

Chapter 7 Monitoring and Evaluation

7.1 Thinking about Monitoring and Evaluation

Monitoring and evaluation enable programmers to see whether things are happening on the ground as planned and whether activities are resulting in the expected outcomes. Results from both monitoring and evaluation are needed as inputs to the ongoing programming process.

While evaluations can be handled on a periodic basis, monitoring systems are needed to generate regular reliable datasets which can provide a picture of what is happening in real time and over time. As a general rule the monitoring system should be:

- **simple** – providing just enough information for decisions to be taken;

- **decentralised** - operating at the lowest appropriate level and providing information where it is needed to make necessary decisions;
- **responsive** – providing information where it is needed in real time;
- **transparent** – providing access to information both upwards and downwards; and
- **relevant** – based on the vision and objectives of the programme.

There is some truth in the saying that “what gets monitored, gets done” – the design of the monitoring system could have a profound effect on how well the programme is actually implemented. For this reason key outcomes and activities must be monitored.

7.2 What is Monitoring and Evaluation?

Monitoring systems provide a rapid and continuous assessment of what is happening. Monitoring is primarily needed at the implementation (project) level to show whether:

- inputs (investments, activities, decisions) are being made as planned;
- inputs are leading to expected outputs (latrines built, behaviours changed); and
- inputs are being made within the agreed vision and rules.

Evaluation provides a more systematic assessment of whether visions and objectives are being achieved in the long run in the most effective manner possible. “Formative” evaluation aims to diagnose problems, and is best done internally for maximum learning and capacity building. “Summative” evaluation is aimed at deciding which outcomes have been achieved (it measures, for example,

whether resources have been spent as intended) and is an important tool in generating confidence in the programme. It is usually best done externally, to increase credibility.

Neither monitoring nor evaluation are designed to establish causal links between interventions and outcomes (proving for example a link between handwashing and reduced incidence of diarrhoea). This type of causal connection is the subject of research which should be used as the basis for programme design. Where there are gaps in the empirical evidence base for sanitation and hygiene promotion, specific research may have to be commissioned to prove such relationships.

Table 10 sums up the main uses of monitoring and evaluation within both programmes and at the project (implementation) level.

7.3 What to Monitor and Evaluate?

At the programmatic level it is essential to monitor key results (ideally improved health) to ensure that public investments are resulting in public benefits. However, monitoring long term health trends is difficult and can

probably only be the subject of periodic evaluation. Instead, it is often more practical to measure service coverage, use of facilities and hygiene behaviors.

Table 10: Uses of Monitoring and Evaluation

	Monitoring	Evaluation
Programme planning, development and design	Measure crude inputs and outputs (use a programme performance monitoring plan with agreed indicators) Track processes and instruments (use the monitoring system, and information management systems with periodic reporting)	Assess needs, problems and assets (through situation analysis) Establish a baseline reference point (use baseline quantitative data collection) Explore programming options and identify solutions (carry out formative, qualitative studies)
Project level implementation	Assess whether programme is on track, delivering services, conforming to standards and targeting the right people (establish a routine monitoring system) Motivate communities to solve problems (use participatory community monitoring) Quality assurance (through supervision)	Check whether implementation is resulting in the delivery of the programme vision and objectives (mid-term evaluations or periodic reviews can be used to correct approaches) Assess whether projects resulted in the desired impact and outcomes (final evaluations, covering quantitative and qualitative assessments) Solve technical or programmatic problems (through operations research).

Based on available research and experience, most sector experts agree that if certain key behaviours occur at the household level then it is reasonable to assume that health benefits will follow. The Environmental Health Project suggest that the following four essential household practices are key to the reduction in diarrhoeal disease:

1. wash hands properly with soap (or local alternative) at critical times (includes the availability of a place for handwashing and soap);
2. dispose of all faeces safely – especially those of young children who cannot easily use a toilet;
3. practice safe drinking water management in the household (includes the use of an improved water source, safe water storage, and possibly water treatment at the point-of-use; and
4. practice safe food management in the household.

A sanitation and hygiene promotion programme will clearly influence the first two of these behaviours, and, if well designed, should also impact on water and food hygiene.

Monitoring and evaluation can thus focus on these key behaviours, and on a selection of easy-to-measure inputs to generate a picture of what is happening on the ground and what are the primary results. While the exact approach may vary with your programme **Table 11** suggests a generalized framework for monitoring which would provide simple and robust information at the programmatic and at the implementation level. While most of these indicators can be monitored using regular monitoring tools (see **Table 12**) those marked in bold may require verification through periodic evaluations. Note that at the implementation level you may need more detailed information about changed behaviours at the household level. These should be the subject of detailed *project* monitoring systems. For more information on the design and use of indicators see **Reference Box 12**.

Table 11: Indicative Programme Performance Monitoring Plan for Sanitation and Hygiene Promotion

	Objective	Suggested indicator (inputs)	Suggested indicator (outputs)
Programme Results			
Improved Health	<ul style="list-style-type: none"> i) Reduced incidence or prevalence of diarrhoeal disease ii) Reduced incidence or prevalence of other key disease groups 		<ul style="list-style-type: none"> i) % of children under 36 months with diarrhoea in the last 2 weeks ii) Incidence (number of new cases) of trachoma, guinea worm, etc.
Essential Household Practice	<ul style="list-style-type: none"> i) Incidence of handwashing ii) Proper disposal of adult faeces iii) Proper disposal of children's faeces 		<ul style="list-style-type: none"> i) % householders washing hands at appropriate times ii) % of adults whose faeces are disposed of safely iii) % of children under 36 months whose faeces are disposed of safely
Creation of Enabling Environment			
Programming and Policy	<ul style="list-style-type: none"> i) Development of real partnerships for optimum policy development ii) improved equity of access 	<ul style="list-style-type: none"> i) total public investment in strengthening regulatory/oversight role ii) New policies dealing explicitly with securing access for poor and vulnerable households 	<ul style="list-style-type: none"> i) number of positive changes made in policy, legal and regulatory instruments ii) distribution (on geographic, social, gender and communal grounds) of <ul style="list-style-type: none"> - improved sanitation coverage - range of technologies available and affordable by poor households - primary schools with safe water and improved sanitation
Financial Instruments	<ul style="list-style-type: none"> i) Improved efficiency ii) Financial sustainability (100% of operation costs for providing improved sanitation and hygiene promotion funded on a continuous basis) 	<ul style="list-style-type: none"> i) - total cost of programme-funding provided by source (government, private, household) - number of agencies involved 	<ul style="list-style-type: none"> i) sanitation coverage - poor households ii) percent of operating costs recovered from users/households
Organisational Restructuring	<ul style="list-style-type: none"> i) Alignment of organisations to support household decision making 	<ul style="list-style-type: none"> i) front-line staff with skills to work effectively with households and communities in all necessary organisations. 	<ul style="list-style-type: none"> i) % of household heads knowing: <ul style="list-style-type: none"> - who to contact to access sanitation goods and service - who to contact if sanitation facility breaks down
Implementation Outcomes			
Access to Sanitation technology	<ul style="list-style-type: none"> i) Access to improved sanitation facilities 	<ul style="list-style-type: none"> i) - total household and public expenditure on sanitation facilities - communities covered by sanitation marketing 	<ul style="list-style-type: none"> i) % of households with access to an improved sanitation facility
Hygiene Promotion	<ul style="list-style-type: none"> i) All households show a substantial improvement in essential household practices ii) All primary schools comply with basic water supply, sanitation and hygiene standards 	<ul style="list-style-type: none"> i) total public expenditure on hygiene promotion ii) communities with active hygiene promotion through community-based promoters 	<ul style="list-style-type: none"> i) % of adults in households who know critical times for handwashing ii) % of households who use improved sanitation facilities iii) % of schools with <ul style="list-style-type: none"> - sanitation facilities - separate sanitation facilities for boys and girls - handwashing facility - sanitation and hygiene teaching

7.4 How to do the Monitoring and Evaluation?

There are a wide range of tools available which can be used to generate information for monitoring and evaluation purposes. It is important to locate the responsibility for these tasks in an appropriate institutional home. Where possible monitoring should be carried out by agencies who can make immediate use of the information. As mentioned above, some evaluation is best car-

ried out externally. Furthermore it is important to have in place a process for disseminating the results of monitoring and evaluation exercises, to increase accountability and to ensure that data is used as widely and effectively as possible. **Table 12** provides examples of the broad range of tools available. **Reference Box 12** points to sources of more information on this important topic.

Table 12: Some Tools for Monitoring and Evaluation

	Monitoring	Evaluation
Tools	<ul style="list-style-type: none"> • Sanitation surveillance questionnaires • Network/ system operation and maintenance checklists • Supervision checklists • Financial summary/ audits • Participatory monitoring tools 	<ul style="list-style-type: none"> • Situation analyses, technical, social and institutional reviews • Participatory impact assessments/ Participatory rapid appraisals • Sanitation and hygiene model questionnaires • Qualitative studies, mid-term and final evaluations
Responsibility	<ul style="list-style-type: none"> • Ministry of health/ water and sanitation/ rural development/ urban development etc • Utility • Local government/ Communities 	<ul style="list-style-type: none"> • As for monitoring but use should be made of independent public or private sector organisations with skills in evaluation techniques • Non-governmental organisations/ Umbrella/ apex professional bodies • Universities • National statistics or census bureaus
Dissemination of results	<ul style="list-style-type: none"> • Public score cards and report cards • Publish in newspapers/ radio/ TV spots • Provide fliers or other information in community locations in rural and urban communities • Annual/ regular institutional reporting • Internet 	<ul style="list-style-type: none"> • As for monitoring plus • Journal articles/ conference papers etc • TV/ Radio profiles

Reference Box 12: Monitoring and evaluation

For information on the global monitoring system

See: Joint Monitoring Program of UNICEF and WHO and the Global Assessment (2000) Report

Get this reference on the web at: www.wssinfo.org

For ideas on setting up monitoring and evaluation systems including the selection and design of indicators

See: Kleinau, E., D.Pyle, L. Nichols, F. Rosensweig, L. Cogswell and A Tomasek (2003) *Guidelines for Assessing Hygiene Improvement At Household and Community Level* Environmental Health Project Strategic Report No. 8 on the web at: www.ehp.org



➔ **Reference Box 12: Monitoring and evaluation**

WELL (1998) *DFID Guidance Manual on Water Supply and Sanitation Programmes* WEDC Loughborough University, UK **on the web at: www.lboro.ac.uk/wedc**

Kathleen Shordt (2000) *Monitoring for Action* IRC, Delft, Netherlands

For other ideas about monitoring and evaluation tools

See: Naryan, D. n.d. *Participatory Evaluation: Tools for Managing Change in Water* Technical Paper No. 207, World Bank

Roark, P. (1990) *Evaluation Guidelines for Community-Based Water and Sanitation Projects* WASH Technical Report No. 64, Arlington VA.

Hutton, Guy (undated, c.2002) *Considerations in evaluating the cost effectiveness of environmental health interventions* cited in Appleton, Brian and Dr Christine van Wijk (2003) *Hygiene Promotion: Thematic Overview Paper* IRC International Water and Sanitation Centre

Get this reference on the web at: www.irc.nl

Dayal, R., C. van Wijk and N. Mukherjee (2000) *Methodology for Participatory Assessments: Linking Sustainability with Demand, Gender and Poverty* WSP

Get this reference on the web at: www.wsp.org/english/activities/pla.html

7.5 Applying the Principles

Principles of good programming can equally be applied to the monitoring and evaluation systems, both in the design of the approach and in the aspects of the pro-

gramme which are the focus of monitoring and evaluation efforts (see **Table 13**).

Table 13: Applying the Principles to Monitoring and Evaluation

Maximising public and private benefits	Achieving Equity	Building on what exists and is in demand	Making use of practical partnerships	Building capacity as part of the process
<p>Design a system which is</p> <ul style="list-style-type: none"> • Simple • Decentralised • Responsive • Transparent • Consistent with the programme vision and objectives <p>Measure public and private benefits</p>	<p>Ensure information is available upwards and downwards to empower participants as much as possible</p> <p>Ensure coverage data take into account distribution of access between different groups</p>	<p>Use existing monitoring and evaluation mechanisms and processes. Base on existing evidence of causal relationships</p> <p>Link upwards to international monitoring systems (ie JMP)</p>	<p>Make use of all available institutional capacity for monitoring and evaluation</p>	<p>Link monitoring information to capacity building; make information available and use it to analyse performance</p>

7.6 Programming Instruments

The most important programming decisions relating to monitoring and evaluation are probably allocating adequate resources, elevating status to an M&E system, and credible technical competencies. Programmers need to decide early on in the programming process:

- Who will be responsible for M&E;
- What will be monitored and at what scale;
- How will M&E be funded; and

- How and when will the information be used in the programming process.

Key to the success of monitoring and evaluation are systematic planning and implementation. This means that these activities such the development of a performance monitoring plan, a baseline and impact data collection, and the development of a monitoring system are included in the program strategy and work plans including the necessary human and financial resources.

7.7 Practical Examples from the Field: How will we know whether our programme is working?

Monitoring systems are only as good as the information they contain. Because of this, simple and relevant indicators must be identified and adapted for each situation, drawing as much as possible on existing indicators. This increases the ability to compare findings within a country and over time. A recent evaluation of definitions of “access” to “improved sanitation” in sub-saharan Africa found that there was little consistency between definitions used in different countries or with the definitions contained in the Joint Monitoring Program (JMP). On reflection this is not surprising, as national definitions will fall in line with national approaches to investment and with local cultural and social norms. So for example, while the JMP does not include “traditional latrines” in its definition of improved sanitation, some African countries feel that this is a good first step on the sanitation ladder, and count households with access to a traditional latrine as covered.

Data collected can be used in many ways for making program decisions. Two environmental health assessments conducted by Save the Children and EHP in 2001 and 2002 in the West Bank of Palestine found serious contamination of drinking water with thermotolerant fecal coliform bacteria. The quality was much worse for water delivered by tanker than for other sources. These findings led to program interventions that focus on the chemical treatment of tanker water and cisterns used by households to store water.

Formative research and household surveys in the DR Congo suggested that soap was widely available to households in rural and urban areas, but that handwash-

ing behaviors were largely inadequate. Sanitation facilities were present, but mostly unusable. The SANRU program decided to start hygiene promotion by integrating behavior change for handwashing into an existing Primary Health Care program and to address sanitation at a later point until the resources to improve sanitation facilities were available.

While definitions of access and coverage must be worked out in each case, these must be translated into simple formats to enable information to be collected consistently and reliably. In Honduras for example, the *M&E system for water supply* defines four categories of system:

- A – in full working order
- B – possibly not working but actions of the Mobile Maintenance Technician could easily bring it up to “A”
- C – possibly not working and requires investments which are within the economic capacity of the community
- D – not working-substantial investment required probably beyond the economic capacity of the community.

This simple typology enables the mobile technicians who visit them periodically to easily keep account of the status of all the systems under their remit thus rapidly building up a national picture of who is covered with functional systems. The beauty of this approach is that it is simple; allows for continuous real-time monitoring, takes into account the condition of the system, not just whether it was originally constructed; and makes use of the existing op-

eration and maintenance arrangement to collect data rather than setting up a separate M&E function. Getting hold of information on sanitation coverage and hygienic practices is likely to be much more challenging than getting information on water supply. A study in three countries in East Asia used participatory techniques

to uncover a range of inherent biases hidden beneath generalized coverage statistics. Nonetheless, with careful design, a few key indicators can almost certainly be devised in most cases to generate manageable information for monitoring programmatic outcomes.

Case Study Box 5: How will we know whether our programme is working?

The Joint Monitoring Programme of UNICEF and WHO provides some guidance on what is to be monitored, and also gives access to global information on progress towards the Millennium Development Goals. It can be found on the web at www.wssinfo.org.

Definitions of Access are discussed in Evans, B. and J. Davis (2003) *Water Supply and Sanitation in Africa: Defining Access Paper* presented at the SADC conference, Reaching the Millennium Development Goals

Experiences from the West Bank and DR Congo are summarised in the following two documents which also provide links to other resources: Camp Dresser McKee (2003) *West Bank Village Water and Sanitation Program: Findings from Environmental Health Assessments* Environmental Health Project Brief No. 17, July 2003 and Camp Dresser McKee (2003) *Improving Urban Environmental Health in Democratic Republic of Congo* Environmental Health Project Brief No. 16, June 2003.

The institutional arrangements in Honduras are described in Fragano, F., C. Linares, H. Lockwood, D. Rivera, A. Trevett, G. Yepes (2001) *Case Studies on Decentralisation of Water Supply and Sanitation Services in Latin America* Environmental Health Project Strategic Paper No. 1, Washington D.C.

Sanitation experiences in East Asia are described in Mukherjee, N. (2001) *Achieving Sustained Sanitation for the Poor: Policy and Strategy Lessons from Participatory Assessments in Cambodia, Indonesia and Vietnam* Water and Sanitation Program for East Asia and the Pacific

Notes for Chapter 7:

- i Additional monitoring indicators dealing with access to water and other sanitary facilities can be added, to provide a more comprehensive picture of progress towards wider hygiene improvement goals (see Kleinau et al. (2003) for detailed ideas on how to establish a full scale monitoring system at both project and programme level).