World Vision

BEHAVIOR CHANGE:

Evidence Summary for Latrine Construction and Use

TABLE OF CONTENTS

Part 1

EVIDENCE AND EXPERIENCE

SDG target 6.2
By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

HEALTH EVIDENCE

The safe construction and proper hygienic use of sanitation facilities for the safe disposal of human waste can prevent human contact with feces and consequently the spread of disease. This practice is key to achieving Sustainable Development Goal (SDG) 6.2.

Nearly half the world's population (44%) lacks safely managed sanitation services.[1] In a 14-country evaluation of water, sanitation, and hygiene (WASH) services in countries where World Vision works,[2] only 44% of households had at least basic sanitation facilities, including 21% with safely managed sanitation services. Sanitation is also a challenge outside of households. Only 28% of schools had basic sanitation facilities, and less than 1% of healthcare facilities met the criteria for a basic sanitation service. Though 90% of all healthcare facilities had access to their own sanitation facilities, most were downgraded to the limited-service level due to problems with conditions or privacy that rendered them unusable (e.g., unstable slab, pit too big, pit caving in, full or overflowing pit, cracked or broken slab/toilet). Many also did not meet the needs of women, staff, or people with limited mobility.

Poor sanitation coverage and use are linked to a number of poor health outcomes, particularly diseases transmitted through the fecal-oral route, which are estimated to cause 432,000 diarrheal deaths per year.[3] Eliminating open defecation through improvements in coverage and use of sanitation facilities has also been proven to reduce the incidence of soil-transmitted helminth infections, schistosomiasis, trachoma, malnutrition, and stunting, as well as improve well-being outcomes and social/economic development.[4] According to the World Health Organization, the countries where open defecation is most widespread also have the highest mortality rates among children younger than 5, as well as the highest levels of malnutrition, poverty, and wealth disparity.[5]

[1] World Health Organization and UNICEF, *Progress on Household Drinking Water, Sanitation, and Hygiene 2000-2020: Five Years Into the SDGs*, 2021, p.52, https://washdata.org/sites/default/files/2021-06/jmp-2021-wash-households-LAUNCH-VERSION.pdf.

[2] The University of North Carolina's *World Vision 14-Country WaSH Evaluation Final Report* (2020) covered Ethiopia, Ghana, Honduras, India, Kenya, Malawi, Mali, Mozambique, Niger, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe.

[3] "Sanitation," World Health Organization, https://www.who.int/news-room/fact-sheets/detail/sanitation.

[4] Ibid. See also Matthew C. Freeman et al., "The Impact of Sanitation on Infectious Disease and Nutritional Status: A Systematic Review and Meta-Analysis," *International Journal of Hygiene and Environmental Health 220*, no. 6, 2017, https://doi.org/10.1016/j.ijheh.2017.05.007.

[5] "Sanitation," World Health Organization, https://www.who.int/news-room/fact-sheets/detail/sanitation.

WORLD VISION'S EXPERIENCE

World Vision's current WASH Business Plan for 2021 to 2025 includes multiple targets that improve and expand upon the success of our previous five-year business plan. These targets include 13.6 million people gaining access to household sanitation and 2.4 million children gaining access to sanitation facilities at schools.[6]

Business Plan goals:

1. **ACCELERATE** universal and equitable access to water, sanitation, and hygiene services

2. **DEEPEN** focus on the most vulnerable people, especially in fragile contexts

3. **DEMONSTRATE** sustainable impact

4. **LEVERAGE** $1 billion business plan to mobilize financing for WASH services

Over the last seven years (2016 to 2022), World Vision reached 18.4 million people globally with improved sanitation. Following are several successful sanitation programs World Vision has implemented.

❯ Community-Led Total Sanitation (CLTS) *Malawi*

CLTS is mostly effective in progressing a community from open defecation to an unimproved level of sanitation service, the next step on the Joint Monitoring Programme (JMP) Sanitation Ladder (see page 11 of this document). CLTS mobilizes communities to eliminate open defecation by doing their own assessment and determining their own actions to improve toilet coverage and use.

In Malawi, CLTS included capacity building with local leaders, area development committees, and village development committees. This approach has contributed to the certification of 25 sub-districts in Malawi as Open Defecation Free between 2017 and 2020.[7]

❯ WASH business centers (WBCs) *Ethiopia*

This intermediate approach requires more detailed assessments and investment in enterprises. WBCs are one-stop centers for the production and sale of affordably priced WASH products (such as latrine slabs, handwashing facilities, and soap) and services (such as repairs for broken taps, pipe extensions, and shower services).

At baseline, 86% of households surveyed expressed a need for improved quality of their latrines and an interest in purchasing their own if available and affordable. World Vision's WBCs in Ethiopia have sold more than 12,000 latrine slabs and reached 88,000 households in total. A high-level comparison of World Vision area programs where WBCs operate, compared with where they do not, showed that sanitation coverage increased by 23 percentage points (compared with 7 percentage points in non-WBC areas).

❯ Nurturing Care Groups (NCGs) *Ghana*

NCGs use promoters to train community-based volunteers (leader mothers) to become change agents in their communities. Leader mothers share behavior-change messages with other mothers to promote desired behaviors and shift social norms; these mothers then bring the messages to small groups in their neighborhoods. NCGs can be implemented in fragile contexts and with mobile populations. This approach has been shown to double behavioral change compared to other behavior-change platforms, often exceeding 90% WASH behavior adoption.[8]

In Ghana, NCGs reached 9,326 households with training on the proper disposal of infant feces and facilitated discussions on gender roles in sanitation provision and behavior reinforcement. For example, formative research identified men as responsible for latrine construction and women as responsible for behavior reinforcement. The use of NCGs in conversations on latrine ownership gave women the opportunity to hold heads of household responsible for providing sanitation facilities. While NCGs led to a smaller increase in latrine coverage and use than changes for other behaviors, incorporating market-based approaches and implementing them over a longer time span might unlock an even larger benefit.

6 *Our Roadmap to Impact 2021–2025: World Vision Global WASH Business Plan Executive Summary*, 2022, https://www.wvi.org/publications/business-document/clean-water/our-roadmap-impact-2021-2025-wv-global-wash-business.

7 Deborah Muheka, Panganani Njolomole, and Noel Zimpita, "Achieving ODF Status at Scale: Combining Behaviour Change Approaches, Care Groups, and Partnerships With Government and Local Leaders in Malawi," Loughborough University conference contribution, 2021, https://hdl.handle.net/2134/16924144.v1.

8 "Nurturing Care Groups," World Vision International, https://www.wvi.org/health/nurturing-care-groups.

KEY BEHAVIOR CHANGE APPROACHES

The 14-country WASH evaluation sponsored by World Vision and conducted by the University of North Carolina[9] concluded that better performance in service delivery was required. Additionally, children were more likely to openly defecate than adults, suggesting that behavioral interventions have great potential for impacting change.

There are several key approaches that utilize behavior-change theory in sanitation programming. These approaches may not necessarily be implemented independently of one another and may even be more effective when collectively implemented. For example, CLTS will be more affordable and accessible if a sanitation market exists in the community. It is also important to consider additional factors when choosing an approach. For example, Sanitation Marketing is only effective if a finance mechanism exists to deliver the initial financial capital required to construct or upgrade a latrine. Formative research is required when designing a sanitation program in any community and also will inform which key approaches to behavior change should be considered.

For a behavior-change intervention to be effective, it is important to understand exactly what kind of behavior you are trying to change, including the kind of action, the beneficiaries, and the kinds of benefits desired. Refer to the guidance in the RapidBCD tool from *Behavior Change: Practical Implementation Guidance for Programs*[10] for corresponding recommendations related to the components of behavior highlighted below.

Components of behavior: Using a latrine instead of openly defecating	
ACTION	> **Routine, individual** action
BENEFICIARY	> Benefits the **present self** (comfort, safety, time savings) and the **future self** (health impacts). It also is both a **private good** (comfort, safety, time savings) and a **public good** (health impacts).
BENEFIT	> Benefits are **certain** (comfort, time savings) and **uncertain** (safety, health impacts). Reputational harm may come from being seen practicing open defecation, and benefits of latrine use can be perceived as either **gains** (privacy, dignity, health) or **avoided losses** (negative health outcomes and sick days).

9   The Water Institute at the University of North Carolina, *The World Vision 14-Country WaSH Evaluation Final Report*, 2020, https://app.box.com/s/9241t51d 8s37ija92g5todgxy8rcwxb7.

10 World Vision, *Behavior Change: Practical Implementation Guidance for Programs*, 2021, https://s3.us-east-2.amazonaws.com/wvusstatic.com/2021/ landing-pages/our-work/clean-water/BEHAVIOR+CHANGE+Guidance+for+Programs.pdf.

Components of behavior: Saving up to purchase and/or build a household latrine	
ACTION	> **Planned, individual** action
BENEFICIARY	> Benefits the **present self** (status) and the **future self** (other benefits). As above, it is a **private good** (status) and **public good** (health impacts).
BENEFIT	> Benefits are **certain** (completion of the latrine), and can lead to a **reputational** reward, which is likely perceived as a **gain**.

As discussed in our guide and evidence summaries, to build upon the kinds of behavior identified above, formative research is crucial to understand what the target population's current beliefs and attitudes are toward latrine construction and use and what practices are currently common. However, drawing on behavioral theories and limited evidence from the field to-date, a few key approaches are outlined in the table below, along with how they align with the RapidBCD tool. The approaches progress from the most basic to most burdensome to implement, but the more intense interventions may lead to more substantial behavior change.

APPROACH	DESCRIPTION	RapidBCD Tool			CONSIDERATIONS
		Grab attention	**Cause revaluation**	**Facilitate performance**	
Community-Led Total Sanitation (CLTS)	CLTS recognizes that latrine use requires **collective action** with **certain benefits** that benefit the **public good**, because even a small number of individuals practicing open defecation can put an entire community at risk. Since it is community based, CLTS is most effective in rural settings with definitive boundaries (i.e., a village). CLTS also works best when transitioning from open defecation to basic toilets and is not as effective when implementing toilet upgrades.	Organizing community meetings is one way that CLTS can grab attention.	The community approach shifts defecation from an individual action to a **collective** one. Communities conduct their own assessment and determine their own actions to improve toilet coverage and use. They can attach a negative norm to open defecation such as **shame**, **embarrassment**, or **selfishness**.	Establishing a fixed system of latrine maintenance facilitates long-term use. Have mechanisms in place for **accountability**.	Recent studies have found that CLTS requires high-frequency contact to be effective. Messaging that occurs less than every two weeks has little to no health impact.[11] Careful attention also must be given to disgust framing in CLTS, as this can lead to increased stigmatization of marginalized populations.[12]
Market-based sanitation (MBS)	MBS is an umbrella term that includes Sanitation Marketing, sanitation market shaping, and sanitation as a business. MBS can be used to create **user demand** and improve the supply of products and services. It often is not a stand-alone approach. Marketing: Advertising specific toilet products as unique, sanitation strategies can allow a family to upgrade their facilities to smell or look better, so they become more invested in using and maintaining their latrine. **Social marketing** activates household demand for sanitation facilities and increases willingness to pay and invest. Finance: Providing small loans directly to families increases affordability and reduces **up-front** cost. Financing small businesses generates a sanitation market that increases **user demand**.	Cause surprise in marketing/media campaigns. **Mass media** campaigns are especially useful in larger or urban settings because proper sanitation requires **collective action**. Utilize disgust in marketing materials to motivate viewers to alter behavior. One method of delivery is to send trained community health workers door-to-door with sanitation messaging in smaller or hard-to-reach communities.	MBS increases the value of products and services while decreasing financial cost. Sanitation messaging can be framed in terms of preventing a **loss** (such as to avoid losing money or to avoid missing work due to illness) by purchasing a toilet upgrade.	Cultivating a sanitation market increases **availability** of products. Because use of a latrine is a **routine** action, promoting a planned one-time purchase of a latrine or toilet upgrade facilitates sustained use. Microloans facilitate use through increasing **accessibility** of latrines. Financing toilet upgrades (**product choice**) such as items that improve cleanliness, smell, or maintenance of latrines facilitates performance. World Vision promotes at least two product options at different price points to give consumers **more choices** and power in decision-making.	MBS is not effective if there is not a finance mechanism in place. For program planning purposes, MBS typically follows after CLTS or another community behavior-change program, working off the assumption that substantial startup time and investment are needed for research, design, and testing before implementation can begin.[13]

[11] A. J. Pickering et al., "The WASH Benefits and SHINE trials: interpretation of WASH intervention effects on linear growth and diarrhoea," *The Lancet Global Health*, 7(8), 2019, https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(19)30268-2/fulltext.

[12] Alexandra Brewis et al., "Community Hygiene Norm Violators Are Consistently Stigmatized: Evidence From Four Global Sites and Implications for Sanitation Iinterventions," *Social Science & Medicine* 220, 2019, p.12–21.

[13] UNICEF, *Guidance on Market-Based Sanitation*, 2020, https://www.unicef.org/documents/guidance-market-based-sanitation.

APPROACH	DESCRIPTION	RapidBCD Tool			CONSIDERATIONS
		Grab attention	**Cause revaluation**	**Facilitate performance**	
Community-based participatory approaches (Nurturing Care Groups, community health workers, etc.)	There are a number of names for the community approach to behavior change. A Nurturing Care Group is a group of 10 to 15 community-based volunteer behavior-change agents who meet every two weeks with project staff or government community health workers for training.[14] The volunteers then cascade down behavior-change messages and activities to caregiver groups at the neighborhood level. They also build social support and **cohesion** among members, and help link neighborhoods with community leaders, faith leaders, and government services/staff (e.g., clinics and social workers).	Both home visits and group meetings allow community volunteers to reach every household. Women serve as **role models** and are key promoters of behavior change in their communities.	NCGs shift **social norms** by establishing trust through regular communication with community members.	The NCG framework assists in sustainable change because it is community led. Being part of a smaller care group also reduces anonymity and increases accountability.	Care Group CLTS combines the NCG and CLTS approaches. This combined approach has been found to increase social capital and make CLTS more effective and cost-efficient.

[14] World Vision, *Nurturing Care Groups Project Model: Health & Nutrition Technical Brief*, 2020, https://www.wvi.org/sites/default/files/2020-06/Nurturing%20Care%20Groups%20CPM%20Brief%20June%202020.pdf.

Natural WASH motives in SATO advertisement

Above is an example of a product that uses smell to motivate behavior and calls upon comfort and disgust as natural motivators. SATO, a latrine upgrade, advertises itself as blocking odors and insects, which reduces disgust and increases comfort. Marketing SATO as an upgrade taps into the status motivator, allowing households to elevate their status by purchasing a unique toilet upgrade.

According to their website, SATO offers an affordable option for low-income households, and they partner with local manufacturers to stimulate a sanitation market and increase user demand.

Regardless of the approach used, it is important to keep in mind the role of behavioral motives and social norms in all behavior-change program design. Behavioral motives form the basis of how each approach functions, and social norms in particular are powerful motivators to cause change at a community or societal level. The RapidBCD tool identifies social norms as one of the behavioral motives, though its unique applicability to sanitation behavior change is further explored below. More detailed information on natural WASH motives and social norms can be found in the resource *Behavior Change: Practical Implementation Guidance for Programs*.[15]

❯ Natural WASH motives

Motivated behavior describes how we choose the appropriate behavioral response to achieve a certain goal. Natural WASH motives include disgust, comfort, nurture, affiliation, and status. Certain characteristics that may act as motivators by increasing rewards include convenience, affordability, availability, cleanliness, safety, and privacy.

Cause revaluation: Associate a natural WASH motive such as disgust with open defecation, or comfort or status with latrine use.

❯ Social norms

The social acceptability of open defecation may act as a barrier to change. Because individuals are not motivated to change, there is no reward for change. To change behavior through the use of social norms, three things must occur:

1. The behavior must be observable by those influencing the behavior.
2. Expectation must be clearly communicated to all who have influence on the behavior.
3. Excuses for failing to do the behavior must be eliminated.

Cause revaluation: Open defecation becomes shameful; use of latrines becomes socially desirable.

Facilitate performance: Place sanitation facilities in public and convenient locations. Have mechanisms in place for accountability, making latrine use rewarding/beneficial and attaching a social cost to open defecation.

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15 World Vision, *Behavior Change: Practical Implementation Guidance for Programs*, 2021, https://s3.us-east-2.amazonaws.com/wvusstatic.com/2021/landing-pages/our-work/clean-water/BEHAVIOR+CHANGE+Guidance+for+Programs.pdf.

Social norms messaging checklist

Addressing public-good problems often requires people to adopt behaviors that do not provide an individual benefit but are beneficial for society. In such cases, Yoeli and Rand[16] suggest incorporating three key insights into social-norms messaging:

1. Communicate the benefit to the community.

2. Make the ask unambiguous, categorical, and concise.

3. Generate the impression that others expect compliance.

Based on the premise that people will respond more effectively to messages that trigger social status, creating messaging that aligns with these three insights can contribute to behavior change.

Professor Val Curtis, director of the Environmental Health Group at the London School of Hygiene and Tropical Medicine, discusses the need to destigmatize talk surrounding toilets as a part of the Nyumba Ni Choo sanitation campaign.

Tanzania is implementing a national sanitation campaign nicknamed Nyumba Ni Choo,[17] spreading the message that a house is not complete without an improved toilet. This campaign, implemented by the government through the Ministry of Health, Community Development, Gender, Elderly and Children, is largely using social media to convey behavior-change messages that communicate community benefit, specify the ask, and generate the expectation of compliance. This shifts social norms, making improved toilets a normal, necessary, and socially expected part of a home. The message is a simple and direct call to action—to purchase or build a household latrine. This leads households without improved toilets to seek social acceptability and status elevation by constructing their own toilet.

[16] Erez Yoeli and David Gertler Rand, "A Checklist for Prosocial Messaging Campaigns Such as COVID-19 Prevention Appeals," 2020, retrieved from PsyArXiv Preprints.

[17] https://nyumbanichoo.com

INDICATORS

The standard measurement of sanitation facilities comes from the JMP Sanitation Ladder, which assesses facilities on a continuum from open defecation to safely managed facilities.

JMP Sanitation Ladder

Service level	Definition
SAFELY MANAGED	› Use of improved facilities that are not shared with other households and where excreta are safely disposed of in a situ or transported and treated offsite
BASIC	› Use of improved facilities that are not shared with other households
LIMITED	› Use of improved facilities shared between two or more households
UNIMPROVED	› Use of pit latrines without a slab or platform, hanging latrines, or bucket latrines
OPEN DEFICATION	› Disposal of human feces in fields, forests, bushes, open bodies of water, beaches, or other spaces, or with solid waste

NOTE: Improved facilites include flush/pour, flush to piped sewer systems, septic tanks or pit latrines, ventilated improved pit latrines, composting toilets, or pit latrines with slabs.

Using the JMP service ladder highlights the important distinction between latrine coverage and use. Service levels above open defecation can only apply if facilities are actively being used, not simply if facilities exist in a given context. There are a number of barriers to latrine use that the aforementioned behavior-change approaches target beyond simply the availability of facilities.

Collecting data on latrine use has its own set of challenges, including the way a survey question is framed. One study found that surveys that used individual-level questions (such as asking if any children younger than 5 in the household openly defecate) showed that open defecation was 20 percentage points higher than in surveys that used household-level questions (such as asking if anyone in the household openly defecates).[18] Not only does this have implications for data quality but it could also be one of the reasons studies on the effectiveness of sanitation interventions have mixed results.

One attempt at measuring latrine use frequency and excreta disposal practices can be found in the Safe San Index, which quantifies the hygienic safety of a household's defecation and feces disposal.[19] It measures latrine use frequency at the individual level by asking a multitude of behavior questions grouped by demographic. A sample of survey questions follows.

Sample Safe San Index survey questions

SURVEY QUESTION	RESPONSE OPTIONS (SCORE VALUE)
1. How often do you (responent) personally use the toilet to defecate?	
2. How often do the elders (over 60 years of age) in your household use the toilet to defecate?	
3. How often do the (other) married women who are not elders use the toilet to defecate?	
4. How often do the (other) unmarried women (over 15 years old) who are not elders use the toilet to defecate?	**Never (1)**
5. How often do the married men who are not elders use the toilet to defecate?	**Sometimes/occasionally (2)**
6. How often do the unmarried men (over 15 years old) who are not elders use the toilet to defecate?	**Usually (3)**
7. When school-age children in your household are at home, how often do they use the toilet to defecate?	**Always (4)**
8. For young children who are too young to be able to use the toilet, after they defecate on the ground in your courtyard or in your house, how often do you put their feces in the toilet?	

[18] Sujatha Srinivasan, Divya Mary, and Ajaykumar Tannirkulam, "Measurement of Latrine Use in Rural India," 3ie, 2019, https://3ieimpact.org/sites/default/files/2019-12/IFMR-MT-Report.pdf.

[19] Marion W. Jenkins, Matthew C. Freeman, and Parimita Routray, "Measuring the Safety of Excreta Disposal Behavior in India with the New Safe San Index: Reliability, Validity and Utility," *International Journal of Environmental Research and Public Health* 11, vol. 8, 2014, p. 8319–8346, https://www.mdpi.com/1660-4601/11/8/8319.

WASH Business Plan indicators

In line with JMP standards, World Vision is actively tracking a number of outcome and output indicators for access to sanitation facilities and quality of sanitation infrastructure in households, schools, and healthcare facilities. See below for indicators and definitions.

HOUSEHOLDS have access to basic sanitation facilities.	# of people gaining access to improved sanitation facilities that are not shared with other households.
	# of people gaining access to improved sanitation facilities that are not shared with other households and where excreta are safely disposed of in situ or removed and treated off-site.
	# of people gaining access to improved sanitation facilities that are shared among two or more households.
	# of people gaining access to an unimproved sanitation facility such as a pit latrine without a slab or platform, a hanging latrine, or a bucket latrine.
	# of toilets that hygienically separate excreta from human contact and are constructed at households. Improved toilets include: flush/pour toilets connected to a septic tank or sewer, pit latrines with slabs, and composting toilets.
	# of communities that have participated in sanitation trainings, are no longer practicing open defecation (defecating in bushes, fields, open water, or other open spaces), and are certified by the appropriate government body.
SCHOOLS have access to basic sanitation facilities.	# of schoolchildren who have gained access to an improved sanitation facility that is sex-separated and usable.
	# of new, improved toilets that are sex-separated, usable, and on premises of schools.
	# of schools gaining access to improved sanitation facilities that are sex-separated, built or subsidized by World Vision, with at least one toilet for every 25 girls, and one toilet and one urinal for every 50 boys.
	# of schools gaining access to at least one improved sanitation facility that meets the needs of those with limited mobility, built or subsidized by World Vision.
	# of schools gaining access to at least one private improved toilet, built or subsidized by World Vision, designated for women and girls, which provides facilities to manage menstrual hygiene needs for washing, changing, and disposal of menstrual waste.
HEALTH FACILITIES have access to basic sanitation facilities.	# of healthcare facilities gaining access to improved sanitation facilities that are usable with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility.
	# of new, improved sanitation facilities, built or subsidized by World Vision, that are sex-separated and located on premises of health facilities.
	# of new, functional bathing or shower rooms with water, built or subsidized by World Vision, and available for women in postnatal care areas.
	# of health facilities gaining access to three separate bins to manage healthcare waste at all critical points of care, supported or facilitated by World Vision.

SDG 6.2 specifically calls for the end of open defecation. There are a number of sanitation-related indicators that are also being monitored toward the successful completion of these targets, including:

- Proportion of population using safely managed sanitation services (SDG 6.2.1a)
- Proportion of schools with access to single-sex basic sanitation facilities (SDG 4.a.1f)