Sustainable Sanitation and Hygiene for All (SSH4A)

PERFORMANCE MONITORING FRAMEWORK

Part 1. Introduction and impact indicators (February 2019)

SNV, 2019. *SSH4A Performance Monitoring Framework, Part 1. Introduction and impact indicators*. The Hague: SNV.

Authors

This document is a result of joint efforts and thinking across a range of SNV staff and partners.

Acknowledgements

SNV would like to thank all former and current staff and partners who have contributed to this document, over the years. In particular we would like to mention Christine Sijbesma of IRC for conducting the first introductory workshop in 2010, Shiriin Barakzai for her inputs in 2013, Erick Baetings for his support to Nepal and Bhutan in 2014, Anita van der Laan for her inputs in 2014, and UTS-ISF and CBM Australia staff for providing inputs on this version. Special thanks to Gabrielle Halcrow, Anne Mutta, Antony Ndungu, and Antoinette Kome of SNV for shaping this framework, and its practical applications over the years.

Cover photo: Lhuntse village meeting, SSH4A in Bhutan (SNV/ Aidan Dockery)

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1 Introduction

With this document, we aim to share our rural sanitation and hygiene performance monitoring framework, and to contribute to the ongoing discussion on sustainable and equitable sanitation services and hygiene. This framework was originally developed in 2010 for our work in Asia, and focussed on rural districts predominantly at household and school levels. It has since been applied by more than seven projects[1] in 18 countries across Asia and Africa. This latest version aims to capture the different iterations and reviews, based on feedback from SSH4A implementing countries, as well as the ambitions of the SDGs.

The performance monitoring framework is part of our Sustainable Sanitation and Hygiene for All (SSH4A) programme.

Similar to our performance monitoring framework for urban sanitation and hygiene, the objective is to support stakeholder learning and reflection about the programme, and their progress towards sustainable services. It is not designed as an externally applied, stand-alone monitoring system. Monitoring at regular intervals helps to improve a programme, and engages staff to move in the right direction.

The monitoring framework measures both impact, in terms of access and use of safely managed sanitation services and safe hygiene practices, as well as outcomes.

The outcomes are related to capacities and/ or performance at different levels, which together contribute to a sustainable service delivery system for rural sanitation and hygiene. Impacts are measured by ladders largely aligned with the JMP definitions, whereas the measurement of outcomes includes both ladders as well as scorecards. The ladders and scorecards allow the capture of many qualitative aspects of capacity development and the aggregation of qualitative information over time in quantitative scores.

Box 1 Capacity building

SNV is dedicated to a society in which all people are free to pursue their own sustainable development. We have an actor-oriented vision of change, i.e., we do not envision change as a result of abstract forces, but as a result of actions by people individually or collectively. Infrastructure, laws, systems, while necessary, are insufficient conditions for change; and only relevant when they are used. We assume that if we support people to build their capacities, performance, collaboration and their (use of) systems – all this together will lead to change.

We consider three levels of capacities and related performance:

- Individual or professional capacity
- Organisational capacity
- Capacity of organisations to work together (interinstitutional capacity)

Understanding who the stakeholders are in rural sanitation and hygiene, is the basis for this monitoring framework. These could include: municipalities, line ministry departments including health services, local leaders, regulators, users, but also pit emptiers, masons and civil society organisations.

While we work on systems, for example, information systems such as a customer database, we do not consider this an outcome unless there is an organisation owning that customer database, and there are people capable to work with it. The outcome would then be the capacity of that organisation to manage and implement the data base.

[1] Including several multi-country projects.

The performance monitoring framework consists of two parts:

Part 1 Introduction and impact measurement details the monitoring approach followed by a description of the impact indicators.

Part 2 Outcome measurement details the outcome indicators focussed on changes in the capacity and performance of relevant stakeholders (professionals, organisations and interinstitutional collaboration) in the rural sanitation sub-sector.

With the development of Phase 2 of SSH4A (see figure 1 on next page), a specific framework for Phase 2 outcome measurement will be developed in 2019.

This document reflects experiences to date. It also takes into account the higher service levels and ambitions of the SDGs, post-ODF thinking, and recent learning from SNV's Urban Sanitation and Hygiene for Health and Development (USHHD) programme, including monitoring in schools and healthcare facilities. While the common indicators and definitions will have to be applied by all SSH4A countries in order to ensure standards and make cross-country comparisons, adaptation to different country contexts is essential for meaningful measurement. In this framework, a minimum set of shared outcome indicators is presented. Additional indicators may be included depending on the demands of the context.

2 Sustainable Sanitation and Hygiene for All (SSH4A)

2.1 Sustainable Sanitation and Hygiene for All, Phase 1

SNV's Water, Sanitation and Hygiene (WASH) programmes are based upon the belief that access to water and sanitation is a human right, and that governments are the duty-bearers of the progressive realisation of this right in their jurisdiction. Depending on roles and responsibilities in a specific country, this could mean that a district government is responsible to realise the right to sanitation for all people in the entire district. The area-wide approach that is at the crux of our work obliges us to think about the capacity and systems in an area, to achieve sanitation and hygiene for all. It also obliges us to think about private sector roles, different needs and cultures in the district, and how to best use scarce public resources, with attention to equity.

The SSH4A programme works together with local authorities to develop a service delivery model for their area. This is not done in theory, but through a hands-on approach, working collaboratively towards improved sanitation and hygiene, and continuously reflecting and learning about it. The integrated approach to sanitation has proven to be successful. It has been implemented in more than 160 districts, and has contributed to over five million people gaining access to and using improved sanitation over the past five years alone.

Users are at the centre of the SSH4A framework. Ultimately, rural sanitation and hygiene is about sustaining behavioural change of users, and the conditions that support that. In a rural context, these users may access services in residential premises (households), educational premises (schools), health facilities or public places. Understanding users, their diversity and their needs is essential for sustainable sanitation.

Figure 1 SSH4A area-wide access and usage for all
Source: SNV, 2018.

As can be seen in Table 1 (on next page), the supporting conditions for behavioural change of users are organised under four integrated components, with a fifth component focussing on learning, documenting, and sharing. The four components are all related to capacity development.

Table 1 Four components of capacity development

Component	Expected outcome
Improving capacity for steering and implementing sanitation demand creation	Local organisations are capable to implement and steer sanitation demand creation at scale, with quality.
Developing sanitation supply chains and finance	Appropriate market-based solutions for a variety of sanitation consumer needs are implemented at scale.
Building capacity for behavioural change communication (BCC)	Progress in the commitment and capacity of local organisations to implement behaviour change communication, with quality.
Strengthening WASH governance	Improvements in local WASH governance in terms of alignment of stakeholders, sector planning and monitoring, transparency, and social inclusion.

The assumption of the SSH4A programme is that if all these capacities are in place, and performance is enhanced, these will accelerate progress in sanitation and hygiene in a sustainable and inclusive way. These relations are tested in the performance monitoring cycle, when both outcomes and impacts are measured and discussed with stakeholders.

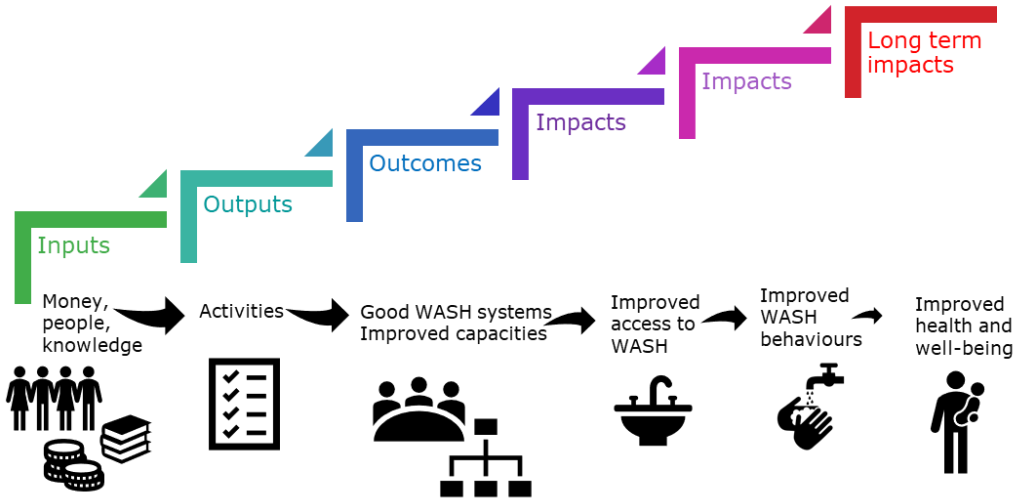


Figure 2 Simplified WASH results chain
Source: Kome, 2018.

2.2 Sustainable Sanitation and Hygiene for All, Phase 2

With the success of the SSH4A programme, more communes, sub-districts, districts, and in some cases, regions, are achieving full coverage for all. In some cases, full coverage means open defecation free (ODF) areas, whereas in other cases, these are areas with full basic sanitation coverage. We realised that the focus of the first phase of SSH4A had been on building the capacities for increasing coverage, access, and use for all. However, those are not necessarily the same capacities and service delivery models required for post-full coverage situations.

Similar to the rural water supply sub-sector many years ago, the realisation came that in a situation of full sanitation coverage, activities, roles and responsibilities will need to shift[2]. Instead of focussing on achieving full coverage (the "finish line"), the focus will need to be on sustaining and regulating sanitation, environmental health surveillance, responsive behavioural change

[2] In rural water supply, we call this the functionality issue, i.e., looking at post-construction support. While many people feel that it is too early to ask these questions for rural sanitation, or that a post-coverage service delivery model will emerge spontaneously, once achieving full coverage, our experience is that this is not the case. Our experience shows that individual districts achieving full coverage do need a new perspective beyond coverage.

interventions, and developing new types of sanitation service provision. This we have called "SSH4A Beyond the Finish Line", or Phase 2, as illustrated in Figure 3.

Figure 3 Professionalising sanitation and hygiene services

Source: Halcrow, 2018.

We are not suggesting that there is a strict division between these two phases or that they are completely mutually exclusive. We are emphasising however, that post-full coverage requires a new perspective, and a shift in roles.

3 Characteristics of the SSH4A monitoring framework

3.1 Alignment with the sanitation and hygiene SDG indicators

The SSH4A indicators for sanitation align with the WHO/UNICEF's Joint Monitoring Programme (JMP) ladders defined for the Sustainable Development Goals (SDGs), but with more detailed information on certain aspects.

First of all, the improved/ unimproved classification of sanitation facilities in SSH4A is done on the basis of functionality, not toilet technology type as in the JMP. This is to address the large variety of toilet types found in rural areas. The choice for a classification based on functionality of the facility was also made to direct the focus of partners on functionality and potential technological innovation, rather than certain technology types. However, toilet technology type continues to be collected as part of the SSH4A baselines, and can be compared to functionality-based classifications of unimproved/ improved.

A **second** difference is that the SSH4A indicators separately assess a number of points, which are merged into a single ladder by JMP:

- Functionality of the toilet (in separating human faeces from human contact)
- Environmental safety of the toilet (not contaminating ground water and living environment)
- Use and maintenance of the facility
- Facilities for safe menstrual hygiene management
- Safely managed sanitation (replacement, emptying, transport, treatment, disposal and/ or reuse)

These elements were separated as they require different measures of improvement. The different aspects can be collapsed back into a JMP safely managed sanitation ladder to facilitate comparison.

Thirdly, the SSH4A indicators for schools and health facilities include toilet ratios as well as definitions for advanced service levels.[3]

3.2 Alignment with national monitoring

One of the main activities of the SSH4A programme is to strengthen government-led monitoring of sanitation and hygiene. However, it is often not possible to rely exclusively on local monitoring to track changes in the programme. Strengthening government-led monitoring takes time, and also, local monitoring tends to be less frequent and less detailed than the programme indicators. Therefore, in most cases, SSH4A programme monitoring is done in addition to regular government-led monitoring.

Comparing programme monitoring data with monitoring data from the government monitoring system is an important learning activity. To ensure comparability (and relevance), additional country-specific questions may be included to be able to report on country-specific definitions, standards or norms. Norms such as latrine ratios in schools or sanitation service standards in healthcare facilities are often locally defined. Where norms do not exist, we suggest relying on World Health Organization (WHO) norms, which is what has been done for this publication.

[3] Within the JMP guidelines for the SDGs, advanced sanitation service levels levels for institutional settings (school and health care facilities) are not defined, but should be set according to local context.

3.3 The use of ladders and score cards

Comparison and aggregation of data is important for learning and the steering of all types of programmes and projects. This is easiest done through numerical data and statistical analysis. However, much of what we want to achieve in sanitation and hygiene ("the impacts"), as well as in the change processes needed to achieve that ("the outcomes"), has essential qualitative aspects. Also, a lot of processes are complex, and capturing smaller incremental changes allows for greater learning than just measuring the presence or absence of the ultimate desired results.

Hence our performance monitoring framework uses:

- ladders[4]
- scorecards

We use the ladders to measure impact indicators as well as outcome indicators. Information for the impact ladders is collected through surveys, similar to the ones used to construct the WASH SDG ladders of the JMP. Information for the outcome indicators generally comes from joint scoring by the involved group of stakeholders, and may be supported by the use of survey data and focus group discussions (FGDs).

It is important to remember that ladders and scorecards – in particular for outcome indicators – remain a simplified and subjective description of the changes required. The criteria in the ladders and scorecards reflect what people feel are important aspects of the required change.

The ladders and scorecards in this performance monitoring framework have been developed in dialogue with many SSH4A teams, and have been applied across the Asia and Africa regions. Yet that does not mean that they are valid for everybody, for ever after. An in-depth understanding of the criteria used in the ladder and the background behind the scoring remains essential to meaningful measurement.

Having common scales for agreed indicators allows comparison across communities and districts within one country, and also among countries. The results on ladders and scorecards can be analysed statistically. Again, this can only be done meaningfully if the criteria and background behind the scores are fully understood.

Ladders describe the conditions that are required to exist in order to reach a score, ranging from absence of the indicator at the lowest level (score 0) to the optimal scenario at the highest level (score 4). Generally, a score of 2 represents the benchmark level, but this varies per indicator.

Table 2 Ladder format

Level	Description
0	None of the characteristics are present (condition or practice is not present)
1	One (easiest) characteristic is present
2	Benchmark (generally): two (easiest + next easiest) characteristics are present
3	Three (easiest + next easiest + then next easiest) characteristics are present
4	IDEAL: all four (key) characteristics are present

Source: Sijbesma and Postma, 2008.

The capacity development scorecards are used when there is less clarity about the process of change, or when it is not as incremental. The scorecards have 10 criteria, which can be scored

[4] The Qualitative Information System (QIS) method was developed in the late 1990s by IRC and WSP (Sijbesma and Ahmed, 2013). The QIS method quantifies qualitative information with the use of progressive scales, or 'ladders', with the different levels on the scales representing mini-scenarios which are factual statements that describe the situation for a particular score.

from 0-4 in a meeting with the involved stakeholders (see example below). Also here the score of 2 is regarded as the benchmark, unless otherwise indicated. Results of a scorecard are sometimes visualised as a spider diagramme.

It should be noted that the most important result from the measurement process, together with the involved stakeholders, is not the score as such, but the explanations behind the score, agreed conclusions and recommendations for improvement.

Table 3 Score card format

Criteria	0	1	2	3	4
1. Criteria a					
2. Criteria b					
3. Criteria c					
4. Criteria d					
5. Criteria e					
6. Criteria f					
7. Criteria g					
8. Criteria h					
9. Criteria i					
10. Criteria j					
Average score:					
Recommendations: …					

3.4 Disaggregation of data

The human right to sanitation is for all, and the SDG's aim for universal access: "universal SDG targets can only be considered achieved when met for all sub-groups within the population which implies progressive disaggregation of data by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts".[5] When we try to reach all, it is important to know whether there are specific groups that do not have access. Usually progress is uneven. Disaggregation can help generate information about who is lagging behind in terms of access, participation or behaviour.

This monitoring framework includes the collection and disaggregation of quantitative data based on wealth, gender (female-headed households, women's and girls' facilities), disadvantaged groups (race, religion, other locally specific considerations) or people with specific needs (disability, elderly), land ownership (landowners versus tenants), and geographical location (including informal settlements). For wealth disaggregation, we use the asset-based index developed by the Demographic and Health Survey's (DHS) Programme,[6] and for difficulties in access, we use the Washington Group Short Question, supplemented by FGDs.[7]

In schools and health facilities, data can be further disaggregated by type of school (primary, secondary) or type of health facility. Also within institutions, gaps between toilet ratios for boys and girls, for example, may be calculated.

The monitoring framework also includes disaggregated qualitative and quantitative information on **outcomes**, such as:

- changes in levels of meaningful participation in WASH activities and leadership roles in WASH sector systems;

[5] UNICEF 2017 "WASH in the 2030 agenda", https://data.unicef.org/resources/wash-2030-agenda/

[6] See Croft, T.N, Marshall, A.M.J., Allen, C.K., et al., 2018. *Guide to DHS Statistics*. [online] Available at: <https://dhsprogram.com/data/Guide-to-DHS-Statistics/Wealth_Quintiles.htm> [Accessed 10 December 2018].

[7] See Washington Group on Disability Statistics, 2016. *Short Set of Disability Questions*. [online] Available at <http://www.washingtongroup-disability.com/washington-group-question-sets/short-set-of-disability-questions/> [Accessed 10 December 2018].

- development and/ or operationalisation of pro-poor support mechanisms or social inclusion policies at institutional and/ or organisational level;
- presence of alliances with Disabled People's Organisations or other representative groups,
- changes in the capacity of individuals and representative groups, e.g., Disabled People's Organisations, to engage in WASH decision making and/ or other decision making processes at different levels; and
- changes in division of labour for households, including in providing care.

3.5 Use of monitoring findings

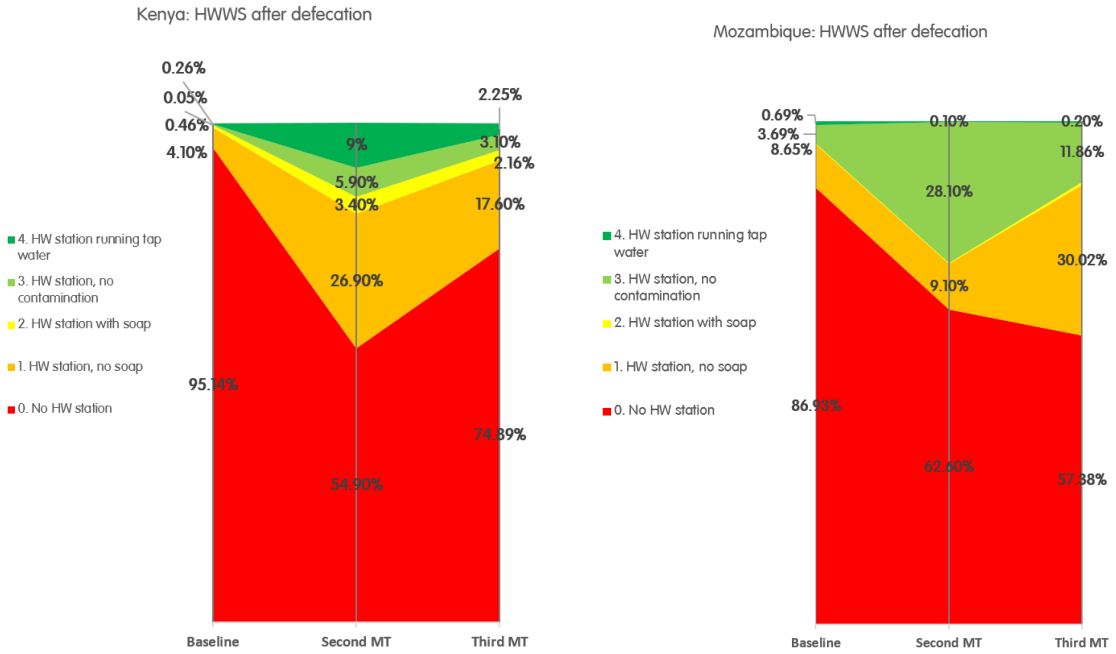
SSH4A programmes are expected to conduct baselines when starting in a new area. This includes both the measurement of impact and outcome indicators. Generally the impact indicators are measured first, after which the information is used for dialogue with stakeholders about outcome indicators.

Data analysis follows the theory of change. Standardised syntaxes are used to generate impact indicator ladders from the household survey. The impact indicators are analysed together, and disaggregated as indicated in the previous section.

Outcome indicators are grouped per component (see table 1). The result of each outcome indicator is analysed separately, as well as together with the other outcome indicators of that component and in relation to the overall component objective.

Box 2 Example: handwashing with soap in Kenya and Mozambique

During the third mid-term (MT) monitoring of SNV's SSH4A Results Programme implementation in 2016, it was found that in Kenya there was a relapse in hand washing: households with a hand washing facility during the second MT end 2015, no longer had hand washing stations end 2016. In Mozambique, the percentage of hand washing stations increased, but the challenge was the presence of soap. In 30% of cases, no soap was found. It was discovered that households do not replace soap after it was finished. It was also found that district governments were not sustaining the behavioural change campaign [see illustration on next page].



The results from the impact indicator measurements can be an input for the reflection on outcome indicators with stakeholders. This contributes to a deeper understanding of both measurements. Care should be taken to capture the underlying narrative and discussion in this process. In outcome measurement undertaken together with stakeholders, the scoring and recommendations by stakeholders may be different from the programme team. In this case, the programme team may consider to add their comments or reflection at the end, but it is the stakeholder scoring which is considered the monitoring value.

Planning for the use of data by stakeholders should be considered from the start – to make sure that data is used, across different relevant levels, for example:

- with community leaders, natural leaders and health staff at local level
- with stakeholders at district level
- at programme level across several districts or regionally
- with national stakeholders, including civil society groups
- across different countries

Not all information will be interesting for all levels, and too much information will put people off. Directly involved stakeholders who will be interested in more details about their area, in comparison to higher levels, e.g., national. Teams should make strategic choices about the sharing and presentation of data, and have an understanding of the needs and responsibilities at different levels.

4 Methodological aspects: impact indicators

4.1 Data collection

Information for the SSH4A impact indicators is collected though a standardised survey. There are three standard surveys: a household survey, a school survey, and a health facilities survey. All are mobile phone based. The surveys consist of interview questions and observation questions. Detailed guidance is available for each interview questions to help train enumerators.

4.2 Programme population

Area-wide sanitation services and hygiene imply a range of different user groups. In this monitoring framework, users are classified according to type of premises.[8] These are:

Residential. People living in households, defined as a group of people living and eating together. Residential households can either be owners of their house/ apartment or tenants.

Educational. Users of educational institutions,[9] private or public; schools, colleges, all religious educational institutions, etc., including all students.

Health. Users of healthcare facilities, government health posts, etc.

Before starting anything else, population numbers of the above user types should be obtained from official data sources. This is not always straight forward, and will involve approaching different government agencies (linked to the user types), and in some cases related associations in the district. Often the quality of data is a concern.

It should be noted that the programme population refers to all people in the area (commune, district, province), whereas the target population refers only to that part of the population where we aim to see change.

4.3 Sampling

Below a summary is given of the sampling design and methodology for the measurement of impact indicators. This includes only the main points; as detailed sampling guidance goes beyond the scope of this document and is captured in sampling protocols, survey guidance and training. Programmes should apply the same methodology to ensure consistency and comparability across the countries.

As the survey is applied to premises and not individuals, it is important to consider who the respondent is. Moreover, for schools and health facilities, a sample of facilities within the premises may be considered if the school or health facility is large.

[8] This has limitations, e.g., informal, migratory or transient groups and populations often remain invisible in this monitoring process. Further research and efforts are needed to understand their situation.

[9] An educational institution is defined as any premises organising educational activities of more than 4 hours per day. Facilities for staff are not included at this time. A one-hour tutorial at a student's home, for example, is considered to be residential.

Table 4 Type of premises

Premises/ user type	Basis for sampling of premises	Respondent within premises	Sampling of facilities of each user
Residential	Full list of premises from census	100% of households (one respondent) within premises.	All
Educational	List of educational premises from education ministries	100% of educational institutions within premises i.e., primary, secondary schools, if within the same plot (one respondent each)	Depends on the size of the school
Health	List of health centres and clinics from health ministries	100% of sampled health facilities (one respondent, in-charge of facility)	Depends on the size of the health facility

A multi-stage sampling methodology is used, the first stage being to select the primary sampling units (PSUs) – these are project sites that were agreed upon as part of a project's design. These will differ based on the context and the government administrative structure. The choice of the PSUs is non-probabilistic because projects will have sought to reach the population with certain attributes, e.g., areas with low sanitation coverage, minority groups, high incidences of poverty, and areas that are not covered with sanitation and hygiene interventions carried out by other partners.

Following the selection of the PSUs, secondary sampling units (SSUs) are selected. The general principle applied in probability sampling is to achieve the greatest diversity by making sure that every unit of sampling has an equal chance of being selected. The country teams follow agreed sampling protocols to maintain consistency across the programme countries. Any changes in the sample after the survey are discussed with a project management unit (PMU), and are included in the overall country report with clear reasons for the changes. Sample sizes and units will have been defined by the WASH M&E advisor.

4.4 Confidentiality and data protection

Within monitoring and evaluation processes, all programmes should collect data applying a "Privacy by Design" principle. This means:

1) Data is collected only with consent from respondents – no consent signed, means no data collection from that respondent.

2) Personal data is only collected if there is a real need – we only collect names, phone numbers, email addresses and/ or GPS locations/ addresses, etc. from respondents if there is a clear need for this data. For instance, when internal or external verifiers need to verify the data we collect to release funds, or we need to ensure the quality of data collection by external consultants, or the sampling methodology used. Always reflect on the purpose behind collecting personal information.

3) Personal data can only be accessed by those who need to see it (in line with roles and responsibilities) – those project staff that do not need to see personal information, should not be able to access it. This means only people charged with handling or verifying personal data should be able to see this. Data from respondents should be made available to other (project) staff anonymously, e.g., by assigning numbers to respondents or aggregating data.

4) Personal data is kept as long as it is needed and no longer – as soon as personal data is no longer needed, it is deleted completely. Anonymised data sets can be kept indefinitely.

In particular the SSH4A household surveys collect sensitive personal information, such as address/ GPS location, family composition, assets and personal hygiene practices, and also names, disabilities, and health status. Before the start of each survey, the enumerator is expected to read out the permission statement. The permission statement explicitly states to the respondent what the data will be used for. This means that the data cannot be used for purposes other than stated in the permission statement, and cannot be shared with others. When the menstrual hygiene management module in the questionnaire is applied, for example, an additional permission statement is used.

Enumerators should be trained to read and explain these permission statements, take time to do it, and accept when people refuse to be interviewed. Supervisors should ensure that enumerators do not skip or rush through the permission statements.

Collected data is stored in the AkvoFLOW site. Permissions to see data on the site should be tightly controlled by a programme manager and/ or lead M&E staff. Of course there are also other options for mobile data collection. Whichever mobile data collection tool is used, the following should be kept in mind:

- data access policies of the service provider, i.e., who can access the data collected on the tool and the cloud where it is being saved, and how?
- data storage policies of the service provider;
- data retention policies of the service provider; and
- data security, i.e., how does the service provider secure collected and stored data on apps and the cloud?

In addition to the above, user access should be managed carefully. As a rule of thumb, users that have not logged in for over three months should be deleted. This prevents long user lists with people who no longer need access.

Data sharing for research beyond performance monitoring purposes can only be done when this is included in the permission statement, and when there is an MoU (Memorandum of Agreement) signed with the research organisation.

5 List of impact indicators

Table 5 List of impact indicators by premises

	Type of premises			
Indicator	HH	SC	HF	Source of data
1. Access to a sanitation facility	X	X	X	Household survey and targeted surveys of various non-residential premises (detailed below)
2. Hygienic use and maintenance of sanitation facilities	X	X	X	
3. Access to adequate facilities for hand washing with soap	X	X	X	
4. Access to facilities for safe menstrual hygiene management	*	X	X	
5. Access to adequate premises level solid waste storage			X	
6. Safe management of toilet contents	X	X	X	

Legend: HH (households) | SC (schools) | HF (healthcare facilities) | * indicates that indicator measurement is optional

All indicators are reported on ladders, with a score ranging from 0 to 4. As discussed earlier, level 2 is generally considered the benchmark. However, this varies with the nature of the indicator, and of course with the context. If the baseline finds higher levels of service, the benchmark may be set differently. Also, with the move from the Millennium Development Goals (MDGs) to the SDGs, the ambition level has been raised.

5.1 Notes for application in residential premises

The indicators are used for all types of residential premises, both owned and rented. A household is defined as a group of people living under the same roof or in closed buildings, sharing meals.[10] Under this definition, extended households with families of different generations, and/ or polygamous households will often be considered as separate households. This may lead to large numbers of shared sanitation facilities (level 1b, see Table 6 on p. 21) in certain areas. If this is the case, it will be useful to separate reporting on the quality of the toilet, and the level of sharing.

5.2 Notes for application in educational premises

The indicator is used for all educational premises with day-students. Boarding schools, however, have other requirements, and are excluded from this framework.[11]

To measure functionality of a toilet, facilities that are only used by teachers will not be considered. The reasoning is that toilets used by teachers tend to be better than those for students.

Basic sanitation services in schools require that toilets are not used by people from outside the school (excluding visitors), and that there is at least one separate toilet for teachers, and one separate toilet for boys and girls. However, if a school has 20 or less than 20 students, a separate

[10] Unless defined otherwise by the country.

[11] It is assumed that in rural contexts, boarding schools are very rare. It is recommended to measure boarding schools in a similar way to hotels.

toilet for teachers is not upheld as a requirement. Also, if students are all six years of age or younger, sex-segregated toilets are not required.

Advanced sanitation services include the ratios of toilets in compliance with national standards, which need to be collected beforehand. Where national standards are not available, WHO guidance is followed. For example, Adams, et al., (2009) recommend one toilet per 25 girls, and one for female staff; one toilet plus one urinal (or 50 cm of urinal wall) per 50 boys, and one for male staff.

Furthermore, latrine ratios should be calculated for girls' and boys' facilities separately, in each school, not as averages across all schools. As mentioned under toilet blocks, schools will be recorded as advanced if both toilet blocks comply with the standard. This means that both toilet blocks comply with the standards for boys as well as for girls. Gaps between boys' and girls' toilets (in terms of numbers or quality) are not reflected in impact indicator 1 for schools (see page 21, SC 1 ladder). However, as the data is collected to assess advanced service level, such gaps can be calculated and reported separately if required.

5.3 Notes for application in health centres

This indicator is recorded for all government health facilities (clinics, health posts, etc.) and private health premises with in- and/ or outpatient services. If there is no formal classification to align with, it is recommended that health facilities are classified according to size (number of patients), number of beds (in-patients), and type of services offered (some may only provide out-patient services). It is assumed that in the rural context, no hospitals will be found.

Basic sanitation service in a health facility requires that the toilets are not used by people from outside the facility (excluding visitors), and that there is at least one separate toilet:

- separate for staff and patients
- separate for men and women
- suitable for people with limited mobility and/ or vision
- separate for in-patients and out-patients (if applicable)

It should be noted that the JMP definition also considers menstrual hygiene facilities as a consideration for basic health facilities. This is measured in impact indicator 4 (see section 8).

Sanitation service in health facilities is considered to be advanced if ratios of toilets and users are in accordance with national or relevant standards. In the absence of national standards, the WHO standards[12] can be used, as below:

- One toilet for every 20 users for in-patient settings, and at least four toilets in outpatient settings.
- Separate toilets for patients and staff.
- The facilities should be on-site: within the facility grounds, and accessible to all types of users (females, males, people with disabilities); are appropriate for the local, technical and financial conditions; and are safe, clean, and accessible to all users, including those with reduced mobility.

As facilities have a number of common toilets for staff and patients, and/ or in-patients and out-patients, it is not straightforward to calculate ratios. However, a first approximation of adequacy can be found by comparing the total number of toilet cubicles to the total number of users. A sample calculation per user category could therefore be as follows:

[12] See Adams, J., Batram, J., and Chartier, Y., 2008. Essential environmental health standards in health care. [online] Geneva: WHO. Available at: <http://apps.who.int/iris/bitstream/handle/10665/43767/9789241547239_eng.pdf;jsessionid=5220A8289257FACD8600D869E3F851F3?sequence=1> [Accessed 9 January 2019].

For each type of patient, an occupancy rate reflecting the time spent in the facility should be considered. If we assume that in-patients spend a full day, the occupancy rate is 1. For out-patients who spend on average three hours, the rate would be 1/8. Similarly for staff working eight hours, the rate would be 1/3.

As for schools, gaps between toilets for different types of users, is not part of the impact indicator HF 1 ladder, but can be calculated and reported if desired.

It should be noted that in August 2018, the JMP added an additional indicator for health facilities, which presents environmental cleaning practices as a proxy for cleanliness in the facility. The indicator asks about the presence of cleaning protocols, and trained staff with cleaning responsibilities (see Box 3). This indicator has not been considered within this framework, but we encourage including it in ongoing monitoring.

Box 3 WHO/ UNICEF's added JMP indicator: environmental cleaning practices

Definition

Proportion of healthcare facilities which have protocols for cleaning, and staff with cleaning responsibilities who have all received training on cleaning procedures.

Protocols for cleaning should include

- step-by-step techniques for specific tasks, such as cleaning a floor, cleaning a sink, cleaning a spillage of blood or body fluids
- a cleaning roster or schedule specifying the frequency at which cleaning tasks should be performed

Staff with cleaning responsibilities includes non-health care providers, such as cleaners, whose tasks include cleaning, as well as health care providers who, in addition to their clinical and patient care duties, are responsible for cleaning

Training refers to structured training plans or programmes led by a trainer or appropriately qualified supervisor.

Source: WHO/ UNICEF, 2018.

6 Impact indicator one: Access to a sanitation facility

Table 6 Overview of impact indicator 1

	HH (Households)	SC (Schools)	HF (Health facilities)
4	Environmentally safe	Environmentally safe	Environmentally safe
3	Basic + fly management	Advanced	Advanced
2	1b Shared	Limited	Basic
1	1a Unimproved		Limited
0	No toilet/ Open defecation	No toilet/ no service	No toilet/ no service

Impact indicator 1 measures the presence of a toilet, and the quality of the facility in terms of separating human excreta from human contact (and from the immediate living environment). It looks at the user interface (toilet/ above ground), and containment (pit or septic tank) or connection to sewer.

When evaluating whether the toilet is effective in separating human excreta from human contact, the indicator considers whether excreta are contained, whether rats can enter the pit, whether flies can enter the pit, and ultimately whether there is potential contamination of ground water from leakage or effluent. The indicator does not consider the sanitation value chain beyond user interface and containment.

Shared sanitation. If there is no toilet, and the household cannot indicate that they are using someone else's toilet, open defecation is assumed. If the household indicates that more than one household uses the toilet, it is considered shared. This is recorded separately (in alignment with JMP) as level 1b.

For schools and health facilities, "shared" sanitation would be the situation where people from outside (excluding visitors) also use the same toilet, e.g., surrounding households. "Shared" sanitation is also a situation where there are too many users per toilet inside the premises, reflected in the user: toilet ratio (or user: latrine ratio). For different premises, different ratios are defined as part of national norms or standards. Where no national norms are available, international norms can be used. In alignment with JMP, the toilet: user ratio will only be applied for level 3, advanced services.[13]

Toilet blocks. Schools and health facilities may have toilet blocks with cubicles.[14] The observation for impact indicator 1 (as well as 2, 3 and 4), is thus done within toilet blocks. For each school or health facility, a maximum of two toilet blocks is observed. Inside the toilet block, there can be one or more cubicles.[15] In order to calculate the indicator score for impact indicators 1, 2, 3 and 4, the following is considered:

[13] In the earlier version of this performance monitoring framework, the user; toilet ratio was applied at the start. This means that premises with too few toilets in relation to users, would be classified as "limited" service (irrespective of the quality of the toilet). The reasoning is that users will be forced to turn to unsafe practices if there are too few toilets.

[14] The word "cubicle' is used to differentiate between the toilet pan/ pedestal and the room or compartment for each pan/ pedestal. For example, in a school toilet block there may be more than one pan/ pedestal, each defined by a set of partitions or walls. Each of these is called a cubicle.

[15] If cubicles are locked, and cannot be observed, these cubicles are counted as unimproved for impact indicator 1 and not in use for impact indicator 2.

1) The level is achieved if more than half of the cubicles in the toilet block comply with the criteria.

2) Among the two toilet blocks, the score of the worst performing toilet block determines the overall score for the school or health facility.

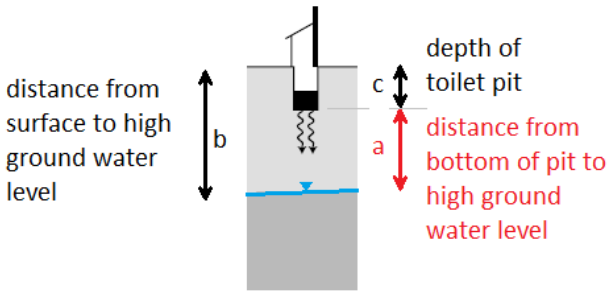
Environmentally safe sanitation. The highest step of this ladder is defined as environmentally safe sanitation, which means that the facility does not contaminate groundwater or the immediate living environment. This indicator does not address the management of sludge, which falls under indicator 6.

To define whether a toilet is environmentally safe, a decision tree is used, which considers whether containment is water-tight, as well as the different soil types and ground water depth. In a rural context, a safe horizontal and vertical distance is considered using the AGROSS guidelines (see Box 4) to assess contamination risk to ground water from on-site sanitation. For vertical distances the matrix below can be used. For horizontal distances, a distance of 10 metres (upstream of a water point) can be considered safe for fine sand, silt, clay and (non-fractured) solid rock. For other soil types, e.g., medium soil, a distance of a 100 metres is used. For coarse sand and gravels, the location of unsealed sanitation upstream of a water point is never considered safe. It should be noted that this remains a rule of thumb as safe distance depends on the specific hydrogeological conditions of a particular area.

Box 4 Assessment of safe vertical distance from ground water

The distance is unsafe if water is observed when digging the pit, or if the distance (a) is found to be unsafe in the matrix below (AGROSS, 2001). The distance is found by overlaying the ground water depth with the depth of the pit (as provided by respondents).

Water-tight pits in an area with high-ground water tables are also considered safe.



	Vertical distance between bottom of pit and top of water-table (min) in metres (a = b-c)		
Ground type	<5m	5-10m	>10m
Fine sand, silt, clay, solid rock	Unsafe	Safe	Safe
Soft/ medium soil (can be hand dug easily)	Unsafe	Unsafe	Safe
Medium sand (free draining)	Unsafe	Unsafe	Safe
Coarse sand and gravels or fractured rock	Unsafe	Unsafe	Unsafe

Safe	low/ very low risk that pathogens can reach water table
Unsafe	significant risk that pathogens can reach water table

Table 7 Details of impact indicator 1: access to a sanitation facility
(read bottom-up)

	Impact indicator HH 1 (Households)	Impact indicator SC 1 (Schools)	Impact indicator HF 1 (Health facilities)
4	**Environmentally safe sanitation facility** Improved toilet without fly access: human faeces contained in a toilet pit/ tank in such a way that it is inaccessible for human contact *or* flies or other animals (rodents, insects) *AND* human faeces are contained for storage/ collection in such a way that contents or effluent cannot contaminate surface or groundwater	**Environmentally safe sanitation service** Advanced sanitation facility as level 3 below *AND* human faeces are contained for storage/ collection in such a way that contents or effluent cannot contaminate surface or groundwater	**Environmentally safe sanitation service** Advanced sanitation facility as level 3 below *AND* human faeces are contained for storage/ collection in such a way that contents or effluent cannot contaminate surface or groundwater
3	**Basic sanitation facility without access by flies** Improved toilet without fly access: human faeces contained in a toilet pit/ tank in such a way that it is inaccessible for human contact *or* flies or other animals (rodents, insects)	**Advanced sanitation service** Improved toilet without fly access as under households level 3 *AND* segregated for girls and boys, with the ratio of improved toilets in compliance with the defined standard for girls and boys *AND* at least one toilet: • separate for teachers	**Advanced sanitation service** Improved toilet without fly access as under households level 3 *AND* separate facilities with the ratio of improved toilets in compliance with defined standards for men, women, in patients and out patients. *AND* at least one toilet: • separate for staff and patients and/ or • suitable for people with limited mobility
2	**Basic sanitation facility** Improved toilet: human faeces contained in a toilet pit/ tank in such a way that it is inaccessible for human contact or contact by other animals, *but* is still accessible by flies (e.g., pan allows flies to enter and leave pit)	**Basic sanitation service** Improved toilet as under households level 2 *AND* at least one toilet: • separate for boys and girls • separate for teachers *AND* not used by people from outside the school (excluding visitors)	**Basic sanitation service** Improved toilet as under households level 2 *AND* at least one toilet: • separate for staff and patients • separate for men and women • suitable for people with limited mobility[16] • Separate for in-patients and out-patients (if applicable)

[16] Note that the 2016 JMP core questions for health facilities suggest the following with regards to accessibility for people with limited mobility, in the absence of national standards: can be accessed without stairs or steps; handrails for support are attached either to the floor or sidewalls; the door is at least 80 cm wide, and the door handle and seat are within reach of people using wheelchairs or crutches or sticks.

			AND not used by people from outside the health facility (excluding visitors)
1	**Shared sanitation facility (1B)** Shared toilet: Improved toilet shared by more than one household	**Limited sanitation service** Unimproved toilet as under households level 1A *OR* no separate toilet for teachers, and/ or no sex-separated toilets[17] *OR* toilets can be used by people from outside the school (excluding visitors)	**Limited sanitation service** Unimproved Toilet as under households level 1A *OR* no separate facilities for women and men, staff, in-patient/outpatients, no facilities for people with limited mobility. *OR* toilets can be used by people from outside the health facility (excluding visitors)
	Unimproved sanitation facility (1A) Unimproved toilet: Human faeces are contained in a toilet pit/ tank, but are accessible for human contact or contact by animals (insects, rodents) *OR* toilet has no pit and human faeces is conveyed directly to the environment		
0	**No toilet/ open defecation** There is no toilet within the premises, and there is no indication of sharing	**No toilet/ no service** There are no toilets available within the school premises	**No toilet/ no service** There are no toilets available on the premises of the health facility

[17] If the number of students is 20 or less, a separate toilet for teachers is not upheld as a requirement. If students are all 6 years of age or younger, sex-segregated toilets are not required.

7 Impact indicator two: Hygienic use and maintenance of sanitation facilities

Table 8 Overview of impact indicator 2

	HH (Households)	SC (Schools)	HF (Health facilities)
4	Used, functional and clean toilet with privacy	Used, functional and clean toilet with privacy	Used, functional and clean toilet with privacy
3	Used, functional and clean toilet	Used, functional and clean toilet	Used, functional and clean toilet
2	Toilet in used and functional as intended	Toilet in used and functional as intended	Toilet in used and functional as intended
1	Toilet in use as a toilet	Toilet in use as a toilet	Toilet in use as a toilet
0	No toilet/ toilet not in used as toilet	No toilet/ toilet not in used as toilet	No toilet/ toilet not in used as toilet

Impact indicator 2 considers the use, functionality, maintenance and cleanliness of the toilet. Whether the toilet is in use does not, of course, guarantee that all people in the household, school or health facility use (or are able to use) it. However, in combination with the survey questions around "use by all", responses will give an indication of the main issues around use.

In schools or health facilities, there may be toilet blocks, as mentioned under impact indicator 1. In this case, the same logic as explained under impact indicator 1 is used. This means that a maximum of two toilet blocks are surveyed; if more than half of the cubicles in the block comply with the criteria, the level is achieved.[18] Similar to impact indicator 1, the score of the worst performing toilet block of the two will determine the overall score for the school or health facility. In other words, if in either toilet block less than half of the cubicles are in use, the school or health facility is marked as not having toilets in use.

Toilet not in use as toilet. It is a common mistake to express the impact indicator 2 as a percentage of all premises with toilets. However, this does not allow for comparison over time as the total number of toilets may change. Therefore all impact indicators, including impact indicator 2, should be expressed in percentages in relation to the total survey population. The percentage of toilets not in use can be found simply by subtracting level 0 of impact indicator 1 from level 0 of impact indicator 2.

Functional as intended. Level 2 of impact indicator 2 is marked when the toilet is functional as intended by the type of technology used. It is thus possible that a pit latrine is functional as intended, but a flush toilet with septic tank is not. Functionality is of course influenced by the original design and quality of construction, as well as the maintenance of the toilet.

Maintenance of the superstructure, including privacy, is not part of this level, but is covered under level 3.

Cleanliness. The third level of impact indicator 2 focusses on maintenance beyond the functionality of the sanitary technology. It considers whether the toilet cubicle is free from any faecal smears in/ on the pan, floor or walls, whether all walls and "door" are in place, and whether cleansing materials/ sanitary materials are not left out in the open after use.

[18] If cubicles are locked, and cannot be observed, these cubicles are counted as unimproved for impact indicator 1 and not in use for impact indicator 2.

For flush toilets or toilets where wet anal cleansing is used, the presence of water is a pre-condition for achieving level 3. For dry toilets with users practising dry anal cleansing, the presence of water in the toilet is not essential for hygienic use.[19]

Privacy. Privacy is measured through both response and an observation criteria. For residential premises, a door or curtain that can be closed, and a no-see through superstructure are considered are the minimum requirements for privacy, in addition to the household response that the toilet provides privacy. For schools and health facilities, a curtain is not acceptable, and there should be a door that can be locked.

[19] The presence of water is always required for handwashing, but that is measured in impact indicator 3. Menstrual hygiene management is measured in impact indicator 4.

Table 9 Details of impact indicator 2: hygienic use and maintenance of sanitation facilities

(read bottom-up)

	Impact indicator HH 2 (Households)	**Impact indicator SC 2 (Schools) and** **Impact indicator HF 2 (Health facilities)**
4	**Used, functional, clean toilet with privacy** Used, functional, clean toilet as level 3 below ***AND*** provides adequate privacy (for residential premises, a door or curtain that can be closed, and a no-see through superstructure is considered the minimum)	**Used, functional, clean toilet, with privacy**, as for households ***AND*** with a door that can be locked
3	**Used, functional, clean toilet** Functional as intended as level 2 below ***AND*** the toilet cubicle is free from any faecal smears in/ on pan, floor or walls ***AND*** all walls and door/ curtain are in place and intact ***AND*** cleansing materials/ sanitary materials are not left out in the open after use ***AND*** there is availability of water within the toilet (for washers and/ or pour flush toilets)	**Used, functional, clean toilet**, as for households level 3
2	**Toilet in use as a toilet and functional as intended** Toilet in use ***AND*** the hole is covered or has a water seal ***AND*** the toilet is not blocked or overflowing ***AND*** the toilet is functional as intended, per toilet type	**Toilet in use as a toilet and functional as intended**, as for households level 2
1	**Toilet in use as a toilet**	**Toilet in use as a toilet**
0	**No toilet/ toilet is not in use as a toilet** There is no toilet within the premises, or the toilet is not used as a toilet	**No service/ toilet is not in use as a toilet** There is no sanitation service within the premises, or the toilet is not used as a toilet.

8 Impact indicator three: Handwashing with soap

Table 10 Overview of impact indicator 3

	HH (Households)	SC (Schools)	HF (Health facilities)	HF (Health facilities)
	After defecation	After defecation	a. After defecation	b. At points of care
4	HW station with soap, and permanent water supply	Sufficient HW stations with soap, and permanent water supply	Sufficient HW stations with soap, and permanent water supply	HW station with alcohol rub or with soap, and permanent water supply
3	HW station with soap, hands not touching the water storage	Sufficient HW stations with soap, hands not touching the water storage	Sufficient HW station with soap, hands not touching the water storage	HW station with soap, hands not touching the water storage
2	HW station with soap	HW station with soap	HW station with soap	HW station with soap or alcohol rub
1	HW station, no soap	HW station, no soap	HW station, no soap	HW station, no soap or alcohol rub
0	No handwashing (HW) station	No HW station	No HW station	No HW station

The indicator on handwashing with soap (HWWS) looks at the presence of a handwashing station as a proxy for the behaviour of handwashing. This is a globally agreed proxy, as direct questions about handwashing behaviour tend to result in socially desirable answers. There should always be awareness though that this is a proxy, and that having a handwashing station in itself does not translate to washing hands with soap.

In households, reflecting the faecal – oral pathways, handwashing at critical times includes multiple occasions, such as after using the toilet, before food preparation, after cleaning a baby's bottom, before feeding a child and before eating.

While handwashing with soap is essential during multiple critical times, and should be promoted, the proxy indicator has shown to be viable mainly for handwashing after defecation. It is simply not realistic to expect to see multiple handwashing stations inside a rural household in most countries. There may be countries, however, where a handwashing station near the kitchen/ cooking area can be a good proxy for handwashing before food preparation or eating, or even for other critical moments. If this is established, questions around additional handwashing stations can be included in the survey.

It should be noted that in the indicator ladders, more important aspects are included at lower levels of the ladder. For handwashing, the use of soap is considered more important than having running water. So, if a handwashing station has running water but no soap is observed, the scoring remains at level 1.

Presence of a handwashing station within accessible distance. A handwashing station can be fixed or mobile, and may include a sink with tap water, buckets with taps, tippy-taps, and jugs or basins designated for handwashing. A shared bucket used for dipping hands is not considered an effective handwashing facility. Also water for anal cleansing next to the toilet pan inside the toilet is not considered as a handwashing station. A handwashing station with no signs of use (dry, spider webs, broken) is not considered and is marked in level 0.

The definition of accessible distance is key for the measurement of this indicator. This varies for different premises, and can be defined in national legislation. In the absence of national legislation, suggested distance is presented below.

For households and schools:

- within 10 adult paces or 10 metres of the location of the behaviour

For health facilities:

- within five metres of the toilet for handwashing after defecation
- within the room or within two metres outside the room, for hand hygiene at points of care

Soap. Soap includes bar soap, liquid soap, powder detergent, and soapy water. It does not include ash,[20] soil, sand or other handwashing agents. Soapy water (a prepared solution of detergent suspended in water) can be considered as an alternative for soap, but not for water, as non-soapy water is needed for rinsing.

In some countries, soap is kept inside the house as people are afraid it will be stolen. This is understandable, but it is likely to affect the regularity of handwashing. Therefore soap has to be observed at the handwashing station.

For hand hygiene at points of care in health facilities, an alcohol-based rub is considered an alternative to soap. In that case, no water needs to be observed to qualify as a handwashing station with permanence (on level 4 of this ladder). *We do not consider alcohol-based rub for other types of handwashing stations, or in other types of premises.*

Handwashing station with permanent water supply. A handwashing station with permanent water supply is not dependent on regular filling of the water storage for functionality because it's located at a tap with running water or at a hand pump itself.

Handwashing station user ratios. In schools and health facilities, the number of handwashing stations in relation to users is a condition to achieve level 3. Standards for ratios of handwashing stations should be based on national guidelines, if available. Only the total number of handwashing stations is recorded, and only in relation to the two selected toilet blocks (not in relation to the total school population). As a rule of thumb, it is considered that the number of handwashing stations should at least be equal to 25% of the cubicles in the toilet block.

For handwashing at points of care, a maximum of two rooms are sampled, and the handwashing stations are observed in relation to this room. Each room should have at least one handwashing station within accessible distance.

[20] Though considered acceptable in the past, latest insights consider that ash or mud is not an acceptable alternative to soap for global monitoring because these are less effective than soap.

Table 11 Details of impact indicator 3: handwashing with soap

(read bottom-up)

	Impact indicator HH 3 (Households)	**Impact indicator SC 3 (Schools) and Impact indicator HF 3a (Health facilities)**	**Impact indicator HF 3b (Health facilities) Points of care**
4	**Handwashing station with soap and permanent water supply** Handwashing station with soap, hands not touching the water storage as level 3 below *AND* the handwashing station is located at a tap with running water or at a hand pump	**Sufficient handwashing stations with soap and permanent water supply**, as for households level 4 *AND* number of handwashing stations is at least 1/4 the number of cubicles	**Handwashing station with alcohol rub, or with soap and permanent water supply** Provision of handwashing facility within the room or within 2 metres *AND* either with soap as well as permanent water supply (tap or pump) *OR* alcohol-based rub (in this case no water is required)
3	**Handwashing station with soap, hands not touching the water storage** There is a handwashing station within accessible distance *AND* soap is observed at the handwashing station *AND* the practice of handwashing does not involve hands touching the water storage	**Sufficient handwashing stations with soap, hands not touching the water storage**, as for households level 3 *AND* number of handwashing stations is at least 1/4 the number of cubicles	**Handwashing station with soap, hands not touching the water storage**, as for households level 3
2	**Handwashing station with soap** There is a handwashing station within accessible distance *AND* soap is observed at the handwashing station	**Handwashing station with soap**, as for households level 2	**Handwashing station with soap or alcohol-based rub** Provision of handwashing facility within the room or within 2 metres *BUT* without availability of soap or alcohol-based rub to wash hands
1	**Handwashing station, no soap** There is a handwashing station within accessible distance	**Handwashing station, no soap**, as for households level 1	**Handwashing station, no soap or alcohol-based rub** Provision of handwashing facility within the room or within 2 metres *BUT* without availability of soap or alcohol-based rub to wash hands
0	**No handwashing station** There is no handwashing station *OR* the handwashing station is not within accessible distance *OR* the handwashing station shows no signs of use	**No handwashing station**, as for households level 0	**No handwashing station**, as for households level 0

9 Impact indicator four: Access to facilities for safe menstrual hygiene management (MHM)

Table 12 Overview of impact indicator 4

	HH (Households)	SC (Schools)	HF (Health facilities)
4	Safe place for MHM, with adequate drying and final disposal options	Basic and sufficient facilities for MHM, with adequate final disposal	Basic and sufficient facilities for MHM, with adequate final disposal
3	Safe place for MHM, with adequate drying options	Basic and sufficient facilities for MHM	Basic and sufficient facilities for MHM
2	Safe place for MHM	Basic facilities for MHM	Basic facilities for MHM
1	Place for MHM	Limited facilities for MHM	Limited facilities for MHM
0	No place for menstrual hygiene management (MHM)	No facilities for MHM	No facilities for MHM

To manage their menstrual periods in safety – with privacy – and in ways that safeguard women's and girls' dignity, access to basic sanitation facilities, water and soap for washing and bathing, the adequate collection of sanitary products in institutions (e.g., schools or monasteries), and the presence of safe disposal options are all important.

Impact indicator 4, only considers access to facilities for menstrual hygiene management, not the use of facilities[21] or other "pull" factors (see box 5). It is recommended to measure this indicator in schools and health facilities, but measurement in households is optional. The indicator considers both disposable menstrual hygiene materials, as well as reusable materials.

Box 5 Push and pull factors

Women and girls face specific barriers and challenges related to menstruation that impacts on their health, their capacity, and their rights to receive an education and to engage in society. The links between menstruation and school attendance is related to both pull factors, i.e., absenteeism due to painful menses, or socio-cultural constraints imposed on them on attaining menarche; and push factors, e.g., the inadequate and/ or unacceptable conditions of sanitation facilities, and unaffordable and/ or inappropriate menstrual materials in schools that hinder girls' ability to manage their menstruation. Addressing these require changes in capacity at individual and household levels, and challenging wider social and gendered beliefs, traditions and norms within communities and broader governance systems.

Source: adapted from Birdthistle, et al., 2011, p.6 .

Place for menstrual hygiene management. A place for menstrual hygiene management (MHM) refers to a private place for women where they can change their sanitary pads/ cloths. This can be in the toilet cubicle or somewhere else. The place should be acceptable to women, meaning that

[21] In an earlier version of this performance monitoring framework, an additional indicator was included for use. However, measurement at scale of that indicator was not successful due to the complexity of settings and motivations. Whereas attention for use and practices should be part of a programme, we've decided not to include this into the performance monitoring framework.

they are comfortable using the facility from all perspectives, location, accessibility, and orientation. All these are subjective and based on the response of women who are in their reproductive age, in the household, or in health facilities.

In schools, the MHM focus is on female students older than 11 years. Facilities used by teachers are not considered. In schools and health facilities, a door that can be locked, and a bin inside the place for changing are considered essential for privacy. In the household, a bin inside the place for changing is not considered.

Opportunity to clean oneself. A safe or basic facility for MHM includes a private place, with a covered bin, and the opportunity to clean oneself. Having the opportunity to wash oneself is preferable for MHM, but also not always self-evident in non-residential settings. MHM requires the availability of water and soap in the toilet cubicle, or in another place used for changing. These are not usually found in toilet cubicles outside the home. For this reason, we have considered "the opportunity to clean oneself" in the place for changing to include washing with water and soap, or only water, or with toilet paper.

Place for washing and drying reusable sanitary cloths. For safe use of reusable cloths, MHM facilities should include provisions for washing and drying. Considering the many stigmas that surround the visibility of MHM materials, safe washing and drying do not occur at home, let alone in non-residential settings.

"Hygienic drying places" should be dry, well-ventilated to enable quick and full drying – ideally under the sun – and without damp, stale or musty smells. Within non-residential premises, it is unlikely that a place for washing and drying is available. This means that used cloths are stored in plastic bags and washed at home. This is considered acceptable as long as washing takes place at the home, on that same day, and cloths are dried properly. For this reason, this criteria only applies for residential premises, and not for non-residential premises.

User ratios. There are no standards for the number of users per facility, in a similar way as user: latrine ratios. As a rule of thumb, for the minimum number of facilities for safe menstrual hygiene management, it is suggested to use one third of the standard user: latrine ratio for women and girls in each type of premises. Of course this should not be less than one.

Safe final disposal of cloths or pads (whether reusable or not). The temporary waste disposal of used pads or cloths should allow for privacy, and should prevent contact with animals. This is why a covered bin in schools and health facilities is the minimum standard for a basic MHM facility. Safe final disposal will include controlled incineration or disposal with other solid waste; assuming that temporary waste is covered, and is safely disposed or collected. Burning is not allowed in most countries, though in some countries this is recommended explicitly. Disposal in the toilet, pit or in a place not designated for MHM is considered unsafe.

Table 13 Details of impact indicator 4: access to facilities for safe menstrual hygiene management

(read bottom-up)

	Impact indicator HH 4 (Households)	Impact indicator SC 4 (Schools) and Impact indicator HF 4 (Health facilities)
	Only measured if there are women in reproductive age in the household	*Only measured if there are girls older than 11 in the school*
4	**Safe place for MHM, with adequate drying and final disposal options** Safe place for MHM with adequate drying options as level 3 below ***AND*** final disposal of used pads/ cloths, within the premises, employing a safe method as defined by country	**Basic and sufficient facilities for MHM, with adequate final disposal** Basic and sufficient facilities for MHM as level 3 below ***AND*** final disposal of used pads/ cloths, within the premises, employing a safe method as defined by country
3	**Safe place for MHM, with adequate drying options** Safe place for MHM as level 2 below ***AND*** a specific place for drying sanitary cloths hygienically (under the sun and well-ventilated), in the case of reusables	**Basic and sufficient facilities for MHM** Basic facilities for MHM as level 2 below ***AND*** the number of facilities for menstrual hygiene management is not less than one third of the standard user: latrine ratio for females for this type of premise in the country
2	**Safe place for MHM** Private premises where girls and women can change sanitary pads/ cloths ***AND*** there is opportunity to clean oneself with water in the place for changing ***AND*** there is opportunity to clean oneself with soap in the place for changing (in the case of reusables)	**Basic facilities for MHM** Premises has a place where girls and women can change sanitary pads/ cloths ***AND*** there is a bin with a cover in the place for changing ***AND*** there is opportunity to clean oneself in the place for changing
1	**Place for MHM** Private premises where girls and women can change sanitary pads/ cloths	**Limited facilities for MHM** Premises has a private place where girls and women can change sanitary pads/ cloths ***AND*** a bin to dispose of used pads/ cloths in the place for changing
0	**No place for MHM** Premises has no place where girls and women (of reproductive age) can change sanitary pads/ cloths	**No facilities for MHM** Premises has no place where girls and women (of reproductive age) can change sanitary pads/ cloths

10 Impact indicator five: Premises level solid waste management

Table 14 Overview of impact indicator 5

	HF (Health facilities)	HF (Health facilities)
	5a. General solid waste	5b. Health care (HC) waste
4	Adequate SW storage and final disposal	Safe segregation, treatment and disposal of HC waste
3	Adequate SW storage	Safe segregation and treatment of HC waste
2	Place for SW storage, no littering	Safe segregation of HC waste
1	Place for SW storage	Unsafe segregation of HC waste
0	No specific place for solid waste (SW) storage within premises	No specific place for health care (HC) waste

For the rural context, impact indicator 5, solid waste management, is only applied to health facilities and premises; not to solid waste management in households or schools.[22] Whether or not solid waste is dumped in pits in households and schools, these are considered within impact indicator 6.

It should be noted that impact indicator 5 is limited to the management of solid waste within the premises themselves. It does not address the entire solid waste management chain; this is beyond the scope of our rural sanitation and hygiene programmes.

In health facilities, there are two types of solid waste: the general solid waste, which is comparable to domestic solid waste; and hazardous waste, which is specific to the activities of the healthcare facility. The latter is also known as "health care waste" and is measured from the point of generation – i.e., the consultation rooms. For this reason, impact indicator 5 had been separated in two: a) general solid waste in healthcare facilities, and b) healthcare waste.

Adequate place for general solid waste storage. Impact indicator HC 5a ladder, for general solid waste in healthcare facilities, includes different levels of adequacy for the storage of solid waste within the premises. In level zero, there is no specific place for solid waste storage, potentially resulting in waste scattered all over the premises. In level one, a specific place may exist, but it does not contain waste in the designated spot: either due to windblown littering, animals, contact with water or waste pickers. Ironically dumping solid waste into a pit latrine does prevent the above problems, and is a common practice. However, it is not considered adequate because it increases the filling rate, and complicates emptying of pits. Hence, level 3 excludes storage that interferes with the functionality of the sanitation system.

Adequate disposal of general solid waste. As mentioned earlier, impact indicator 5 is limited to solid waste management in healthcare premises, and does not consider the safety of the entire solid waste chain. This means that the indicator considers the safety of on-site disposal methods, but does not measure the safety of practices by waste collectors, off-site.

[22] There are of course contexts in which solid waste management within household or school premises is part of the programme, for example in SNV's Total Sanitation programme in Nepal. In this case, this can be added to the performance monitoring.

On-site disposal may include burning on the premises, burying on the premises, re-use, or dumping just outside the premises. The latter is always considered unsafe. However, countries have different guidelines with respect to the safety and desirability of burning and burying of solid waste. This indicator follows country definitions as to what is considered safe.

In addition to on-site disposal, solid waste may be collected by formal or informal solid waste collectors. Again, countries will differ as to whether informal solid waste collection is considered safe.

Different types of healthcare waste. The segregation of healthcare waste is measured at points of care, e.g., handwashing at points of care. For healthcare waste, this means that there should be correctly-labelled bins inside the consultation rooms for each type of waste to be segregated.

Countries will have their own norms and approaches to waste segregation with a healthcare facility, including the number of bins and labelling. In this framework, we consider the minimum of five categories,[23] which means that there can be more depending on the country system.

The waste categories considered in impact indicator HC 5b are summarised in Table 15.

Yet segregation in the room should have a minimum of three bins: sharps, hazardous waste, and general waste. The reason is that placentas are not expected to be stored in rooms, and that chemical waste and drugs are very diverse, thus needing different storage practices. For placentas and chemical waste, only final disposal is measured.

For better understanding, Table 16 presents these waste categories.

Table 15 Waste categories for indicator HC 5b

Hazardous waste	Sharps waste	• Sharps waste
	Infectious waste	• Infectious and pathological waste
		• Placentas (only in solid waste module)
	Chemical waste	• Chemical and pharmaceutical waste
Non-hazardous waste	Non-hazardous waste	• Non-hazardous waste

Table 16 Example of waste by HC 5b waste category

Sharps waste	*needles, scalpels, knives, broken glass, pipettes*
Infectious and pathological waste	*waste contaminated with blood or other body fluids (bandages, swabs, tissues), waste from infected patients in isolation wards, waste from laboratory cultures*
Placentas	
Chemical and pharmaceutical waste	*disinfectants, solvents, mercury, photographic solutions used for X-rays, as well as expired, unused, spilled, contaminated drugs or vaccines*
Non-hazardous waste	*non-hazardous waste is similar to household solid waste: or does not contain sharps, infectious material or chemicals*

Safe segregation. The adequacy of segregation of healthcare waste should be observed for each type of waste. This includes storage methods: can it be closed, is it leakage proof, colour coded, clearly marked for the type of waste (>50mm), and less than 75% full. For sharps an added criteria is whether the storage is puncture proof.

[23] We have defined minimally five categories based on the main categories of the blue book (Safe management of wastes from health care activities, 2nd edition, WHO, 2014). Placentas are considered separately because in many cultures this is dealt with separately from other pathological waste. Chemical and pharmaceutical waste may be dumped into toilets and also because unused medicines can be damaging to the environment/ eco-systems.

The point of care will be categorised as level 2 – safe segregation of HC waste – only when all three types of waste generated in the room comply with all criteria. Of course, the types of waste that are not generated in the room, are not measured.

Measurement. The measurement of segregation practice of healthcare waste is done through observation at points of care, at the same time during observation of handwashing facilities at points of care. A maximum of two rooms in the healthcare facility will be observed.

The observation will establish whether healthcare waste segregation occurs, and subsequently, whether the bins for each type of waste are suitable, colour-coded appropriately, and whether they are not too full.

Questions about treatment and disposal are measured for the healthcare facility as a whole, as part of the solid waste module; and not per room. Treatment is likely to be done for the whole facility, and not just in one room.

Safe treatment and disposal. Safe treatment of healthcare waste is defined in relation to the type of waste involved. For sharps and infectious waste, treatment and disposal had been separated into two separate questions, because after treatment final disposal is still needed.

Autoclaving, incineration (2 chambre, 850-1000C incinerator), brick incineration and chemical disinfection are all considered safe treatment for sharps and infectious waste, whereas open burning is considered unsafe. Open dumping and disposal of general waste are never considered safe disposal methods for sharps and infectious waste, even after treatment. Disposal using a lined and protected solid waste pit (not the toilet pit!) or collection of medical waste disposal are considered safe.

For placentas, burying in a constructed placenta pit or collection of medical waste disposal are considered the safe options. Disposal of chemical and pharmaceutical waste in toilets is considered unsafe.

Table 17 Details of impact indicator 5: premises level solid waste management

(read bottom-up)

	Impact indicator HF 5a (Health facilities) General solid waste	Impact indicator HF 5b (Health facilities) Healthcare waste
4	**Adequate solid waste storage and final disposal**, as level 3 below *AND* solid waste is safely disposed within the premises *OR* collected by an acceptable collector* for disposal off-site	**Safe segregation, treatment and disposal of different types of health care waste** Healthcare waste is segregated in at least three bins, and all safe measures for storage in the room are observed *AND* treatment and disposal of sharps and hazardous waste is safe *AND* no chemical or pharmaceutical waste is disposed into general waste or toilet
3	**Adequate solid waste storage,** as level 2 below *AND* solid waste is not disposed into the sanitation facility (i.e., pit latrine) *OR* otherwise affecting the functionality of the sanitation system	**Safe segregation and treatment of different types of health care waste** Health care waste is segregated in at least three bins, and all safe measures for storage in the room are observed *AND* treatment of sharps and hazardous waste is safe
2	**Place for solid waste storage, no littering** There is a specific place for storage of solid waste within the premises *AND* waste is contained to prevent contact with animals or surface/ ground water[24] *AND* is covered to prevent windblown littering within the premises *AND* cannot be accessed by waste pickers	**Safe segregation of different types of health care waste** Health care waste is segregated in at least three bins, and all safe measures for storage in the room are observed
1	**Place for solid waste storage** There is a specific place for storage of general solid waste within the premises, but the waste is littered because *EITHER* the waste is not contained to prevent contact with animals, or surface/ ground water *OR* the storage is not covered to prevent windblown littering within the premises *OR* the storage allows for littering by waste pickers	**Unsafe segregation of different types of health care waste** Health care waste is segregated in at least three bins, but safe measures for storage in the room are not observed, e.g., storage can be closed, leakage proof, puncture proof (sharps), colour coded, clearly marked, less than 75% full at the moment of observation
0	**No place for solid waste storage within the premises**, Within the premises, there is no specific place for the storage of general solid waste	**No specific place for different types of health care waste**, Within the premises, there is no specific place and/ or segregation of the three main types of waste: sharps, infectious waste, and general waste

[24] Composting of organic waste is a type of storage involving an open storage. This is considered safe in as long as it does not attract large vectors, e.g., rats.

11 Impact indicator six: Safe management of toilet contents

Table 18 Overview of impact indicator 6

	HH (Households) | SC (Schools) | HF (Health facilities)
4	Safe and timely emptying and disposal
3	Partially safe and timely emptying
2	Timely emptying
1	Containment contaminating the living environment
0	No on-site containment

The impact indicator 6 ladder is the same for households, schools and health facilities. The difference is found in the calculation of timely emptying thresholds (see below).

Impact indicator 6 addresses the safe management of the contents of the toilet; this will include faecal waste, but in many instances may also include other things such as solid waste. It is assumed that in rural areas, all sanitation facilities are on-site. If pits or tanks fill, they will need to be emptied or replaced. This indicator addresses the timeliness of emptying, as well as the environmental and personal safety of those undertaking the process.

Timely emptying. There is huge variation in the frequency of emptying rural pits and tanks. Some of these have not yet filled, but others are unlikely to fill up because they are leaking into the environment or otherwise discharging. When asked, owners tend to respond that their pit has not filled. In order to define a more objective threshold, we've introduced the concept of timely emptying. This refers to the timely emptying of pits and holding tanks before they reach 50cm from the top; septic tanks are emptied when they are two-thirds full. The number of years required to fill the pit or tank depends on the volume, the household size, the type of containment, and the accumulation rate (m3 per capita per year). So far, the effective volume of different types of toilets has been defined using averages for a region in a country.

Provided that pits are well above ground water (see impact indicator 1 on environmentally safe sanitation), the liquid part can seep away (mostly through the sides), and the accumulation rate of solids is very low. Here we are using the value of 0.06m3 per person per year[25] for dry pits (low ground water table) and 0.04m3 per person per year for wet pits and for septic tanks. Note that dry pits include a range of technology types: VIP latrines, single pit latrines, and alternating pit latrines. Wet pits can include pour flush latrines. Simple (dry) pit latrines can also be essentially wet when located in areas where wet anal cleansing is practiced and soils are impermeable or in areas with high ground water tables.

To define the accumulation rate in schools and health facilities, an assumption is made about the time spent within the premises. For schools, we estimate that students and teachers spend about 25% of their day in the school or educational facility, hence the accumulation rate is assumed to

[25] The accumulation rate can be assumed about 0.03- 0.05 m3 per capita per year. However, the University of Kwazulu Natal suggests that an emptying programme should be designed with a margin, for example 0.06m3 per capita per year (Still, D., WRC Report No. 1745/2/12). We are aware that these are conservative, in particular for older pits, who tend to have a lower accumulate rate. It should be noted that if emptying is very frequent (several times a year), we would not recommend to use these accumulation rates (but higher ones).

be 25% that of households. For health facilities, in-patients spend 100%, out-patients 12.5%, and staff 33%.

To calculate the timely emptying threshold, the average number of household members in the region has been used; as opposed to the actual number for each interviewed household. A correction is applied in the calculation of the timely emptying frequency of shared toilets. Similarly, for schools and health facilities, standard ratios are used as a basis to calculate the timely emptying threshold, rather than using actual numbers of students per school or actual in-patients/ out-patient numbers.

Containment contaminating the living environment. Disposal of emptied sludge into a drain, water body or a field at less than 500 metres from the household contaminates the living environment, and is classified at level one. Also, disposal into a pit within the compound that is left open is also classified in this way.

Furthermore, it is considered that toilets beyond the timely emptying thresholds may contaminate the environment. Once the timely emptying threshold is defined, this is compared to the age of the toilet as reported in the surveys. Toilets older than the threshold are classified at level one. Also toilets that regularly leak, overflow or flood are classified in this level. Additionally the practice of re-use of faecal matter for food crops, fish or poultry within two years of emptying is considered to be on this level as these practices also potentially contaminate the living environment. Re-use as non-food crops or for fuel within two years is considered safe.

Solid waste. In many countries, disposal of solid waste in pits is common practice, and is estimated to reduce the pit's lifespan by half.[26] To accommodate this, a solid waste factor of 0.66 is applied for those toilet pits that have general waste. For premises that have indicated the disposal of diapers and/ or menstrual pads into the toilet, a factor of 0.5 is applied, thus halving the timely emptying threshold.

Replacement. If space is available, but investments for toilet construction is limited, the filling up of a toilet pit can be addressed by closing the pit and building a new toilet. This is considered safe, and these cases will therefore be classified at level 4 (the age of the new toilet will be inside the timely emptying threshold).

Safety of emptying for emptiers.[27] Emptying requires handling of human waste, and is by definition a risk. The ladder considers several aspects with a varying degree of risk. Entering the pit is consider the biggest risk because containment (especially unlined pits) may collapse and/ or contain toxic gasses. Any emptying that involves entering the pit is considered unsafe, and is categorised at level 2 or below. Other practices that affect personal safety, e.g., the uncovered transport of wet sludge, is categorised at level 3 or below. Also, emptying without personal protective equipment (PPE) will be categorised at level 4.

Safe disposal. Emptying and disposal on-site ("disposal in-situ") can be safe if the contents are safely covered (buried), and there is no risk of ground water pollution. Provided that emptying is done safely (see above), this type of disposal is categorised at level 4.

Other forms of safe disposal include disposal into a pit on the compound that is covered (temporarily or permanently), storage for composting on the compound, and disposal into a closed container/ tanker and taken away from the premises. When it is taken away from the premises, no attempt is made to further classify the practice within this rural performance monitoring framework.

[26] The WRC report found that in South Africa, about 25% of pits' contents are non-biodegradable solid waste, which reduces the lifespan of the pit by approximately 50%.

[27] In SNV's rural monitoring framework, the safety of by-standers or owners, contamination of the area, and potential leakage during transport, are not considered for our indicator on safe emptying.

Re-use for food or in animal production, after two years of emptying, is considered safe.[28] This includes material that has rested in an alternating twin pit latrine, provided that there is a functional y-junction. Use for non-food crops and fuel does not require two years of storage, assuming that safe handling is addressed.

Table 19 Details of impact indicator 6: safe management of toilet contents

(read bottom-up)

	Impact indicator HH 6 (Households), Impact indicator SC 6 (Schools), Impact indicator HC 6 (Health facilities)
4	**Safe and timely emptying, and disposal** Timely replacement of the pit or tank *OR* Timely and fully safe emptying of pit or tank: As level 3 below, *AND* PPE is used, *AND* no open transport *AND* disposal or re-use on site is safe.
3	**Partially safe timely emptying** Timely emptying *AND* partially safe emptying (no pit entering, no open disposal in immediate living environment)
2	**Timely emptying** Timely emptying, but someone enters pit *OR* disposal risks ground water contamination
1	**Containment contaminating the living environment** No timely emptying *OR* emptying not yet required but regular flooding *OR* timely emptying with pit contents disposed open into immediate living environment and/or unsafe re-use
0	**No on-site containment** No toilet or toilet discharges directly into environment

[28] There will still be helminths in the material, but the risk is considered less.

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Annex: SSH4A household questionnaire

SSH4A Household questionnaire MASTER[29]	
Question	**Response**
HH: Household information	
HH1. Date of interview	
HH2. GPS Location	
HH3. County and Sub County	*(cascade resource)*
HH4. Supervisor name	
HH5. In the rainy season, what is the depth of the groundwater in this village?	*Click one single option*
	Less than 1 meter
	Between 1-2 meters
	Between 2-3 meters
	Between 3-5 meters
	Between 5-10 meters
	More than 10 meters deep
HH6. What is the dominant soil-type in this village?	*Click one single option*
	Solid rock
	Heavy Clay / Loam
	Fine sand
	Gravel or coarse sand
	Fractured rock
MAY I START NOW?	*Click one single option*
	Yes, permission is given
	No, permission is not given
Only answer if you responded No, permission is not given to "MAY I START NOW?"	
HH7. Result of household interview	*Click one single option*
	Completed
	No household member or no competent respondent at home at time of visit
	Entire household absent for extended period of time
	Interview refused
	Dwelling vacant / Address not a dwelling
	Dwelling destroyed
	Dwelling not found
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HH8. Name of respondent	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HH9. Gender of respondent	*Click one single option*
	Male
	Female
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HH10. Is the respondent the head of household?	*Click one single option*

[29] Note that the MASTER questionnaires for schools and health facilities are not included.

	Yes
	No
HM: Household members	
Only answer if you responded No to HH10	
HM1. Name of head of household	
Only answer if you responded No to HH10	
HM2. Gender of the head of household	
	Male
	Female
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM3. Total number of household members	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM4. Number of women aged 50 years and older	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM5. Number of men aged 50 years and older	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM6. Number of women aged 15 - 49 years	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM7. Number of men aged 15 - 49 years	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM8. Number of girls aged 6 -14 years	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM9. Number of boys aged 6 – 14 years	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM10. Number of girls aged 3 – 5 years	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM11. Number of boys aged 3 – 5 years	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM12A. ARE THERE CHILDREN UNDER 3 YEARS OLD IN YOUR HOUSEHOLD?	*Click one single option*
(Note that if you "no" is marked to this question, the question on child faeces, USAN10, is skipped)	yes
	no
Only answer if you responded Yes to HM12A	
HM12. Number of girls aged 0 – 2 years	
Only answer if you responded Yes to HM12A	
HM13. Number of boys aged 0 – 2 years	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM14. BECAUSE OF A HEALTH PROBLEM OR OLD AGE, DOES ANYBODY IN YOUR HOUSEHOLD HAVE DIFFICULTY SEEING?	*Click multiple options*
	No
	Some difficulty
	A lot difficulty
	Unable to see
Only answer if you responded A lot difficulty and/or Unable to see to HM14	
HM14A. How many people have a lot of difficulty or are unable to see?	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM15. BECAUSE OF A HEALTH PROBLEM OR OLD AGE, DOES ANYBODY IN YOUR HOUSEHOLD HAVE DIFFICULTY HEARING?	*Click multiple options*
	No
	Some difficulty

	A lot difficulty
	Unable to hear
Only answer if you responded A lot difficulty and/or Unable to see to HM14	
HM15A. How many people have a lot of difficulty or are unable to hear?	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM16. BECAUSE OF A HEALTH PROBLEM OR OLD AGE, DOES ANYBODY IN YOUR HOUSEHOLD HAVE DIFFICULTY WALKING OR CLIMBING STEPS?	*Click multiple options*
	No
	Some difficulty
	A lot difficulty
	Unable to walk or climb steps
Only answer if you responded A lot difficulty and/or Unable to walk or climb steps to HM15	
HM16A. How many people have a lot of difficulty or are unable to walk?	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM17. BECAUSE OF A HEALTH PROBLEM OR OLD AGE, DOES ANYBODY IN YOUR HOUSEHOLD HAVE DIFFICULTY REMEMBERING OR CONCENTRATING?	*Click multiple options*
	No
	Some difficulty
	A lot difficulty
	Unable to remember or concentrate
Only answer if you responded A lot difficulty and/or Unable to see to HM14	
HM17A. How many people have a lot of difficulty or are unable to REMEMBER OR CONCENTRATE?	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM18. BECAUSE OF A HEALTH PROBLEM OR OLD AGE, DOES ANYBODY IN YOUR HOUSEHOLD HAVE DIFFICULTY WITH SELF-CARE SUCH AS WASHING OR DRESSING?	*Click multiple options*
	No
	Some difficulty
	A lot difficulty
	Unable to wash or dress
Only answer if you responded A lot difficulty and/or Unable to wash or dress to HM16	
HM18A. How many people have a lot of difficulty or are unable to wash or dress themselves?	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM19. BECAUSE OF A HEALTH PROBLEM OR OLD AGE, DOES ANYBODY IN YOUR HOUSEHOLD HAVE DIFFICULTY COMMUNICATING (FOR EXAMPLE UNDERSTANDING OR BEING UNDERSTOOD BY OTHERS)?	*Click multiple options*
	No
	Some difficulty
	A lot difficulty
	Unable to communicate
Only answer if you responded A lot difficulty and/or Unable to see to HM14	
HM19A. How many people have a lot of difficulty or are unable to communicate?	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HM20 In total, how many people in the household have a lot of difficulty or are unable to see, hear, walk, remember, communicate, wash or dress, themselves?	
Wealth Module- country specific. *Please cross check against your test questionnaire*	
SAN: Sanitation	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	

SAN1. DO MEMBERS OF YOUR HOUSEHOLD HAVE A TOILET?	*Click one single option*
	No toilet, practice OD
	No own toilet, use of a shared toilet
	Use own household toilet
Only answer if you responded Use own household toilet to SAN1	
SAN1A. DO YOU SHARE THIS TOILET WITH PEOPLE WHO ARE NOT A MEMBER OF YOUR HOUSEHOLD?	*Click one single option*
	NO, ONLY OWN HOUSEHOLD
	YES, MORE THAN ONE HOUSEHOLD
Only answer if you responded Use own household toilet to SAN1	
SAN2. HOW OLD IS YOUR TOILET?	*Click one single option*
(Note that if "Less than 1 year" is marked to this question, the question on pit emptying, SAN13, is skipped)	Less than 1 year
	Between 1-2 years
	Between 3-4 years
	Between 5-7 years
	Between 8-10 years
	Between 11-15 years
	Between 16-20 years
	Older than 20 years
Only answer if you responded Use own household toilet to SAN1	
SAN3. Ask and observe question: WHAT TYPE OF TOILET IS IT? CAN YOU PLEASE SHOW IT TO ME?	*Click one single option*
	Flush/pour flush toilet
	Ventilated improved pit latrine (VIP)
	Pit latrine with slab
	Pit latrine without slab
	Composting toilet
	Urine diversion toilet
	Bucket
	Hanging toilet or hanging latrine
Only answer if you responded Use own household toilet to SAN1	
SAN3A. Ask and observe question: WHERE DO THE FAECES GO?	*Click one single option*
	To the street, field or open pit
	To a pond
	To the river or storm water drain
	To a direct soak pit
	To an off-set soak pit
	To a double (alternating) off-set soak pit
	To separate urine/faeces compartments (ecosan)
	To two sequential soak pits
	To a water tight holding pit/ tank
	To a water tight double chamber septic tank with outlet
	To piped sewer or DEWATS
Only answer if you responded Use own household toilet to SAN1	
SAN4. Ask and observe question: CAN RATS REACH THE FAECES IN ANY WAY?	*Click one single option*
	Yes
	No
Only answer if you responded No to SAN4	

SAN5. Ask and observe question: DOES THE TOILET PAN OR SLAB ALLOW FLIES TO GO IN AND OUT OF THE PIT?	*Click one single option*
	Yes
	No
Only answer if you responded No to SAN4	
SAN5A. Ask and observe question: IS THE TOILET SLAB WASHABLE AND/OR CLEANABLE?	*Click one single option*
	No
	Yes, cleanable, but not washable
	Yes, cleanable, and washable
Only answer if you responded Use own household toilet to SAN1	
SAN6 Ask and observe question: IS THE TANK/PIT ABOVE THE GROUND?	*Click one single option*
	Yes
	No
	Partly
Only answer if you responded Use own household toilet to SAN1	
SAN7. HOW DEEP IS THE TOILET PIT BELOW THE SURFACE? (meters)	*(Enter depth in meters only)*
Only answer if you responded Use own household toilet to SAN1	
SAN8. DOES THE PIT OR TOILET LEAK, OVERFLOW OR FLOOD AT ANY TIME OF THE YEAR? (Consider rainy season too)	*Click one single option*
	Yes
	No
Only answer if you responded Yes to SAN8	
SAN8A. HOW OFTEN DOES THE PIT OR TOILET LEAK, OVERFLOW OR FLOOD?	*Click one single option*
	It happened once
	Rarely
	Regularly
	Continuously
Only answer if you responded Use own household toilet to SAN1	
SAN9. CAN (GROUND) WATER GET IN OR OUT OF THE PIT? (so the pit is not "water tight or sealed")	*Click one single option*
	Yes, water can go in and out (not water tight)
	No, the pit is water tight
Only answer if you responded Yes, water can go in and out (not water tight) or Don't know to SAN9	
SAN10. WHEN THE PIT WAS DUG, WAS ANY GROUND WATER SEEPING IN?	*Click one single option*
	Yes
	No
	Don't know
Only answer if you responded Use own household tolet to SAN1	
SAN11. Ask and observe question: WHAT IS THE DISTANCE TO THE NEAREST WATER SOURCE?	*Click one single option*
	Less than 10 metres
	Between 10 and 100 metres
	Between 100 and 500 metres
	More than 500 metres

Only answer if you responded Between 10 and 100 metres *or* Between 100 and 500 metres or More than 500 metres *to SAN11*	
SAN12. Ask and observe question: IS THAT WATER SOURCE UPHILL OR DOWNHILL FROM THE TOILET?	*Click one single option*
	Downhill
	Uphill
	At the same level
Only answer if you responded Use own household toilet to SAN1	
SAN13. IS THERE ANY SOLID WASTE THAT YOU DISPOSE IN THE TOILET?	*Click one single option*
	Yes
	No
	Don't know
Only answer if you responded Yes to SAN13	
SAN14. WHICH TYPE OF SOLID WASTE DO YOU DISPOSE IN THE TOILET?	*Click multiple options*
	Baby diapers
	Menstrual hygiene products
	Plastic packaging
	Chemicals (e.g. insecticides)
	Batteries
	Sticks and logs
Only answer if you responded To a double (alternating) off-set pit in SAN3A	
SAN15. Ask and observe question: IS THE Y-JUNCTION OF THE PIT FUNCTIONAL?	
	Yes_____
	No_____
	Don't know_____
Only answer if you responded Use own household toilet to SAN1	
SAN16. HAS THE PIT EVER BEEN EMPTIED?	*Click one single option*
	Yes
	No
	Do not know
Only answer if you responded No to SAN16	
SAN17. WHY HAS THE PIT NEVER BEEN EMPTIED?	*Click one single option*
	The pit is not full yet
	We have already dug a new pit
	We have a twin pit toilet and are now using the second pit
	Do not know
Only answer if you responded We have already dug a new pit / We have a twin pit toilet and are now using the second pit to SAN17	
SAN17A. HOW LONG HAVE YOU BEEN USING THE CURRENT PIT?	*Click one single option*
	Less than 1 year
	Between 1-2 years
	Between 3-4 years
	Between 5-7 years
	Between 8-10 years
	Between 11-15 years
	Between 16-20 years
	Older than 20 years

Only answer if you responded Yes to SAN16	
SAN18. WHEN WAS THE LAST TIME THE PIT WAS EMPTIED?	*Click one single option*
	Less than 6 months ago
	Between 6- 11 months ago
	Between 1-2 years ago
	Between 3-4 years ago
	Between 5-7 years ago
	Between 8-10 years ago
	Between 11-15 years ago
	Between 16-20 years ago
	More than 20 years ago
Only answer if you responded Yes to SAN16	
SAN19. WHO ACTUALLY EMPTIES THE PIT?	*Click one single option*
	The house owner or his/her relatives
	Tenants or their relatives
	A sweeper/ service provider
	Don't know
	Other
Only answer if you responded Yes to SAN16	
SAN20. TO EMPTY THE PIT, DID SOMEONE NEED TO ENTER THE PIT?	*Click one single option*
	Yes
	No
	Don't know
Only answer if you responded Yes to SAN16	
SAN21. DID EMPTIERS USE ANY OF THE FOLLOWING	*Click multiple options*
	Boots
	Gloves
	Face mask
	None of the above
Only answer if you responded Yes to SAN16	
SAN22. WHAT WAS IT EMPTIED INTO?	*Click one single option*
	Directly into drain/water body less than 500 meters from the house
	Directly into field less than 500 meters from the house
	Into a pit on the compound that is left open
	Into a pit on the compound that is covered (temporarily)
	Into a pit on the compound that is covered (permanently)
	Stored for composting on the compound
	Directly into drum/open container and taken away
	Directly into closed container/tanker and taken away
Only answer if you responded Yes to SAN16	
SAN23. WERE THE PIT CONTENTS **DRY** WHEN IT WAS REMOVED?	*Click one single option*
	Yes
	No
	Don't know
Only answer if you responded Directly into field less than 500 meters from the house / Into a pit on the compound that is left open/ Into a pit on the compound that is covered (temporarily)/ Stored for composting on the compound to SAN22)	

SAN24. DO YOU USE ANY OF THE PIT CONTENTS?	*Click multiple options*
	No____
	Yes, for fish feed_____
	Yes, for poultry feed_____
	Yes, in kitchen garden/ food crops_____
	Yes, non-food crops/ plants_____
	Yes, producing biogas or charcoal_____
Only answer if you responded Yes, for fish feed|Yes, for poultry feed|Yes, in kitchen garden/ food crops|Yes, non-food crops/ plants to SAN24	
SAN25. HOW LONG DO YOU STORE THE PIT CONTENTS BEFORE IT IS USED? (in days)	*_(Enter the number of days)*_____
Only answer if you responded Yes, for fish feed|Yes, for poultry feed|Yes, in kitchen garden/ food crops|Yes, non-food crops/ plants to SAN24	
SAN26. DO YOU DO ANY FURTHER PROCESSING APART FROM STORAGE BEFORE IT IS USED?	*Click one single option*
	Yes_____
	No_____
Only answer if you responded Yes to SAN26	
SAN27. WHAT DO YOU DO?	***Open question***
	_____
USAN: Use of Sanitation	
Only answer if you responded Use own household toilet to SAN1	
USAN1. Ask and observe question: IS THE TOILET IN USE AS A TOILET?	*Click one single option*
	Yes
	No
Only answer if you responded Yes to USAN1	
USAN2. Ask and observe question: IS THE TOILET FUNCTIONING AS INTENDED?	*Click one single option*
	Yes
	No
	Don't know
Only answer if you responded Yes or Don't know to USAN2	
USAN3. Ask and observe question: ARE THE WALLS AND "THE DOOR" OF THE TOILET IN PLACE?	*Click one single option*
	Yes
	No
Only answer if you responded Yes or Don't know to USAN2	
USAN4. Ask and observe question: IS THE TOILET FREE FROM FAECAL SMEARS ON PAN, WALL AND FLOOR? /	*Click one single option*
	Yes
	No
Only answer if you responded Yes or Don't know to USAN2	
USAN5. Ask and observe question: IS THE TOILET PAN FREE FROM USED CLEANING MATERIALS? (PAPER, STONES AND STICKS)	*Click one single option*
	Yes
	No
Only answer if you responded Yes to USAN1	

USAN6. WHAT DO YOU USE FOR ANAL CLEANSING?	*Click one single option*
	Nothing
	Tissue / toilet paper
	Other paper
	Water
	Soil / mud
	Sticks
	Grass/Leaves
	Stones
	Corn cobs
	Ash
Only answer if you responded Yes to USAN1	
USAN7. DO YOU USE WATER IN YOUR TOILET?	*Click one single option*
	No
	Yes, water used for anal cleansing
	Yes, for flushing (pour flush or handle flush)
	Yes, both anal cleansing and flushing
Only answer if you responded Yes, water used for anal cleansing or Yes, pour flush or Yes, full/ handle flush to USAN7	
USAN8. IS WATER AVAILABLE IN THE TOILET? (for anal cleaning and/or for flushing)	*Click one single option*
	Yes
	No
Only answer if you responded Yes to USAN3	
USAN9. Ask and observe question: DOES THE TOILET PROVIDE PRIVACY?	*Click one single option*
	Yes
	No
Only answer if you responded yes to HM12A	
USAN10. HOW DO YOU DISPOSE OF STOOLS OF CHILDREN UNDER THE AGE OF 3 YEARS OLD?	*Click one single option*
	Pick up stool and deposit in the toilet
	Pick up and deposit in the garbage
	The children use diaper
	Leave where it drops
Only answer if you responded Yes to USAN1	
USAN11. IS EVERYONE IN THE HOUSEHOLD PRESENTLY ABLE TO USE THE TOILET EASILY AND CONVENIENTLY, UNASSISTED?	*Click one single option*
	Yes
	No
Only answer if you responded No to USAN11	
USAN12 IF NO, WHY?	*Click multiple options*
	Illness
	Old age
	Injury
	Disability
	Pregnancy
	Menstruating women
	Small children
Only answer if you responded Small children to USAN12	

USAN13. HOW MANY SMALL CHILDREN IN YOUR HOUSEHOLD ARE UNABLE TO USE THE TOILET EASILY AND CONVENIENTLY, UNASSISTED? (meaning without assistance)	
Only answer if you responded Small children to USAN12	
USAN13A. HOW ARE SMALL CHILDERN SUPPORTED TO MAKE USE OF THE TOILET?	*Click one single option*
	No support, they don't use the toilet and practice OD
	They use a potty
	They use diapers
	Another household member helps them use the toilet
	Modifications were made inside the toilet for them
Only answer if you responded Illness, Old age, Injury, Disability, Pregnancy, Menstruating women to USAN12	
USAN14. APART FROM SMALL CHILDREN, HOW MANY PEOPLE IN YOUR HOUSEHOLD ARE UNABLE TO USE THE TOILET EASILY AND CONVENIENTLY, UNASSISTED? (meaning without assistance)	
Only answer if you responded Illness, Old age, Injury, Disability, Pregnancy, Menstruating women to USAN12	
USAN15. ARE THESE PEOPLE SUPPORTED TO MAKE USE OF THE TOILET?	*Click one single option*
	Yes
	No support, they don't use the toilet and practice OD
	No support, they use the toilet by themselves anyway
Only answer if you responded Yes to USAN15	
USAN16. HOW ARE THESE PEOPLE SUPPORTED?	*Click multiple options*
	Another household member helps them use the toilet
	They use a bed-pan (which another family member empties)
	They use a pedestal/commode chair
	Modifications to the toilet and/or access path
Only answer if you responded Yes to USAN11	
USAN17. DID YOU MAKE ANY CHANGES TO MAKE SURE THAT EVERYBODY CAN USE THE TOILET EASILY AND CONVENIENTLY, UNASSISTED?	*Click single option*
	Yes
	No
Only answer if you responded Yes to USAN17	
USAN18. WHICH CHANGES WERE MADE TO THE TOILET TO SUPPORT USE BY EVERYBODY?	*Click multiple options*
	Pedestal/commode chair
	Smaller toilet drop hole
	More space in cubicle
	Bigger/ other type of door
	Grips on the wall
	More light inside the toilet
	Better path to the toilet
	~~Other~~
Only answer if you responded Yes to USAN17	
USAN19. WHEN DID YOU MAKE THOSE CHANGES?	*Click single option*
	At the same time as the toilet was built
	In the last year
	Between 1-3 years ago

	Longer than 3 years ago
Only answer if you responded Yes to USAN1	
USAN20. DOES ANYBODY IN YOUR HOUSEHOLD HAVE ANY PROBLEMS USING THE TOILET?	*Click multiple options*
	No problems
	Not clean
	Smelly
	No water inside
	Not easy to reach toilet
	Not easy to squat
	Afraid of falling or slipping
	Not easy to wash yourself
	Not easy to flush
	Too small/not enough space
	Too dark
	No privacy
	Insects and animals inside
Only answer if you responded Yes to USAN1	
USAN21. DO YOU HAVE ANY PROBLEMS CLEANING AND MAINTAINING YOUR TOILET?	*Click multiple options*
	No problems
	Toilet blocks often
	Water not available to clean
	Cleaning materials not available
	Don't know how to clean
	Too many users
	Other users don't know how to use
	Other users don't take their turn to clean
	Design is difficult to clean
	Fills up too quickly
Only answer if you responded Design is difficult to clean to USAN21	
USAN22. WHAT IS THE MAIN PROBLEM WITH THE DESIGN OF THE TOILET?	*Click multiple options*
	Too small
	Too dark
	Wrong construction materials
	Wrong internal layout
	No problem
HW: Handwashing	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HW1. PLEASE MENTION ALL THE OCCASIONS WHEN IT IS IMPORTANT TO WASH YOUR HANDS?	*Click multiple options*
	Before eating
	Before breast feeding or feeding a child
	Before cooking or preparing food
	After defecation
	After cleaning a child that has defecated/ changing child's nappy
	After cleaning toilet or potty
	Don't know
Only answer if you responded Use own household toilet to SAN1	

HW2. Ask and observe question: IS THERE A PLACE FOR HAND WASHING WITHIN 10 METERS FROM THE TOILET?	*Click one single option*
	Yes
	Yes, but it is further away than 10 meters from the toilet
	No
Only answer if you responded Yes to HW2	
HW2A. CAN YOU SHOW IT TO ME PLEASE? Observe: What type of hand washing station is this?	*Click one single option*
	Tippy tap
	Open water bowl
	Open water container/ bucket with small cup
	Open water container/bucket with ladle
	Covered water container/bucket with ladle
	Jerry can with tap
	Tap with running water
Only answer if you responded Yes to HW2	
HW3. Ask and observe question: IS THERE WATER AVAILABLE AT THE PLACE FOR HAND WASHING NEAR THE TOILET?	*Click one single option*
	Water is available at this moment
	Water is not available at this moment
Only answer if you responded Yes to HW2	
HW4. Ask and observe question: IS THERE SOAP OR A SOAP SUBSTITUTE AVAILABLE AT THE PLACE FOR HAND WASHING NEAR THE TOILET?	*Click one single option*
	No
	Soap present at this moment
	Ash present at this moment
	Mud/ sand present at this moment
Only answer if you responded Soap present at this moment or Ash present at this moment or Mud/sand present at this moment to HW4	
HW5. Ask and observe question: DOES THE HAND WASHING STATION PREVENT CONTAMINATION OF THE WATER BY HANDS?	*Click one single option*
	Yes
	No
Only answer if you responded Water is available at this moment to HW3	
HW6. Ask and observe question: IS THERE RUNNING WATER FROM A TAP?	*Click one single option*
	Yes
	No
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HW7. Ask and observe question: IS THERE A PLACE FOR HAND WASHING WITHIN 10 METERS FROM THE PLACE WHERE FOOD IS PREPARED?	*Click one single option*
	Yes
	Yes, but this is the same hand washing place as the one near the toilet
	Yes, but it is further away than 10 meters from the kitchen
	No, no specific place for hand washing
Only answer if you responded Yes to HW7	

HW7A. CAN YOU SHOW IT TO ME PLEASE? observe: what type of hand washing station this is?	*Click one single option*
	Tippy tap
	Open water bowl
	Open water container/ bucket with small cup
	Open water container/bucket with ladle
	Covered water container/bucket with ladle
	Covered water container/bucket with tap
	Jerry can with tap
	Tap with running water
Only answer if you responded Yes to HW7	
HW8. Ask and observe question: IS THERE WATER AVAILABLE AT THE PLACE FOR HAND WASHING NEAR THE KITCHEN?	*Click one single option*
	Water is available at this moment
	Water is not available at this moment
Only answer if you responded Yes to HW7	
HW9. Ask and observe question: IS THERE SOAP OR A SOAP SUBSTITUTE AVAILABLE AT THE PLACE FOR HAND WASHING NEAR THE KITCHEN?	*Click one single option*
	No
	Soap at this moment
	Ash at this moment
	Mud / sand at this moment
Only answer if you responded Soap present at this moment or Ash present at this moment or Mud/sand present at this moment to HW9	
HW10. Ask and observe question: DOES THE HAND WASHING STATION PREVENT CONTAMINATION OF THE WATER BY HANDS?	*Click one single option*
	Yes
	No
Only answer if you responded Water is available at this moment to HW8	
HW11. Ask and observe question: IS THERE RUNNING WATER FROM A TAP?	*Click one single option*
	Yes
	No
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
HW12. HAVE YOU SEEN/ HEARD ANY PROMOTION ON GOOD HAND WASHING PRACTICE IN THE LAST 12 MONTHS? THROUGH WHICH SOURCE OR MEDIA?	*Click multiple options*
	No
	Yes, in a workshop
	Yes, on the radio
	Yes, on TV
	Yes, in the newspaper
	Yes from a health visitor / community worker
	Yes, through a brochure
Only answer if you responded Yes, in a workshop or Yes, on the radio or Yes, on TV or Yes, in the newspaper or Yes from a health visitor / community worker or Yes, through a brochure to HW12	
HW13. DO YOU KNOW THE NAME OF THE CAMPAIGN OR ORGANISATION THAT ORGANISED IT?	*Click one single option*
	Don't know
	Local government

	SNV (or one of our partners in this programme)
	..... (your campaign message)
OBS: Observations	
OBS1 Interviewer's Observations	
OBS2 Field Editor's Observations	
OBS3 Supervisor's Observations	
PIC: Pictures	
Only answer if you responded Yes, permission is given to "MAY I START NOW?"	
PIC1 MAY I TAKE SOME PHOTOS OF YOUR TOILET AND THE HAND WASHING STATION?	*Click one single option*
	Yes
	No
Only answer if you responded Yes to PIC1	
PIC2 Toilet front (outside)	
Only answer if you responded Yes to PIC1	
PIC3 Toilet inside	
Only answer if you responded Yes to PIC1	
PIC4 Toilet back (outside)	
Only answer if you responded Yes to Q99	
103. PIC5 Hand washing station used after defecation	
Only answer if you responded Yes to PIC1	
104. PIC6 Hand washing station used before cooking (If not the same as the HW station used after defecation)	