



LATRINE PROGRAM DESIGN

Monitoring

In 2017, 24% of the world population still did not have access to improved facilities (WHO & UNICEF, 2017), meaning they did not have a latrine designed to prevent human contact with excreta. Meeting this large global need requires the effective design and implementation of latrine programs. CAWST (Centre for Affordable Water and Sanitation Technology) has identified six key components that all latrine programs should include:

- stakeholder engagement
- demand creation
- products and services
- finances
- monitoring
- capacity development

We use the term “implementer” to describe any organization (government, nongovernmental organization, or business) that designs and implements a program to help people build and use household latrines.

Sanitation case studies

CAWST’s Sanitation Case Studies give detailed overviews of different latrine programs. Each case study describes how the implementer(s) addressed the six components of latrine programs, and the challenges they faced along the way.

Learning and training resources

This document is part of a collection of resources for learning and training about latrine program design. To access CAWST’s other sanitation resources, visit cawst.org/resources



1	INTRODUCTION	2
2	WHAT IS MONITORING?	3
3	WHY IS MONITORING IMPORTANT?	5
4	HOW TO MONITOR	6
4.1	Analyze Context	6
4.1.1	Program mapping	6
4.1.2	Review national and international monitoring programs	9
4.2	Design and Develop Monitoring System	10
4.2.1	Select indicators	10
4.2.2	Develop data collection tools	13
4.2.3	Develop data management strategy	16
4.2.4	Assign monitoring roles	17
4.2.5	Gender	19
4.3	Implement and Monitor the System	19
4.3.1	Train the monitoring team	19
4.3.2	Collect data, analyze, and report regularly	19
4.3.3	Communicate the findings	20
4.3.4	Improve the latrine program	20
4.3.5	Adapt the monitoring system	20
5	BEST PRACTICES IN MONITORING	22
6	KEY POINTS	24
7	DEFINITIONS	25
8	ADDITIONAL RESOURCES	26
9	REFERENCES	27



1 INTRODUCTION

Over the last decades, there has been an increasing demand for international development programs to measure and report on their effectiveness (Bamberger, Vijayendra, & Woolcock, 2010). Good monitoring and evaluation activities are essential for providing a basis for ongoing improvement of latrine programs, as well as for measuring the impact and success of a project or program. Strong monitoring and evaluation activities are especially useful if an organization wants to scale up their activities.

Monitoring and evaluation activities are not meant to be a policing or judgement system, but rather a systematic platform for learning and improvement.

In this brief

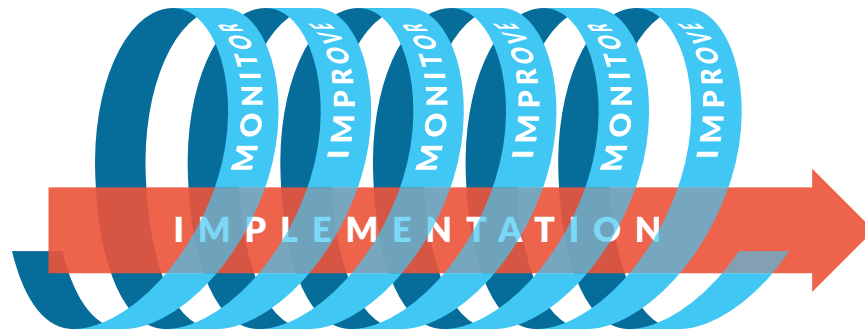
This brief will introduce the concept of monitoring. Following this introduction, it will explore the main steps involved in designing and implementing a monitoring framework, including setting appropriate indicators and selecting data collection methods and tools. This brief provides an overview of monitoring; it is not a detailed guide on how to design or implement a monitoring program.





2 WHAT IS MONITORING?

Monitoring is the ongoing observation of different elements of a program to ensure that it is on track. It provides real-time feedback on processes and progress, allowing program implementers to learn and improve as the program proceeds. Monitoring can help implementers to identify opportunities to adjust a program to increase its effectiveness and better meet its objectives (see figure below). Monitoring activities reflect not only the achievements or outputs of a program, but also the efficiency of the processes used (*World Health Organization et al. 2004; Bamberger, Vijayendra, and Woolcock, 2010*).



The terms “monitoring” and “evaluation” are often used interchangeably. However, although monitoring and evaluation processes often overlap, they differ in terms of scope, purpose, timing, and the types of information they can generate (*Guijt and Woodhill 2002*). Evaluation is episodic. It occurs at set moments in a program and is used to explore how well the program has worked. In contrast, monitoring is continuous. It occurs throughout the program and is used to explore how well the program’s activities are being implemented (*World Health Organization et al. 2004; Bamberger, Vijayendra, and Woolcock, 2010*).

Evaluation has long been accepted as a central element of development programs. In contrast, monitoring has only recently begun to be considered of equal importance (*Bamberger, Vijayendra, and Woolcock, 2010*).



	Monitoring	Evaluation
When does it happen?	Monitoring is a continuous or ongoing process throughout a program	Evaluation is a snapshot. It occurs at key points in the life of a program.
Who is it primarily for?	Operations staff – the people doing	Management staff – the people planning
When are the results used?	During the current work	During future work
What is it?	<p>Monitoring is a way of checking in and following up on the day-to-day activities and the progress of the program towards its objectives.</p> <p>Monitoring is a warning system to catch the small problems as they arise, so the necessary adjustments can be made.</p> <p>Information is collected and used to make immediate improvements to the program's outputs and activities, and the process of implementation</p>	Evaluation activities collect information to determine if the program has achieved its desired outcomes and impact





3 WHY IS MONITORING IMPORTANT?

Program implementers monitor programs to:

- **Check and correct their work**

- Well-designed monitoring activities provide an early warning system that identifies problems that need corrective action. It also identifies things that are working well and that programs should continue doing.
- Ongoing reflection can be helpful in determining whether delays or failures to achieve stated results are caused by flaws in design of the program design or in its implementation.

- **Learn**

- Monitoring systems incorporate learning and problem-solving opportunities to build the capacity, ownership, and empowerment of any individual involved in the program – from program staff to household members.
- Be accountable and transparent
- Good monitoring systems incorporate mechanisms for communicating relevant findings to key stakeholders.

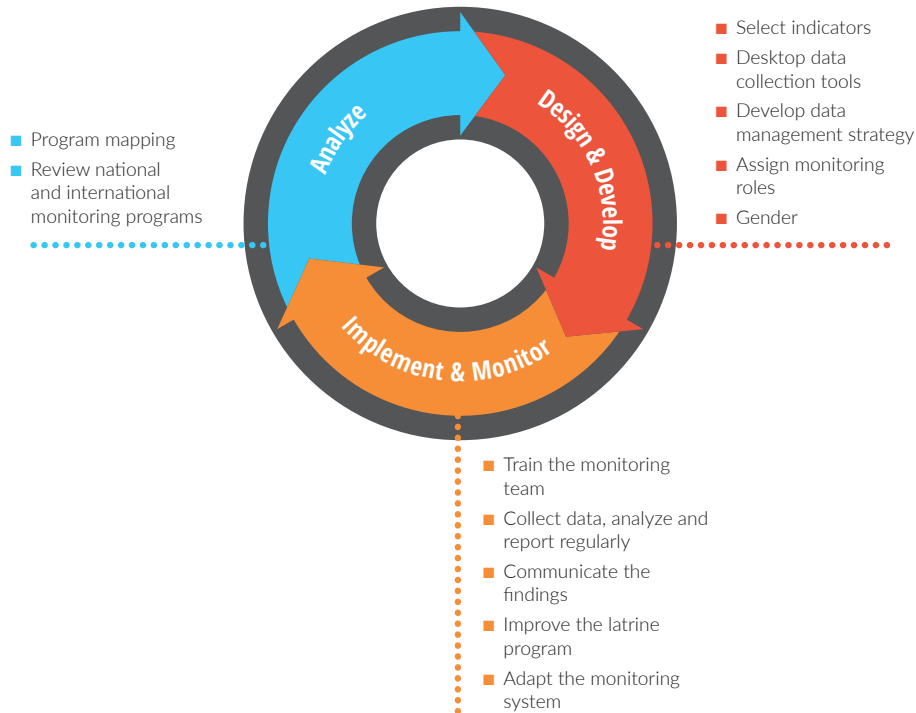
- **Engage stakeholders**

- Monitoring systems often incorporate opportunities to bring key stakeholders together, including households.
- Monitoring systems create feedback loops between households, program planners, and those executing the program.
- Real time information on progress can provide key stakeholders with the information needed to guide a program towards its objectives.
- Since monitoring activities rely on participation and feedback from all key stakeholder groups, they help meaningfully engage diverse stakeholders in the process of reflection and program strengthening.

(Global Affairs Canada 2016; Guijt and Woodhill 2002; United Nations Development Programme 2009)



4 HOW TO MONITOR



4.1 Analyze Context

4.1.1 Program mapping

To understand which elements are helpful to monitor, it is useful to first develop a conceptual framework for the program. There are many different ways to map a program. Most methods involve connecting the following elements:

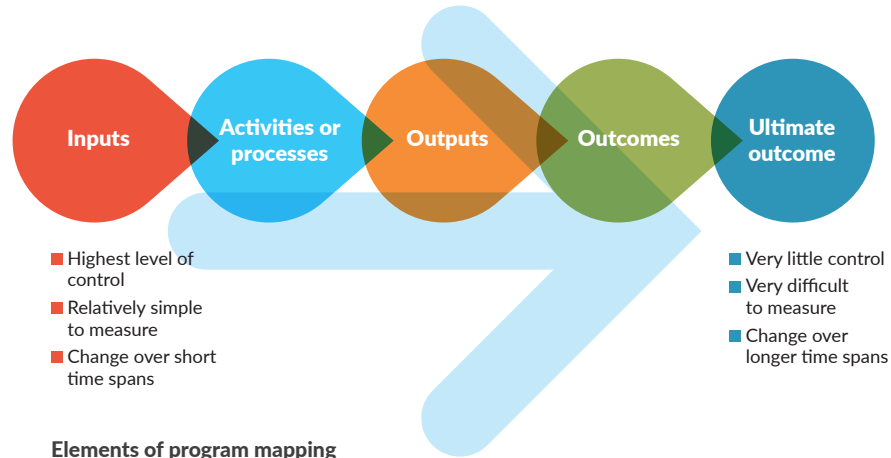
- **Inputs:** resources required to carry out activities or produce outputs (for example, human resources, time, money, and raw materials)
- **Activities or Processes:** actions through which inputs are transformed into outputs (for example, constructing latrines, training women and men masons, developing latrine construction guidelines, and training women and men community facilitators)
- **Output:** products from the activities of a program (for example, constructed latrines, trained women and men masons, latrine construction guidelines, and trained community facilitators)
- **Outcomes:** changes in knowledge, capacity, or access that can be directly attributed to the delivery or achievement of program outputs; they can be broken down into short-term





(or immediate), intermediate, and long-term outcomes (for example, increased consistent, continuous, and correct use of latrines by women, men, boys, and girls in 15 communities)

- **Ultimate Outcome, or Impact:** the “why” of the program: the overall change to which the program aims to contribute (for example, improved health outcomes for households, women, men, boys, and girls)

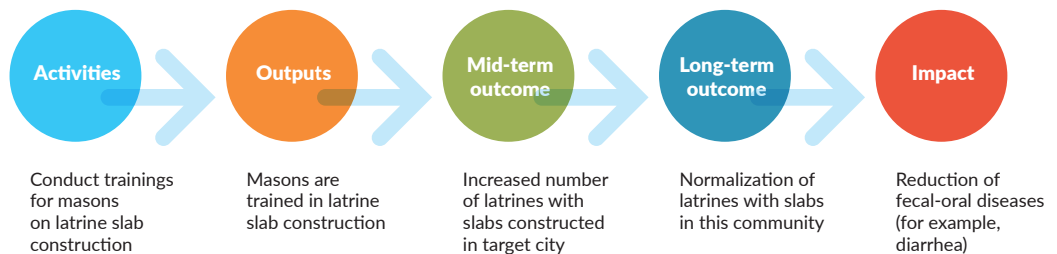


Elements of program mapping

These basic elements can be put together to create a logical framework for a program. Sometimes, they are presented in a diagram with linked boxes (as in the figure above), sometimes in a table, and sometimes in narrative form. Sometimes, inputs are included, while, at other times, they are considered separately. Sometimes, there are multiple outcome levels, and sometimes outcomes are represented at a single level. Examples of methods for mapping a program using these elements include a results chain, a logic model, or a theory of change.

Results chain or pipeline model

The simplest way to combine the elements is to string them together directly in a results chain (see the example below). This type of diagram can also be called a pipeline model. It is often sufficient for straightforward interventions, where activities all occur at the beginning of the program and the relationships between the elements are linear and logical.



Results chain example



Logic model

In practice, although some programs may be simple enough to portray in a results chain, most programs will have multiple inputs, activities, outputs, and desired outcomes. When the linear framework of the results chain is expanded, the result is a logic model (see below). It consists of causal links between activities and expected results.

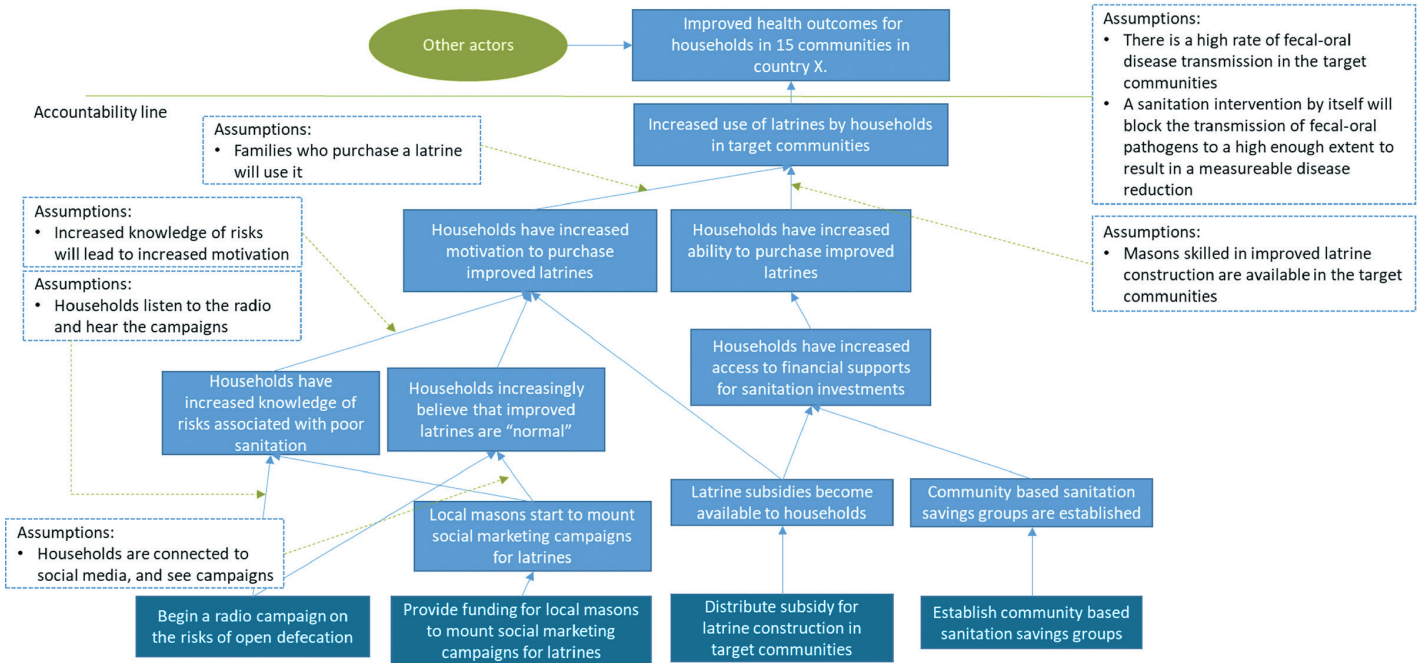
Ultimate Outcome	Improved health outcomes for households (women, men, boys, and girls) in 15 communities in country X		
Intermediate Outcome	Increased consistent, continuous, and correct use of latrines by women, men, boys, and girls in 15 communities		
Immediate Outcome	Increased knowledge of risks associated with poor sanitation among women, men, boys, and girls in 15 communities	Increased motivation and ability to adopt improved latrines among women, men, boys, and girls in 15 communities	Increased access to improved latrines by women, men, boys, and girls in 15 communities
Outputs	Women, men, boys, and girls trained about the risks of open defecation	Local women and men masons trained to mount social marketing campaigns for latrines	Gender-balanced, community-based sanitation savings groups established
Activities	Facilitators train women, men, boys, and girls about the risks associated with open defecation	Train local women and men masons to mount social marketing campaigns for latrines	Establish gender-balanced, community-based sanitation savings groups





Theory of change

When program outputs and outcomes have somewhat more complex relationships that are not necessarily linear, and for which the relationships are less logical without other assumptions, a theory of change can be a useful tool. Theory of change starts with the ultimate outcome and works backwards, determining which changes are necessary to allow each outcome to occur. Assumptions are stated explicitly and can be tested through evaluation. Relationships do not need to be linear (see example below).



Example Theory of Change

4.1.2 Review national and international monitoring programs

Since a latrine program will contribute to the larger global initiatives to improve sanitation, it makes sense to find out what monitoring programs exist and how they measure progress. Then, a program can align its measurement system with national and international water, sanitation and hygiene (WASH) monitoring programs. Having examples of what other people measure can also help save time when developing a program's own system.

The international monitoring program for sanitation, which is run by WHO and UNICEF, is the Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. It aims to improve monitoring of WASH outcomes by:

- Developing effective and appropriate indicators
- Maintaining a global database of WASH-related information, trends, and estimates, including progress towards the sustainable development goal (SDG) targets
- Providing guidance and tools for countries to collect and analyze relevant WASH data
- Supporting collaboration on non-WASH and related SDG targets



4.2 Design and Develop Monitoring System

4.2.1 Select indicators

Once implementers have mapped their program, the next step is to walk through the map and think of questions to ask for each element. More specifically, questions that could indicate whether an element has been successful. In general, monitoring for a latrine program should at least cover inputs, activities, outputs, and lower-level outcomes. Higher-level outcomes require much longer periods to demonstrate change and may not be as useful to monitor. One reason is that data collected will not provide real time feedback to allow for adjustments to program activities. Higher-level outcomes may be more appropriate to consider for an evaluation.

Possible questions for monitoring are:

- If one output is that masons have attended a training, “How many masons have attended trainings?”
- If an outcome is that masons are skilled in slab construction, “Are the slabs that the masons produce of good quality?”

Monitoring questions

Examples of questions to ask when brainstorming possible indicators:

Latrine construction and use:

- Is latrine construction increasing or decreasing?
- Are both women and men satisfied with their latrines?
- Does everyone in households with new latrines use them?

Mason capacity:

- Are the latrines constructed of good quality?
- Are women and men satisfied with the advice they get from masons?
- Are latrines being sited in the best locations?
- How many days a week do masons spend building latrines?

Use of financing:

- How many new latrines were built using microfinance?
- How many loans were paid back on time?

Products and services:

- How often do products get broken before they are sold?
- How much does it cost to construct each latrine?





This type of questioning can help to define indicators. An indicator (something measurable, whose change in value corresponds to the larger overall change looking to be achieved) is a stand-in for something that is often unmeasurable (or at least not easily measurable). To function, an indicator must change with the parameter of interest. For example:

- The proportion of slabs that break could be an indicator for slab quality. Slab quality is a larger concept that is hard to measure, but high breakage rates would generally indicate low quality, and a decrease in breakage rates could be assumed to signal an increase in quality.
- An indicator as to whether a program has considered gender may be the ratio of women to men who attended a workshop or the presence of rubbish bins in latrines for the discrete disposal of menstrual hygiene materials. Neither gender ratios nor rubbish bins capture the full extent of what considering gender entails. However, an increase in either might signal progress towards a goal of an increase in considering gender.

Examples of indicators

- Percentage of broken slabs
- Number of masons trained and selling their services
- Number of latrines purchased or built
- Percentage of households receiving follow-up visits
- Number of latrines or septic tanks emptied

Indicators can be quantitative or qualitative. Quantitative indicators are numeric. Qualitative indicators typically cannot be described numerically. They can be used to gather a more nuanced picture, including a person's perception or experience. Using a combination of quantitative and qualitative data can give a more complete picture of reality than using only one type.

Check indicators by planning the analysis

At the same time as implementers select indicators, they need to plan how those indicators will be analyzed and how the data will be communicated to relevant stakeholders in a way that is meaningful and useful. Any indicators that have no clear use should be dropped or modified. For example:

- Implementers may wish to monitor the number of slabs produced per month by a manufacturing factory. The site supervisor may be interested to know whether there are significant changes from month to month. The information may be analyzed by graphing the monthly values. If the supervisor notices an unexplained change greater than a set amount, there can be an investigation to find out why.
- A facilitator may want to collect feedback after a training event. This is qualitative data, which is usually in open-text form. It may be that the facilitator would like to continuously learn and improve their skills, and the analysis may simply consist of a document with the trainees' comments compiled for the facilitator to read and consider.
- An organization may have a policy of having evaluation forms distributed at the end of each training. These forms may have open-text answers. Hundreds of hand-written forms are



collected. However, there is no active plan to compile or analyze this data, just a general feeling that collecting the data is important. In this case, the indicator was poorly chosen and should be modified.

In all cases, the indicator results would need to be forwarded to the relevant stakeholder in a timely manner to allow them to act on the information.

When to use percentages versus counts

Count data, such as number of households with or without latrines, or number of slabs constructed, is usually presented either as a number or as a percent. It can be confusing when setting indicators to determine which is most appropriate. In general, a percentage is used to:

- Compare data with different sample sizes or totals
- Quantify the amount of change over time
- Express an increase or reduction relative to initial size

Evaluate the indicators

There are many commonly used tools to help define what makes a good indicator. These tools tend to point to similar qualities, just using slightly different words to develop memorable acronyms (for example, **SMART**: Specific, Measurable, Attainable/Attributable/Achievable, Realistic/Replicable, Time-bound; or **ROARS**: Relevant, Objective, Available, Realistic, Specific).

The acronym **CREAM** is a useful tool for qualifying indicators. CREAM includes some criteria that the other tools do not:

Clear

- An indicator should be expressed in precise terms. This quality corresponds to “specific” in SMART and ROARS.

Relevant

- The indicator must be useful: The value or change in value must provide information that will be acted upon. There must be a purpose for collecting data on this indicator.
- The measured changes should be attributable to the project.
- This quality is not in SMART but is in ROARS.

Economic

- It should not be too difficult or too expensive to collect the information.
- Indicators should be based on data that is readily available or that could be collected with reasonable effort.
- This quality is equivalent to “attainable” and “realistic” in SMART, and “available” and “realistic” in ROARS.

C R E A M



**A**dequate

- Results from the indicator, or suite of indicators, should provide enough information to show whether the element of the program is performing well or to identify that there are problems that need to be corrected.
- This quality is not part of SMART or ROARS.

Measurable/Monitorable

- If two people were to measure it, they should get the same result.
- This quality, which is also in SMART, is covered by “objective” in ROARS.

Another common tool looks at the set of indicators as a whole, and how they are developed and used, rather than as individual measures. This tool is **SPICED**:

Subjective

- Key informants (beneficiaries/stakeholders) have a special position or experience that gives them unique insights that may yield high return time-wise.

Participatory

- Who sets an indicator is fundamental not only to ownership and to transparency, but also to the effectiveness of the indicators. Indicators should be developed with those best placed to assess them (for example, with the end user, local staff, or other stakeholders).

Interpreted and communicable

- Locally defined indicators may not mean much to others, which means they need to be explained or interpreted to different stakeholders.

Cross-checked and compared

- The validity of indicators needs to be cross-checked by comparing different indicators and progress, and by using different stakeholders and methods to ensure validity.

Empowering

- The process of developing and assessing indicators should be empowering in itself and should allow stakeholders to reflect critically on their changing situation.

Diverse and disaggregated

- The indicators selected should be diverse and have enough scope to capture the change.
- Having a range of indicator types helps improve the quality of the monitoring data and ultimately the understanding of the program. However, it is important to be conscious of the costs and time required when collecting data around a large variety of indicators.



SPICED

4.2.2 Develop data collection tools

Well-designed monitoring tools will integrate into an organization’s work and not be perceived as overly burdensome to the staff who need to use them.

Implementers should start by identifying who will collect the different pieces of data, since those people should participate in developing the tools. Their involvement will ensure that the tools make sense to them and are not adding excessive work.



The type of tools produced will depend on what type of data needs to be obtained and what resources are available for the collection activities. Examples of data collection tools are listed in the following table:

Tool	Description	Example Use
Program forms	These are forms for the collection of standard data.	Masons may give unique IDs to each slab they produce and may have a form with date, mason name, slab ID, and a set of check boxes for production quality control checks
Observation	An observer systematically watches a behaviour where it naturally occurs.	Observe handwashing and hygiene practices of students after using school latrines
Community self-reports	Members of a community group provide feedback on how their work is progressing	Get reports of community actions in their own words in the form of updated maps, oral reports, or a formal report.
Surveys	Data is systematically collected through direct questioning, using a structured and standardized set of questions.	Survey community members about their use of latrines on paper, over the phone, or using mobile phone surveys.
Interviews	This type of questioning can be structured, semi-structured, or unstructured. It is useful to explore new topics that are relatively unknown or to explore the perspectives of respondents in greater depth.	Explore division of ownership between members of households over sanitation decisions and technologies.
Focus Group Discussions	A skilled facilitator helps lead a carefully selected group of respondents through a discussion about the topic of interest. These are useful tools for understanding social contexts, attitudes, and opinions.	Explore community attitudes and norms around sanitation practices.





Implementers need to also consider how data will be collected and passed to the people who will analyze it. Will the data collector be responsible for typing it into a computer system? Will they pass a paper form by hand to the person analyzing it? Will it be collected using mobile phones or tablets so that the data can be analyzed more quickly?

Data collection tools will need to be tested to make sure they work the way they are expected to and that they collect the information required to answer the monitoring questions. Implementers will likely need to make several changes at this stage as they realize that some indicators are unrealistic or that others would be easier to collect.

Example of monitoring

- a Indicator:** percentage of a community using their latrines
- b Purpose:** It is not enough to measure the number of latrines in the community. To determine the real health impact, it is necessary to ensure that households are using the latrines. If they are not using them, implementers will need to understand why they are not using them to improve the program.
- c Description:** A household is considered to be using its latrine if there is presence of feces in the latrine pit and a water bucket for anal cleansing.
- d Data collection method:** observation and questionnaire

Sampling strategies

Some indicators at the outcome level may require a greater amount of information than is feasible to measure or collect at every household and latrine in the area of interest. In these cases, it may be necessary to instead select a sample that will represent the larger population of interest.

Deciding on a sampling strategy includes deciding what units to include in the sample (for example, people, households, or latrines), how many units need to be included, and how the units will be selected. By selecting an appropriate sample, implementers can minimize biases and maximize how representative of the larger group the sample is, as well as improve the reliability, relevance, and usefulness of the monitoring activities.

Selecting an appropriate sample, in terms of size and composition, often requires consideration and balance of the following factors, and many more:

- What is the objective of the monitoring activities?
 - How precise do the findings need to be?
 - What types of question are being explored?
 - What type of data is being collected?
 - How will the data be used?
- How consistent or alike are the units in the target population? What is the specific target population?
 - Generalized findings for a population are often unrepresentative of vulnerable groups, such as people with disabilities.



- What time and financial resources are available for the monitoring activities?
 - Collecting and analyzing data from a large sample can be logistically challenging, requiring large inputs of financial and human resources.

Below is a table listing a number of sampling strategies. This list is not exhaustive. A sampling strategy should be guided primarily by the question that needs to be answered.

Random Sampling	Convenience sample	Purposive sample	Quota sampling	Snowball sampling
Sampling method in which every unit in the target population has an equal chance of being included in the sample	Participants selected because of convenience; they can all be found in one place and are assumed to be representative of the larger population	Deliberately choosing respondents, subjects, or places based on a characteristic (or set characteristics) of interest	Sample based on the characteristics of the wider population with the same distribution of certain characteristics being replicated in the sample population	Starts with one contact and then identifies additional participants by referrals through this initial contact

Examples of sampling strategies

Sampling in reality

Often monitoring programs are constrained by limited time, money, and human resources. These practical constraints will often determine the most appropriate sampling strategy and sample size. For a program to be able to collect, analyze, and act on the findings, the sampling strategy may need to be driven by speed and convenience.

4.2.3 Develop data management strategy

Implementers will need to decide how data will be stored. Will multiple systems exist for different parts of the program? Will one large system contain everything? Who will have access to that data? What steps can be taken to ensure that other staff do not accidentally alter data?

Implementers will also need to think about how that data will be analyzed, and how often the key indicators will be fed back to those who need them to make decisions.





4.2.4 Assign monitoring roles

Implementers will need to plan a timeline and assign responsibilities for all processes, including data collection, analysis, improvements, communication, and reporting. It is important to try to anticipate what tools and resources will be required for each activity (*United Nations High Commissioner for Refugees 2006*).

Implementers will also need to define the responsibilities of the different roles for implementing the monitoring system. Examples of the assignment of responsibility might be:

- **Program manager:** Support a positive culture for monitoring and allocate resources.
- **Technician:** Record relevant information during production, installation, end user training, and post-installation follow-up visits.
- **Community WASH Promoters (CWP):** Interview and observe end users.
- **End user:** Provide feedback on CWP visits.

There are many different people involved in monitoring, and poor management of the team (for example, poor communication) can lead to extra challenges, such as low levels of ownership and lack of motivation or team members not prioritizing fulfilling their roles.





Performance measurement framework

This framework is a management tool that can be used to systematically plan the collection of relevant indicator data over the lifetime of the program, and to assess and demonstrate progress made in achieving the expected results. It is often referred to as the skeleton of the monitoring plan. It documents major elements of the monitoring plan, including indicators, baseline data, targets, planned data sources, data collection methods, and assignment of responsibility for regular collection of data.

Expected Results	Indicators	Baseline Data	Targets	Data Sources	Data Collection Methods	Frequency	Responsibility
Intermediate Outcome Increased consistent, continuous, and correct use of latrines by women, men, boys, and girls in 15 communities							
Immediate Outcome Increased access to improved latrines by women, men, boys, and girls in 15 communities							
Output Gender-balanced, community-based sanitation savings groups established							





4.2.5 Gender

Effective latrine programs contribute to progress towards gender equality. It is important to incorporate a gender lens at each stage of a program (United Nations Children's Fund 2017), including monitoring. Monitoring systems are often not gender-sensitive for various reasons. The team designing the monitoring system may not have the knowledge, skills, or motivation to include gender as a consideration in the system. Or, maybe the team only includes gender superficially to meet the demands of donors. In this case, gender activities are stand-alone activities in the program and not integrated throughout. Implementers should design their monitoring system taking into account the following suggestions (Geertz and Lyer 2018):

- Involve both women and men in the design of the monitoring system.
- Before designing the program, conduct a gender analysis to understand the gender challenges and opportunities in the communities to help to design appropriate gender-sensitive activities.
- Use gender-based, qualitative and quantitative indicators. This approach would mean that gender is explicitly mentioned in the ultimate, intermediate, and immediate outcome statements, as well as the activities and outputs.
- Avoid using general terms such as “poor” or “vulnerable”; instead use “women and men with the lowest income or no income” or “vulnerable women and men.”

4.3 Implement and Monitor the System

4.3.1 Train the monitoring team

Part of the program planning must include time and money to support the building of staff's capacity in monitoring. How data is collected is a key determinant of the quality of the data. If staff do not understand the monitoring tools or how the data will be used, the quality of the data will suffer and the monitoring plan will not be useful. Staff should understand not only their specific individual responsibilities, but also the wider system and how they will get data from the system to improve their work.

4.3.2 Collect data, analyze, and report regularly

Once collected, the implementer will work with the team to analyze the data. The process of extracting relevant information will help to answer the monitoring questions. The analysis method will depend on the questions asked through the monitoring and the types of data collected.



4.3.3 Communicate the findings

Timely and effective communication of findings from the monitoring activities, as well as of what action was subsequently taken, is essential to transparency and central to a good monitoring system. What is shared should be relevant and useful to the program staff and other relevant stakeholders.

Developing an effective communication strategy involves thinking about:

- What will be shared
- Who is an appropriate audience for what will be shared
- What is the most appropriate method to communicate that information

Potential audiences may include: end users, program staff, managers, the data management team, and donors.

Communicating the findings does not have to be a complicated process. It can be as simple as providing oral reports in meetings, ensuring staff have graphs or charts showing progress, or circulating a written report.

4.3.4 Improve the latrine program

Once findings from the monitoring system are obtained, it is important to act on them. Examples of improvements to latrine programs are:

- Improving production processes if a high percentage of latrines are breaking
- Improving user training if people are not using latrines correctly
- Providing information back to manufacturers on latrine and material quality (for example, seeking new supplier if the cement quality is not good enough)
- Investing in developing the monitoring staff's capacity to effectively collect and analyze feedback

4.3.5 Adapt the monitoring system

Once a monitoring system is up and running, it is important to continually ask:

- Is staff collecting the expected data?
- Is the data getting analyzed in a timely fashion?
- Are staff getting useful information from the data?

To ensure that the monitoring system is on track to meet its objectives, it is necessary to monitor the monitoring system. It is important to recognize when something is not working as expected or if a particular indicator stops being useful. The monitoring system can then be adjusted to better serve its purpose. This process of adjustment means getting the planning team back together, reviewing how it is going, making necessary changes, and rolling out improved tools and processes.










Joint Monitoring Program (JMP) improves its monitoring program

The JMP modified its monitoring program based on the new target set by the SDGs and on feedback provided by the sector.

More specifically, the organization changed its data collection tool: the sanitation ladder. One of the main changes to the ladder was the move from a simple dual categorization of improved/unimproved sanitation to multiple categories. The JMP also switched the focus from the presence of a sanitation facility to the use of a sanitation facility. The whole sanitation system is included in this ladder, which is shown below:

	Safely Managed Use of improved facilities which are not shared with other households and where excreta are safely disposed in situ or transported and treated off-site
	Basic Use of improved facilities which 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 Defecation Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches and other open spaces or with solid waste



5 BEST PRACTICES IN MONITORING

The strength of a monitoring plan lies in realistic and feasible planning and a combination of the right resources, capacity, and processes.

Monitoring plans that are well designed share the following characteristics:

Resources

- All staff understand the value of monitoring.
- All staff have a role to play, and there is a commitment from the highest level of management.
- Monitoring activities are adequately resourced and have dedicated resources and budgets.

Capacity

- Data collection tools are user-friendly and adapted to the literacy level of the people using them.
- Staff have the relevant skills and experience required to conduct thorough and complete data collection and analysis. Investments are made in developing the capacity of staff to undertake high-quality monitoring activities.

Processes

- Monitoring plans are developed in a participatory manner, have a clearly defined purpose and thoroughly define all relevant terms to ensure data collected is applicable, comparable, and valid.
- Keep it simple and stay focused on factors within complete control of the program. Collect relevant information on a small but well-defined set of indicators. The indicators should also be realistic in terms of what information can be collected and what methods can be employed.
- Continue to analyze to determine what is working and what is not, and that the correct information is being collected.
- Ensure that data is regularly fed back to staff to enable them to make decisions that will result in program modifications and improvements and stimulate the resolution of day-to-day and week-to-week problems.
- Data collected is informed by the needs of end users, community health promoters, and technicians.
- Monitoring activities are integrated and aligned with the monitoring and data collection activities of other programs.

(adapted from Guijt and Woodhill 2002)





Latrine program monitoring: Reflections on challenges in Tanzania

In 2015, the World Bank Water and Sanitation Program (WSP) conducted an extensive review of Tanzania's national monitoring on sanitation outcomes. The sanitation specific challenges outlined in the report reinforce the importance of the best practices listed above:

- Misalignment of indicators: Ministries responsible for collecting the data were using different indicators. Some of the indicators were not relevant to the national strategy for growth and poverty.
- Lack of consensus on definitions: Over the course of the monitoring activities, misunderstandings arose over what was considered an improved facility. There was confusion about what was an open pit and what was a covered latrine. There was also no clear definition of rural and urban.
- Limited incorporation of marginal or informal settlements: Some were excluded from the monitoring program if they were not included in the national census.
- Some data collection tools did not have images of latrines: The absence of images in program material sometimes increased subjectivity and confusion over latrine definitions.
- Incorrect data entry: Forms were not designed appropriately, and data collectors were not adequately trained as no training was available. There was no performance review either. Some data entry was done without visiting households because no transportation was available.
- Irregular data collection: Because there was no budget for data collection, data collectors were not paid and data collection depended upon volunteerism.

(Mwambuli 2015)



6 KEY POINTS

- Monitoring is ongoing and provides real time feedback on the progress of day-to-day program activities, allowing program implementers to learn by doing.
- A conceptual framework for a program should be developed to understand what needs to be monitored.
- A monitoring system should be informed by and aligned with national and international WASH monitoring programs.
- To design and develop a monitoring system, it is necessary to identify key monitoring questions, set appropriate indicators, determine the sampling strategy, determine data collection methods, develop tools and processes, and form a monitoring team.





7 DEFINITIONS

Evaluation: collecting and analyzing information at a set point of time in the life of a program to make judgments in order to improve programming decisions

Inputs: resources required to carry out activities

Logic model: a systematic way to present the relationships among program resources, activities, and changes or results.

Monitoring: collecting and analyzing information throughout a program to make judgments in order to improve how the program is being implemented

Outcome: changes in learning, behaviour, conditions, etc., which occur due to the delivery or achievement of program outputs

Outputs: products from the activities of a program

Population: in statistics, population is the complete set of units to be considered. For example, all households in a community, all latrines that have been built in a program, or all children aged 5 and under within the community.

Sample: a selection of units chosen to represent the population for monitoring or evaluation purposes, when measuring all units is not possible.

Semi-structured interview: an interview method in which the interviewer has a target set of themes, but has freedom within the interview as to how those themes are explored.

Structured interview: an interview in which the question wording and question order have been determined in advance, and the interviewer keeps that identical script for each interviewee

Theory of change: a way to present the relationships among program resources, activities, and changes when program outputs and outcomes have more complex, nonlinear relationships



8 ADDITIONAL RESOURCES

International Fund for Agricultural Development: Methods for Monitoring and Evaluating.

Available at: <https://www.wsp.org/featuresevents/features/sanifoam-framework-design-effective-sanitation-programs>

Global Affairs Canada: Results based management for international assistance programming at Global Affairs Canada: A how-to guide. Available at: http://www.international.gc.ca/world-monde/assets/pdfs/funding-financement/results_based_management-gestion_axee_resultats-guide-en.pdf

UNHCR: Practical Guide to the Systematic Use of Standards and Indicators in UNHCR Operations. Available at: <http://www.unhcr.org/statistics/unhcrstats/40eaa9804/practical-guide-systematic-use-standards-indicators-unhcr-operations.html>





9 REFERENCES

- Bamberger, Michael, Rao Vijayendra, and Michael Woolcock. 2010. "Using Mixed Methods in Monitoring and Evaluation: Experiences from International Development." Policy Research Working Paper 5245. The World Bank: Development and Research Group.
<http://documents.worldbank.org/curated/en/884171468156574032/pdf/WPS5245.pdf>.
- Geertz, A, and L Lyer. 2018. "Gender and the Sanitation Value Chain: A Review of the Evidence." <https://www.fsg.org/sites/default/files/Gender%20and%20Sanitation%20Evidence%20Review%20Feb%202018.pdf>.
- Global Affairs Canada. 2016. "Results-Based Management for International Assistance Programming at Global Affairs Canada: A How-to Guide." Results Based Management Centre of Excellence.
- Guijt, Irene, and Jim Woodhill. 2002. *Managing for Impact in Rural Development: A Guide for Project M and E*. Rome: International Fund for Agricultural Development.
<http://web.undp.org/evaluation/handbook/documents/english/pme-handbook.pdf>.
- Mwambuli, Kaposo. 2015. "Sanitation Monitoring Handbook for Households and Institutions: Tanzania Mainland." WSP.
<https://www.wsp.org/sites/wsp.org/files/publications/WSP-Sanitation-Monitoring-Handbook-Tanzania.pdf>.
- United Nations Children's Fund. 2017. "Gender-Responsive Water, Sanitation and Hygiene: Key Elements for Effective WASH Programming." UNICEF.
https://www.unicef.org/gender/files/Gender_Responsive_WASH.pdf.
- United Nations Development Programme. 2009. "Handbook on Planning, Monitoring and Evaluating for Development Results." <http://web.undp.org/evaluation/handbook/documents/english/pme-handbook.pdf>.
- United Nations High Commissioner for Refugees. 2006. "Practical Guide to the Systematic Use of Standards and Indicators in UNHCR Operations." Second Edition. UNHCR.
<http://www.unhcr.org/statistics/unhcrstats/40eaa9804/practical-guide-systematic-use-standards-indicators-unhcr-operations.html>.
- World Health Organization, The World Bank, United Nations Children's Fund, Joint United Nations Programme on HIV and AIDS, Centers for Disease Control and Prevention, and The Global Fund to Fight AIDS, Tuberculosis and Malaria. 2004. "Monitoring and Evaluation Toolkit: HIV/AIDS, Tuberculosis and Malaria." <http://www.who.int/malaria/publications/atoz/a85537/en/>.

Last Update: September 2018

This document is open content and licensed under the Creative Commons Attribution-ShareAlike 4.0 International License (CC BY-SA 4.0). You are free to:

Share: Copy and redistribute the material in any medium or format.



Adapt: Remix, transform, and build upon the material for any purpose, even commercially.

Under the following terms:

Attribution: You must give appropriate credit to CAWST, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests that CAWST endorses you or your use. Detailed guidelines available here: resources.cawst.org/cc

ShareAlike: If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original.



CAWST will produce updated versions of this document periodically. For this reason, we do not recommend hosting this document to download from your website.

CAWST and its directors, employees, contractors, and volunteers do not assume any responsibility for, and make no warranty with respect to, the results that may be obtained from the use of the information provided.