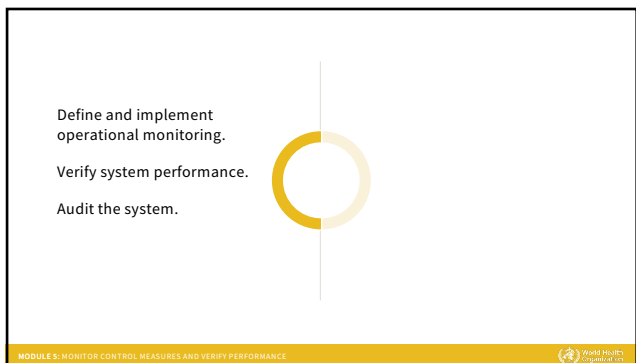




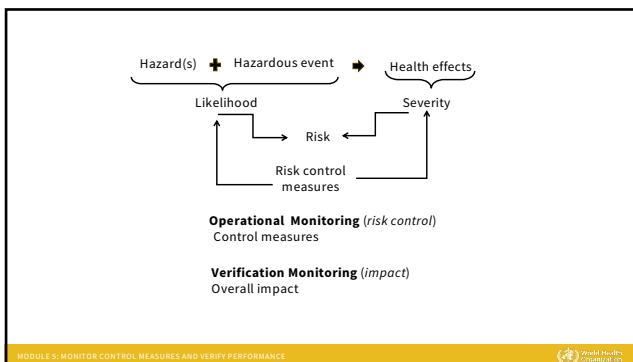
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STEP 5.1
Define and implement operational monitoring

OBJECTIVE
To give simple and rapid feedback on whether those control measures are working as planned.

We can act quickly to take corrective actions.

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STEP 5.1
Define and implement operational monitoring

Operational monitoring...

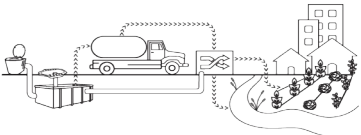
...collects and uses:

- **simple observations and measures** (e.g. flow rates, temperature, etc.)
- **sampling and testing** (e.g. COD, BOD, etc.)


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STEP 5.1
 Define and implement operational monitoring




- Only a limited number of indicators can be monitored.
- They do monitor the entire sanitation service chain.

MODULE 5: MONITOR CONTROL MEASURES AND VERIFY PERFORMANCE 

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STEP 5.1
 Define and implement operational monitoring



Toilet


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

Inspection of dwellings and buildings
 Routinely, in periodic/ special surveys
 or in the national census

MODULE 5: MONITOR CONTROL MEASURES AND VERIFY PERFORMANCE 

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STEP 5.1
 Define and implement operational monitoring



Containment-storage/treatment

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

Inspection of dwellings and buildings
 Routinely, in periodic/ special surveys or
 in the national census

MODULE 5: MONITOR CONTROL MEASURES AND VERIFY PERFORMANCE 

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STEP 5.1
Define and implement operational monitoring

WHO Sanitary Inspection Forms

Sanitation inspection form **SANITATION**

Flush toilet with septic tank or soakpit

I. GENERAL INFORMATION


A. Location
 (Indicate location on the map and fill "X" where information is not applicable.)

Country/Region	District	Province	State
National grid reference coordinates	GPS coordinates	Additional location information	Number of households served by the facility

B. Setting
 (Indicate whether each item is low, medium or high.)


Population density	Accessibility for mechanical emptying	Risk to groundwater (well)	Water availability
Low Medium High	Low Medium High	Low Medium High	Low Medium High
Risk of flooding	Soil permeability (soak-pit)	Soil permeability	Land availability
Low Medium High	Low Medium High	Low Medium High	Low Medium High

II. SANITATION SAFETY INSPECTION
IMPORTANT: Read the following notes before undertaking the sanitary inspection

MODULE 5: MONITOR CONTROL MEASURES AND VERIFY PERFORMANCE 


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STEP 5.1
Define and implement operational monitoring

 **Conveyance**


- Use of PPE by sanitation workers
- Number of licensed operators
- Use of the pre-defined roads
- Extent of leakage in sewers
- Cleanliness of sewers

Data collected from customers, formal and informal operators and, where relevant, licensing authorities or regulatory bodies.

MODULE 5: MONITOR CONTROL MEASURES AND VERIFY PERFORMANCE 


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STEP 5.1
Define and implement operational monitoring

 **Treatment**


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

Data collected from operators and verified by occasional sampling and independent laboratory analysis.

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STEP 5.1
Define and implement operational monitoring



End use/ disposal

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

Inspection of nearby farms
Routinely, in periodic surveys


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STEP 5.1
Define and implement operational monitoring

Keep in mind...

- May **not be practical** to monitor all control measures.
- The most critical monitoring points, **based on the control of the highest risks**, should be selected.
- Critical limits:
 - **Numerical** limits based on a parameter measurement.
 - **Qualitative** limits may be appropriate.

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STEP 5.1
Define and implement operational monitoring

TOOL 5.2. Template for operational monitoring

OPERATIONAL MONITORING PLAN

Operational monitoring plan for:
(Use control measure short description)

Operational limits*	Operational monitoring of the control measure	Corrective action when the operational limit is exceeded
What is monitored?		What action is to be taken?
How is it monitored?		Who takes the action?
Where is it monitored?		When is it taken?
Who monitors it?		Who needs to be informed of the action?
When is it monitored?		


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STEP 5.2
Verify system performance






OBJECTIVE
To verify 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.

MODULE 5: MONITOR CONTROL MEASURES AND VERIFY PERFORMANCE 

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STEP 5.2
Verify system performance

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


MODULE 5: MONITOR CONTROL MEASURES AND VERIFY PERFORMANCE 

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STEP 5.3
Audit the system


OBJECTIVE
To provide additional independent evidence of the and quality and effectiveness of SSP implementation.


- Regulatory requirement for risk assessment management approaches.
- Internal, regulatory or independent auditors.
- Suitably skilled and experienced personnel for auditing.

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




MODULE 5: MONITOR CONTROL MEASURES AND VERIFY PERFORMANCE 

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WHO Guidelines
GUIDELINES ON SANITATION AND HEALTH
SANITATION SAFETY PLANNING
SSP Manual
Module 5

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SANITATION SAFETY PLANNING
Step-by-step risk management for safely managed sanitation systems
Second Edition 

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