



Transcript: Module 5- Monitor control measures and verify performance

Welcome to Module 5 of the sanitation safety planning methodology. My name is Sophie Boisson, and I will be your guide in this module called “Monitor control measures and verify performance”. In this module we will answer the questions:

- Is the sanitation system operating as intended?
- Is it effective?

In module 5 we will:

- Define and implement operational monitoring.
- Verify system performance.
- Audit the system.

In the end, we will produce one of the key products of SSP, which is an operational monitoring plan

In the previous modules, we saw that to reduce a health risk, control measures need be in place. There are two types of monitoring:

Operational monitoring aims to check if the control measure is working whereas

Verification monitoring aims to check the overall impact of those control measures.

The purpose of step 5.1 is to select monitoring points and parameters to give a simple and rapid feedback on whether control measures are working as planned so that if they are not, we can act quickly to take corrective actions.

Operational monitoring collects and uses:

- Simple observations and measures, such as flow rate to check on retention times, temperature of composting, observations of on-farm practices, etc.
- Sampling and testing, such as chemical oxygen demand, biochemical oxygen demand and suspended solids.

Practical considerations dictate that only a limited number of indicators can be monitored. However, we need to ensure that they do monitor the entire sanitation service chain.

At the toilet step, possible monitoring parameters are:

- Quality of the construction,
- Existence of hand washing facilities,
- Cleanliness of facilities.

These may be collected via inspections of dwellings and buildings, which may be done routinely, in periodic/special surveys or in the national census.

At the containment-storage and treatment step, possible parameters are:

- State of the cover slab (cracked/damaged),
- Visible/reported overflow,
- Resting time of dry sanitation technologies.

These data may also be collected by inspections of dwellings and buildings.

In the reading materials, you will find sanitary inspection forms for sanitation systems. These are short-standardized observation checklists to identify risk factors at or near sanitation facilities. Sanitary inspections may be used by community representatives, government officers such as environmental health inspectors, or field officers from national and international organizations.

At the conveyance step, possible monitoring parameters are:

- Use of Personal Protective equipment by sanitation workers
- Number of licensed operators
- Use of the pre-defined roads
- Extent of leakage in sewers



- Cleanliness of sewers

Data on emptying and transport for onsite facilities and on leakage or overflow of untreated sewage may be collected from customers, formal and informal operators and, where relevant, licensing authorities or regulatory bodies.

At the treatment step, typical monitoring parameters are:

- Flow rate
- Retention times
- Chemical oxygen demand, biochemical oxygen demand and suspended solids.
- Composting temperatures

Data on the effectiveness of sludge and sewage treatment may be collected from operators and verified by occasional sampling and independent laboratory analysis.

At the end use/disposal step, monitoring parameters include:

- Visual inspection of the application / irrigation process.
- Actual versus planned duration of withholding periods
- Frequency with which farmers are wearing personal protective equipment.

Data may be collected via inspections of nearby farms, with routine or periodic surveys.

Monitoring all control measures is often not practical, so the most critical point, based on the control of the highest risks, should be selected.

Critical limits are usually numerical limits based on a parameter measurement. In some cases, qualitative limits are appropriate.

This is a typical recording form, which includes the following aspects:

- parameter: what is monitored;
- what is the limit;
- method of monitoring means how it is done;
- where it is monitored:
- who will monitor;
- frequency of monitoring;
- an action to be undertaken when the critical limit is exceeded.

Now, let's talk about verification of performance. Step 5.2 involves verifying whether the system is performing as intended.

Verification monitoring may be done by the SSP team or an external authority as part of the surveillance.

Verification data may include:

- For toilets: Use of toilet facilities
- Containment-storage and treatment: Pathogen concentration in groundwater
- Conveyance: Amount of fecal sludge transported to the treatment site
- Treatment: Microbial testing of effluents, e.g. E. coli and Helminth eggs.
- End use/disposal: Microbial testing (such E. coli and Helminth eggs) of crops, fish products, and waters at exposure points.

Step 5.3 is about auditing the system, provides additional independent evidence of the quality and effectiveness of SSP implementation. Audits may be a regulatory requirement for risk assessment management approaches, and may be done by internal, regulatory or independent auditors. Suitably skilled and experienced personnel for auditing will need to be identified.

Great! So, we have now completed Module 5 of the SSP methodology. You have learnt how to:

- Define and implement operational monitoring.
- Verify system performance.
- Audit the system.



In the WHO 2018 Guidelines, you can learn more about the role of environmental health authorities in monitoring. More information can be found in module 5 of your SSP manual.

In the next and final module, you will learn about Developing supporting programs and reviewing plans.

Thanks for watching! And happy SSP!