



# **WATER AND SANITATION ASSESSMENT IN CAMPS**

**TRAINING FOR PHI STAFF**

**Trincomalee 1<sup>st</sup> March, 2005**

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## INTRODUCTION

This format has been developed to help the Public Health Inspectors (PHI) in evaluating the water and sanitation situation in the camps.

When a new Transit Camp is planned, before starting the implementation, the agency needs approval from MOH, through recommendation of the PHI. PHIs will use this format to verify that the planned water and sanitation structures are consistent with the current international standards.

Once a camp is established, regular visits will be run by the PHIs to verify the overall sanitary conditions. A new report, always based on the current format, has to be filled at least every week. One copy of the report will be left in the camp, as a reference for visitors and other agencies. Other copies will be forwarded to the competent offices. UNICEF Trincomalee will prepare a weekly summary of the situation in the camps, and share will all the participants in the water and sanitation group, as well as

This format should be used as a check list of things to be controlled. Whenever problems are detected, immediate action, on the spot, should be taken. If a representative of the watsan agency is present in the camp, problems and solutions should be discussed immediately, without delay.

The standard of reference used to design this assessment is what is normally known as the Sphere Standard, normally applied internationally in emergency situations.

The Sphere Project

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The Sphere Project is a programme of the Steering Committee for Humanitarian Response (SCHR) and InterAction with VOICE and ICVA. The project was launched in 1997 to develop a set of universal minimum standards in core areas of humanitarian assistance. The aim of the project is to improve the quality of assistance provided to people affected by disasters, and to enhance the accountability of the humanitarian system in disaster response.

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## IDENTIFICATION GROUP

### *Name of the camp*

Has to reflect the same name on the board, and must be kept unchanged.

### *CODE*

If assigned and agreed with the stakeholders, the code of the camp

### *Date*

Date of the assessment

### *Surveyor*

Name of the person making the assessment

### *Type of settlement*

Check the appropriate box. **ONLY** one box.

*Temporary camp*; is the first resettlement area after the tsunami. The assistance is limited, people is living in tents or temporary shelters. The land, public or private, has not been assigned by the GS.

*Transit Camp*; Proper shelter are constructed, the location is agreed with the GS, beneficiaries are settle to stay for a period of few months. Basic services should be present.

*Final settlement area*; new permanent constructions are being constructed, and services adequate to the normal standards of the country.

*Transit Camp PLANNED*: To be filled only once. Before the construction of the transit camp starts, approval for the plan has to be given from MoH. PHIs will inspect the planned area, and will base their recommendation using this format as a check list.

## LOCATION GROUP

### *Village / Landmark*

Name of the closest village, or other important landmark. Use the name the residents uses to identify the location, with the spelling normally used by the GS .

### *Lat / Long*

Latitude and Longitude of the entrance, or main access point, of the camp. Coordinates will be taken only one time, and written on the main board in the camp.

Use the GPS to determine the coordinates. Coordinates should be in Decimal Degrees, with 5 decimals, format (i.e. Latitude in Trincomalee District is something like 8.54123 Nord and Longitude is something like 81.21123 East) referred to the WGS 84 spheroid. Ask assistance for the setting of the GPS if not sure. (WGS 84 is the

default setting of most GPS on the market, so it is very likely that the instrument is already properly set.)

If it is not possible to set the GPS on decimal degrees, the degree/minutes/seconds format can be used, provided that the notation will be 81° 31' 24.3" (indicate degree, minutes and seconds with the appropriate symbols).

### ***GS Division / District / MoH Area***

The name of the GS division / district / MoH area. Use official spelling.

## **DEMOGRAPHY GROUP**

### ***N. of families***

Indicate the number of families in the camp the day of the assessment.

### ***Individuals (Total, Male, Female)***

Indicate the total number of persons in the camp, and the gender breakdown.

### ***Families the date of the previous assessment***

Indicate the number of families present in the camp as indicated in the previous report. It is important that the movements of people are recorded.

### ***Families IN / Families OUT***

Indicate the number of families that moved in, or out the camp, since the previous assessment.

### ***Children U5 / Infants / Pregnant / Lactating / Over 60***

Indicate the number of children U5 (under five years), Infants (less than 12 months old), pregnant or lactating women, elder more than 60 years of age.

### ***Note: Make sure that all figures are consistent!***

*Example: The population in the camp is now 75 families. The total number of individuals is 351, 183 Female and 168 Male. Check that male + female equals the total population figure. Last week the number of families in the camp was 78 families. Four families left the temporary camp to relocate in the new transit camp. On the other hand, one family arrived from another temporary camp. Make sure that the number of families in the previous assessment, + the number of families IN, - the number of families OUT equals the actual population figure (in this case,  $78 + 1 - 4 = 75$ )*

### ***Tip: Verify the likelihood of the figures***

*Until a proper camp management system is set up, reliable population figures can be difficult to obtain. Sometimes some beneficiaries can try to inflate some figures, in the hope to get more assistance: it is more likely that the number of families is more accurate than the number of individuals. Calculate the average number of components of the families (Individuals / Families). If this average is very different from 4-6, than double check those data with some critical questions to the beneficiaries, or staff of*

agencies working in the camp. If the ratio Male / Female is very distant from 1 – 1.1, or there is an unreasonably high or low number of children/infants, etc, make further investigations.

## AGENCIES INVOLVED

Indicate, for each sector of activity, the name of the agency involved. That information will be reflected on the board. Ask for assistance of the agencies involved, checking the comments they might have left on the board, or through the watsan coordination sectorial group, to fill this part.

## SANITATION GROUP

### ***TOTAL number of latrines needed***

Indicate the number of latrines should be present in the camp. According to the sphere standard, there should be a latrine every 20 individuals. Calculate the latrines per gender, rounding up to the higher figure, and than sum up the total.

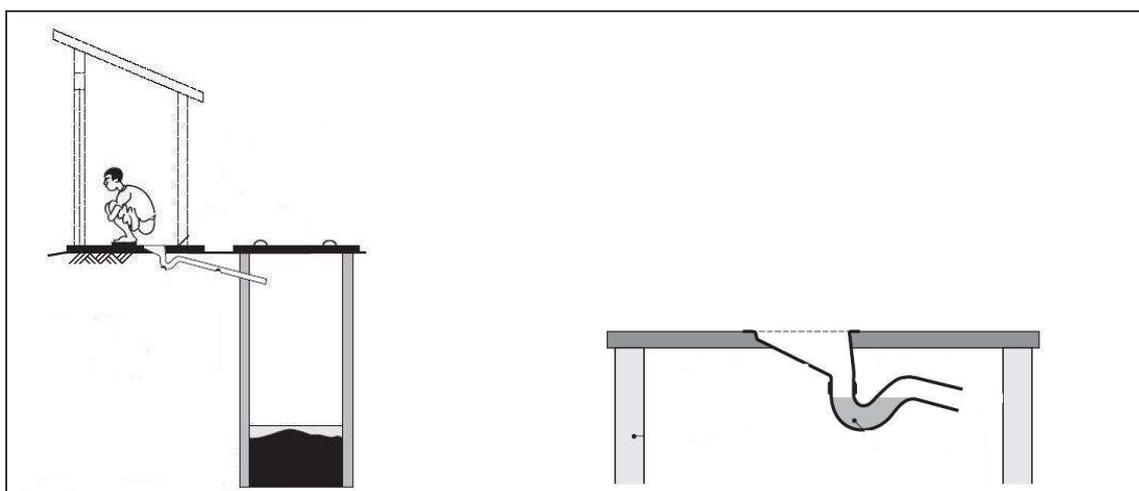
***Note: Sanitation should have separate structures for male and female. Consider small children in the female group.***

***Example: The total number of individuals is 351, 183 Female and 168 Male. Consider Children under 5 in the female group (if there are 15 Cu5, female group becomes 198 and male group 153. Female latrines needed are  $198/20=9.9 \sim 10$ . Male latrines needed are  $7.6 \sim 8$ . Total number of latrines is  $10 + 8 = 18$***

### ***N. Latrines Available***

The number of proper latrines according to the standard available.

A standard for latrine design will be approved by the Watsan coordination group. An example of acceptable design is below.



Source: "Emergency Sanitation" - WEDC, 1998

An acceptable latrine is at least 30 m downstream a water well, has an appropriate drainage, and the pit for excreta disposal is closed with a removable slab. The bottom of the pit should be at least 1.5 m (3') above the groundwater level.

**Note: A latrine that is not properly constructed, or too close to a water well, should not be considered as available.**

**Take Action! Contact the agency in charge of water and sanitation for correction of construction errors. If there is no response from the agency, inform your supervisor in Trincomalee.**

### ***N. Of latrines to be constructed / rehabilitated***

Indicate, per gender, the difference between the number of latrines needed and the latrines available.

### ***N. Of latrines NOT properly used / maintained***

Indicate the number of latrines properly constructed, but not properly used, or maintained.

A latrine should be clean, the pit periodically emptied, the drainage maintained.

**Note: A latrine should be used! A latrine that is not used, is a latrine NOT properly used!**

*Example: You have 10 latrines for female and 8 latrines for male. The women uses the latrines, but man prefers open defecation, and only 2 of 8 male latrines are used. Indicate 6 in male latrines with NO proper use.*

**Take Action! Contact the agency in charge of water and sanitation for the correction of maintenance errors, or the agency in charge of Hygiene promotion for sensitization of the beneficiaries for the correction of improper habits. If there is no response from the agency, inform your supervisor in Trincomalee.**

### ***N. Of latrines with hand washing facilities***

Indicate the number of latrines that has hand washing facilities, and appropriate water supply, available.

### ***N. Of latrines with a water well in the vicinities.***

Indicate how many latrines has a well for bathing in the vicinities.

**Note: ONLY wells for bathing! If the well is a drinking well, the latrine should not be counted as available (n. of latrines available), and should be immediately closed!**

### ***N. of menstruation rooms***

Indicate the number of menstruation rooms available.

### ***N. of urinals***

Indicate the number of proper urinals present.

## SAFE WATER GROUP

### *N. Tanks / bladders per capacity (liters)*

Indicate, per each capacity, the total number of tanks or emergency bladders installed. In the Total box indicate the TOTAL capacity of all tanks installed, in liters.

*Example: In a camp there are 2 tanks of 500 liters, 4 tanks of 1,000 liters, one tank of 2,500 liters. In the total box indicate  $2 \times 500 + 4 \times 1,000 + 1 \times 2,500 = 7,500$  liters.*

### *N. of taps*

Indicate the total number of taps, in working conditions, present in the distribution system. There must be at least 1 tap every 250 persons.

***Take Action! Contact the agency in charge of water and sanitation for the maintenance of the taps. If necessary, contact the agency in charge of Hygiene Promotion for the sensitization of the beneficiaris on a proper use and maintenance. If there is no response from the agency, inform your supervisor in Trincomalee.***

### *N. of taps with proper drainage*

Each tap needs a proper drainage, to avoid staining water. A standard for drainage design will be approved by the Watsan coordination group. With a proper drainage, all water end percolating in the soil, without staining.

Drainage is important, as any staining water is a breeding field for mosquitoes and flies, well known carriers of dangerous diseases, as malaria and dengue fever.

An example of not proper installation of tanks, without any drainage, is below.



Below, instead, is an example of good water point, with proper drainage.



Photo: rs

*Example: In a camp there are 4 plastic tanks of 1,000 liters, each of them with two taps, but also a piped scheme with a tank of 10,000 liters, and a distribution network of 12 water collection points, each with 2 taps. The plastic tanks are not properly installed, and there is no drainage at the distribution point. The pipe scheme, on the other way, is properly constructed, and the water points are well drained, like in the pictures above. Report as below:*

<b>SAFE WATER</b>	Capacity (l)			
	500	1,000	10,000	TOTAL
N. of Tanks / bladders per Capacity (liters)		4	1	14,000
N. of Taps		8	24	32
N. of Taps with proper drainage		0	24	24

***Take Action! Contact the agency in charge of water and sanitation for the correction of the drainage at the taps. If there is no response from the agency, inform your supervisor in Trincomalee.***

### ***Frequency of refilling***

Indicate how many times per day the tanks are refilled.

If the tanks are refilled less than once per day, indicate the fraction.

*Example: In a camp there are 4 plastic tanks of 1,000 liter, each of them is refilled every two days. Indicate 0.5.*

*In another camp, the total capacity of the tanks is 10,000 liters, the bowser refills once a day, but the bowser has a capacity of only 6,000 liters. It means that only 60% of the capacity is used. Indicate 0.6.*

*In a piped scheme, there is a well that fills a 10,000 liters tank automatically any time the level drops. In this case, indicate 99.*

### ***Max queue at taps (min)***

Indicate the maximum waiting time, at peak hour, at the taps. The waiting time must not be longer than 15 minutes.

***Take Action! If the water points are too crowded, it means that there are not enough water points. Contact the agency in charge of water and sanitation asking for their plans. If there is no response from the agency, inform your supervisor in Trincomalee.***

### ***Is water chlorinated in the tanks? / Is residual chlorine monitored?***

Water must be chlorinated in the storage tanks. The chlorination agent must be allowed to work for at least half an hour (30 min), and the residual chlorine levels must be checked, before the water is distributed to the beneficiaries. The residual chlorine levels must be between 0.2 and 0,5 mg/l.

***Tip: The chlorination of water is necessary!***

*At the recommended levels of residual chlorine of 0.2 – 0.5 mg/l, the water does not have any bad taste.! If water tastes bad, it means that there is too much chlorine in it! Chlorination of water is important, because it ensures that no diseases can be transmitted through the drinking water. A good chlorine residual ensures that, even if the water is stored in unclean containers, there is enough disinfecting power left.*

***Tip: The chlorination is ineffective if water is turbid!***

*Water must be clear to permit an effective chlorination. If turbidity is above 5 NTU, chlorination is ineffective.*

***Take Action! Make sure that chlorination is done, and done properly, by skilled and equipped personnel. The person from the agency in charge of water and sanitation must have, and be able to use properly, the test kit to measure turbidity and residual chlorine. Check personally at least one chlorination process, to make sure that it is done correctly. If there is something wrong in the chlorination process, contact the responsible of the water and sanitation agency in the camp. If there is no response from the agency, inform your supervisor in Trincomalee.***

### ***Is bacteriological quality of water monitored?***

Is the agency in charge of water and sanitation monitoring periodically the bacteriological quality of water?

***Tip: Test the water at the point of use!***

*Test the water from the jerry can of one of the beneficiary! Testing periodically the bacteriological quality of water is a good habit, and every camp should be checked at least once a week. In case of an outbreak of WBD (Water Born Diseases) the quality of water has to be checked every day!!*

### ***Faecal Coli 100 ml / Measured conductivity / Measured residual chlorine***

If you have the equipment available, run a periodical test of the water used in the camp, and report the results.

### ***N. of wells dedicated ONLY to drinking water / TW / DW***

Indicate how many wells are used for drinking water use for the camp. Check the right box for the type of well: TW is a tube well, or a drilled well. DW for dug wells.

### ***Lifting device / Motorized / HP / R&B***

Indicate the kind of lifting device: check the right box: Motorized if a submersible pump is installed, HP for HandPump, R&B for rope and bucket.

**Note on wells:** Only protected sources can be used to provide drinking water without treatment (turbidity/coagulation and chlorination). Open dug wells does NOT provide safe water. Furthermore, if a wells is used for water supply, no other use should be done of the well (bathing, or other), NO latrines must be present for at least 30 m around the well, and, if possible, a fence should be constructed to prevent animals to defecate nearby. Closed dug wells provide a better quality of water. Tube wells, closed and sealed, equipped with handpump or submergible pumps, can provide safe water that does not need any treatment, but must be tested frequently, and it must be ensured that water is collected and stored in sealed, clean containers. Treatment of water is always recommended at household level, at the punt of consumption.

### ***Minimum daily quantity of water needed***

Calculate the minimum amount of safe water that must be provided on a daily base. As per Sphere Standard the minimum quantity in emergency situation is 15 liter per capita per day.

Total number of individuals x 15.

### ***Quantity of water available (liters)***

It is assumed that both a dug well and an handpump can provide 4,000 liters of water a day. A tank can provide his volume times the frequency it is filled.

The quantity of water available will therefore be the water available from drinking wells (n. of wells x 4,000) plus the water available in tanks (total volume of water in tanks x the frequency of re-filling).

### ***Water gap / Coverage %***

The quantity of water that remain to be provided to meet the minimum standard.

It is the difference between the water needed and the water that has to be provided.

The % of coverage is represented by the water available / water needed x 100.

**Example:** In a camp there are 4 plastic tanks of 1,000 liter, each of them is refilled every two days. There are also two drinking dug wells. The population resident in the camp is 856 individuals. The total capacity of the tanks is  $(4,000 \times 0.5) = 2,000$  liters. Two dug wells can provide  $2 \times 4,000 = 8,000$  liters. Total water available is therefore 10,000 liters a day. The need is  $856 \times 15 = 12,840$  liters. The water gap is  $12,840 - 10,000 = 2,840$ . Coverage is 78%.

## BATHING FACILITY GROUP

### *N. bathing facilities available*

Alike sanitation, bathing facilities should be separated for male and female. Report the number of wells dedicated to bathing, or the number of dedicated structures that has been constructed.

### *N. properly screened*

Number of bathing facilities that guarantee enough privacy to both man and woman.

### *N. with proper drainage*

Alike taps, all refuse water has to be disposed in the ground, without creating any staining water pool.

Below is an example of poor drainage in a bathing well (without proper screening also) and the result of the poor drainage.



Photo: UNICEF Trincomalee

### *Nearest water point (minutes)*

Report the distance (in time) of the bathing facility from the nearest water point (in the case of bathing wells, or structures with water supply incorporated, report 0)

### *N. separated laundry facilities available*

Indicate if separate laundry facilities are present, and the number.

## WASTE DISPOSAL GROUP

### *Is garbage disposal available?*

Is solid waste collected? Y or N in the checkbox. If N, leave the two following questions.

### **Frequency of collection**

Indicate the number of days between two collections. If garbage is collected every three days indicate 3. 1 means every day.

### **Is garbage disposed in a proper site?**

Is the final point of disposal of the collected waste a proper, dedicated landfill? Is the design of the landfill according to the standards of the environmental authority?

## HYGIENE HABITS ASPECTS

### *Has clean water containers (soap) been distributed / available*

Is there scarcity of containers or soap? Y or N.

### *Hygiene promotion campaign available?*

Y or N

### *Are baseline data available / periodical hygiene habits assessment available?*

Y or N

## HEALTH HAZARD

### *Is sanitary facility available? Distance*

Is there any sanitary facility available, at least for the most serious cases? Distance in hours.

### *N. cases WBD from previous assessment / in Cu5*

This is a water and sanitation assessment only. The purpose of those questions is to keep track of the morbidity situation of water born diseases in the population, and children under 5.

***Take Action! If you notice an unusual high number of WBD, or a steady increase in morbidity week after week in a specific camp, IMMEDIATELY inform your supervisor in Trincomalee.***