



Measuring Success – Handbook

Part I: Quantitative Indicators - #ms04 Drinking Water

#ms04: Drinking Water – Households using at least basic drinking water services

Indicator Statements		
Indicator (in short)	Indicator	Number [actual value] of households using at least basic drinking water services
	Unit of indicator	Number [actual value] of households
Project-level indicator statements	Baseline statement	<i>Result:</i> The number of households using at least basic drinking water services was x out of a total of N targeted households. (Sampling size = n households)
	Endline statement	<i>Result:</i> During the project period, out of a total of N targeted households, the number of households using at least basic drinking water services changed from x households (baseline) to y households (endline). (Sampling size = n households)

Background

Why do we use this indicator? WHH’s goal is to achieve zero hunger wherever we work by 2030. **Access to and use of safe water** are prerequisites for fighting hunger and poverty as a human right. Inadequate access to at least basic¹ drinking water services is a root cause of malnutrition, according to WHH’s SFNS approach.

Poor environmental health conditions and related waterborne diseases are underlying causes of malnutrition. Ensuring **good drinking water quality** is an important element of preventing waterborne diseases such as diarrhea, environmental enteropathy, and intestinal worms. There is clear evidence that improvements in WASH service delivery will result in health gains.



The **drinking water indicator** is useful to assess whether the **right to clean drinking water** is being met and how successful the related interventions have been. Safe drinking water is also important as a precondition to achieving sustainable food and nutrition security.

What does this indicator assess? The number of households making use of **at least basic drinking water services** comprises households that both consume drinking water obtained from an **improved water source** and handle their drinking water in a way that bears a **low risk of contamination** between the point of extraction (PoE) and the point of use (PoU).

¹ UNICEF/WHO in its Joint Monitoring Program (JMP) classifies water services in four categories: “safely managed”, “basic”, “limited”, and “unimproved”

According to the WHO/UNICEF Joint Monitoring Program for Water Supply, Sanitation, and Hygiene (JMP), **improved drinking water sources** include:

1. Piped water

2. Public taps or standpipes

3. Tube wells or boreholes

4. Protected wells or springs

5. Rainwater

6. Packaged or delivered water
(from a tanker-truck, cart with small tank/drum, or water kiosk)

(For definitions and examples of improved and unimproved sources of drinking water, see also JMP's [Definitions of Terms for Monitoring WASH Services](#), pp. 2/3)

The **use of an improved drinking water source combined with safe water handling** from the PoE (e.g., a hand pump) to the PoU (e.g., a household) is accepted as a proxy for the safety of drinking water. The indicator does not check the water quality as such. Additional water testing is recommended and, in most countries, even required at the PoE according to national water policy.

For which projects should this indicator be used? The indicator is suitable for **projects that aim to increase households' access to clean drinking water**.

Typical intervention types for which this indicator is suitable are:

- Rehabilitation/new construction of **water supply schemes**
- **Water-quality** interventions
- Projects applying a **WASH Systems Approach** improving on WASH governance at district levels
- **Hygiene-promotion** interventions

Data Collection #ms04: Drinking Water

Who should be interviewed? The **research unit** of the population (N) and the sample (n) for this indicator is the **household**. The population size is usually composed of the number of households that are supposed to benefit from project intervention.

! Questions should be addressed to the **person (adult) who is responsible for handling the household's drinking water**.

When should the data be collected? This indicator requires a baseline and comparison value(s) to yield interesting information on project outcomes. **At minimum**, it should therefore be collected as part of both a **baseline and an endline** survey.



Please note: Data for the #ms Drinking Water indicator can be collected at any time of the year. However, because the rainy and dry season affect the water availability and as such water service levels, you should consider always collecting **baseline and endline data in the same season.**

Preparing data collection

In addition to survey skills, enumerators must have a **strong grasp of the concept of improved/unimproved water sources and safe water handling.** They should be specially trained on how to conduct surveys and make observations in WASH facilities before collecting data.

Indicator calculation

The #ms Drinking Water indicator reveals how many project participant **households** are **using at least basic drinking water services.**

A household is rated as “using at least basic drinking water services” if:

- the main water source is rated as improved (Q4.1); **AND**
- the risk of contamination of drinking water between the PoE and the PoU is assessed as low, i.e., if 7 or more of the 9 standardized survey questions Q4.2 – Q4.10 are answered in the affirmative (“yes”)

OR

- the main water source is rated as improved (Q4.1); **AND**
- the main water source is located on the household’s premises (e.g., dwelling, yard, or plot).

To **extrapolate**² the result from the survey to the (target) population:

1. calculate the proportion of sampled households **using at least basic drinking water services** out of the total number of sampled households; and then
2. multiply the result by the total number of households within the (target) population (see below).

$$\frac{\text{Number of sampled households using at least basic drinking water services}}{\text{Total number of sampled households}} \times \text{Total number of households in the (target) population}$$

² Extrapolation is a process in which measured characteristics of a sample lead to estimates of unknown characteristics of the target population from which the sample was drawn.

Recommended calculation:

1.

Calculate the **index for risk of drinking water contamination** between the PoE and the PoU:

- Copy the original table.
- In the newly created table replace the answer category “yes” with a “1” and the answer categories “no” or “don’t know” with a “0” and sum up the values

2.

Index water source:

- Copy the table
- Add one column after the column “3_source”
- Record a value of “10” in the newly added column for households that have a safe main source of water (see above for categorization of improved versus unimproved water sources)

3.

Calculate the **total index:**

- Copy the table
- Add one more column at the end of the table to calculate the total index
- Calculate the total index by summing up the index for risk of contamination and the index for water source
- If the summary index amounts to at least 17, the water situation of the household is considered “at least basic”



Index	Profile
0 – 16	Less than basic
≥17	At least basic

4.

Find out how many **households** in the sample use “**at least basic**” drinking water services:

- Count all households for which the summary index is at least 17

Below is a calculation-matrix template for the #ms Drinking Water calculation ([Link to the corresponding Excel matrix on WHH Intranet](#)).

Calculation matrix template (Link to the corresponding Excel matrix on WHH Intranet).

Original Data									
3_source	3_separate_container	3_container_above_floor	3_container_opening	3_container_lid	3_container_lid_on	3_take_water_safely	3_utensil_clean	3_container_inside_clean	3_container_outside_clean
1) Private tap (improved & safe)	yes	yes	yes	yes	yes	yes	yes	yes	yes
3) Public tap or stand pipe (improved)	no	no	no	no	no	no	don't know / no answer	don't know / no answer	don't know / no answer
7) Protected spring (improved)	yes	yes	yes	yes	yes	yes	don't know / no answer	yes	yes
8) Protected dug well (improved)	no	yes	no	yes	no	yes	no	yes	no

Step 1: Calculate the index for risk of drinking water contamination between the PoE and the PoU: replace the answer category "yes" with a "1" and the answer categories "no" or "don't know" with a "0" and calculate the index by summing up the values.

3_source	3_separate_container	3_container_above_floor	3_container_opening	3_container_lid	3_container_lid_on	3_take_water_safely	3_utensil_clean	3_container_inside_clean	3_container_outside_clean	index_contamination_risk
1) Private tap (improved & safe)	1	1	1	1	1	1	1	1	1	9
3) Public tap or stand pipe (improved)	0	0	0	0	0	0	0	0	0	0
7) Protected spring (improved)	1	1	1	1	1	1	0	1	1	8
8) Protected dug well (improved)	0	1	0	1	0	1	0	1	0	4

Steps 2-4: Score Calculation. Record a value of "10" in the newly added column for households that have a safe main source of water (i.e., the main water source is rated as improved); sum up the index for water source and the index for risk of drinking water contamination to calculate the total index and then count all households that use at least basic drinking water services (total index>17)
 added columns in darker grey; total index in orange

3_source	index_source	3_separate_container	3_container_above_floor	3_container_opening	3_container_lid	3_container_lid_on	3_take_water_safely	3_utensil_clean	3_container_inside_clean	3_container_outside_clean	index_contamination_risk	index_water
1) Private tap (improved & safe)	10	1	1	1	1	1	1	1	1	1	9	19
3) Public tap or stand pipe (improved)	10	0	0	0	0	0	0	0	0	0	0	10
7) Protected spring (improved)	10	1	1	1	1	1	1	0	1	1	8	18
8) Protected dug well (improved)	10	0	1	0	1	0	1	0	1	0	4	14

All households with a score of at least 17 have at least basic drinking water services

Total 2

3. Questionnaire for #ms Indicators - #ms04 Drinking Water

This section contains the #ms questionnaire for all eleven indicators and is consistent with the Akvo Flow #ms template.

This section includes not only the questions and answers but also comments for enumerators (which can be used in training) and specifications for the person designing/adapting the project-level template.

Question ID	Question and Answer		Remarks for Different Users of #Measuring Success	
	Questions	Answers	Enumerators	Designer of Project-Specific Questionnaires
0.1	0.1: Before starting the interview			
0.1.1	WHH project ID	Project ID		This question is currently formatted as free text. You may change it to a multiple-choice format if necessary (e.g., when one survey covers two or more project IDs).
0.1.2	Date of interview	Date		

0.1.3	Consent to interview: I would like to ask you to provide your objective responses regarding your situation. Your participation is voluntary, and your information will be kept confidential. I have informed you about what type of data will be collected, for which purposes it will be used, with whom the data may be shared, and that you have the right to access your data and to ask for correction or deletion. Do you agree to the collection and processing of your data?	<ul style="list-style-type: none"> - If "yes", proceed with questions - If "no", do not proceed with any further questions 		
0.2	Interviewee information			
0.2.1	Household location	Remark: Answer categories must be project-specific:		Free text question can be replaced by a cascading question if you wish
0.2.2	Geographical coordinates	Geo-coordinates		
0.2.3	Who is head of the household?	<ul style="list-style-type: none"> - Father - Mother - Grandmother - Grandfather - Child/Youth - Other 		

0.2.4	Name & surname of interviewee	<p>Name / surname</p> <p>Or</p> <p>Interviewee is Head of Household</p>	<p>Before starting the interview, make sure that relevant persons are present, mainly:</p> <ul style="list-style-type: none"> - For #ms01 MAHFP and #ms02 FCS: the person (adult) who is responsible for food preparation in the household. - For #ms03 MDD-W: a woman aged 15-49 - For #ms04 Drinking water: the person (adult) who is responsible for handling the household's drinking water - For #ms05 Sanitation: the person (adult) who is responsible for maintaining the sanitation facility used by household members - For #ms06 Income: the head of the household or a person responsible for or aware of the care and organization of the household - For #ms07 Employment: a training graduate - For #ms08 Agriculture and #ms09 Climate Resilience: the person (adult) who is responsible for the usage of the promoted measure and who received input and/or trainings from WHH/partners/the project. - For #ms10 Women in decision-making: an adult woman - For #ms11 Participants' satisfaction: a project participant 	
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0.2.5	What is the sex of the interviewee?	<ul style="list-style-type: none"> - Female - Male - Other - Don't know / No answer 		
0.2.6	Age of the interviewee?	Numeric value		Allow only numeric values up to 99
Choice of Indicators				
0.3.1	On which indicators will you collect data in this household?	<ul style="list-style-type: none"> - #ms01: Food Access (MAHFP) - #ms02: Food Consumption Score - #ms03: Nutrition Diversity (MDD-W) - #m04: Drinking Water - #ms05: Sanitation - #ms06: Income - #ms07: Skills - #ms08: Agriculture - #ms09: Climate Resilience - #ms10: Women in Decision-making - #ms11: Participants' Satisfaction 		

04	Drinking Water			
04.1	What is the main source of drinking water for members of your household?	<p>IMPROVED</p> <ol style="list-style-type: none"> 1. Piped into dwelling (household connection) 2. Piped into compound, yard or plot (yard tap) 3. Piped to neighbor 4. Public tap or standpipe 5. Borehole or tubewell 6. Protected well 7. Protected spring 8. Rainwater collection 9. Tanker-truck 10. Cart with small tank/drum 11. Water kiosk 12. Bottled water 13. Sachet water (water packaged in a plastic bag) <p>UNIMPROVED</p> <ol style="list-style-type: none"> 14. Unprotected well 15. Unprotected spring 16. Surface water 17. Other <p>- Don't know</p>	Refer to <u>JMP definitions</u> , Table 1	
04.2	OBSERVE: Is drinking water kept in a separate container?	<ul style="list-style-type: none"> - Yes - No - Don't know / No answer 	If a water source is identical with option 1 (piped to dwelling) and 2 (piped into compound), please tick "yes"	

04.3	OBSERVE: Is the drinking water container kept above floor level?	<ul style="list-style-type: none"> - Yes - No 	If a water source is identical with option 1 (piped to dwelling) and 2 (piped into compound), please tick "yes"	
04.4	OBSERVE: Do water containers used for water collection and water storage have a narrow mouth/opening?	<ul style="list-style-type: none"> - Yes - No - Don't know / No answer 	If a water source is identical with option 1 (piped to dwelling) and 2 (piped into compound), please tick "yes"	
04.5	OBSERVE: Do containers used for storing drinking water have a lid/cover?	<ul style="list-style-type: none"> - Yes - No - Don't know / No answer 	If a water source is identical with option 1 (piped to dwelling) and 2 (piped into compound), please tick "yes"	
04.6	OBSERVE: Is the lid/cover in place at the time of visit?	<ul style="list-style-type: none"> - Yes - No - Don't know / No answer 	If a water source is identical with option 1 (piped to dwelling) and 2 (piped into compound), please tick "yes"	

04.7	OBSERVE: Is the water taken safely from the drinking water container? (Ask for a demonstration; the stored water must not come into contact with hands)	<ul style="list-style-type: none"> - Yes - No - Don't know / No answer 	If a water source is identical with option 1 (piped to dwelling) and 2 (piped into compound), please tick "yes"	
04.8	OBSERVE: Is the utensil used to draw water from the container clean and stored in a hygienic manner?	<ul style="list-style-type: none"> - Yes - No - Don't know / No answer 	<p>If a water source is identical with option 1 (piped to dwelling) and 2 (piped into compound), please tick "yes"</p> <p>"Clean" refers to a utensil that is not contaminated with dirt dust or food leftovers; "stored in a hygienic manner" refers to a place above the ground and out of reach of children under 5 years of age</p>	
04.9	OBSERVE: Is the inside of the drinking water container clean?	<ul style="list-style-type: none"> - Yes - No - Don't know / No answer 	<p>If a water source is identical with option 1 (piped to dwelling) and 2 (piped into compound), please tick "yes"</p> <p>The assessment is made by visual inspection: If the container has debris, dust, dirt and/ or algae inside, it is to be considered not clean.</p>	
04.10	OBSERVE: Is the outside of the drinking water container clean?	<ul style="list-style-type: none"> - Yes - No - Don't know / No answer 	If a water source is identical with option 1 (piped to dwelling) and 2 (piped into compound), please tick "yes"	

			The assessment is made by visual inspection: If the outside of the container is highly contaminated or has grease residues on it, it is to be considered not clean.	
04.11	FOR ENUMERATOR: Take a picture of the container	-	Ask for permission before taking the picture	- This is an optional question/photo
04.12	How clean is the water you consume?	<ul style="list-style-type: none"> - Clean - Quite clean / Clean most of the time - Dirty - Don't know / No answer 		<ul style="list-style-type: none"> - This is an optional question for baseline surveys: You should take it out if this survey is not a baseline survey <p>This question is supposed to support you for your project planning: You may take it out if the question is found not to be useful for planning purposes</p>

04.13	Type of Survey (Drinking water)	<ul style="list-style-type: none"> - Baseline Survey - Endline Survey - Midterm or Other Survey 		-
04.14	Is your drinking water situation better, the same, or worse than it was in the year 2xxx [year of baseline survey of project]?	<ul style="list-style-type: none"> - Much better - A bit better - The same - A bit worse - Much worse 	Enumerators need to know in which year the project's baseline survey was carried out	<ul style="list-style-type: none"> - This is an optional question for endline surveys: You should take it out if this survey is not an endline survey - This question is supposed to support you for your project planning: You may take it out if the question is found not to be useful for planning purposes
04.15	What are up to three key reasons for changes in your drinking water situation?	<ul style="list-style-type: none"> - Up to three key reasons for changes in drinking water situation 	Note each point clearly, describing it in a full sentence.	<ul style="list-style-type: none"> - This is an optional question for endline surveys: You should take it out if this survey is not an endline survey - This question is supposed to support you for your project planning: You may take it out if the question is found not to be useful for planning purposes

04.16	TO BE FILLED IN BY ENUMERATOR: Can any of the improvements be attributed to project activities?	<ul style="list-style-type: none"> - Project activities were a major reason for improvements - Project activities were a minor reason for improvements - No link to project activities 	Enumerators need to be informed about the project's activities	<ul style="list-style-type: none"> - This is an optional question for endline surveys: You should take it out if this survey is not an endline survey 1. This question is supposed to support you for your project planning: You may take it out if the question is found not to be useful for planning purposes
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