



WASH Assessment

Humanitarian Response to the Syrian Refugees.

Bekaa Valley Eastern of Lebanon

ACF-Spain
(Lebanon)
June 2012

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Contents in Details

1. Acronyms.....	3
2. Context.....	4
3. Objectives.....	5
4. Methodology	6
4.1 Assessment selection.	6
4.2 Configuration of the assessment team.	7
4.3 Vulnerability indicators verify during the assessment.....	7
4.4 Sources of information	9
4.5 Limits of the Methodology	11
5. Main findings.....	12
5.1 KAP Survey.....	12
5.2 Household Assessment and water testing.....	18
6. Conclusions.....	21
7. Recommendations and activities.....	23
Identified Activities.....	24
Annexes	25

1. Acronyms

ACH/ACF-E: Acción Contra el Hambre, Action Contre la Faim, Action Against Hunger

HRC: Higher Relief Committee

HH: Household

NGO: Non-Governmental Organization

UNICEF: UN Children's Fund

UNHCR: United Nations High Commission for Refugees

WFP: World Food Program

ECHO: European Commission - Humanitarian Aid & Civil Protection

FS: Food Security

WASH: Water, Sanitation and Hygiene

HQ: Head Quarters

2. Context

The human rights situation in the Syrian Arab Republic has deteriorated significantly since November 2011, causing further suffering to the Syrian people. Widespread violence and increasingly aggravated socio-economic conditions have left many communities in a perilous state. Meeting basic needs to sustain everyday life has become increasingly difficult.

Many individuals and families have been deeply affected by the events that caused them to leave and are reluctant to return home until the situation stabilizes.

In Jordan, Lebanon, Iraq and Turkey, a year after unrest began in Syria, refugee numbers have been increasing (up to 71,073 people registered) and signs of strain are showing among the communities that are hosting them. There is a clear need for international support to be stepped up.

In Lebanon, joint registration of refugees with the government is ongoing. Many of the refugees are in a precarious situation, with little or no financial resources to rely on. UNHCR's latest estimates with partners indicate that there are 17,267 Syrian registered refugees and some 25,922 assisted refugees by UNHCR, Government, local authorities and international and national partners.

UNHCR's latest assessment shows approximately 9,250 Syrian refugees in need in different towns along Bekaa Valley, Mashari al Qaa, Hermel, Aarsal, Jdeide, Fakeha in north Bekaa, Saadnayel, Taalabaya, Taalyel in Central Bekaa and Rassayeh in West Bekaa. Efforts to verify these numbers and locations are undertaken on a daily basis.

Majority of the refugees are women and children, as many men/heads of households could not leave Syria. Displaced dependents in Lebanon are therefore socially and economically vulnerable.

3. Objectives

The **overall objective** of the project is to identify emergency WASH needs and gaps of most vulnerable Syrian refugees and host families in 53 communities in Eastern Lebanon.

The expected results are as follows:

1. The current water supply services for households in 12 communities in Eastern Lebanon have been mapped. Needs and gaps in water delivery and storage have been assessed and recommendations made to reach SPHERE standards in quantity of safe water available per person per day in emergency context.
2. Water quality tests in twelve communities where Syrian refugee are hosted in Eastern Lebanon have been undertaken. Needs and gaps in terms of water quality monitoring have been assessed and recommendations made to reach SPHERE standards.
3. The current sanitation and waste management in twelve communities in Eastern Lebanon (Bekaa Valley) has been measured. Needs and gaps in term of sanitation and waste management have been assessed and recommendations made to reach SPHERE standards.
4. Knowledge and practices on hygiene and waste management have been measured in twelve communities where Syrian refugees are hosted in Eastern Lebanon. Needs and gaps in terms of good hygiene practices and waste management have been assessed and recommendations made to reach SPHERE standards.
5. Needs in terms of WASH capacities building of local stakeholders (water committees, municipalities and local NGOs) have been assessed, and recommendations made to promote sustainability and coordination of WASH interventions through strengthening of local capacities.

In addition it can allow us to identify new local techniques to treat the water at household level, understanding which the most appropriate techniques are and to plan the strategy for the humanitarian response in the implementing area.

4. Methodology

This assessment was carried out during three weeks, from May 21st to June 11th 2012.

4.1 Assessment selection.

All communities along the Bekaa Valley (North, Central and West Bekaa), already identified by the UNHCR and the humanitarian community as hosting communities, were included in the assessment.

Most of them were visit during the 2 weeks assessment in the area. There were some exceptions:

- Al Masharih: it was not included finally in the assessment because of some security constrains. ACF considers that an intervention in this context couldn't assure our neutrality.

The list of assessed communities is listed in *Table 1*¹:

Table 1: Hosting Communities in Bekaa Valley and number of refugees families.

Region	Town/ Area		# of refugee families
North Bekaa	Hermel	Baalbeck	1,692
	Al Masharih	Al naana'iya	
	Aarsal	Aaddous	
	Jdeideh	Doures	
	Zaitoun	Al Hadidiya	
	Al Fakiha	Al houchaimiya	
	Al Ain		
Central Bekaa	Saadnayel	Makseh	1,240
	Bar Elias	Zahle	
	Majdal Anjar	Taalbaya	
	Al Faour	Anjar	
	Kob elias	kfar Zabad	
	Jdita	Bwarej	
	Taanayel	hawch Al oumara	
West Bekaa	Al Dalhamieh		348
	Al Marj	Dahr el Ahmar	
	Al Soueireh	Al Rafid	
	Mdoukha	Al Kar'oun	
	Kherbit rouha	Jeb jannin	
	Ghazze	Al Rawda	
	Azza	Marj Am zouhour	
	Al Loussa	Al khyara	
	Al Mansoura	Baaloul	
	kamed al lawz	Bakka	
	Kfardines	Kifraya	
	Al Manara	Al Sultan Yacoub al fawqa	

¹ Table1 provide breakdown of refugees registered, according to the Accord of Muslim Charities and UNHCR partners per area.

4.2 Configuration of the assessment team.

The assessment team was composed by three ACF staff, from Lebanon ACF mission, with the support of the WASH Coordinator of the EP in Madrid. Names and positions of each member:

- Juan Garcia- WASH Coordinator / Technical referent
- Mutasim Hamdan Emergency Coordinator/ Team Leader
- Kamel Kalaany – Senior Field Officer / Security Focal Point
- Malik Wehbe – Field Officer
- Ziad Al Barak - Driver

Before starting the field survey, orientation training was conducted to the ACF field team, including:

- Clear objectives of the HH KAP survey
- An outline of the major questions that will be asked to the HH. In Annex 1, the final checklist is available. Main headlines of the checklist:
- Water supplies: the quantities of water stored and the adequacy of storage containers and water hygiene (including whether containers are covered)
- Agreement on the appropriate approaches and behaviour by all team members
- Reviewing logistics and security arrangements for the actual fieldwork and agreeing to the travel schedule
-

4.3 Vulnerability indicators verify during the assessment

Three aspects were evaluated during the assessment:

- Life conditions related to Water (access, quantity, quality) , Sanitation, Hygiene Practices and Shelter conditions (solid waste management).

Water system

Sources: Visit to the water source, key informants and municipalities

Table 2: Water supply system and water treatment system changes as an indicator of seriousness of the situation

Change in the water supply system during the emergency	Situation	Change in the water treatment system during the emergency
No	Normal IF NO AGGRAVING FACTOR	No
Yes	Check the following indicators	Yes

Water quantity:

Sources: HH visits and KAP Survey

Table 3: Consumption of water as indicators

Water quantity	Situation
>15 liters / pers /day	Normal
10-15 liters / pers /day	Under Control
5-10 liters / pers /day	Out of control
< 5 liters / pers /day	Humanitarian Catastrophe

Water quality:

Sources: HH visits, analysis of water samples

Table 4: Household level water quality

% of household having safe water recipient for transport and storage	Situation	Average total capacity of water-storage containers at household level (l)
> 75%	Normal	>40
51-75%	Under Control	21-40
25-50%	Out of control	11-20
<25%	Humanitarian Catastrophe	<10

Sanitation:

Sources: HH visits and KAP Survey

Table 5: Existence of toilets for safe excreta disposal at Household level

Existence of safe excreta disposal	Situation
No	Humanitarian catastrophe
Yes	Check the following indicator

Table 6: People per toilet at Household level

Number of people per excreta disposal system	Situation	% of safe excreta disposal (with hand washing facilities and clean)
<20	Normal	> 75%
20-50	Under Control	51-75%
50-100	Out of control	25-50%
>100	Humanitarian Catastrophe	<25%

Hygiene practices:

Sources: KAP Survey

Table 7: People per toilet at Household level

Proportion if men and women washing hands with water and soap or substitute after contact with faeces and before contact with food and water	Situation	Proportion of HH where potable water is safely collected, stored and used
<25	Normal	<25
25-50	Under Control	25-50
51-75	Out of control	51-75
>75	Humanitarian Catastrophe	>75

Shelter conditions:
Sources: HH Visits

Table 8: Shelter conditions and solid waste management

Shelter conditions	
Acceptable situation	Acceptable
Overcrowded and/or unsanitary shelter conditions	Poor
Seriously overcrowded family shelters and extremely unsanitary shelter conditions	Serious
Severely overcrowded collective shelters, and extremely unsanitary shelter conditions	Critical

- Local Capacity. Sources: authorities meeting, community and household surveys

- Emergency mechanism existing
- Other stakeholders: Muslim Charities

- International commitment Sources: Coordination meetings, sectorial working groups, secondary data collection

- Presence of international NGO's

4.4 Sources of information

To carry out the present assessment, we have crossed checked information and figures from different sources in order to come up with a summary of all we know about the communities where Syrian Refugees are hosted in Bekaa Valley. Thus the different sources of information used for this report are:

- Local authorities and Mokhtar
- Interviews / HH KAP survey.
- Human Actors and coordination
- Secondary level of information

Local authorities:

Meeting with local authorities at municipality level were conducted in every community targeted in this assessment. ACF was welcome in every municipality and mayors were always willing to support ACF.

Due to the special sensitive area, introduction to the municipality representatives is compulsory before any activity, even before any visit inside the communities.

In Lebanon, there is a key personality at community level. It is the **Mokhtar**. This person is elected by the people and he represents his community in front of the municipality or any other organism/structure. Since the beginning of the crisis, the role of Mokhtars is being fundamental. In most of the communities, Mokhtar is in charge of the registration of refugee families hosted in the community and no visit to any household can be done without the Mokhtar.

In all visited communities, collaboration with both municipality representatives, as well as Mokhtar, has been really positive and useful for the results.

Other key informants during this assessment were the representatives of Muslim Charities. These charity groups were working with the vulnerable people before this crisis and since the refugees started arriving to Lebanon, they become a key stakeholder in the humanitarian response. Their added value is their experience and knowledge of the area and the people living there. They were the first in assisting the refugee families and registering them, although they were quite unwilling to share information regarding figures and lists of families.

Minutes of meetings with local authorities, mokhtars, charities and other stakeholders are attached in Annex 2.

Interviews/ Assessment visits:

The visits have provided an opportunity to witness living conditions at first hand and provide an excellent opportunity to talk to women and children in the targeted communities.

This assessment was based on a face-to-face interview (focusing in women) using pre-established questions.

Main headings included in the survey were:

- Household Composition (Special attention to vulnerability groups)
- Water sources and quality
- Consumption and use of water
- Hygiene practices
- Beliefs and Knowledge about water related diseases
- Use of latrines and garbage management

During the household visits and after the interviews a **water sample** from the family drinking water source was taken and analyzed to identify a potential bacteriological pollution and water quality testing.

KAP Surveys:

KAP stands for Knowledge, Attitude, and Practice. This is a survey that investigates WASH facilities at Household level and the level of knowledge a population has on water, sanitation, health and hygiene, attitudes towards these subjects, and the way they do it, in order to carry out an efficient technical and educational program.

The surveys follow the Random Sampling Technique. The sampling universe is constituted by 3,280 Syrian refugee families and host families in Eastern Lebanon (Bekaa Valley).

With the formula “Traversal” a sample size of 103 samples at a confidence level of 95% and an error of 90% was calculated. 103 numbers will be drawn randomly.

$$n = \frac{N Z^2 a/2 pq}{Nd^2 + Z^2 a/2 pq}$$

The number of samples to be taken in each site, therefore, depends on the size of the population settled there.

The selection of samples has been done using the Random Sampling Table within the site, to ensure all beneficiaries surveyed are from different households (i.e. Do not survey more than one person from one household).

A questionnaire (Annex 1) has been created covering subjects of water, sanitation, knowledge of health and hygiene. The questionnaire has been translated into Arabic and tested in the field in order to ensure the well understanding and to make changes if necessary.

Humanitarian actors / Coordination:

ACF has been attended to the bi-weekly WASH working group meetings , conducted in Bekaa Valley, as well as the interagency coordination meeting conducting in Beirut, lead by UNHCR, and with the participation of all international and national humanitarian organizations, as well as representatives of local authorities.

ACF has coordinated with the rest of stakeholders for the conduction of the needs assessment.

Secondary Level:

- Reliefweb - Syria: <http://reliefweb.int/country/syr>
- Humanitarian portal for Syrian crisis: <http://data.unhcr.org/syrianrefugees>

4.5 Limits of the Methodology

Difficult context, with many stakeholders involved and with different affiliations (religious, political, cultural..).

Identification of the HH to be interviewed; the visited families during the HH Survey were defined by the Mokhtars, as not clear picture of the figures and location of the refugee families in each community was available

Lack of data (lists of families)

Due to security constrains during the assessment; it was not possible access to one community in the North Bekaa near to the Syrian border (Al Masharikh).

5. Main findings

5.1 KAP Survey

Here below are detailed the different results we have found analyzing the KAP survey database.

5.1.1 General Information

The majority of displaced Syrians in the Bekaa region have come from Homs region and Al Qusayr, south of Homs, Ain Al Sakhne, Alippo, Daraa, Halab, Hamaa, Idleb, Jouseb, Qusserand Damascus. There are new arrivals every day according to the municipalities and the Mokhtar.

According to the survey the 38 % of families are registered with UNHCR and 46 % of the families are still pending of registration. In the other side 16% did not answer the question or don't want to be registered.

5.1.2 Humanitarian Assistance Information

Figure 1: shows that 70 % of the families are not receiving any assistance related on WASH; 17 % of the families are receiving support from Azhar (Muslim Charitas) and others NGOs ; 12 % of families from the local authorities and 3% from friends and relatives.

The *KAP survey* shows that from the target population assisted on WASH, around 59% of the households are being assisted on Hygiene and 5% of the households on water and sanitation.

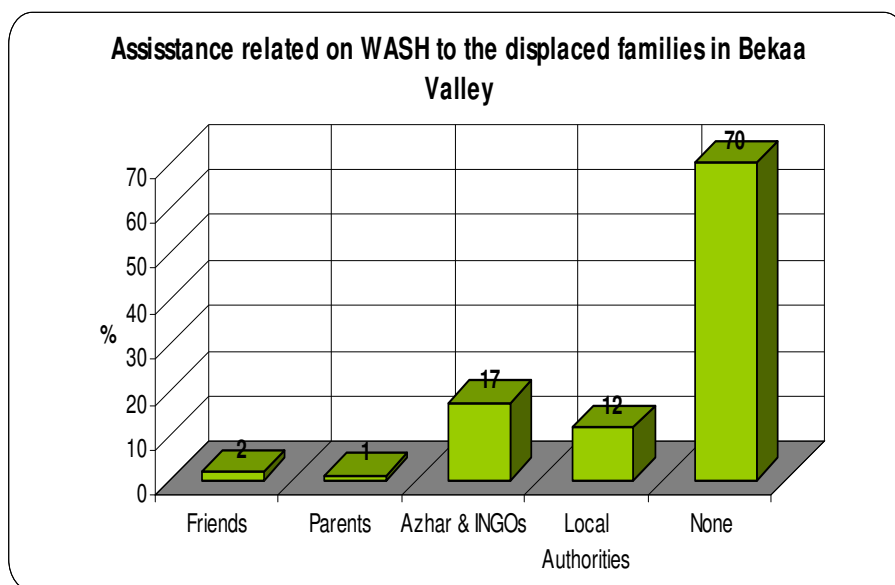


Figure 1: Stakeholders assisting to the Syrian displaced families in Bekaa Valley.

Water Access / Quantity

➤ Access to water

The main sources of drinking water in the Bekaa are: 53 % from water network (private taps); 20 % from water trucking; 16 % protected well and boreholes; 6 % from water network but in public areas and streets and 1 % from any river.

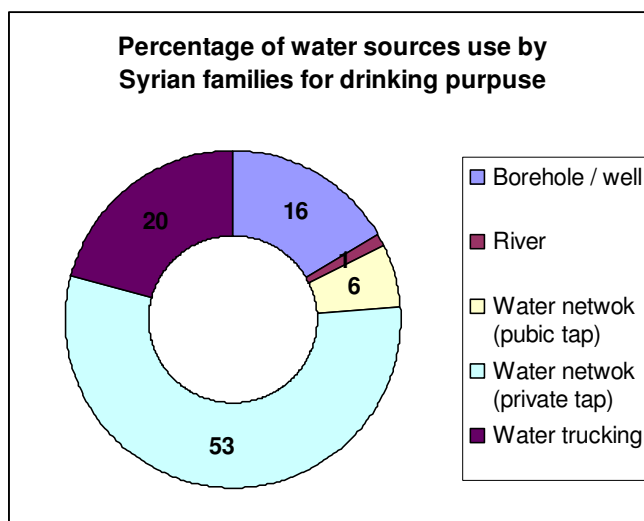


Figure 2: Water sources use by the Refugees families for Human Been consumption purpose.

In *Table 9* it can be observed a ranking stating the communities where the main water source of drinking water is water trucking, the percentage of household supply for drinking water purpose by this way, some water providers, water trucks prices and average of delivered water quantities per household in these communities.

Table 9: Water Trucking as main water source at Household level				
Community	% of HH suplied by truck	Water trucks companies	Prices	Quantity/month (liters per family)
Aarsal	75	-	15000	8000
		-	16000	8000
Al Ain	33	Youness	15000	1500
Al Fakiha	100	-	20000	4000
Saadnayel	30	Municipality	15000	1000
		abo daher	7000	2000

➤ Checking the water quality

In the KAP survey questionnaire, the families were asked about how the people know if the water they collect is safe for drinking. As all the households give multiple answers, a ranking was done.

Graph 2 shows that 57,57% of beneficiaries relate water quality with diseases; 26, % of beneficiaries do not relate water quality with diseases and 17 % of beneficiaries did not answer to this question.

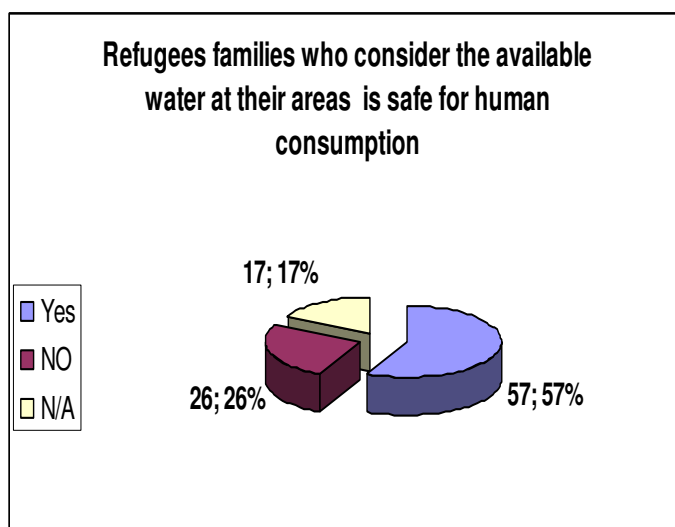


Figure 2: Knowledge about water quality and relationship between water quality and diseases

Fortunately the beneficiaries do relate drinking unsafe water with diseases. 42 % of beneficiaries think that drinking unsafe water is linked with Diarrhoea.

➤ Local methods to improve water quality

According to the *figure 3*, 68 % of families are not using any water treatment for drinking water; 13 % of families assessed said that they treat the water before drinking and 18 % of families do not answer to this question.

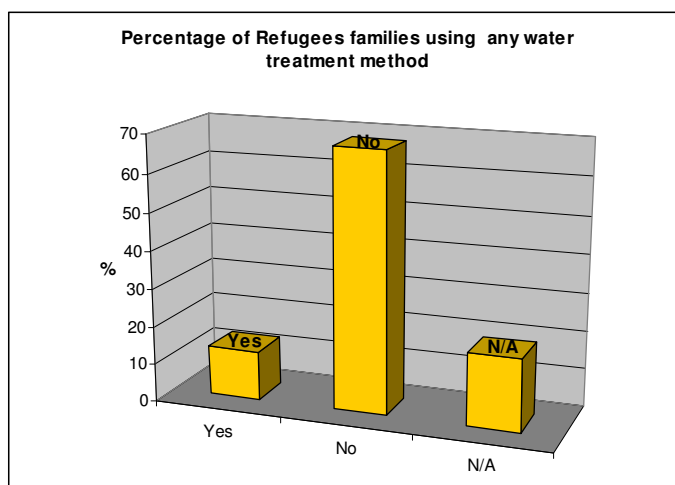


Figure 3: Percentage of Refugees families using any water treatment method

Regarding the methods that refugees use when the water collected is not safe for drinking, and following the results from the KAP survey, the method more used is strain the water through cloth/sieve with 6 % of the assessed families; boiling the water before drinking with 5 % of the assessed families and 1 % commented that they used

chlorination as water treatment. None of them know the ceramic filter as treatment method at HH level.

➤ **Water storage used by the Syrian families at HH level.**

Graph 4 shows the main methods used by the refugee families for water storing. 40 % of the families use large covered container (1000 liters); 17 % of the families use jerry cans; 15 % of the families uncovered containers (normally recycle plastic containers); 8 % of the families covered barrel inside the HH; 5% of the families use uncovered barrels and 2% of the families do not have any container to store drinking water.

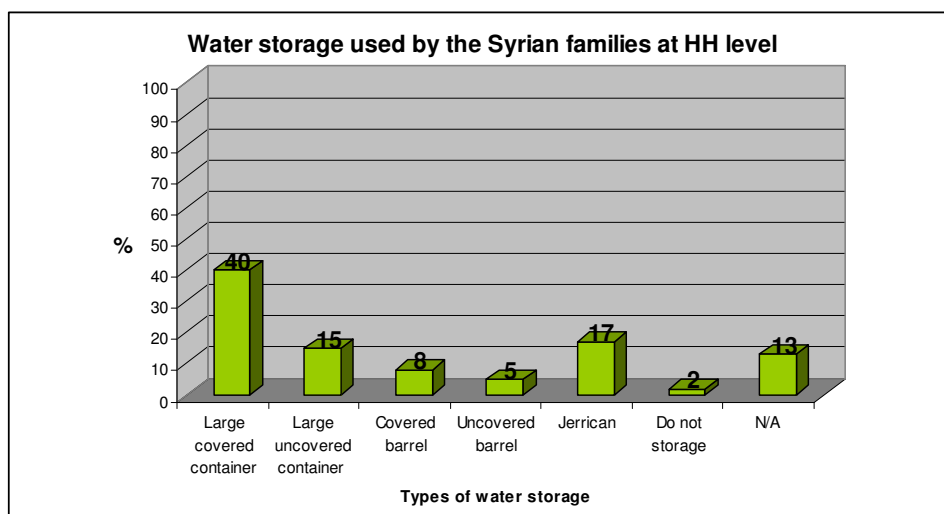


Figure 4: water storage use by the refugees for drinking water at household level.

The results from the survey show that 44 % of the families keep clean and do a proper maintenance of the water container and 37 % of families do not clean those water containers.

➤ **Sanitation**

According to the data collected, 75 % of assessed families have accessibility to toilet at Household level; 10 % of the families (Aarsal, Balbeek and Sadnaayel) do not have toilet and they go to the neighbors for defecation and 15 % of families did not answer. The common type of sanitation facilities is the flush toilet with septic tank with opened bottom or connected to the general sewage system. Most of the toilets visited during the survey were clean and good maintained.

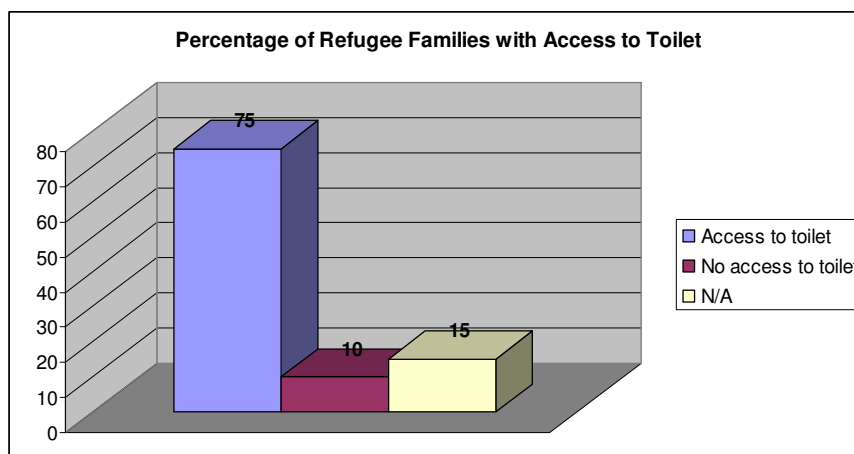


Figure 1: Refugee families' access to sanitation facilities at Household level

➤ **Waste disposal**

Regarding the solid waste management in *graph 8*, it is observed that 56 % of refugee families can access to general garbage collection from the municipality; 29 % of families used drums or garbage bins and 2 % of families use a refuse pit for garbage management and avoid health risks.

The frequency for the general collection system is daily or bi-daily, in most of the communities assessed.

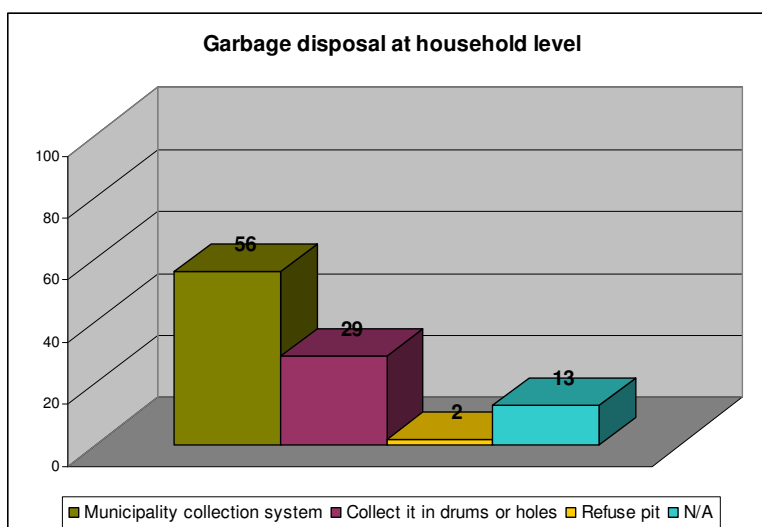


Figure 2: Refugee families garbage Management at household level.

➤ **Hand Washing and Hygiene practices.**

Graph 10 shows the hands washing habits of the refugees. As it is seen in the graph, the beneficiaries have good habits in term of hand washing. In addition to the good hand washing habits, the 89 % of the families commented that they are used to wash their

hands with water and soap. In this case more than one option was selected by beneficiaries.

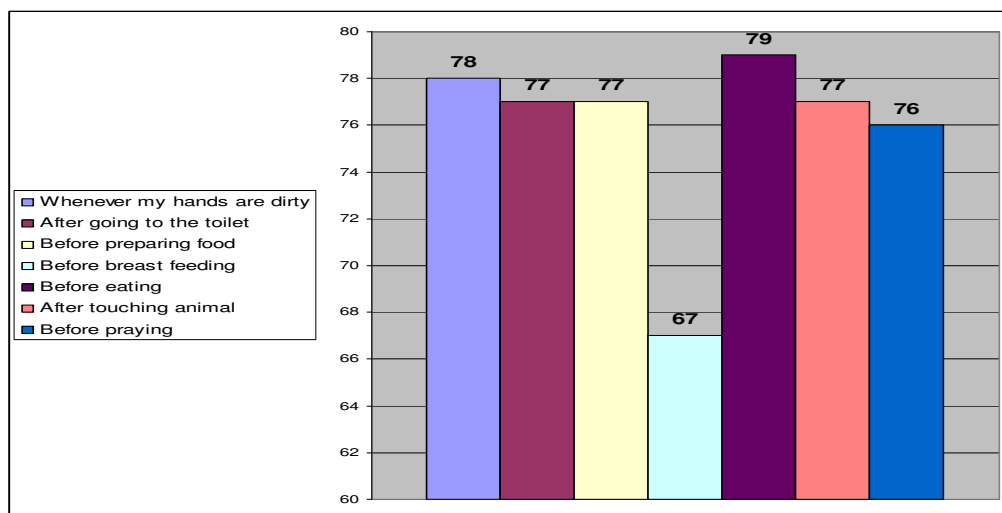


Figure 10: Hygiene practices. Refugees hand washing habits.

➤ Human being diseases prevalence

In the *graph 11*, we can observe the percentage of refugee families affected by any disease during the last three weeks.

Different diseases were encountered among the communities during the last three weeks before the questionnaire was administrated. Among the 44 % of the population who has mentioned health problems, 20 % of the population said they have suffered diarrhea during the mentioned period; 5 % of population has suffered flu; the 2 % of population with skin disease; and same number of population is suffering headache. The communities where refugee families had diarrhea problem were located in North and Central Bekaa (Aarsal, Jdeideh, Zaitoun, Baalbeck, Saadnayel, Bar Elias, Majdal Anjar, Kob Elias and Taanayel).

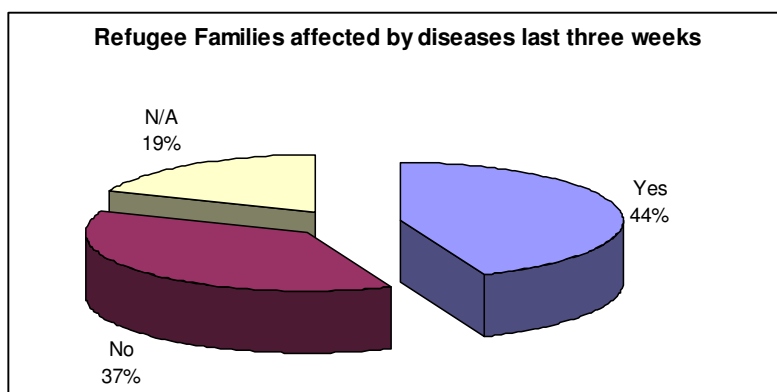


Figure 11: Families affected by any disease Turing the last three weeks.

5.2 Household Assessment and water testing

The *Tables 10,11 and 12* are a summary of the information we have about each community and give a general picture of the situation related to the WASH facilities and situation in all the assessed communities. We have used the information collected with the household assessment and the water testing during the visits to the families. To cross check the results of water testing some of the samples were sent to an independent lab (Annex 3)

Table 10: Matrix with number of Lebanese and Syrian population, source of water, water quality, sanitation and garbage management in 9 communities in North Bekaa.

Table 10: Matrix with number of Lebanese and Syrian population, source of water, water quality, sanitation and garbage management in 9 communities in North Bekaa.													
Region	Community	# Lebanese Population	# Syrian Refugees	WASH Facilities at Community Level									
				Main source of Drinking Water		Water Quality						Sanitation	Garbage Management
				Type	Availability	PH	Turbidity (NTU)	Conductivity (µS)	Residual Chlorine (mg/L)	Bacteriological Pollution (Total Coliform)			
North Bekaa	Hermel	100.000	250	Pipeline	No needs	8,4	≤ 1	262	0	Coliform Pollution	Sewerage system	Garbage collection	
	Al masharikh ²	-	250	-	-	-	-	-	-	-	-	-	
	Aarsal	40.000	546	Pipeline/ Private borehole/ Trucking	Needs	8,27	≤ 1	341	0	Coliform Pollution	Septic tank	Garbage collection	
	Jdeideh	-	36	Pipeline	No needs	8,2	≤ 1	372	0	Coliform Pollution	Sewerage system	Garbage collection	
	Zaitoun	-	45	Pipeline	No needs	8,4	≤ 1	370	0	Coliform Pollution	Sewerage system	Garbage collection	
	Al Fakiha	-	38	Pipeline	No needs	8,5	≤ 1	365	0	Coliform Pollution	Sewerage system	Garbage collection	
	Al Ain	8.000	106	Pipeline	No needs	8,1	≤ 1	393	0	Coliform Pollution	Sewerage system	Garbage collection	
	Baalbeck	129.000	378	Pipeline	No needs	8,3	≤ 1	366	0	None	Septic tank	Garbage collection	
	Aaddous ³ Al naana'iya ,Doures Al Hadidiya	-	43	No Pipeline/ Private borehole	Needs/ summer		≤ 1		0	Coliform Pollution	Septic tank	Garbage collection	

² This community was not included finally in the assessment because of the tense situation among different actors in the community

³ Due to the small number of Syrian Refugee families in these communities, one of them was chosen randomly to be assessed.

Humanitarian WASH Response to the Syrian Refugees in Bekaa Valley (Lebanon)

Table11 : Matrix with number of Lebanese and Syrian population, source of water, water quality, sanitation and garbage management in 12 communities in Central Bekaa .

Region	Community	# Lebanese Population	# Syrian Refugees	WASH Facilities at Community Level								
				Main source of Drinking Water		Water Quality					Sanitation	Garbage Management
				Type	Availability	PH	Turbidity (NTU)	Conductivity (µS)	Residual Chlorine (mg/L)	Bacteriological Pollution (Total Coliform)		
Central Bekaa	Saadnayel	35.000	540	Pipeline/ Private borehole/ Trucking	Needs	8,0	≤ 1	308	0	Coliform Pollution	Sewerage system	Garbage collection
	Bar Elias	45-000	223	Pipeline/ Private borehole	No needs	7,8	≤ 1	479	0	Coliform Pollution	Sewerage system	Garbage collection
	Majdal Anjar		139	Pipeline/ Private borehole	No needs	7,9	≤ 1	431	0	Coliform Pollution	Sewerage system	Garbage collection
	Al Faour		64	Private borehole	Needs	8,0	≤ 1	416	0	Coliform Pollution	Sewerage system	Garbage collection
	Kob Elias		67	Pipeline	No needs	8,0	≤ 1	327	0	Coliform Pollution	Sewerage system	Garbage collection
	Jdita	15.000	32	Pipeline	Needs/ summer	8,1	≤ 1	314	0	None	Sewerage system	Garbage collection
	Taanayel	35.000	30	Pipeline/ Private borehole	Needs/ summer	8,0	≤ 1	307	0	Coliform Pollution	Sewerage system	Garbage collection
	Al Dalhamieh	1.500	44	Pipeline/ Private borehole/ Trucking	Needs	8,2	≤ 1	391	0	Coliform Pollution	Septic tank	Garbage collection
	Al karak	7.000	28	Pipeline/ Private borehole	No needs	7,9	≤ 1	379	0	Coliform Pollution	Sewerage system	Garbage collection
	Makseh	3.000	27	Pipeline/ Private borehole	No needs	8,1	≤ 1	373	0	Coliform Pollution	Sewerage system	Garbage collection
	Zahle Taalbaya ⁴ , Anjar, kfar Zabad, Bwarej, Hawch Al Oumara, Al Mcharfeh		46	Pipeline/ Private borehole/ Trucking	Needs/ summer	8,0	≤ 1	404	0	Coliform Pollution	Sewerage system / Septic tank	Garbage collection

⁴ Due to the small Lumber of Syrian Refugee families in these communities, one of them was chosen randomly to be assessed.

Humanitarian WASH Response to the Syrian Refugees in Bekaa Valley (Lebanon)

Table 12: Matrix with number of Lebanese and Syrian population, source of water, water quality, sanitation and garbage management in 12 communities in West Bekaa .

Region	Community	# Lebanese Population	# Syrian Refugees	WASH Facilities at Community Level								
				Main source of Drinking Water		Water Quality					Sanitation	Garbage Management
				Type	Availability	PH	Turbidity (NTU)	Conduct. (µS)	Residual Chlorine (mg/L)	Bacteriological Pollution (Total Coliform)		
West Bekaa	Al Marj	20.000	31	Pipeline/ Private borehole/	No needs	7,8	≤ 1	425	0	Coliform Pollution	Sewerage system	Garbage collection
	Al Soueireh	10.000	37	Pipeline/ Private borehole/	No needs	7,8	≤ 1	454	0	None	Sewerage system	Garbage collection
	Mdoukha		37	Pipeline/ Private borehole/	No needs	7,7	≤ 1	520	0	Coliform Pollution	Sewerage system	Garbage collection
	Kherbit rouha		39	Pipeline/ Private borehole/ Trucking	No needs	8,0	≤ 1	504	0	Coliform Pollution	Sewerage system	Garbage collection
	Ghazze	9.000	37	Pipeline/ Private borehole/ Trucking	No needs	7,8	≤ 1	445	0	Coliform Pollution	Sewerage system	Garbage collection
	Azza		19	Pipeline/ Private borehole/ Trucking	No needs	7,7	≤ 1	502	0	Coliform Pollution	Sewerage system	Garbage collection
	Al Loussa Al Mansoura kamed al lawz Kfardines Al Manara Al Sultan Yacoub Dahr el Ahmar Al Rafid Al Kar'oun Jeb jannin Al Rawda Marj Am zouhour Al khyara Baaloul, Bakka Kifraya		68	Pipeline/ Private borehole/	No needs	7,9 7,8	≤ 1 ≤ 1	543 587	0 0	Coliform Pollution	Sewerage system / Septic tank	Garbage collection
			51	Pipeline/ Private borehole/ Trucking	No needs	7,7 7,9	≤ 1 ≤ 1	481 645	0 0	Coliform Pollution	Sewerage system / Septic tank	Garbage collection
	Hawch Al Harimeh	5.000	29	Pipeline/ Private borehole/ Trucking	No needs	7,8	≤ 1	543	0	Coliform Pollution	Sewerage system	Garbage collection

6. Conclusions

According to the number of the refugee families' data collected from the Authorities and Muslim Charities, the quantity of families in the area was much higher than in UNHCR figures for the registered families.

Displaced Syrians in the Bekaa are staying with host families or renting. Most live in cramped conditions and some in alternative types of shelter like Huts. Initial assessments indicate a stretched shelter capacity of the host community. Attention has to be paid to shelter; the average rent goes from \$100 to \$150 which, according to their situation, is a high fee that will not be sustainable for a long time.

Majority of the refugees are women and children, as many men/heads of households could not leave Syria. Displaced dependents in Lebanon are therefore socially and economically vulnerable.

Regarding to the **Humanitarian Assistance**, it is clear that there is a gap in term of WASH activities in Bekaa Valley. According with the data the 70 % of the families are not receiving any assistance from the INGOs. Mainly the families are receiving support in term of hygiene items and in a few communities with water distribution and water filters.

Hence the **accessibility to the water**, most of families get water from government pipelines, but there is some other communities (Aarsal, Sadnaayel,..) where most of the families are paying for water trucks or sharing the water from the host families. However, according to the population testimonies and data encountered, we should keep in mind that during summer there is shortage of water in some communities of North and Central Bekaa.

About **water quality** and according to the bacteriological results it can be considered that the qualities of the water are unsafe for drinking water. Furthermore, it seems that the bacteriological pollution is from secondary factors.

Most of the assessed families have knowledge about water quality and relationship between water quality and diseases and fortunately the beneficiaries do relate drinking unsafe water with diseases.

Regarding to **local methods to treat water** the people have the knowledge about clean or dirty water, but not about what is safe or unsafe water for drinking. They use several methods to improve the quality of the water. The methods that population use are: strain the water through cloth/sieve, boiling and some of them chlorination. None of them know the ceramic filter as treatment method at HH level.

About **Water storage** used by the Syrian families at HH level, the families are using recycled plastic container (5 gallons) for drinking water and large containers for wash purpose, but some of them have not any item to store drinking water.

Regarding the **sanitation** at household level, it was found that almost 75 % of families have access to latrines in the communities. The common type of sanitation facilities is the flush toilet with septic tank with opened bottom or connected to the general sewage system. Most of the toilets visited during the survey were clean and with good maintenance.

The **waste management** is not a concern in the region due most the refugee families can access to general garbage collection from the municipality or collection system in place and avoid health risks.

About **hygiene practices** and hand washing, the families have good habits and practices.

The most common **diseases** according to the people are: diarrhea, common flu and skin problems. It is important to note that these figures are only based on the population's answers and not confirmed by any medical diagnosis. The communities where refugee families had diarrhea problem were located in North and Central Bekaa (Aarsal, Jdeideh, Zaitoun, Baalbeck, Saadnayel, Bar Elias, Majdal Anjar, Kob Elias and Taanayel). This problem could come from the bacteriological pollution issue or bad wash hygiene practices

7. Recommendations and activities.

It is important to keep in mind the international standards, the most vulnerable people in the communities (children, women and disables) and also the hosting families who are sharing the sources with the displaced families. Hence it is important to undertake activities in the local community as second level of the emergency.

The main concern in the area is the water quality and accessibility (no water network in some areas, the cost of the water and shortage during summer), thus a possible solution is to increase the water storage capacity and water supply to the communities.

For increasing the capacity of **water storage**, a solution could be the distribution of plastic water tanks (1000 liters) for the families who have not storage capacity or the collective shelters where many displace families are hosted. Also it is recommended the distribution of water kits (1 buckets-20 liters; 2 jerry can 20 liters and 1 plastic cap) for water movement and drinking water storage.

The concern about **water supply** and accessibility could be solved by water trucking distribution. According to the context and the propagation of the refugee families and to avoid problems coming from this activity, it is recommend to implement this activity through the voucher system, as it is not a new activity in the region and others stakeholders will implement this system for food distribution. For the water trucking, there are two different concerns that can be solved:

- No water supply in the community
- Shortage of water during summer time (July, August and September)

Regarding the **quality of the water**, and keeping in mind that the beneficiaries are scattered among different communities, a possible solution is to distribute ceramic water filters at household level, so in that way it could be possible to improve the water quality and ensure safe drinking water for the families in a durable way.

According to the good **hygiene practices** of the families, it is important to provide them with the hygiene kits and consumables to prevent disease outbreaks in the region.

Following the distribution of water filters, hygiene kits and water kits it is important to show to the families how to use the kits distributed and the maintenance of the water filters in order to get a good quality and effectiveness of it. Therefore, to improve the behavioral change in the beneficiaries' habits, a **Hygiene promotion campaign** could be launched. In this case, it is important to keep in mind the high level of hygiene knowledge of the families without opting for a very deep campaign.

Identified Activities

a) North Bekaa and Central Bekaa:

- Voucher for water: water trucking for communities with not access to water and shortage during summer time.
- Water tanks distribution (1,000 liters capacity)
- Water kit distribution
- Water filter distribution
- Hygiene kit distribution (consumables and full kit for new comers)

b) West Bekaa:

- Water kit distribution
- Water filter distribution
- Hygiene kit distribution (consumables and full kit for new comers).

Annexes

Annex 1. KAP survey questionnaire

Annex 2. Minutes of the meeting with Municipalities, Mokhtars, Charities and other stakeholders

Annex 3. Results of water testing. Independent lab.