

10. WASH Monitoring and Reporting

Regular monitoring of WASH indicators is essential to understand if WASH programmes in refugee settings are on track to meet basic needs and agreed targets. Reporting of WASH progress is essential so that all actors can understand the progress that is being made by WASH activities, including the refugees themselves.

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Introduction

The importance of regular monitoring and reporting in refugee settings

1. The regular monitoring and reporting of core WASH indicators is an essential activity in every refugee setting to ensure that basic WASH needs are being met and that WASH programmes are on track to meet targets. In particular, WASH monitoring and reporting can help:

- ◆ Establish a shared vision of WASH needs and priorities;
- ◆ Prioritise limited WASH resources more efficiently;
- ◆ Advocate for increased donor funding;
- ◆ Serve as a foundation for WASH planning;
- ◆ Reduce duplication of effort;
- ◆ Identify gaps with greater precision;
- ◆ Encourage coordination;
- ◆ Understand current levels of WASH coverage and condition;

2. UNHCR has the responsibility for ensuring that there is effective and coherent coordination of WASH monitoring and reporting in all refugee settings. In all cases, UNHCR and WASH actors must ensure that monitoring and reporting is being undertaken in a harmonized manner using common monitoring tools, methodologies, indicators, collection frequencies, and operational datasets (common refugee population sizes, population names, and administrative boundaries). This is to ensure that the information being collected can be compared and contrasted and used accurately to define strategic

sectoral priorities. In addition, monitoring and reporting is an essential transparency and accountability exercise – keeping donors, local authorities and the refugees themselves updated on the progress of WASH activities through the use of camp information boards, WASH monitoring updates and bulletins, and revisions to the site WASH plan/strategy

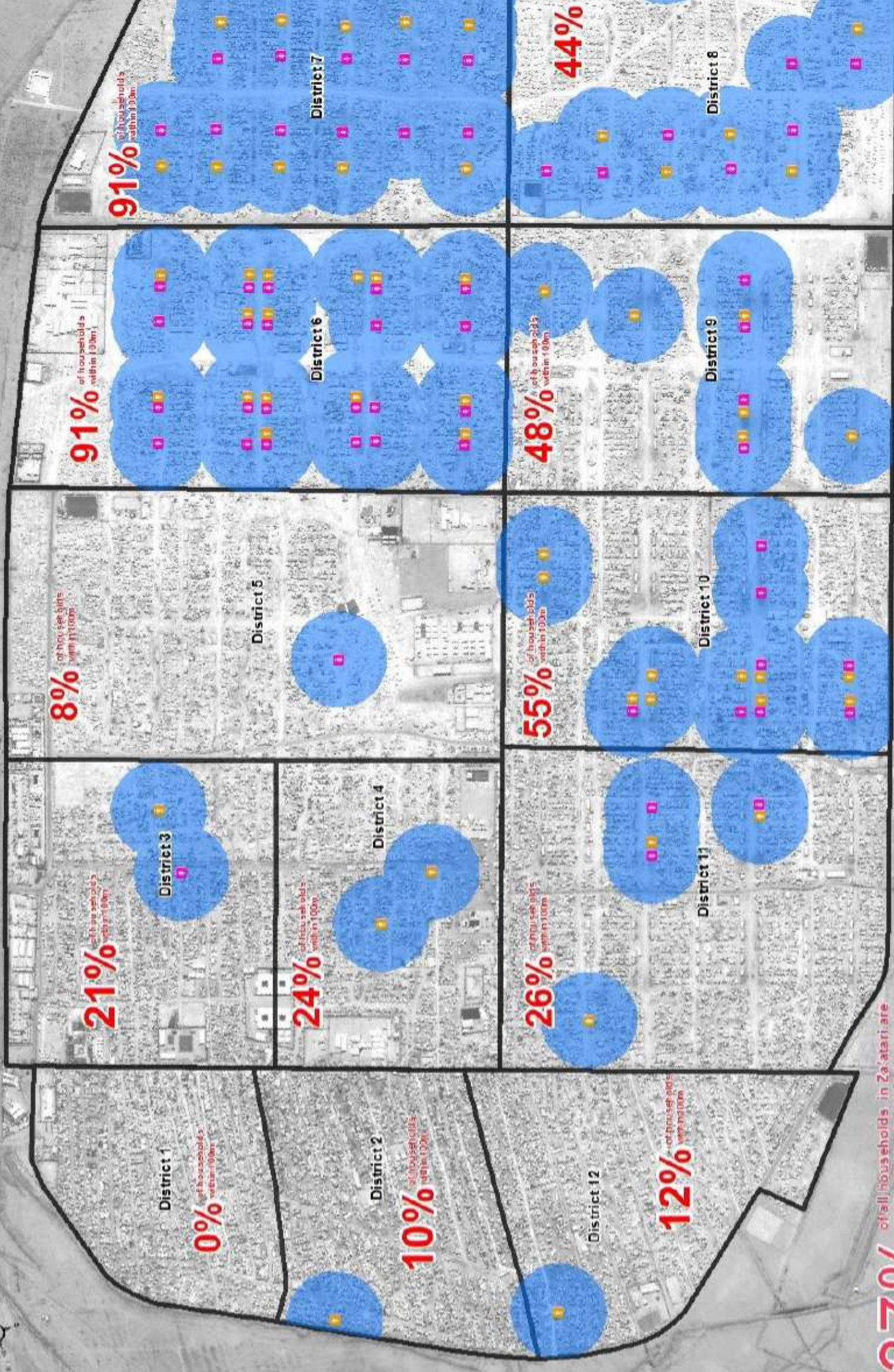
The importance of seeking expert professional advice

3. The planning and implementation of effective WASH monitoring and reporting systems in refugee settings requires a skilled and experienced WASH Coordinator. Every refugee context is different and approaches that have worked well in one setting may not work well in another (e.g. urban vs rural, camp-based vs non-camp based). The routine collection and analysis of WASH data requires the ability to prepare and organize monitoring activities, logistics, and monitoring staff – often with minimal time and resources. In all settings, it is essential to seek expert advice from professionals who are familiar with WASH monitoring and reporting mechanisms in difficult conditions.

Priority actions

Immediate establishment of WASH monitoring and reporting mechanisms

4. Routine monitoring of the UNHCR core WASH indicators needs to be started immediately during the emergency phase and continued through the care and maintenance phase. This is regardless of whether the context is emergency,



37% of all households in Za'atari are within 100m of a WASH centre with external water point

post-emergency, camp-based, non-camp based, urban, or rural. The initial rapid and comprehensive WASH assessment tools (see [Chapter 9](#)) have been designed to start the initial baseline data collection process and facilitate the initial collection of the core WASH indicators. Many of the field based data collection procedures during the monitoring phase are similar to the initial rapid and comprehensive WASH assessment phases.

The UNHCR core WASH indicators and their monitoring frequency

5. UNHCR and WASH actors should ensure that the UNHCR core WASH indicators are tracked according to the standards and timeframes described in the WASH indicator monitoring frame on the following page - also visible online within the [UNHCR Digital Emergency Handbook](#). If WASH activities are not being tracked it is often an indication that no activities are taking place, or WASH interventions are of poor quality.

The importance of tracking the scale-up rate of WASH programmes

6. In addition to tracking the core WASH indicators, UNHCR and WASH actors should also track and report the indicators' rate of change over time (i.e. their scale-up rate) especially as it is a common failure of WASH to scale-up rapidly. During the initial response period, the coverage of water points, toilets, bathing cubicles, water containers, hygiene kits and soap should be closely monitored. If the scale-up rates show that UNHCR target will not be met on-time, additional financial, material, and human

resources must be allocated immediately. Changes in WASH implementation strategy may also be required for example: the use of mechanical excavators, imported skilled labour, or mass production of WASH superstructures.

Programmes that fail to track implementation rates often fail to realize their scale-up strategies are failing before it is too late. For this reason UNHCR and WASH actors should ensure that tracking is given a priority from the start of any emergency response.

The UNHCR online WASH monitoring system in TWINE

7. UNHCR uses an online platform (<http://twine.unhcr.org/>) called TWINE to manage and analyse public health data collected in refugee operations. TWINE is used to create WASH report cards for refugee sites that monitor trends in key water, sanitation and hygiene indicators at household and community levels. Data is entered into an Excel sheet and submitted directly into TWINE via the internet. The Excel data is automatically analysed and converted into WASH indicators. Currently TWINE is able to record and present data related to the following indicators at the site levels.

- ◆ Average total m3 of water available per day
- ◆ Per capita water availability
- ◆ Number of water collection points
- ◆ Percentage of water points with at least 0.1 mg/l free residual chlorine
- ◆ Percentage of water points with 0 faecal coliforms / 100ml

Box: UNHCR Monitoring Frame for Core WASH Indicators				
	Indicator	Emergency Standard	Post Emergency Standard	Means of Verification
Water quantity and safe storage	Per capita water availability.	> 15 l/p/day	> 20 l/p/day	<input type="checkbox"/> Logging from bulk water meters / tanker records.
	% of HH collecting at least 15 l/person/day.	> 80%	> 80%	<input type="checkbox"/> Rapid household surveys. <input type="checkbox"/> KAP survey report.
	% of HH with at least 10 l/person storage capacity.	> 80%	> 80%	<input type="checkbox"/> Rapid household surveys. <input type="checkbox"/> KAP survey report.
Water quality	% of HH collecting drinking water from protected sources.	> 70%	> 95%	<input type="checkbox"/> Rapid household surveys.
	% of water collection points with 0 fcu/100ml.	> 95%	> 95%	<input type="checkbox"/> Water quality records.
	% of water points with > 0.1 mg/l free chlorine residual and turbidity of <5 NTU.	> 95%	> 95%	<input type="checkbox"/> Water quality records.
Water access	Number of persons per usable water tap.	< 250	< 80 - 100	<input type="checkbox"/> Target population divided by functional water points.
	Number of persons per usable well/hand pump.	< 400 / Well	< 200 - 300	<input type="checkbox"/> Target population divided by number of functional wells/handpumps.
		< 500 / Handpump		
% of HH within walking distance of water collection points.	> 95% within 500m	> 95% within 200m	<input type="checkbox"/> Overlaying of water point buffer zones on top of satellite imagery.	
Excreta	Number of persons per toilet cubicle.	< 50	< 20	<input type="checkbox"/> Population divided by no. of functional communal and HH toilet cubicles.
			1 per HH	
	% of communal toilets that meet UNHCR standards (cleanable slabs, privacy, security, absence of faecal matter, safety).	> 60%	> 85%	<input type="checkbox"/> Sanitary survey records of communal toilet facilities.
	% of communal toilets with functional handwashing stations <10m (soap + water + drainage).	> 95%	> 95%	<input type="checkbox"/> Sanitary survey records of communal toilet facilities.
	% of households reporting defecating in a toilet.	> 60%	> 80%	<input type="checkbox"/> KAP survey report.
	% of families with HH toilets.	- - -	> 80%	<input type="checkbox"/> KAP survey report.
% of schools and health centres that have toilets in compliance with UNHCR standards.	> 65%	> 90%	<input type="checkbox"/> Sanitary survey records of school and health centre toilet facilities.	
Hygiene Promotion	% of HH receiving at least 450g soap / person / month	> 95%	> 95%	<input type="checkbox"/> Rapid household surveys. <input type="checkbox"/> KAP survey report.
	% of HH with soap (any variety) present with 1 minute.	> 90%	> 90%	<input type="checkbox"/> Rapid household surveys. <input type="checkbox"/> KAP survey report.
	% of HH with knowledge of at least 3 out of 5 critical times for handwashing with soap.	> 60%	> 80%	<input type="checkbox"/> Rapid household surveys. <input type="checkbox"/> KAP survey report.
	Ratio of number of persons per hygiene promoter	< 500	< 500	<input type="checkbox"/> Programme records

More information can be found in 'Practical Guide to the Systematic Use of Standards and Indicators in UNHCR Operations 2nd Edition (UNHCR, 2006)'

- ◆ Total number of functional communal toilet cubicles to UNHCR standards
- ◆ Total number of functional household toilet cubicles to UNHCR standards

they are uploaded into the UNHCR WASH Monitoring System (TWINE) in all sites where the system has been rolled out.

Practical Guidance for WASH Monitoring



9. A combination of the monitoring approaches may be used to measure the UNHCR core WASH indicators in refugee settings including:

- i) Monitoring of water availability using bulk water meters and water pumping/delivery logs
- ii) Monitoring of water quality through analytical testing
- iii) Monitoring of WASH infrastructure condition through sanitary surveys
- iv) Monitoring of WASH service provision through rapid household surveys
- v) Monitoring of WASH service provision through KAP surveys

More details concerning each of these approaches can be found in the following sections.

Monitoring of water availability

10. Per capita water availability can be estimated through the use of bulk water meters or water pumping or tanker delivery logs. Practically a per-capita figure is calculated by dividing the total amount of water supplied per day by the number of refugees. It should be noted that this approach generally only provides an approximation of water availability as the results do not take into account leakage, wastage, misappropriation and geographic variations. In all settings UNHCR and WASH actors must also monitor the actual availability of

8. Trends of diseases related to hygiene and sanitation conditions (for example the incidence of watery diarrhoea, bloody diarrhoea, and skin disease) are shown in the WASH report card to support the interpretation of WASH indicators. WASH report cards are reviewed and approved at country level by the UNHCR or implementing partner WASH focal point and then at the regional level by the Regional WASH Advisor. The final WASH report cards are made publicly available after they have been approved. Progress against indicators can be visualized over time and can be used to inform public health action. UNHCR and WASH actors should ensure that the UNHCR key WASH indicators are reported on a monthly basis and



Number of active WASH centres: 22
 Number of WASH centres assessed: 22*
 #Female: 12 #Male: 10
 Population coverage: 4605
 # of households: 954
 # of children: 2586

All active centres were assessed, except those that were locked and could not be accessed

	This week	2 weeks
STRUCTURAL INTEGRITY	1.86 / 4	2.05
HYGIENE	1.39 / 3	2.34
ACCESS & PROTECTION	2.18 / 3	2.23
OVERALL	5.43 / 10	6.61

TOILETS & SHOWERS

(MS) = minimum standard

	This week	2 weeks ago
(MS) At least min standard of functional toilets are present ¹	6 (27%)	8 (36%)
(MS) There are at least 2 functional shower stalls ²	9 (41%)	9 (41%)
There are doors on 100% of all toilet and shower stalls	7 (32%)	7 (32%)
There are locks on 100% on all toilet and shower doors	0 (0%)	1 (5%)
Female centres contain at least 1 lockable toilet and shower stall	8 (67%)	6 (50%)

TAPS

	This week	2 weeks ago
(MS) There are at least two internal taps	4 (18%)	6 (27%)
There is at least one external tap	4 (18%)	1 (5%)
There are no leaking internal taps (only centres with running water)	4 (67%)	13 (93%)

SEWAGE

(MS) If there is a septic tank, there are no signs of overflow	11 (58%)	19 (100%)
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LIGHT

	This week	2 weeks ago
(MS) WASH centres with internal or external lighting	4 (18%)	5 (23%)
Female WASH centres with internal or external lighting	3 (25%)	3 (25%)

TOTAL ITEMS	This week	2 weeks ago
Total number of functioning toilets	85	101
Total number of functioning showers	27	27
Total number of doors on toilet and shower stalls	142	152
Total number of locks on toilet and shower doors	52	55
Total number of internal taps	15	22

PUBLIC ACCESS

	This week	2 weeks ago
(MS) Centre is not locked	22 (100%)	22 (100%)
There are no locked toilet and shower stalls	11 (50%)	13 (59%)
There is an unlocked stall for disabled persons	2 (9%)	2 (9%)

PRIVATE CONNECTIONS

	This week	2 weeks ago
There are no private connections to water tanks	18 (82%)	20 (91%)
There are no private connections to the taps	19 (86%)	19 (86%)
There are no visible private connections to WASH centre septic tanks	14 (74%)	16 (84%)

CLEANLINESS

	This week	2 weeks ago
(MS) There is no faeces inside the facility	11 (50%)	15 (68%)
(MS) No faeces outside the centre within a 2m radius	N/A (-)	N/A (-)
(MS) No stagnant water inside and outside the facility	7 (32%)	20 (91%)

SANITARY WASTE DISPOSAL

	This week	2 weeks ago
(MS) Female centres with disposal arrangements for menstrual hygiene materials and diapers ³	8 (67%)	8 (67%)

A) See below for min. standard calculation. B) Functioning toilet means one that is intact, and not blocked, overflowing, or destroyed
 A functioning shower means one that has a door and an internal lock
 This disposal arrangement may include a bin or bag inside the hallway of the WASH centre

A. STRUCTURAL INTEGRITY INDEX

- In Districts 4-11, there is at least 1 toilet per 50 individuals that is functional, i.e. intact and not blocked/overflowing. In Districts 1/2/3/12 there are at least 2 functioning toilets per centre.
- There are at least 2 functioning shower stalls, including an intact basin and door with lock.
- There are at least 2 functioning taps inside the centre
- There are no signs of sewage tank overflow

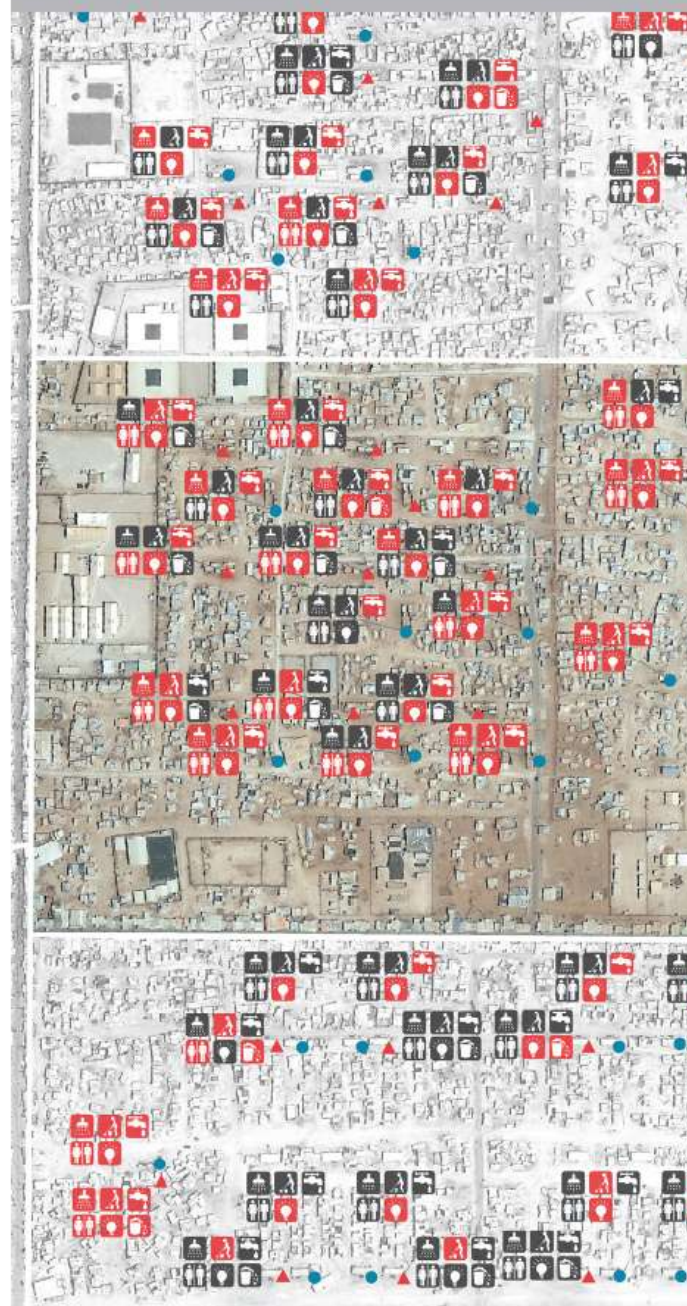
B. HYGIENE INDEX

- The centre does not contain faeces inside the WASH facility
- There is no stagnant water inside or outside the facility
- There is an arrangement for the disposal of diapers or menstrual hygiene materials (bag or bin in the hallway)

C. ACCESS & PROTECTION INDEX

- The centre is open and free of charge
- The centre is sex-segregated
- There is internal or external lighting

DISTRICT 4: KEY MINIMUM STANDARDS PER WASH CE



DISTRICT 4: Compliance with key minimum standards

At least 2 functioning showers	No faeces present inside centre	At least two taps present
Less than 2 functioning showers	Faeces present inside centre	Less than two taps present
At least m. standard of functioning toilets	Light present inside or outside centre	Disposal arrangement for female hygiene items
Less functioning toilets than minimum standard	No light inside or outside centre	No disposal arrangement for female hygiene items

water at the household level through the use of rapid household surveys.

Monitoring of water quality

11. In all refugee settings, UNHCR and WASH actors must ensure that the water supplied is fit for human consumption. A full explanation of guidance for water quality monitoring, surveillance and water safety plans in refugee settings can be found in the **Water Supply Chapter** in **sections 3.86 – 3.113**. At a minimum all refugee settings must have in place an up-to-date water safety plan and should be routinely undertaking water quality testing of the following:

- ◆ Percentage of water points with 0 fcu/100ml
- ◆ Percentage of water points with at least 0.1mg/litre free chlorine residual and <5 NTU
- ◆ Any medium to high risk relevant chemical water quality parameters

Monitoring WASH programmes using the rapid household survey tool

12. The most important monitoring tool for refugee settings is the rapid WASH household survey (**see Annex**). It is recommended that UNHCR and WASH actors use this monitoring tool on a weekly basis during the acute emergency phase, transitioning to every month during the care and maintenance phase. Guidance for use of the rapid WASH household surveys tool including sampling methodologies (systematic random sampling) and sampling size calculation (60 households to give a 95% confidence interval of +/- 12.5%) are being developed by CDC and can

be found on the wash.unhcr.org website. At a minimum the following indicators will be monitored using this tool:

- ◆ Per capita water consumption
- ◆ Household water storage capacity
- ◆ Percentage of households collecting water from protected sources
- ◆ Percentage of households reporting defecating in a toilet
- ◆ Percentage of families with household toilet
- ◆ Percentage of households that can produce soap within 1 minute
- ◆ Percentage of households with knowledge of at least 3 out of 5 of the critical times for handwashing with soap

Monitoring WASH infrastructure condition using sanitary surveys

13. In all refugee settings, UNHCR and WASH actors should ensure that the condition and coverage of WASH infrastructure is closely monitored and meets UNHCR standards. More detailed guidance for the use of sanitary surveys in monitoring water, excreta management and solid waste infrastructure can be found in **sections 3.86 – 3.90, 4.23, and 5.40**. In all refugee settings, these tools should be used routinely to monitor the following:

- ◆ Number of person per functioning tap
- ◆ Number of person per functioning well / handpump
- ◆ Number of persons per functioning toilet cubicle
- ◆ Number of persons per functioning bathing cubicle

- ◆ Percentage of communal toilets that meet UNHCR standards
- ◆ Percentage of schools and health centres with WASH structures in compliance with UNHCR standards
- ◆ Percentage of communal waste collection points that are overflowing

KAP (knowledge, attitudes and practice) surveys

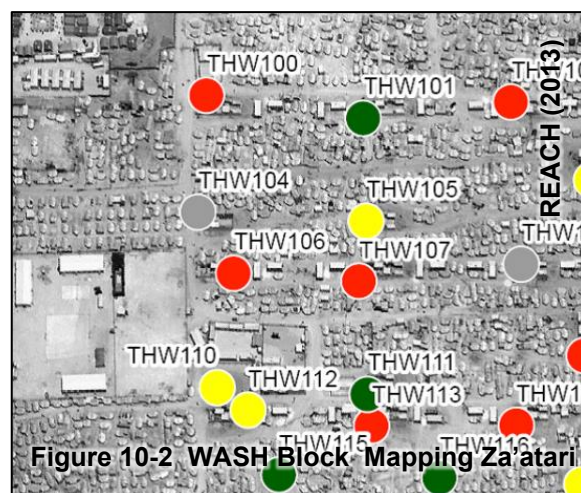
14. In all refugee settings, UNHCR and WASH actors should aim to carry out an initial KAP baseline survey within the first 6 months of the emergency and then at least once a year (ideally twice if there are distinct rainy and dry seasons). Results from the KAP survey should be used to assist in the modification of the WASH activities in particular the hygiene promotion aspects. The KAP Survey Manual, developed in collaboration with CDC can be found on the wash.unhcr.org website and includes core WASH questions and a description of several scientifically robust representative sampling methodologies.

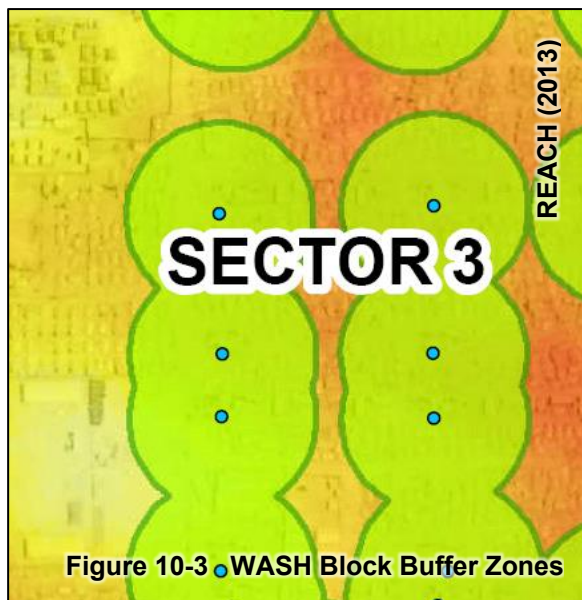
15. UNHCR and WASH actors must ensure that every KAP survey is carried out with a properly designed KAP survey instrument, sampling plan, sample size calculation and data analysis plan. In all cases a sampling size calculation must be provided as it is very easy for inexperienced WASH staff to heavily oversample the population wasting huge amounts of time and resources. UNHCR and WASH actors should also ensure that KAP surveys do not overburden the population and do not collect any

more information than is required. It is very easy for KAP surveys to quickly become ‘bloated’ with questions that are either unimportant or irrelevant, again leading to a waste in time and resources.

Mapping the condition of WASH infrastructure

16. Simple mapping of WASH facilities (for example water point, toilets, bathing cubicles, solid waste collection points) using satellite images (Google Earth) in addition to any simple image editing software (for example Microsoft Paint) can help a WASH programme manager have a clear snapshot of coverage and condition. For example, a WASH monitoring map might plot WASH facilities in green if they are functional, yellow if they have minor issues, and red if there is an issue for immediate attention. An example can be found in the figures on the following pages. These simple geographical information systems can also be used by the health programme to investigate the linkages between disease, where patients reside, and poor access to WASH services.





Monitoring the cost effectiveness and efficiency of WASH interventions

17. During the care and maintenance phase, UNHCR and WASH actors should monitor the cost and efficiency of all WASH interventions over time. Core value-for-money indicators include:

- ◆ The cost of water supply (cost per m³ for water abstraction, treatment and distribution up to the end user)
- ◆ The cost of excreta management (cost per person per year for excreta management services)
- ◆ The cost of solid waste management services (cost per tonne of managing each waste stream)
- ◆ The cost of hygiene promotion activities (cost per person per year for hygiene promotion interventions)
- ◆ The cost of disease vector control (cost per person per year for each disease vector control intervention)

18. The monitoring of WASH expenditure per refugee allows different refugee settings to be

compared and can also be used to explain why indicators are not achieved in some settings due to a lack of funding. The monitoring of WASH expenditure can also highlight locations that are not making efficient use of resources.

19. In addition to monitoring costs, UNHCR and WASH actors should also monitor the productivity of WASH programmes in an effort to maximize efficiency and reduce costs. WASH programmes typically employ a large number of staff (e.g. construction teams, operation and maintenance teams, hygiene promoters, cleaners, waste collection team), vehicles (e.g. waste collection vehicles, water tankers, maintenance pick-ups), and machines (e.g. water pumps, water treatment machines, sludge pumps). Small changes in how these assets operate can result in large increases in efficiency. Basic log sheets should be used to monitor how vehicles, machines and staff are working. For example water tankers, or waste vehicles may be logged to measure how many return trips are being carried out per shift, how much time is spent waiting, loading, collecting, transporting etc..

20. UNHCR and WASH actors should ensure that break-down rates (in particularly programmes that use handpumps for water supply), and spare-parts replacement rates are closely tracked to ensure that strategies to reduce breakdown frequency and replacement are functioning (and to identify irregularities and increasing frequency in breakdown rates and spare-part replacement). Core

indicators for WASH infrastructure includes..

- ◆ Water System Reliability = $\frac{\text{Number of Days Water System is Operational (Days)}}{\text{Total Elapsed Time (Days)}} * 100\%$
- ◆ Percentage of Functioning Water Points = $\frac{\text{Number of Functioning Water Points}}{\text{Total Number of Water Points}} * 100\%$
- ◆ Percentage of Functioning Toilets = $\frac{\text{Number of Functioning Toilets}}{\text{Total Number of Toilets}} * 100\%$
- ◆ Percentage of Functioning Bathing Cubicles = $\frac{\text{Number of Functioning Bathing Cubicles}}{\text{Total Number of Bathing Cubicles}} * 100\%$

21. All data collected by the WASH programme should be collected with a purpose to inform decisions and improve the performance and cost-efficiency of the programme. This is not just to save the donors money but to move to a cost efficient model that may be handed over to the refugee population or local authorities. More information on monitoring the cost and efficiency of WASH interventions in refugee settings can be found in the UNHCR “Cost for water” project which is accessible on the wash.unhcr.org website.

Practical Guidance for WASH Reporting

22. UNHCR and WASH actors should ensure that there are functional systems in place to report back to donors, beneficiaries and local authorities the progress of the

WASH programme. Different communication strategies (for example WASH monitoring updates and bulletins, camp information boards, updated site WASH plans/strategies) should be used to meet the information needs of different groups.

23. Within UNHCR it is compulsory that all WASH data collection and reporting must be harmonized with the UNHCR Information Management (IM) Team. In addition, during emergencies the WASH section is directly responsible for compiling WASH related information for the UNHCR Basic Indicators Report (BIR).

Use of WASH monitoring updates and bulletins

24. WASH updates and monitoring bulletins can be used to keep key actors informed of the progress of the WASH programme towards targets and objectives. The WASH updates / bulletins are typically in a much easier to digest format (one or two pages of maps/infographics) that the site WASH plans / strategies and are typically circulated more frequently (fortnightly, monthly). An example prepared by the organisation REACH can be found on [page 367](#).

WASH monitoring integration into site WASH plans and strategies

25. UNHCR and WASH actors should ensure that every refugee setting has a site WASH strategy document that contains up to date and relevant data and information concerning the WASH situation in the site. The document should describe the short, medium and long-term strategies for water

supply, excreta management, solid waste management, hygiene promotion and disease vector control, in addition to the fourteen (14) core UNHCR WASH philosophies and principles. In addition to the general strategies, an operational plan should be included that clearly describes the ongoing WASH activities in terms of WHO, WHAT, WHERE, WHEN and HOW.

26. The site WASH strategy/plan for each site should be seen as a living document that should be kept up to date with the latest information concerning the conditions within the refugee setting. All of the latest monitoring information from water quality testing, sanitary surveys, waste surveys, baseline surveys, focus group discussions, rapid household surveys, and KAP surveys should be included in the site WASH plan annex. The WASH sectoral strategies developed for the site should be based on a solid interpretation of the WASH data that is collected. The site WASH plan should include maps showing geo-spatial data (coverage and condition of WASH infrastructure) and graphs showing historical trends.

Conveying progress to beneficiaries through the use of information boards

27. Camp information boards can be displayed in public areas to inform the refugee population of the progress of the WASH programme towards targets and objectives. Care must be taken to display information in a format that is clear and legible to all.