ACTED

WASH Assessment in North Lebanon

Syrian refugees and vulnerable Lebanese households

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1.1. General humanitarian situation

During the past year, Syria has been witnessing increasing internal tensions, insecurity and unrest which have led to the displacement of populations to neighbouring countries, namely Jordan, Lebanon, Iraq and Turkey. Although Lebanon is facing internal challenges (water shortages, on-going political and sectarian tensions), Lebanon has been receiving a large number of Syrians. As per June 2012, according to UNHCR, there are over 26,000 displaced Syrians throughout the country.

Syrian refugees in Lebanon, especially in the North, are an exceptionally young population, making them particularly vulnerable. With its 13,960 North Lebanon also has the highest concentration of Syrian refugees; 13,960 have been registered by UNHCR, of which over 9,000 are in the Wadi Khaled area and an estimated 3,000 in Tripoli.

The lack of detailed information on WASH needs in North Lebanon was highlighted repeatedly in Humanitarian Cluster meetings as well as in bilateral meetings held by ACTED during the months of April and May 2012. The steady increase in inflow of Syrian refugees into Lebanon in 2012 lead to concerns that access to clean water may be problematic in an area that traditionally suffers from droughts.

Between 24 and 30 April, ACTED conducted a first rapid humanitarian assessment in North Lebanon, in Tebbeneh, Ebbe and Deir Amar areas. ACTED found that living conditions were globally precarious for most Syrians and host families settled in the assessed areas. Water supply, sanitation and hygiene was one of the key concerns, and needs were not currently met by existing humanitarian interventions.

In May 2012, ACTED secured funding from UNICEF to launch a detailed two-week WASH assessment in North Lebanon. ACTED has a functioning mission in the country and was able to build on its experience in implementing WASH activities in the South of Lebanon during the 2007 crisis. Moreover, ACTED is already part of the Syria Regional Refugee Response Plan.

1.2. Objective of the assessment

The overall objective of the assessment was to identify emergency WASH needs and gaps of most vulnerable Syrian refugees and host families in five geographical areas, 4 collective centres and Bab al-Tebbaneh, Tripoli in North Lebanon.

The specific objectives of the assessment were to measure the (i) quality of water, (ii) quantity and access to water, (iii) sanitation needs, and (iv) need for hygiene promotion.

1.3. Organisation of the assessment

Between 14 and 28 May, ACTED conducted a detailed assessment of WASH needs in North Lebanon. The assessment period was extended for two additional days due to the volatile security in the area of operation. Violent clashes erupted repeatedly in Tripoli and in the Halba area.

ACTED's assessment team was composed of four staff: a field coordinator, a national WASH expert, and two field assistants (male and female).

1.4. Target locations

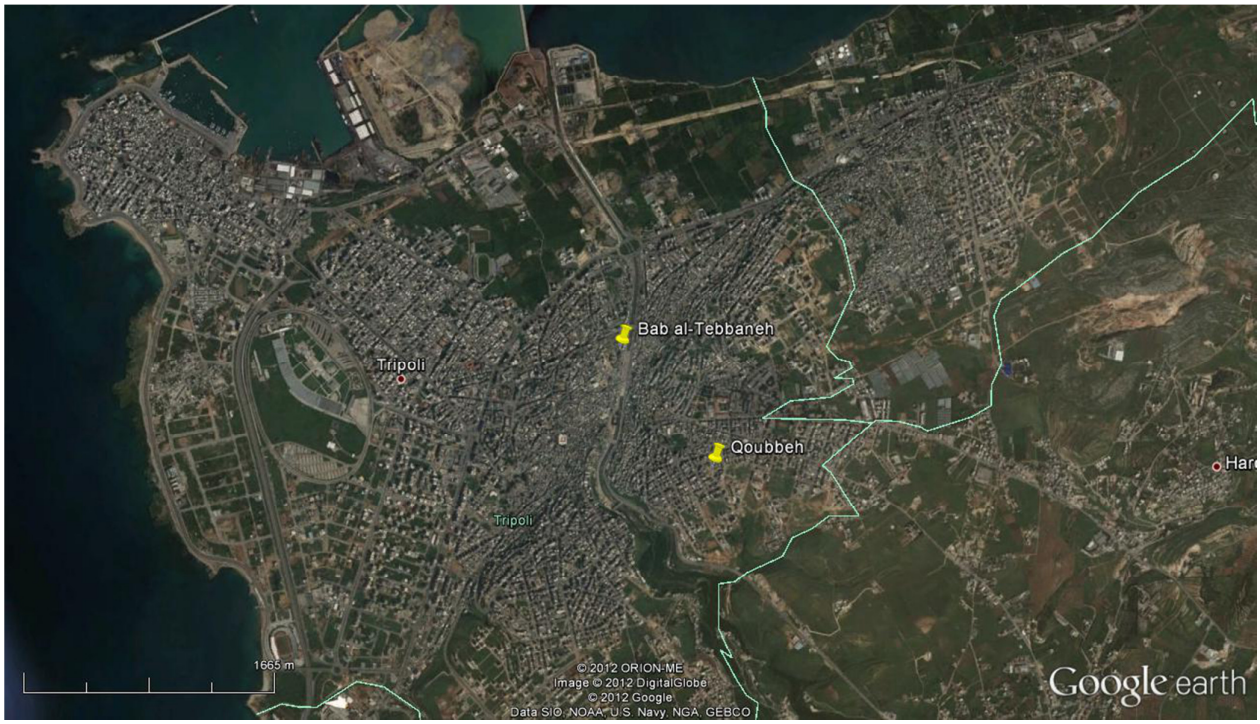
The areas targeted for the assessment were carefully selected in consultation with UNICEF, UNHCR, local authorities, and other humanitarian agencies operating in North Lebanon such as the Danish Refugee Council (DRC). Priority was given to four collective shelters recently rehabilitated by UNHCR through DRC and the Norwegian Refugee Council (NRC), and to areas that were identified by UNHCR as having a high concentration of refugees. As such, a specific focus was given to the Wadi Khaled area, an enclave closed off from the rest of Lebanon by Chadra checkpoint, operated by the Lebanese army, where many Syrian refugees are currently stuck.

The principal locations that were assessed are listed below. Additional punctual assessments of Syrian refugee households were conducted in other more isolated areas, in particular in the Wadi Khaled area.

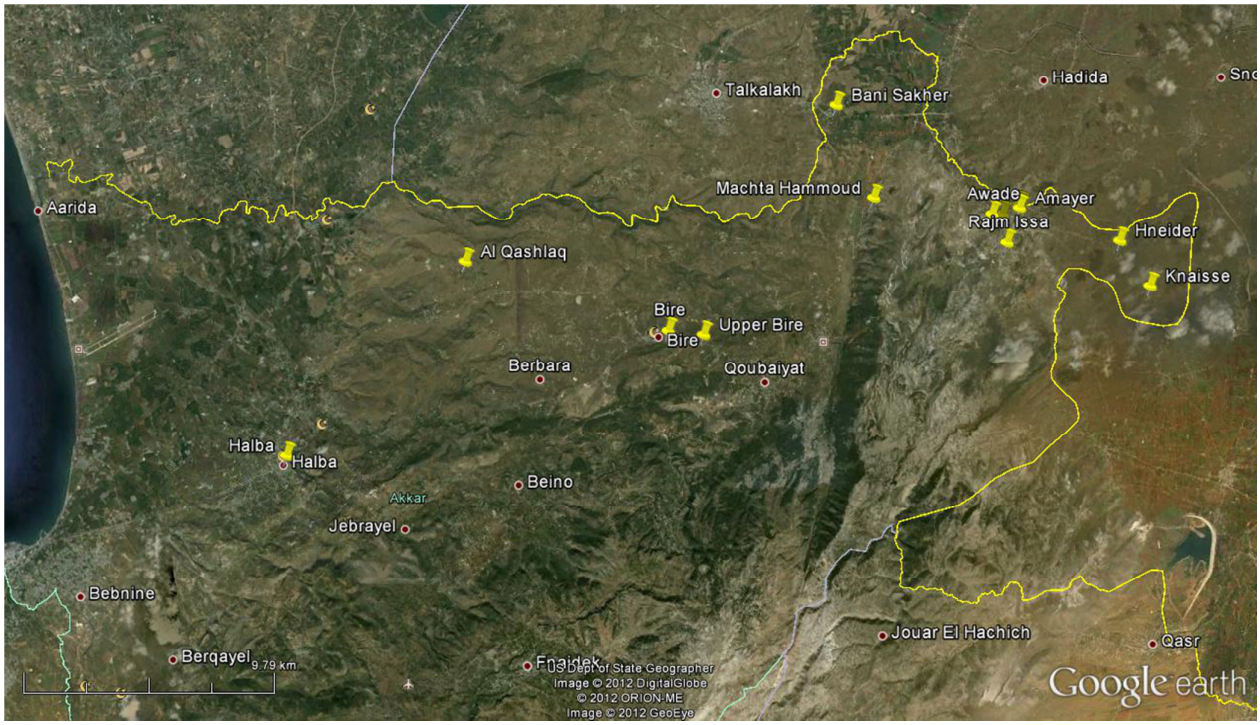
Location	Basic information
Al Awadi, Wadi Khaled, Akkar district	Approximately 45 households comprising 100 refugees live in the small village. According to the affected population, Syrian refugees started arriving in May 2011. Most originate from Homs and Talkalakh, close to Lebanon's Northern border.
Amayer, Wadi Khaled, Akkar district	Approximately 100 households comprising 500 refugees live in the small village. According to the affected population, Syrian refugees started arriving in May 2011. Almost all originate from Homs.
Bab al Tabbaneh, Tripoli	Approximately 200 households comprising 1,000 refugees live in this neighbourhood of Tripoli.

	According to the affected population, Syrian refugees started arriving in May 2011. Most originate from Homs. With the recent clashes in the area, refugees insisted that they felt safer in Lebanon than in Syria.
Bire, Akkar district	Approximately 53 households comprising 400 refugees live in the small town. According to the affected population, Syrian refugees started arriving in May 2011. Most originate from Homs and a minority is from Talkalakh, close to Lebanon's Northern border.
Halba, Wadi Khaled, Akkar district	Approximately 1,000 households comprising 7,000 refugees live in the town. According to the affected population, Syrian refugees started arriving in May 2011. Most originate from Homs and Talkalakh, close to Lebanon's Northern border. Halba is experiencing a continued inflow of refugees; an estimated 100 arrived every day at the time of assessment, according to a community leader.
Hneider, Wadi Khaled, Akkar district	Approximately 54 households comprising 150 refugees live in the small village. According to the affected population, Syrian refugees started arriving in May 2011 and one family most recently crossed over in April 2012. Almost all originate from Homs.
Machta Hammoud, Wadi Khaled, Akkar district	Approximately 20 households comprising 120 refugees live in the small village. According to the affected population, Syrian refugees started arriving in May 2011. All originate from Homs.
Qoubbeh, Tripoli	Approximately 1,000 households comprising 4,000-5,000 refugees live in this neighbourhood of Tripoli. According to the affected population, Syrian refugees started arriving in numbers in December 2011-January 2012. Most originate from Homs.
Queshra, Akkar district	Approximately 15 households comprising 150 refugees live in the village. According to the affected population, Syrian refugees started arriving in May 2011. Almost all originate from villages across from the border. Local authorities stated that there used to be 25 Syrian refugee households in the village; 10 returned to Syria in March 2012 after having stayed 2-3 months in Queshra.

Locations in Tripoli:



Villages in the Akkar district:



In addition, the following four collective shelters were assessed:

Collective shelter	Basic information
Al Ibra collective shelter, Wadi Khaled area, Akkar district	Approximately 125 Syrian refugees are living in the shelter. Most originate from Homs.
Al Mouanse collective shelter, Wadi Khaled area, Akkar district	Approximately 45 Syrian refugees are living in the shelter. All originate from Homs, except for two households that are from Hamah.
Al Qashlaq collective shelter, Wadi Khaled area, Akkar district	Approximately 35 Syrian refugees are living in the shelter. Most arrived in Lebanon in October 2011.
Rama collective shelter, Wadi Khaled area, Akkar district	Approximately 110 Syrian refugees are living in the shelter. Most originate from Homs.

1.5. Methodology of the assessment

In order to assess the WASH needs in the target locations, ACTED used a variety of tools:

A. Interview of 166 households; a preference was usually given to interviewing women (by a female field assistant) in order to gather relevant and accurate information on hygiene and sanitation

B. Microbiological water tests using a mobile water testing kit on loan from UNICEF

C. Physical observation including pictures, taking care of not offending any sensitivity of the affected population

D. Meetings with the following organisations: UNICEF, UNHCR, Danish Refugee Council (DRC), Coalition of Islamic NGOs

E. Participating in the following Humanitarian Clusters: Inter-Agency coordination meetings, Shelter/WASH Cluster meetings

F. Meetings with local stakeholders and authorities: Mukhtars/mayor of all visited locations, community leaders within the Syrian refugee community

G. Meetings with the Lebanese Water Authority for the Akkar district

The following documents were used by the ACTED field team:

A. A detailed household-level KAP survey questionnaire, agreed with UNICEF prior to starting the assessment

B. A community-level questionnaire, intended to gather general data about the community from the Mukhtar or a community leader

2. Water quality

ACTED found many shortcomings in the knowledge and practises of the assessed population on the use, treatment and storage of water. 96 percent of the assessed households believe that one knows if water is clean simply by checking if it "looks clean". Only 9 percent of the assessed households are treating their water. 87 percent of the assessed households that treat their water do it through boiling, whilst 7 percent use a filter. No chlorination is used. Finally, 42 percent of the assessed households reported that they have never cleaned they water container; 73 percent use a PVC or metal water tank on the roof.

ACTED conducted individual microbiological water quality tests on 34 samples in Tripoli and five geographical areas. 19 tests were conducted in private accommodation and 15 were conducted in collective shelters. Microbiological testing was used all on water samples taken using the membrane filter method; the level of water contamination is measured by the coliform count appearing on the filter.

2.1. Tripoli

ACTED conducted microbiological water tests in private accommodation — both rented and of host families — on 29 May 2012. Target areas with high concentrations of Syrian refugees were selected in coordination with UNICEF and UNHCR, and were specified through consultations with representatives of the Coalition of Islamic NGOs in Tripoli.

2.1.1. Qoubbeh, Tripoli

The assessment found that most Syrian refugees are connected to the municipal water supply that delivers water of a satisfactory quality. However, samples taken from rented accommodation that are connected to a deep water well showed severe levels of microbiological contamination at the output; the contamination is most probably related to contamination at the faucet.

2.1.2. Bab al-Tebbaneh, Tripoli

The assessment found that all interviewed households are connected to the municipal water supply that delivers water of a satisfactory quality. However, ACTED found critical levels of contamination due to the storing of water in open metal tanks placed inside rented apartments. These tanks are used to store water for periods of time when the municipal water supply is cut. The water stored in the metal tanks is at times stored for weeks and is used for drinking.

2.2. Villages

ACTED found systematic primary and secondary contamination in the rural areas of North Lebanon. Results are particularly troubling in the Wadi Khaled area that carries a high concentration of Syrian refugees. Target areas for the assessment were identified in close consultation with UNHCR, DRC, the Coalition of Islamic NGOs, and local authorities.

2.2.1. Bire

On 24 May 2012, ACTED conducted WASH assessments in the Bire area of North Lebanon. Microbiological water tests were conducted in central Bire as well as in upper Bire in direction of Qobayat.

The assessment conducted in **central Bire** showed widespread contamination of the water in both the tanks and at faucets. However, in **upper Bire** (on the road towards Qobayat overlooking the valley), test results showed no sign of contamination in the relatively new and well-maintained PVC tanks placed on the roofs. However, by the time the water reached the kitchen faucets through the internal piping, the water is severely contaminated.

2.2.2. Halba

The ACTED assessment conducted on 30 May 2012 found a large number of Syrian refugee households living in recently build apartment blocks in the Halba area, as well as in critically precarious houses.

Those living in apartment blocks draw their water from deep wells locate in the area that deliver water of a satisfactory quality. However, the remaining households living in unsuitable accommodation are drinking water with severe contamination levels. Although the microbiological tests showed satisfactory quality in the water tanks, secondary contamination was noted at the faucets.

2.2.3. Queshra

The assessment conducted on 29 May 2012 in **Queshra**, in the North of Akkar, showed signs of contamination at in tanks placed on the roofs and at the faucets. It is highly likely that the contamination is due to the poorly maintained water tanks and the poor quality internal piping.

2.2.4. Wadi Khaled area

A specific focus was given to the Wadi Khaled area, identified as particularly vulnerable by ACTED, UNHCR and UNICEF and other humanitarian agencies. The assessment covered the main population centres of the area, where Syrian refugees are located. Water quality tests were conducted in four different locations: Rama, Bani Sakher, Rajemissa and the Wadi Khaled stream. The additional tests conducted in the collective shelters are detailed below.

All surveyed households — both refugee and vulnerable Lebanese — source their water from nearby wells. Those with higher socioeconomic conditions occasionally purchase bottled water.

Microbiological tests conducted in **Rama** on 18 May 2012 showed satisfactory water quality at the source (well) and in storage (PVC tank placed on roof), but secondary contamination was noted at the output (faucet). Syrian refugees are principally residing with host families or in rented accommodation in Rama, for some in unfinished concrete buildings with unsanitary conditions.

The assessment conducted on 19 May 2012 in **Bani Sakher**, in the North of the Wadi Khaled area, showed critical levels of secondary contamination. Poorly maintained PVC water tanks as well as damaged piping and faucets contribute to the severe contamination of water that is used also for drinking.

The assessment conducted on 18 May 2012 in **Rajm Issa** again showed troubling levels of contamination both in the water tank placed on the roof and at the faucet.

ACTED proceeded on 18 May 2012 to test the water quality of the **Wadi Khaled stream**, used by many in the area to bathe and collect water for household use. The multiple samples taken at the spring indicated particularly good water quality — no race of contamination was found.

2.3. Collective shelters

In coordination with UNICEF and UNHCR, ACTED gave priority to the assessment of WASH facilities in collective shelters in North Lebanon. Four such collective shelters, recently rehabilitated by UNHCR through DRC and NRC, were assessed: Al Qashlaq, Al Ibra, Rama and Al Mouanse.

2.3.1. Al Qashlaq collective shelter

The tests conducted in the Al Qashlaq collective shelter, in the North of Akkar, on 25 May 2012 indicated overall contamination of the water, both in the water tanks placed on the roof and at the faucet. The WASH facilities are currently limited but nevertheless satisfactory.

2.3.2. Rama collective shelter

The tests conducted in the Rama collective shelter, in the Wadi Khaled area, on 18 May 2012 indicated contamination of the water at tested sources: two tanks placed on the roof of the collective shelter and at the faucets. Tests conducted at the faucets after the insertion chlorine tablets showed no sign of contamination. The WASH facilities are kept relatively clean and were deemed suitable.

2.3.3. Al Mouanse collective shelter

The tests conducted in the Al Mouanse collective shelter, in the Wadi Khaled area, on 18 May 2012 indicated severe contamination at all tested water points: faucets on the ground floor and first floor as well as the PVC and steel tanks placed on the roof. ACTED also found traces of contamination in the plastic water bottles that are purchased by the community for drinking. The recently rehabilitated WASH facilities were deemed satisfactory.

2.3.4. Al Ibra collective shelter

The tests conducted in the Al Ibra collective shelter, in proximity to Chadra checkpoint in the Wadi Khaled area, on 19 May 2012 indicated widespread contamination of the water. A water sample extracted from the nearby well had critical levels of contamination. The well is located just 15 m from the large sceptic tank that collects the sewage of the collective shelter. Solid waste is also left on the ground in the area surrounding the well. Two water tanks placed on the roof and faucets also indicated critical levels of contamination.

The overall condition of the shelter was deemed problematic, especially the WASH facilities that are evidently insufficient. The crowded living areas are limited to large converted classrooms that also contain showers. Greywater from the showers and kitchen pours out into the playground area where children routinely play.

3. Water supply and small scale emergency rehabilitation

ACTED found that 67 percent of the assessed households took their drinking water from a well without any subsequent treatment. 45 percent of the assessed households have a litre of water per day count (LCD) below SPHERE survival needs (7.5). 14 percent are below the SPHERE standard (15), and 41 percent are above.

3.1. Tripoli

3.1.1. Qoubbeh, Tripoli

Many of the interviewed households are living in precarious conditions, renting empty stores on ground floors with inadequate WASH facilities. Many households collect potable water from a municipal water point next to the local mosque. Ad-hoc shelters have been set up in abandoned buildings with minimal repairs. These buildings and especially their latrines and living areas are not currently suitable for living. No water shortages were noted, as most households are connected

to the municipal water supply. Those that are not are connected to deep water wells connect to water tanks positioned on the roofs.

3.1.2. Bab al-Tebbaneh, Tripoli

The quality of shelters in Tebbeneh varied significantly according to the socioeconomic status of the refugee households. Some WASH facilities were highly satisfactory, and others were critically unsanitary. The interviewed households expressed strong discomfort due to the ongoing clashes with the Jabal Mohsen neighbourhood, with many feeling unsafe in the area. Bullet impacts were noted by ACTED in outside walls, windows, and inside family living areas. No water shortages were noted, as all households are connected to the municipal water supply.

3.2. Villages

ACTED's assessment showed significant differences in the living conditions and WASH facilities of Syrian refugee households according to their socio-economic status and geographical location. Conditions were significantly worse in the Wadi Khaled area that has a particularly high concentration of Syrian refugees according to UNHCR statistics.

The WASH facilities in rural areas were overall very poor, with a limited number of latrines and a lack of privacy for female household members. ACTED noted frequent overcrowding of the living areas, and largely insufficient and inadequate WASH facilities for the high number of refugees. One example in Bani Skaher showed alarming living conditions: 19 individuals — of which 10 are children — are living in a unfinished building with raw concrete flooring and lack of windows. Most alarmingly, all residents of the multi-storey building were sharing one single unsanitary latrine.

The latrines are usually elementary and badly maintained (traces of faeces were noted frequently). Showers are often locates in the same small area as the latrine, and are regularly located adjacent to the kitchen area.

In the Wadi Khaled area, large families – both Lebanese and Syrian refugees – are living in unsanitary conditions in poorly maintained or unfinished buildings, some of which are former industrial workshops and storefronts. Although some households take clean water from the Wadi Khaled stream, it often systematically becomes contaminated due to unsuitable storage.

All of the assessed households took their water from nearby wells. Although water shortages were not noted during the period of assessment, the Lebanese water authority as well as Mukhtars and the local communities stated that frequent droughts occur during the summer months in the Wadi Khaled area. With the extra burden of Syrian refugees, ACTED believes it is highly probably that water shortages will be experienced in the Summer of 2012 if not complementary water supply is

provided. Almost all locations in the Wadi Khaled are not connected to a municipal water network, as is illustrated in the attached map of water supply projects for the Akkar region.

3.3. Collective shelters

The WASH facilities in the collective shelters were deemed satisfactory overall; they were recently rehabilitated by UNHCR, and these efforts are on-going. However, minor repairs are necessary to repair leaks in the internal piping that can lead to contamination. Moreover, the rehabilitation of additional latrines and bathing areas are needed for collective shelters that have experienced recent increases in number of inhabitants, such as the Al Ibra collective shelter. Likewise, in the Al Qashlaq collective shelter, 25 Syrian refugees are served by one single latrine. This is clearly insufficient, and often poses issues in regards to the privacy of female members of the households. Some of the interviewed male members of households living in the collective shelters reported that they chose to defecate and urinate outside in order not to embarrass the women.

4. Sanitation and hygiene promotion

4.1. Sanitation

ACTED found that 81 percent of the assessed population use personal latrines, 11 percent use communal latrines, whereas 3 percent defecate in outside areas. 95 percent of latrines have a flushing mechanism and 89 percent of the interviewed population deemed the latrines clean or very clean. This contrasts heavily with the observations of the ACTED field team that saw frequent unsanitary states of latrines, as illustrated in pictures in the annex. Most troubling, the average number of people per communal latrine is 45, and 15 for personal latrines.

Waste disposal is problematic in 36 percent of cases, where households either burn they garbage outside their shelter or simply throw it outside. 66 percent of households reported that their garbage is collected. Garbage is disposed of frequently; 49 percent dispose of it every day, whilst 11 percent dispose of it every second day.

4.2. Hygiene

Personal hygiene appears to be relatively satisfactory, but still shows gaps that become problematic when living in overcrowded spaces. 97 percent of the assessed population reported washing their hands after defecating or urinating. 80 percent reported washing their hands before eating, and 76 before praying. 95 percent of the interviewed population stated that they had cleaned their hands more than five times on the previous day, and 94 percent stated they used soap. On the importance of hand washing, 66 percent stated it was important for disease prevention, 64 percent for removing dirt, 89 percent to remove germs and 37 percent to avoid food contamination. Basic training sessions shall be organized and target in priority women and children in targeted locations, and focus on key messages corresponding notably to low scores identified by the KAP survey.

5. Recommendations

ACTED found varying levels of needs and gaps in the assessed locations. Urban and rural areas require very different approaches. Below are a set of recommendations for WASH interventions in North Lebanon for private accommodations in urban areas, private accommodation in rural areas, and in collective shelters.

The table below summarizes our main recommendations based on findings described above:

Location	Water quality	Water supply & rehabilitation	Sanitary & hygiene promotion
Tripoli	▪ Syrian refugees staying with host families or in rented accommodation in urban areas such as Qoubbeh and Bab al-Tebbaneh are most often connected to the municipal chlorinated water supply.	▪ Rehabilitation of latrines in private accommodation rented and host families ▪ Provision of additional latrines in large overcrowded buildings ▪ Rehabilitation of bathing facilities ▪ Minor urgent rehabilitations of piping and faucets when feasible	▪ Distribution of emergency hygiene kits ▪ Basic training on water tank maintenance ▪ Hygiene promotion campaign for Syrian refugees living in overcrowded spaces
Villages	▪ Syrian refugees staying with host families or in rented accommodation in rural areas are exposed to high health risks due to the critically poor quality of the water that is consumed. ▪ Widespread distribution of gravity-driven ceramic water filters – efficient low cost and low maintenance solution for potable water; the systematic contamination in the water tanks, piping and faucets require a solution at the output ▪ Water filtration system at the output (faucet) for buildings housing high numbers of refugees including children ▪ Water delivery (through water trucking) during the summer in most urgent situations ahead of the summer drought;	▪ Provision of additional latrines in large overcrowded buildings; living conditions and density is at times worse than that found in the formal collective shelters ▪ Rehabilitation of bathing facilities ▪ Emergency water trucking in most critical areas not connected to municipal or regional water systems and at risk of summer water shortage ▪ Emergency basic fixing of WASH facilities in schools welcoming Syrian children (in addition to children from host communities) ▪ Inclusion of host communities in proposed actions	▪ Distribution of emergency hygiene kits ▪ Basic training on water tank maintenance ▪ Hygiene promotion campaign in villages targeting women as well as children in schools

	the presence of Syrian refugees places an extra burden on the strained water supply ▪ Replacement of unsuitable/unsanitary family water tanks ▪ Distribution of chlorine strips (as part of hygiene package)		
Collective shelters	▪ Water filtration system at the output (faucet) ▪ Water delivery (through water trucking) in the most urgent cases ahead of the predicted summer drought ▪ Distribution of chlorine strips (as part of hygiene package)		▪ Distribution of emergency hygiene kits ▪ Basic training on water tank maintenance ▪ Hygiene promotion campaign for Syrian refugees (most notably women & children)