South Africa, Government Participant 2</p> <p>“Other reasons is health education, people in the community don’t have health education that means community need to have education so as they can understand the benefit and effect of not using toilet, cost of treatment if they won’t use toilet.” – Tanzania, Government Participant 4</p>

Theme + child codes	Illustrative quotes
	<p>“When they miss it while their educational level is very low because others have never attended school, while others may be educated but after mingling in the village they resemble those with no education.” – Tanzania, Government Participant 5</p> <p>“Okay, I think the community isn’t well educated, I mean not having enough education concerning WASH” – Tanzania, NGO Participant 6</p> <p>“I think its ignorance (ignorance) or literacy levels...” – Zimbabwe, Government Participant 9</p> <p>“it's largely because people may not know the implications of not washing your hands properly, not throwing or disposing your rubbish properly. People may not be really aware of the serious implications that this has. So, some of the things are largely due to attitude and knowledge.” – Zimbabwe, NGO Participant 9</p>
<p>Remuneration expectations</p> <p><i>Failure caused by intended users expecting payment for time and/or for WASH services to be provided for free</i></p>	<p>“there was resistance ... they did not want to pay any fee for water ... we also did a meeting with the local leaders and other village committees like the VDCs (Village Development Committees) on how the user fee should work like ... the community did not receive it well as they were expecting that the water system was for free ... most communities they do not take care of the development they have been given as they have the mindset that “the development is for free and that when it is broken they will bring a new one for us or fix it for us.”” – Malawi Government Participant 2</p> <p>“The other thing is that in the past there were other partners who implemented their projects by introducing subsidies. ... So that has been affecting CLTS (Community Led Total Sanitation) because whenever you want to implement it people ask what you are going to give them.” – Malawi, Government Participant 6</p> <p>“... the other issue is the attitude of the community themselves. In some communities it's like they get used and they view everything as a project that after it's done these guys will go. So, it goes also to the communities that sometimes the failure is contributed by them but sometimes you can't blame a blind person for hitting a tree after all we are supposed to be the ones guiding them. So, we don't plan out well to sustain what we have started and all that was supposed to be done when implementing ... We go to the communities themselves and sometimes the attitude ... I mean if someone gives you a shirt today then you find out that a button falls off you cant go back to the same person who gave you and say the shirt you gave me I need a button. That's insane. So sometimes the attitude of the community themselves they ... maybe we may not have helped them enough to realise that but at times they may also be culprits.” – Malawi, Government Participant 7</p> <p>“So, some organisations even to mobilise community to teach them how to construct latrines, they pay the people just for coming to a meeting and teaching them hygiene education. They expect you to pay them a handsome allowance. So, some organisations will pay them handsomely and then you go there with no payments just teaching them so how do you balance the two? People will say "Ah no am not coming there.”” – Malawi, NGO Participant 1</p> <p>“The community refused to excavate the pits as they demanded money for allowance for them to excavate, but in the project document, we did not have that budget.” – Malawi, NGO Participant 2</p> <p>“... during these two years things are not working well since there is little money in their accounts and the community are used to handouts ... coordination is another thing that makes projects fail because if one organization is paying</p>

huger allowances than the other, then when both call for meetings the ones that pay less people will not come to their meetings or they will be labelled that they steal people's money." – Malawi, NGO Participant 10

"... people are given the funds and within a short period time they dump the project, this occurs as the people get the project on a silver platter and are irresponsible." – Malawi, NGO Participant 11

"...even when the resources are available but when they malfunction, they don't want to repair they just wait for the organisation." - Malawi, NGO Participant 20

"... it was a project that had no incentives attached to it. So, they would ask "What are you going to give me after I construct a toilet?" So, it was a problem for them to accept the project at community level ... here are a lot of Non-Governmental Organisations that are giving out different items to the communities. For instance, when they are doing their projects, they would give out food items or some other items to the communities for free. So, if you introduce a project that is totally community participatory you would expect those challenges to say, "Are you giving us anything if we do this?" "What are you giving us? Looking into that a certain organisation gives us some items."" – Malawi, NGO Participant 23

"After two years of funding the structure and the maintenance of it, we knew we had somehow...that people will always expect to get paid for that position. So now when you are about to change it and say "OK after two years you guys won't be paid", it's going to be a total failure ..." – South Africa, NGO Participant 1

"It's all about all the service comes from the politicians, from the municipality. "I just sit and wait and they do everything." So that's where I always find now that I'm getting more social work because I used to be in the field doing technical work as well. I never really noticed it, but I've noticed it now that that mentality of free basic service which people expect to see from the municipality "you guys do everything, provide me with the service because I vote."" – South Africa, Private Sector Participant 1

"... maybe the people don't want to pay the costs for emptying because they will say government is going to do it. Even though government isn't going to do it. They just believe that government is going to do it." – South Africa, Private Sector Participant 5

"... there is somewhere donors build water wells and it was community members were using those wells but there came a point where wells were broken, community members started to say the donor's well is broken, you see they call it donor's well, while it's their well and they are using it, but once it's broken they call it donor's well ..." – Tanzania, Government Participant 4

"I had managed to convince (community name withheld) who were using communal toilets to take ownership of these toilets under the Community Based Management concept and they had agreed to take care of the cleansing and the general upkeep of the toilet. They had embraced this initiative of Community Support to Serviced Delivery. Amongst them came an influential person who then influenced people that it was the prerogative of council to clean the communal toilet and the whole community concurred with him and the concept was shot down." – Zimbabwe, Government Participant 2

"There are policy issues around WASH projects. This dates back from post-independence era in Zimbabwe. Our communities started to get free support, subsidized resources for water and latrine construction. Everything was

Theme + child codes **Illustrative quotes**

done for them including feed (food) supplies, and free education for their children. Communities relaxed and became irresponsible. Donor syndrome has killed the capacity of our communities.” – Zimbabwe, NGO Participant 7

“... people in the rural areas they are mostly old people and they are from the school where the government used to do everything for them. Whether its sanitation a donor would come with a full pack of the sanitation of a toilet, if its a borehole DDF would come into everything and the, and the communities were just as the recipients. So some of them still have that mindset.” – Zimbabwe, NGO Participant 10

“There is an issue of disasters such as floods they bring back people to zero. They constructed a latrine, they had a borehole, and floods come and wash those away and with poverty people can’t do anything ... Their priority becomes food and for them to start thinking of sanitation is a challenge ... sometimes issues of poverty can turn priorities upside down and you can’t blame them.” – Malawi, Government Participant 7

“In the villages, there is still that challenge of soap. We trained people to use soap, but the people said they don’t have enough funds to buy soap.” – Malawi, NGO Participant 5

“... in general I will say poverty, in these communities there are some measures government has brought in and in terms of water supply when we are constructing a borehole in a community, they are supposed to contribute about k20,000.00. So, in a community where they are hungry, it is hard for them to contribute that kind of money ...” – Malawi NGO Participant 9

“... we constructed girl friendly latrines that had an inclusion of incinerators, but the girls were not using the incinerators because they were complaining that they lacked enough resources to buy paraffin to use for burning pads.” – Malawi, NGO Participant 18

“Another reason would be poverty. It is also a driving factor of people not maintaining the status because they would rather do other things with their money than be building latrines each and every year. They build a temporary latrine, it collapses, they build another it collapses so they just give up and go back to old ways, they just can’t do anything to improve that latrine because they don’t have resources... Maybe the tobacco season didn’t go so well, because most them are farmers in the villages. So for the money they find they wouldn’t prioritize WASH projects because their children need to go to school, they have several needs in the villages really, so they assume that they will buy other important items first. I mean everyone does that. We think at the end of the month we will buy such and such, with time you create hopes to suppliers who notice you asking for items, and then you find that you have money but prioritize on other things that are more important.” – Malawi, NGO Participant 21

“So if people have not got, if people do not know where the next meal is coming from, who do not know how long they're going to be there before they moved on, before they, before they do not have security, before whatever they are going to use, whatever weapon is at their disposal to, to kind of leverage themselves up above the situation and who can blame them, who can blame them? I can't blame them. I would probably be a chief instigator if I was living in an informal settlement in the conditions that they did. I think that to my mind, this whole thing is, is got completely out of control and is completely wrong.” – South Africa, Research Institute Participant 1

Poverty

Failure caused by the poverty of end users, particularly where WASH is not their highest spending priority

Theme + child codes	Illustrative quotes
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“... if you again compare people’s priorities, people will tell you “we’re very hungry, how can you tell us about water, how can you tell us about sewage while we are hungry?” – Tanzania, Government Participant 1

“It is something which is seen by community as minor so when we implement those projects we get great opposition because for them the issue of toilet is a very minor thing in the family.” – Tanzania, Government Participant 10

“Yes, I think the larger problems when it comes to WASH because people are hunger stricken, there is poverty. Sanitation, WASH to them comes second at what they consider first is food aid.” – Zimbabwe, Government Participant 5

“So the approach. The UBVIP, so you just give a person a bag of cement and this other material, the beneficiary is expected to buy the other bags of cement or use locally available materials. So, because of that and now with the, with the current situation in our country, the priority to people is food so, you bring her a bag of cement then you tell that person to buy other bags of cement then it becomes a challenge. So, you find that most of those toilets were left at slab level.” – Zimbabwe, NGO Participant 2

“... if, for example, you set up a solar system and it's a complex system for water pumping and if a unit burns out say, for example, a transformer burns out, you'll find that those transformers or inverters, they will cost about USD\$600, USD\$700 or something, which is out of the community's ability to really maintain on their own. Then you'll find that they would abandon the scheme.” – Zimbabwe, NGO Participant 5

Inadequate engagement <i>Failure caused by implementers not adequately determining and/or considering the self-identified needs of intended users in planning and design, or not providing sufficient education and training on the intended programming</i>	
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Needs assessment, planning, design

Failure caused by a lack of engagement with intended users during needs assessments, planning and design

“In terms of Non-Governmental Organisations, I think they don’t consult when they are designing their projects, they do not consult the communities. Yes there is that consultation but it usually comes when the project has already been funded and they would say ok its fine, we have this project. Actually sometimes, they can impose the area of the project. So that in most of the times, it makes people to go there with mentality of imposition, like we are going to do this and that not necessarily what people want ... So I think we don’t do much needs assessment or the assessment that we conduct are not really grievances of people but rather what the donors wants.” – Malawi, NGO Participant 4

“Another one is the planned activities; we bring to the community for example a WASH project. For instance, as our organisation we do plan. So, looking at the community you will come up with the perception that it is not really the activity you have brought to them as a need. It will not help them at that time instead they want something as a community. Another example is a community where there is no food, or a lot of people lack food and we are bringing in a WASH project where they are all supposed to contribute something. This affect the project since their need is something else apart from what you have brought in the community and it ends up that they are not interested in the intervention at hand.” – Malawi, NGO Participant 9

“Am looking at the situation where you are delivering WASH project to the community, who are really your target. You will find that, you just call upon the village head, members of the committees and then educate them in glimpse

without even involving the entire community to get the full knowledge of this WASH project like; it means what? What's the benefit of WASH in their life?" – Malawi NGO Participant 11

"Most of the times we just go with our activities outlined and it becomes difficult for the people in the community to adopt because they are not involved in the development process of the project. Had it been that the people are part of it, and they own it adoption would have been easy without forcing ... Most of the times as organisations we ambush the people with interventions." – Malawi, NGO Participant 12

"When we took the report to her to say, look, these toilets that you are giving to people, and they are not friendly to the disabled, they are not friendly to children. Yet you are spending so much money. They are not safe for women in the evening. Yet you are spending so much money saying you're giving them a service. Why don't you think it differently? And she said to us, "Look, you know what? When we see an informal settlement, we just think one size fits all quickly, take this plastic and go and put it there. They will use it. We never went down to them and really check their needs" ... We never do what we call needs assessment. We don't go down and assess what this people really need." – South Africa, CSO Participant 2

"The engineers look at the plan and say "ok where is the easiest connection point?" And then based on that they say "this point will work". And then they implement. There is no real consultation with the community to agree if that is a good location for everyone. While it is a good location engineering wise, is it socially a good location for everyone or could something else be achieved? ... it also helps us to start listening to the people who are living there instead of belittling everyone." – South Africa, NGO Participant 1

"The first thing I think it is the participation of the community, the way the project is being designed it doesn't start from the community level, so it is being designed from the higher level then it comes to the community level for implementation, that means the needs of the community isn't really covered by the project. And that's why you would find a large part of the community which is the main target of WASH projects, you would find the project has the positive objective but its implementation fails due to how the community is being involved in that project." – Tanzania, Government Participant 8

"Sometimes we design project based on experience from other countries even within Tanzania from other areas. Then we copy the methodology, the same approach to these proposed projects, why? From ex projects why? So, there are challenges there since the projects aren't being done in a proper way, so whatever has worked in (location name withheld) might not work in (location name withheld). So most of the time as implementers we usually start with our own plans, I mean the institutions usually have their own approach different from that community ... whoever wants to implement the project then first he must do enough analysis so that he will have the design that will address the real problem of a relevant place." – Tanzania, NGO Participant 2

"Now the top down challenge is that they are not involved in the community, and the community is probably not their priority, so if the projects are put in place and the community was not involved and did not see it as the right thing to do, there is a very high probability that the project will not succeed... But you find most institutions planning just starts in the office and then goes down there, so they may be the one that is not their priority" – Tanzania, NGO Participant 3

Theme + child codes	Illustrative quotes
	<p>“In some cases failures were recorded due to the implementation strategies that did not promote community participation from the planning stage ... The project implementers set their targets and worked towards achieving them rather than consulting with the concerned communities.” – Zimbabwe, Academic Participant 1</p> <p>“Larger problems do exist and they include imposing certain solutions to solve wash problems without considering the knowledge, attitudes and practices of the beneficiaries.” – Zimbabwe, Government Participant 3</p> <p>“I think this happened because a needs assessment was not done well. Because if it was done. This kind of problem was going to be noted before they even before they even drilled the borehole and an alternative water source was going to be made.” – Zimbabwe Government Participant 5</p> <p>“One problem is lack of community consultations during designs of projects which lead to lack of ownership.” – Zimbabwe, NGO Participant 3</p> <p>“WASH failures occur, for many reasons. The first reason we can identify is the issue of participation in the selection or type of technology that is to be used. Sometimes communities are not fully engaged in the type of technology that is going to be used and therefore you'll find that users have a challenge with using the infrastructure, whether it's a pump that they are supposed to use or they are not familiar with it, or there's there's something about the technology that hinders them. Maybe the technology is not appropriate for those who are responsible for water collection, for example, not designed by gender.” – Zimbabwe, NGO Participant 5</p>
<p>Programming education/training</p> <p><i>Failure caused by a lack of education and/or training regarding the programme being implemented</i></p>	<p>“If it is handwashing, they should demonstrate at each village and at each household, making of handwashing facility they don't know, demonstrate at each household those things.” – Malawi, Government Participant 1</p> <p>“There is no support to that community I mean they don't get enough capacity building to be able to maintain and operate these Wash infrastructures which are operating.” – Tanzania, NGO Participant 2</p> <p>“The project is going very well but we are going to implement then we forget that those beneficiaries of the project need to be educated concerning that project ... In operation of the project like how will they operate it, for example these water projects.” – Tanzania, NGO Participant 9</p> <p>“At one point, the Engineer called off funding for the software components of the project (Health and hygiene education, formation of health clubs etc) citing them irrelevant and all funds were redirected to the hardware component. The resultant was that the impact of the project is not being felt now as some infrastructure that were put in place were vandalised because the community lacked education which could have been key in sustaining public WASH infrastructure.” – Zimbabwe, Government Participant 2</p> <p>“The budgets may not be targeting capacity building of communities which is key when communities will be expected to manage the WASH facilities once implemented.” – Zimbabwe, NGO Participant 1</p>
<p>WASH education</p> <p><i>Failure caused by a lack of WASH education (particularly around the impacts of poor WASH) being embedded within programming</i></p>	<p>“Most of the those beneficiaries whom I was meeting with, they didn't know in details the benefit of the service WASH project that was running ... So las first to talk about the benefits, about what they are going to... aah to get about when we start through this project but they could not understand” – Tanzania, Government Participant 2</p>

Theme + child codes	Illustrative quotes
	<p>“People in the community don’t have health education that means community need to have education so as they can understand the benefit and effect of not using toilet, cost of treatment if they won’t use toilet ... education should be provided in the community, I think we provide to the community education but it’s not adequately and it’s within short time and sometime it’s one hour, that is not enough to change someone behaviour.” – Tanzania, Government Participant 4</p> <p>“When they have access to it and learn different examples, that’s when they’ll realize that environmental pollution is the worst catastrophe” – Tanzania Government Participant 5</p> <p>“People don't have enough education like how much does it protect him specifically in the village, but it is just that they are being told that it should be there” – Tanzania, NGO Participant 6</p> <p>“Communities lacked knowledge on the benefits of having appropriate sanitation facilities hence the diversion of the allocated resources such as cement to the household uses.” – Zimbabwe Academic Participant 1</p> <p>“I feel it was because not much was done in terms of groundwork, in terms of training communities on participatory health and hygiene and on the need of having a toilet facility at household level.” – Zimbabwe, NGO Participant 9</p>
<p>Idealistic planning</p> <p><i>Failure caused by idealistic planning which assumes programme theories of change are correct from the outset, budgets and timeframes will not change, and programmes will be sustainable for a long period after implementation</i></p>	
<p>Inappropriate budgeting</p> <p><i>Failure caused by implementers budgeting inappropriately</i></p>	<p>“... the problem is vehicles are available but there (are) just too many projects, instead of assigning one for each project, you would find that they’ve assigned one vehicle to many projects.” – Malawi, Government Official 3</p> <p>“They just planned at their offices, without realizing what their plan would need, so you’d find that resources would run out before the project is over. So, there was lack of involvement in planning.” - Malawi, Government Participant 4</p> <p>“There should be continuous flow of funds as designed in the program. Each and every quarter fund should come and not to stay the whole quarter waiting for funds to come. It slows down interventions.” – Malawi, NGO Participant 24</p> <p>“There is no support to that community I mean they don't get enough capacity building to be able to maintain and operate these WASH infrastructures which are operating. If you have them there just go through various Organizations budgets then tell me how is their capacity building? You are handling over the project of two billions budget to the Technician whom you have trained for seven days” – Tanzania, NGO Participant 2</p> <p>“When WASH projects come they will be having specific budget lines, hence the budgets may not be targeting capacity building of communities which is key when communities will be expected to manage the WASH facilities once implemented.” – Zimbabwe, NGO Participant 1</p>
<p>Post-project monitoring</p> <p><i>Failure to be able to assess the sustainability as no monitoring is done following implementation</i></p>	<p>“What most organisations does, once the project has been delivered to the community, the approach usually changes since its now in the community. Once it’s been implemented for say 2 or 3 years, we stop there without following up on the activities in the community ... You easily know things are not okay when you monitor a project. Sometimes</p>

Theme + child codes	Illustrative quotes
	<p>monitoring is hard since they lack funds ... For sustainability component to be there, we really need to monitor to check progress of the project.” – Malawi, NGO Participant 9</p> <p>“I think monitoring is a challenge. We do not have the mechanism to check whether the objectives of the project have been fulfilled and ensuring that an NGO picks up from where another one stopped, so monitoring at national level remains a limitation.” – Malawi, NGO Participant 19</p> <p>“You don’t have money to go and do some monitoring ... Maybe monthly or quartering monitoring or... that is another failure” – Tanzania, NGO Participant 1</p> <p>“The concern about the progress of the project that is visiting the project after its completion, they usually don’t do that because it’s like they had a certain job to do, after its complete then it’s over hence just look forward.” – Tanzania, NGO Participant 8</p>
<p>Project length</p> <p><i>Failure caused by projects being too short to achieve their goals</i></p>	<p>“... and even the community members themselves start very well by putting water in the hand washing facilities, but maybe at a certain time you see when you go around there is no water in the hand washing facilities. You check on the drop floor cover, it’s no longer there, maybe it’s placed inside the hall. So, there is still need that for us health workers to work with the community, now and then.” – Malawi, government Participant 5</p> <p>“We talk of boreholes, you see that people expect an organization that has drilled them a borehole to maintain it, if that’s not done then they won’t do anything.” – Malawi, NGO Participant 5</p> <p>“As a community, because once those things are done, they are supposed to be maintaining them. They have a committee but they cannot afford to buy the spare parts, so that can lead to failures as when people come for reporting they shall found things are broken and they will tell you that the project was a failure as people in the village can’t find water regardless a borehole was constructed.” – Malawi, NGO Participant 8</p> <p>“We can’t change the mindset of people within a year hence we need to give these projects enough time ... we need sustainability plans to be put in place and follow ups are very important. As I said that we need more time to implement these programs. We may need four years where the first two years will be for implementing ODF and the last two years we do follow ups” – Malawi, NGO Participant 15</p> <p>“We say that for a person to stop open defecation and to start washing hands with soap is some sort of behaviour change and it’s a process. But you will find out that the project is only for two years and you expect that in that short period of time the hardware part should be done and also expect the person to change behaviour.” – Malawi, NGO Participant 16</p> <p>“We have done a number of projects and we have seen that because of the period of the project being very short for people to start adopting it’s a challenge.” – Malawi, NGO Participant 26</p> <p>“A lot of time people just want to secure grant funding but they don't take into account that "Ok this is going to be a delay, that is going to be a delay". So often researchers work on best case scenarios and researchers are people writing all the proposals. I think it is very important to take into account that things move slowly socially and politically in Africa. So you will want to factor that in.” – South Africa, NGO Participant 1</p>

Theme + child codes	Illustrative quotes
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“You get the fund for three or six months, so you may start and the time might expire before you have accomplished anything, I mean the time you were supposed to use the money has expired then the money will be returned.” – Tanzania, NGO Participant 4

“They put monitoring strategy in place for example they had water community committee to monitor water walls that if pump will be broken they should know where they can have repair and that people can fetch water with low cost and those who are not able with felt water for free, maybe those water community committee did not perform its job properly, they were maybe selfish or they didn't have enough money for maintenance of the walls so walls stopped to work because committee did not have enough money for maintenance and repair so sometimes project fails.” – Tanzania, NGO Participant 5

“So the process that we had to undertake for us to do that and the project timeframe didn't go along.” – Zimbabwe, NGO Participant 2

“The timeframes were not realistic and the assumption that communities could respond to positive behaviour change at the same time. The project did not budget time for communities who respond late and those who wait at the fence to see how early adopters would do” – Zimbabwe, NGO Participant 3

“Sometimes WASH behaviours require time. So, a project that comes in quickly and moves out and is short lived, you'll find that the project wouldn't have fully triggered community perceptions and minds to understand the need for change.” – Zimbabwe, NGO Participant 5

Sustainability assumptions

Failure caused by assumptions that altered WASH behaviours will continue and users (or some other third party) will do or fund operation and maintenance after implementation

“In addition, all of them they didn't have an exit strategy to say if we achieve ODF what activities will we bring in now to make our achievement sustainable.” – Malawi, NGO Participant 13

“Another thing, before drilling a borehole we do awareness on the proper usage of pit latrines, awareness on use of hand washing facilities, and promotion of portable drinking water. When you do that awareness, people comply just to allow the borehole to be drilled. When the borehole is drilled and when we finish the awareness the community also stop practicing hygiene. That's one thing I feel like is pulling down WASH initiatives in the communities... You find out that in a school you help them rehabilitate the borehole and after you are gone, they fail to fix minor things like rubber flappers which are very affordable to the community” – Malawi, NGO Participant 17

“...after you pull out the HSAs (Health Surveillance Assistants) stop working, and the community seem to have never had WASH innervations. So, there is no commitment from the government to sustain projects.” – Malawi, NGO Participant 23

“They built a lot of toilets from 2006 to 2011. So if you think when they were built, most of them now are full. They've got no budget and no programme for emptying the toilets. Zero. So that's the problem.” – South Africa, Private Sector Participant 5

“... partly because the community increasingly feels that if they got paid once to do something, then they expect that to continue and are not prepared to fall into systems of community-based organized WASH systems and to participate in that if there is no money available to them.” – South Africa, Research Institute Participant 2

Theme + child codes	Illustrative quotes
	<p>“I think the reason why WASH projects fail is because of its sustainability where by most of these WASH projects are perceived as community project, and therefore the project fail to be sustainable, its true that we can start a good WASH project but because we don't set an environment where project can be sustainable it lead to occasionally fail of WASH project, if you observe for example in towns, people will contribute according to how the use water and project can be sustainable, if you take also a sanitation project a citizen need to pay but most of these project are established as charity and they don't plan how it will be sustainable so a citizen will just have notion that its a charity and its not something that he has participated so they don't have sense of ownership and they thinks it's someone's project.” – Tanzania, Government Participant 1</p> <p>“You will find that when project is under donors, the project done very well but when donors phase out we also relax and this is too bad and it even discourage donors that why during their period we are working together with them and when they leave we stop implementing that project” – Tanzania, Government Participant 4</p> <p>“If a system is too expensive to repair or to rehabilitate or to maintain, for example, they'll just let it go. So, if, for example, you set up a solar system and it's a complex system for water pumping and if a unit burns out say, for example, a transformer burns out, you'll find that those transformers or inverters, they will cost about USD\$600, USD\$700 or something, which is out of the community's ability to really maintain on their own. Then you'll find that they would abandon the scheme.” – Zimbabwe, NGO Participant 5</p> <p>“Long term viability of public water and sanitation services require user fees and inputs from beneficiaries which is difficult in Africa.” – Zimbabwe, NGO Participant 8</p>

Politics and bureaucracy
Failure caused by political motivations and slow or overly complicated bureaucracy

<p>Bureaucracy</p> <p><i>Failure caused by lengthy and complicated bureaucracy</i></p>	<p>“The main challenge was the way the funding system was. The funding could come after you work and hence, we would stay for some time without doing anything on the ground. So, the structure of funding was not okay.” - Malawi, NGO Participant 15</p> <p>“Each and every quarter fund should come and not to stay the whole quarter waiting for funds to come. It slows down interventions.” – Malawi, NGO Participant 24</p> <p>“You spend another two, two weeks with a sign on the toilet that says: “Out of Order!” and people are coming every day, they want to use it, but there is a sign saying: “Out of Order!”. Why don't you get a plumber there and then to come and fix that? But, because of bureaucracy, we still have to go to tender. We still have to go and this and this, then we will stay a month with a toilet or an ablution block that is not working.” – South Africa, CSO Participant 2</p> <p>“Government is all paper work, and quotes and tenders and then everything takes time. Which is sometimes a real problem with things, especially when you have crisis and emergencies.” – South Africa, Private Sector Participant 5</p> <p>“you bring it to the community with a long bureaucracy between the government and community ... obviously there are some procedures that you will have to go through, so in order to complete these procedures from back and forth then you are able to decide on what should start and what will follow, obviously it will take a very long time then you</p>
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Theme + child codes	Illustrative quotes
	<p>will find that the time you were given to spend that money for example for three months it will eventually bounce, therefore other projects are failing due to those circumstances like delays.” Tanzania, NGO Participant 4</p> <p>“... the budget might be allocated but it goes late to the water project, so the workers are there without any working facilities because the fund is not there yet. Sometimes the fund can be on time but the distribution becomes late.” – Tanzania, NGO Participant 7</p>
<p>Individuals’ priorities</p> <p><i>Failure caused by of the priorities of individuals (within government departments and community leaders) being considered above those of institutions/communities.</i></p>	<p>“On that project we started very well and the DHO (District Health Officer), the one that was there that time, was willing to provide more resources for CLTS (Community Led Total Sanitation) activities. Then another DHO came along and he had his own priorities.” – Malawi, Government Participant 7</p> <p>“And decision-making because somebody sitting there would think, “okay, these people need sanitation. They need water. I have a friend, or we have someone who has got a truck. If we give them this service, we are good. We’ll be smiling all the way to the bank.” – South Africa, CSO Participant 2</p> <p>“... the community leadership as gate keepers sometimes can be difficult people and can be people that are more thinking about their own politics than their community.” – South Africa, Government Participant 2</p> <p>“I think some superiors have their own interests with some people, so sometimes the letter might be sent but still the one who is coordinating health issues might not be taken, instead another different person might take the place.” – Tanzania, Male Focus Group Government Participant</p>

Theme + child codes	Illustrative quotes
<p>Political will</p> <p><i>Failure due to WASH not being considered a priority of the government</i></p>	<p>“The works department people may also leave the project and not go for monitoring because of political influence in a situation where the MP has come in the same area and wants them to do other development ...” – Malawi, Government Participant 2</p> <p>“... there is an issue that government do not pump in enough money to support that... they would rather use the money to buy drugs to treat diarrhoea rather than to implement activities that would help someone to prevent all diarrhoea infections.” – Malawi, Government Participant 7</p> <p>“...it seems that mostly, government do not prioritize much in WASH either they do not support with much funds to the Ministry that they are running WASH activities. So, there are gaps and there is a need for government to support WASH activities.” – Malawi, NGO Participant 13</p> <p>“... despite water in general, WASH, being one the most needful things amongst communities, it’s put on number three or four, and it’s not a priority to our law makers. There is lack of political will.” – Malawi, NGO Participant 14</p> <p>“... kind of in a bad space that everyone still thinks, most people still think eradication when it comes to informal settlement. So there's no then real dedicated plan into the informal settlement space around how do we improve things or how do we even engage and work with informal settlements.” – South Africa, NGO Participant 1</p> <p>“... it is DMO but DHO attends for the issue of WASH only. They give him time for explaining and instructing. But the challenge is; it isn't taken seriously by being given priority.” – Tanzania, Female Focus Group Government Participant</p> <p>“Lack of political will as well as political interference resulting in WASH projects being diverted to the unintended people who will see no importance in that.” – Zimbabwe, NGO Participant 8</p>
<p>Populism</p> <p><i>Failure caused by the directing of funds to groups/individuals who politicians/leaders prefer</i></p>	<p>“Another thing is that such kinds of boreholes are just given out seeking votes from the people and as such some standards such as borehole depth are compromised.” – Malawi, NGO Participant 17</p> <p>“There is also political manipulation that sometimes when you are going to the fields to implement activities and you know that this target area belongs to the ruling party. So sometimes you are told that if you are going to a certain community to do activities, they tell you to pass by someone in the party or carry party materials to distribute. So, if you don’t comply, they find a way blocking you to implement your activities. They make sure they make your life miserable.” – Malawi, NGO Participant 18</p> <p>“You can't run around with a red ribbon and cut it on a rehabilitated waste water treatment plant, but you sure can do that on a dam, you know, or, or a small water system in a town, or, you know, and so that kind of “I'm so good vote for me”, that sort of uptick high-profile, “Look at this piece of infrastructure I built” is, is far more where energy and money has been going then in the dirty work, which is maintaining and operating what we've got. And that's why water services are failing.” – South Africa, CSO Participant 1</p> <p>“... not every councillor that exist in every ward is for the people ... not chosen by the people, they are chosen by the political party.” – South Africa, Government Participant 2</p>

Theme + child codes	Illustrative quotes
	<p>“We have a complete dysfunctional political system in this country, which seems to be more engaged at political point scoring than about service delivery at any level.” – South Africa, Research Institute Participant 1</p> <p>“I think there's some political interest that could be affecting such activities. Yeah, it could be. Because some of the land there, you find that its being run by our private developers and also political players.” – Zimbabwe, Government Participant 9</p> <p>“Government encourages water committees to be responsible for the maintenance of their water points but when we are near elections this is abandoned and all faulty water points are repaired/rehabilitated. This sends confusing messages to communities.” – Zimbabwe, NGO Participant 3</p>

Poor coordination and communication
Failure caused by poor coordination and communication between WASH sector actors and intended users

<p>Poor communication between WASH sector professional actors</p> <p><i>Failure caused by poor communication and coordination between WASH sector professional actors (i.e., not including intended users)</i></p>	<p>“The biggest reason would be planning and we have been pleading with our partners on the same issue. They don’t consult us as a sector when planning and they just come to tell us of what is to be done. They don’t really know the schedules in the villages while we know. For them they just fulfill their schedules and time lines with their donors.” – Malawi, Government Participant 3</p> <p>“... you find that when some of the partners are here in the district, they don’t involve other stakeholders right away in the community, because this issue of CLTS is not for the ministry of health only, it cuts across to even people from agriculture, people from forestry, and people from the community. We have to work together. But sometimes you could see that a project officer from some partner is going in the community without maybe the environmental knowing what is happening in the community.” – Malawi, Government Participant 5</p> <p>“Often times we fail to control the NGO's that are working within the districts. There is a lot of politics involved but to a larger extent we fail to manage and control the NGO's that are working. If we were to control them properly am sure some of the resources would have been channelled to the things that are more productive and more efficient.” – Malawi, Government Participant 7</p> <p>“They (Ministries) don’t really work well because always they pull from different directions in terms of policies. They always try to take advantage this policy or the other policy and that affects implementation of the project.” – Malawi, NGO Participant 4</p> <p>“They occur because sometimes there is poor coordination, between the government and NGOs.” – Malawi, NGO Participant 5</p> <p>“Some of the partners in those districts where we operate, you find that maybe, they do not collaborate with other partners who are seen doing similar projects of WASH.” – Malawi, NGO Participant 8</p> <p>“It also happens that you may be implementing the same activities in the same district because when budgeting we did not consult each other.” – Malawi, NGO Participant 9</p>
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"I feel like coordination either within or amongst the NGOs and their governments when we are implementing (is a cause of failure). Because we act like we are in a competition to be seen that we are the best (sic) than our fellow organizations." – Malawi, NGO Participant 10

"... inside a district there are a number of partners implementing the same WASH mission, but it happens that the other partner might be going this way and other one going the other way ... WASH has a lot of confusion and has lost identity. Today you will find it is under Ministry of Health, the other day under Ministry of Water, then it loses its identity. For instance, when you tell the Principal Sectary of Health to follow the issues of water, you will be told that he is just following the issue of sanitation only and you will find out there is understaffing of water monitoring assistance." – Malawi, NGO Participant 11

"At NGO level sometimes they don't involve much of the government counterparts just because they don't have the funds or the money to support the government counterparts in terms of lunch allowances. They shun away from government extension workers and do the work on their own which also create a gap because when that organizations goes there is not anyone to fill the gap ..." – Malawi NGO Participant 13

"Sometimes it happens that one project brings its own approach, which is different to the approach used by a project that was previously done in the same area. You find that one project comes and just hands out the tools, whereas another project finds it challenging in the village to use shop partners because the former gave out the tools for free, say when a borehole malfunction. This disturbs the set procedure, instead of having one line to move together, they use different channels which leads to contradiction on what to follow." – Malawi, NGO Participant 19

"... it appears we don't have standards here in Malawi, on how to build structures. Any WASH NGO does what they think is best for them. Anyone can just wake up and start a WASH NGO, and receive funding wherever, and start operating, say begin to build boreholes without prior knowledge of how that works. So for instance, the (name withheld) project was huge, we discussed with the government to bring standards, because as we were conducting the project, we were about 6 NGOs, during that project and every NGO operated in their own unique way. (NGO name withheld) carried out their operation in their own way, building latrines of their own design in schools, we also building latrines in schools with our own design. (NGO name withheld) drill boreholes with their design, we do the same with our own design, you look at that ... The government is just not providing leadership that is necessary, you find that for a policy that our organisation is supposed to lead, the district rural officer is not even aware or proactive to engage or bring people together, and organize meetings for WASH, giving out standards and guidelines, that you are working with water don't do it people without experts from water, call us to ensure everything is done accordingly. That is proactivity missing in most of the districts in Malawi, as a result, things just happen without order, contributing to failure ... At district level, NGOs must be coordinated, not everyone doing things in their own way." Malawi, NGO Participant 21

"... there was poor coordination between the district council, and us as an organisation. I think we skipped a certain procedure." – Malawi, NGO Participant 22

"... departments work in silos, department of housing is sitting somewhere planning their own thing. Whereas the department of water and sanitation is sitting somewhere planning their own thing. And when they find a settlement,

Theme + child codes	Illustrative quotes
	<p>they don't come together and say, if this is an emergency, how do we streamline our planning or our efforts to make sure that we mobilize all the resources once?" – South Africa, CSO Participant 2</p> <p>"Within our unit, I think that sometimes the left don't know what the right is doing." – South Africa, Government Participant 3</p> <p>"... the toughest department to get into that technical forum are water and solid waste. They don't come because they are like "no we know what we are doing"" – South Africa, NGO Participant 1</p> <p>"... it was discovered that there is another organization that has also come in that area and it seems like we are in competition." – Tanzania, government Participant 6</p> <p>"... shortcomings which we did not capture in the beginning, everyone thinking that the other will capture it, till now this one also his scope ended there, we came to realise that we had not taken water to this school." – Tanzania, Government Participant 7</p> <p>"That is another Department, so there isn't any structure that can decide from top of the government to bottom, first this one will be responsible for this one, when it comes to the council it is the same story, so we don't have a specific structure for dealing with WASH entity, except that now if you were to speak about WASH issues you will be directed to Health Department, but this Health (Department) will have a very small component of public areas and health facilities, and these facilities if you were to speak about school also there is a coordinator. So, if you were to look you will find it is zigzag, there isn't that structure that if you go there then I will find the right person concerning WASH." – Tanzania, Government Participant 8</p> <p>"They don't compare the survey that was done in those areas before maybe they start drilling on their own." – Tanzania, NGO Participant 5</p> <p>"the hygiene aspect, you would find that in an urban setting, there are a number of competing programs which are incentivized." – Zimbabwe, government Participant 7</p> <p>"WASH failures in general occur because there is lack of participatory processes in conducting baseline surveys with multiple stakeholders in the WASH sector, resulting in duplication, lack of expertise, networking and funding." – Zimbabwe, NGO Participant 8</p> <p>"So some organizations failed, were failing to attend these meetings. And as a result, this affects, you know, coordination within the sector." – Zimbabwe, NGO Participant 9</p>
<p>Withholding of information</p> <p><i>Failure caused by implementers purposefully withholding information from other stakeholders</i></p>	<p>"... maybe they didn't want us to know what has been pushed, or the amount of funds that were there, I don't know. For the other projects, we come together and see the way forward with the funding, whereas that was not the case for (organisation name withheld). I believe they didn't want us to peep into their pocket ... Many (organisations) do not want to indicate how much money they have." – Malawi, Government Participant 4</p> <p>"Many times what makes people not to share information is lack of transparency for example it could be in the area of finances where people are afraid to say something because they are afraid their manner of expenses may be followed or investigated because it has flaws which was not shared before." – Malawi, NGO Participant 20</p>

Theme + child codes	Illustrative quotes
	<p>“I feel there was a lot of withholding of information from both parties. Yea there was a lot of withholding of information from the private sector because they also were trying to make it work and there was also withholding of information from the municipality as well.” – South Africa, Private Sector Participant 4</p> <p>“Initially local authorities started with hiding information from each other thus the project was built using a baseline with false information.” – Zimbabwe, Government Participant 1</p>
<p>Insufficient capacity</p> <p><i>Failure caused by insufficient human resource capacity</i></p>	
<p>Staff capabilities</p> <p><i>Failure caused by insufficiently trained implementation staff</i></p>	<p>“At district level you may find people who are even more experienced in that kind of work either in the health department or other departments who can be used, but they bring people/contractors who do not know the job in the end they damage the work.” – Malawi, Government Participant 2</p> <p>“An organization may fail to recruit the right people in the WASH sector. If you don’t recruit technical experts in WASH, don’t expect results. Don’t take say an educationist to do WASH activities. The risk of failure can be remedied by employing technical experts. So, we need to recruit the right people to do the right job.” – Malawi, NGO Participant 5</p> <p>“Sometimes, you find that NGOs don’t employ a person who is well knowledgeable in a particular field, they use relations, so you find that someone fills a position they were not supposed to be in leads to incompetence.” – Malawi, NGO Participant 19</p> <p>“... municipalities don't know how to do a water services developmental plan, don't understand how water systems work, don't understand how sanitation facilities work, don't prioritize waste water treatment plants and rehabilitation.” – South Africa, CSO Participant 1</p> <p>“I'm seeing projects that are being implemented with very limited skill people who have found their way into a, into a procurement process with very limited experience. And that's another reason for its failure.” – South Africa, Research Institute Participant 2</p> <p>“There are people who are implementing WASH projects but they aren't the right people for that activity” – Tanzania, Government Participant 8</p> <p>“There are engineers or WASH professionals but they don’t know how to prepare the community to receive a project.” – Tanzania, NGO Participant 5</p> <p>“Another thing is we need to recruit people with WASH skills to implement WASH projects and not that you have studied environment(al science) and you think you can implement WASH projects.” – Tanzania, Private sector Participant 2</p> <p>“The WASH sector does not have enough people with required knowledge and skills to deliver universal safety managed WASH.” – Zimbabwe, NGO Participant 8</p>

Theme + child codes	Illustrative quotes
<p>Staff turnover</p> <p><i>Failure caused by the constant turnover of implementation staff</i></p>	<p>“Because this was an emergency project in some of the projects, the training of builders was hurried and as a result, some of the toilets later on collapsed due to poor workmanship.” – Zimbabwe, NGO Participant 9</p> <p>“Unfortunately with the nature of our job, you’d find that the person we coordinate with leaves the job and another one comes in, so it leads us to start all over ... We are lucky that we have HSAs (Health Surveillance Assistant) in fields, but you find that some don’t stay in their area which is part of our weakness.” – Malawi, Government Participant 4</p> <p>“Another problem is about staff retention. Today you find that a person is in WASH and tomorrow the person is in Agriculture and the other day he is somewhere because we just follow greener pastures.” – Malawi, NGO Participant 10</p> <p>“The kind of leaching of technical skills from municipalities is a real problem.” – South Africa, CSO Participant 1</p> <p>“If your stakeholders change too often or if you don't have committed stakeholders and you keep chopping and changing, different people come in and see the vision differently and that affects the project.” – South Africa, INGO Participant 1</p> <p>“the next issue becomes of movement of people. You find here you've trained three people, OK, for example, in a ward where you have more than 10 boreholes ... because of movement of people you find after some year or two years, the water pump-minder has moved from one, you know, to a greener pasture. From a rural setup to a town.” – Zimbabwe, Government Participant 6</p>
<p>Unrealistic funder expectations</p> <p><i>Failure caused by unrealistic funder expectations which, combined with a competitive funding environment means that organisations find themselves overpromising in terms of activity and timelines, and reluctant to report problems as they arise</i></p> <p>“Funder knows best”</p> <p><i>Failure because funders impose their own ideas about programming, rather than listening to implementers/communities</i></p>	<p>“...they (donor) just give us funds that it should be used/work this way but they do not ask what’s needed in the field... most problems come because donors just impose on what should happen with the funds they have ... most of the times they already have their interest area on where the funds should go, if you try to argue with them they say they will divert the funds to other organisations.” – Malawi, Government Participant 2</p> <p>“... we needed to write proposals in order to access that funding because you’d find that they (funder) could remove the things that the community wants and we approved that is necessary. In place of the necessary things they could add what they (donor) wanted which were not as important.” – Malawi, Government Participant 4</p> <p>“I think there is a problem with NGOs that the donors usually when they come, they dictate what they want to do... There was a requirement for financial contribution, and they (NGOs) were like “our donor said we should do this”. So, some decisions are done from far places like overseas.” – Malawi, Government Participant 7</p> <p>“if they (intended users) felt like perhaps we need to provide some little cement for construction of slabs and so on and so forth but we couldn’t do that because that is not what the donor wanted. The donor wanted simply promotion. So, it was difficult, there was limitation to what we could do.” – Malawi, NGO Participant 4</p>

Theme + child codes **Illustrative quotes**

“... it (failure) is through funder demands. They would direct you what to do on the ground as a result it comes like a command and it would by-pass potential people that would have helped a lot in its implementation stage. Some stakeholders which include those people who are beneficiaries of such, it doesn't help since the funder demands are somehow bad.” – Malawi, NGO Participant 6

“Some of the problems include issues of funding in the context of donor priorities. We may propose to implement a project in a certain area, but the donor wants you to implement the project in another area. So, you are forced to implement the project to the area chosen by the donor.” – Malawi, NGO Participant 10

“... donor is another contributing factor that plays a role (in failure), they know that community-based management training is for 5 days, so what happens is when the budget is sent to the donor, it is trimmed say for 3 days. Now the stuff you were supposed to prescribe for 5 days is trimmed, so you look at the low literacy level and then you cut the training duration, and some are slow learners as such it is hard for them to grasp.” – Malawi, NGO Participant 11

“The way programs are made by the implementers either the NGO or donors, sometimes they just come in and impose, and not consulting from the ones that are implementing ... Like you would see an advert in a newspaper call for application for local NGOs to implement WASH and they have already put targets in it, CLTS (Community Led Total Sanitation), sanitation marketing, but are these the real things that the communities are looking for? But because NGOs are there to implement what donors are willing then you see NGOs applying ...” – Malawi, NGO Participant 14

“Unfortunately, I wasn't involved in that in the selection criteria because the donors brought the selection criteria saying they want to target these people.” – Zimbabwe, Government Participant 9

“It happens that donors doesn't have enough funds but they want to cover a large area so that when they are reporting they should be saying that they have covered the whole district like Blantyre with little resources. But then may be if they could have focused on a small area with the little resources they had there could be an impact in that small area.” – Malawi, Government Participant 2

“by that time they were using (donor name withheld) funds, it was the time when the (donor name withheld) funds came to an end, so we didn't have any other partner to proceed with that so we just left it as it was.” – Malawi, Government Participant 5

“...they were looking forward to be given an allowance for them to do the job, regardless that it's their core duty and they need to do that, but still more they have to look back to the donor to give them allowance. So, if the donor does not have funds, the field workers don't commit themselves to the job and the project doesn't go any far.” – Malawi, NGO Participant 13

“... you want to train people but you don't have finances for that but since when you call for a meeting people expect allowances ... when you don't provide allowances due to what donor is saying you find out that things don't work.” – Malawi, NGO Participant 22

“You will find the investment is very little and also they are on a very short term 1 to 2 years. So, they cannot deliver behaviour change.” – Malawi, NGO Participant 26

Inadequate funding

Failure due to implementers having inadequate funds to achieve their goals

Theme + child codes	Illustrative quotes
	<p>“Thinking about WASH failures in general, I think they occur, because of the inadequacy of resources to carry out these programs, sometimes the materials that are provided can only sustain the programs half way.” – Zimbabwe, Government Participant 5</p> <p>“...the first issue is the dependence on the donor funding. Because if we depend on the donors and they bring items which are not enough or not adequate. Now, we are forced to use what is there.” – Zimbabwe, Government Participant 9</p> <p>“... they (foreign government donors) have to show their taxpayers that they've invested well in organizations like (name withheld) and therefore they want to say not we've helped ten families, we have helped ten thousand families. So it's spread too thin, too thin.” – Zimbabwe, NGO Participant 6</p>
<p>Limited flexibility</p> <p><i>Failure due to lack of flexibility in timelines and budgets</i></p>	<p>“... last year we had heavy rains and yet they were expecting us to go to the fields and tell people to dig toilets In the rainy season which is so unreasonable and unrealistic.” – Malawi, Government Participant 3</p> <p>“...what if at a community thing have changed and the approach will not work? What do you do? Are you going to return the money? You continue with what you have proposed and what the donor is requiring you to do. So restricted funds could also be one of the challenges that also inhibit flexibility of organisation in terms of approach and also the failures that happen at the community level.” – Malawi NGO Participant 1</p> <p>“... for us as the project team it was challenging during the rainy season, project we have a specific time frame so you can imagine spending all this time without going to the field which means that this time has been spilt over out of the time frame of the project. And the donor starts to question that we agreed that by this date we need a report on the progress and if you have finished, we cannot give donor an excuse that we had rains.” – Malawi NGO Participant 2</p> <p>“Those communities that had not yet declared ODF had already undergone triggering processes. What was remaining was for the whole community to be verified and declared ODF which according to the timeframe of the donor it was too late for us to go back and declare.” – Malawi NGO Participant 23</p> <p>“You get the fund for three or six months, so you may start and the time might expire before you have accomplished anything, I mean the time you were supposed to use the money has expired then the money will be returned.” – Tanzania, NGO Participant 4</p>
<p>Measurement priority</p> <p><i>Failure due to funders prioritising outcomes that can be easily achieved and counted over those which require longer term behaviour change or qualitative measurement</i></p>	<p>“Another issue is that in sanitation and hygiene, the software things are very difficult to trace for evidence-based things. So training of people in CLTS, or triggering say if you can tell your boss or whoever is doing the accounts and say we went to train people and we have used One Hundred Thousand Kwacha but tomorrow they go to the community and see nothing and they think the money wasn't used well. But if you say we have used One Hundred Thousand (Kwacha) and then they see taps of water they are happy.” – Malawi, NGO Participant 10</p> <p>“The main problem is that we are more focused on figures than the sustainability of the project. An example would be when they give us a target of 10,000 people to be reached ... our focus will be on the figure given. Our main focus should be the quality of work and not just quantity. These two must be differentiated ... when the donors see the</p>

Theme + child codes	Illustrative quotes
	<p>large numbers being reported they get excited. So, the donors have to change their mindset on report. We need to start reporting on quality and not quantity.” – Malawi, NGO Participant 15</p> <p>“The project implementers set their targets and worked towards achieving them rather than consulting with the concerned communities.” – Zimbabwe, Academic Participant 1</p>
<p>Lack of funding</p> <p><i>Failure caused by a general lack of funding</i></p>	<p>“WASH is greatly underfunded, mainly the hygiene and sanitation part – Malawi, Government Participant 1</p> <p>“... they just told us that they cannot proceed because they don’t have funds, they don’t have money.” – Malawi, Government Participant 5</p> <p>“... if we had that fixed (monetary) support from the government it could have been better.” Malawi, Government Participant 6</p> <p>“The other issue is lack of willingness of the government itself to pump in money to support WASH activities ... So globally I find that not many resources are put into WASH sector in order to deal with problems to do with WASH.” – Malawi, Government Participant 7</p> <p>“The other challenge is low funding in the WASH sector.” - Malawi, NGO Participant 5</p> <p>“I think the other reason on the same is lack of financial support.” – Malawi, NGO Participant 6</p> <p>“In WASH sector globally I think the challenge has always been the lack of resources. Resources for WASH are scarce I tell you.” – Malawi, NGO Participant 8</p> <p>“With limited funding we cannot do more. That's what will hinder us to reach our targets.” – Malawi. NGO Participant 17</p> <p>“... most of my issues that I face is local authorities who are responsible and given too much responsibility for in implementing localized water and sanitation distribution systems. And they don't have the finances to be able to do that. They don't seem to find the mechanisms to raise the finance for people who generally are not actually able to pay.” – South Africa, Research Institute Participant 2</p> <p>“... the fund is very low, very low.” – Tanzania Government Participant 4</p> <p>“I can answer using my experience; the main challenge is the issue of finance.” – Tanzania, Government Participant 6</p> <p>“Funding would limit most efforts.” – Zimbabwe, Government Participant 1</p>

Theme + child codes	Illustrative quotes
<p>Water table</p> <p><i>Failure caused by implementing WASH technologies that are inappropriate for the depth of the water table</i></p>	<p>“Due to climate change the water tables, water levels are changing, they are going down so sometimes to drill a borehole is a challenge and cases of boreholes that work just for few years are rising yet you have spent a lot of millions.” – Malawi, NGO Participant 1</p> <p>“You dig a borehole, you find dry holes but you have spent some money just to dig a 45-meter dry hole. You see, so at the end of the day, you meet three dry holes, which means money is just spent but didn’t find water.” – Malawi, NGO Participant 5</p>

TONG, A., SAINSBURY, P. & CRAIG, J. 2007. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19, 349-357.