

Needs Assessment in the Palestinian Gatherings of Lebanon - Housing, Water and Sanitation

EUROPEAN COMMISSION



Humanitarian Aid

Funded by ECHO

**Lebanon
August 2009**

TABLE OF CONTENTS

Executive Summary	4
Assessment stakeholders	10
Acknowledgement	10
Introduction	12
 A. The General Context	
I. Historical Context	13
a. Lebanon in a nutshell	13
b. Palestinians-Lebanese: an intertwined History	14
c. A population facing discrimination	16
d. Ownership and feasibility	17
II. Objective and result	17
a. Objective	17
b. Result	17
III. Methodology	18
a. Task distribution between PU and NRC	18
b. Definition of a gathering	18
c. The assessment preparation	18
d. The Assessment	19
e. Urgent Shelter Needs	19
f. Water and Sanitation	20
g. Land ownership	22
 B. Assessment findings	23
I. Saida	23
a. General presentation	23
b. Findings per gatherings	26
o Baraksat	26
o Bustan al Kods	27
o Chehim	30
o Hamshari	32
o Jabal el Halib	34
o Old Saida	37
o Seerob	39
o Sekke	41
o Surroundings of Mie w Mie	43
o Wadi al Zeini	45
II. North Lebanon	47
a. General presentation	47
b. Findings per gathering	50
o Bab el Ramel, Al Mina, Zahariye	50
o Mankoubeen	53
o Mouhajjareen	56

III. Bekaa	58
a. General presentation	58
b. Findings per gathering	60
o Al Marj	60
o Bar Elias	62
IV. Tyre	72
a. General presentation	72
b. Findings per gathering	75
o Adloun	75
o Baysariyeh	77
o Burghliyeh	79
o Ebb	81
o Itaniyeh	83
o Jal El Baher	86
o Jim Jim, Kfar Badda	88
o Maashouk	91
o Qasmieh	93
o Sabria	95
o Wasta	97
V. Beirut-Mount Lebanon	100
a. General presentation	100
b. Findings per gathering	103
o Daouk	103
o Gaza buildings	106
o Naemi	108
o Salwa el Hout	110
General Conclusion	115
Annexes	116
I. The assessment forms	
II. Watsan Needs summary	
III. Social data sheet	

Executive Summary

This report presents the results of a needs assessment in the Palestinian gatherings of Lebanon funded by European Commission's Humanitarian Aid department (DG ECHO) and conducted by the Norwegian Refugee Council (NRC) and Premiere Urgence (PU).

The objective of the assessment was to identify the urgent housing, water and sanitation needs in the Palestinian gatherings of Lebanon.

PU and NRC also took the opportunity to have a more accurate understanding of the demographics of the gatherings, something that previously has not been covered to any degree of accuracy.

There are 12 official UNRWA camps for Palestinian refugees in Lebanon which accommodate the majority of the population. However, refugees also live outside of these official camps in what are often called "gatherings." There are no official statistics regarding Palestinian refugee populations living outside of the official camps. UNRWA, the UN agency responsible for Palestinians does not have a mandate to provide shelter or water and sanitation assistance in such areas.

There are 42 gatherings in Lebanon that match the definition of a gathering as introduced in the 2003 Fafo¹ report.

For security reasons mainly, three gatherings were not assessed, leaving the final number of gatherings included in this assessment at 39.

- In Saida region, 11 gatherings were identified and nine assessed.
- In North Lebanon, 7 gatherings were identified and six assessed.
- In Bekaa, 7 gatherings were identified and assessed.
- In Tyre region, 12 gatherings were identified and assessed.
- In Beirut-Mount Lebanon, 5 gatherings were identified and assessed.

The assessment lasted 5 months from February to June 2009 with the majority of information compiled from surveys conducted by teams of trained investigators from NRC and PU. In addition door-to-door surveys and complementary information regarding expressed needs and land ownership were gathered through focus group discussions with the Popular Committees and specific population groups (women, men and young people)

¹ Fafo, 2003, "Difficult past, uncertain future. Living Conditions Among Palestinian Refugees in Camps and Gatherings in Lebanon", <http://www.fafo.no/pub/rapp/409/409.pdf>

The table below summarizes the number of Palestinian households assessed:

Region	Nb of Palestinian Households	Nb of Palestinian refugees
Saida	3146	12681
North Lebanon	455	2009
Bekaa	822	3596
Tyre	1974	8514
Beirut-Mount Lebanon	743	2874
Total in assessed gatherings	7,140	29,674
Total including the 3 gatherings not assessed¹	8,000	40,000

The last report on the gatherings to estimate the number of Palestinians in the gatherings was carried out in 2005 by the Danish Refugee Council (DRC)². The results of that survey indicated that the total number of people living in gatherings was estimated to be 63,055. This total was derived primarily from key informant interviews with the Popular Committees. The revised estimate of 40,000 compiled through this assessment is considered to be more accurate as the figures are based upon a door-to-door survey.

In addition to identifying the urgent housing, water and sanitation needs in the gatherings, consideration has also been given to the feasibility of addressing these needs with respect to land ownership and permission from the Lebanese authorities. For each gathering, information is provided regarding the land ownership situation and an overall estimate of the feasibility of undertaking rehabilitation projects. The following categorization is used:

- Feasible: authorizations easy to obtain or already obtained
- Feasibility to be confirmed: negotiation with authorities, owners or population needed however authorizations might be obtainable
- Low feasibility: Authorizations very difficult to obtain

It should be noted that authorizations are easier to obtain for water and sanitation (WatSan) projects than for shelter rehabilitation projects. This is because WatSan projects are perceived as a positive contribution to the development of Lebanese infrastructure, less threatening for the land owners' interests and do not risk compromising existing legal frameworks relating to land and property.

In Lebanon land and property issues constitute a barrier to the fulfillment of a basic right for Palestinian Refugees. Denying assistance to those persons living in low feasibility areas only compounds existing discrimination. Therefore it is recommended that future initiatives to improve shelter or WatSan conditions be linked to programs with legal assistance, especially in areas with low feasibility.

Urgent Shelter Needs (USN)

Urgent shelter needs were identified through in three main categories:

- Structural
- Weather proofing
- Hygiene

¹ This total is an estimate based on reliable sources working in the three gatherings not assessed: NBC, Bab al Tabane and Tawari. NBC alone represent about 9,000 refugees. This total will be used as the final one throughout the study.

² Needs Assessment of Palestinian Refugees in Gatherings in Lebanon, Danish Refugee Council, 2005

Indicators that the shelter had urgent structural needs included significant cracks in the walls or unsafe rafters threatening the integrity of the shelter. For houses with concrete roofs exposed reinforcement due to rainwater infiltration was a common indicator.

Weather proofing needs concern mainly the permeability of the shelter to the rain, cold or heat due to weather conditions¹. Common indicators include no windows, cracks that allow water infiltration, and walls made from zinc sheets. Note that a leaking roof alone was not considered as an urgent shelter need. This is because in Lebanon, the tradition of flat roofs coupled with poor quality materials and practices mean that the majority of concrete roofs leak whether the shelter is a villa in a wealthy village in Lebanon or a new high-rise in Beirut.

Hygiene needs focused on the kitchen and the bathroom of the shelter. Special attention was given to the clear separation of these two rooms. Also, the availability of running water in the shelter was an essential indicator given that it allows the inhabitants to practice good hygienic behavior.

In overall terms the survey has uncovered concentrated pockets of Highly Urgent Shelter Needs, sometimes surrounded by housing of a markedly different standard. In such situations families maybe living without running water, in zinc walled units and without kitchens or bathrooms.

Overall, the needs encountered are comparable from one gathering to another, only their degree of seriousness varies from location to location.

After a house was assessed, depending on the indicators it was either classed as having USN or not. During the collation of all the data it was noted that the definition of USN was broad and included many houses where there was a critical need which should be addressed as soon as possible. For example, a house which was structurally unsafe and so threatened the lives of the occupants should be fixed urgently. Therefore, it was decided to create a new category within the USN called Highly Urgent Shelter Needs. This classification was restricted to houses where an intervention should be prioritized.

In all the gatherings, 447 HUSN and 450 USN were identified. In conclusion, this means that 11% of the refugees living in the gatherings of Lebanon (897 households; or approximately 4,000 people) inhabit shelters that threaten health and prevent social well being.

Urgent Water and Sanitation Needs

Out of the 39 gatherings assessed, 8 suffer from urgent water and sanitation (Watsan) needs, and 12 suffer from moderate needs.

In those 8 gatherings, the level of hygiene is very poor and bacteriological contamination of water was detected or was estimated very likely to occur soon given the critical condition of the water sources and networks.

Many gatherings present the following features:

- Water supply and sewage networks are outdated, damaged or under-dimensioned, causing risks of bacteriological contamination of drinking water and back flooding of sewage in streets and houses.

¹ In Lebanon, the weather can be cold and rainy in the winter. On the contrary, the temperature can reach high level during long and humid summers.

- Water is not treated or the treatment is often inappropriate. When water is chlorinated, the dosage is often done manually and chlorine concentrations are not optimized due to an insufficient knowledge of treatment procedures.
- Most medical sources report an insufficient level of health and hygiene awareness among the population of Palestinian gatherings, resulting in over-representation of related diseases.
- Except for a few exceptions, the water supply quantity is sufficient, as most households own a 1m³ water tank, which allows them to cope with the frequent interruptions of water supply caused by power cuts.

These common characteristics should however not hide the fact that for each gathering, the Watsan situation is different. This report provides detailed information for each gathering. This report recommends that no systematic approach can be used to address the needs in regards to water and sanitation, instead responses should be tailored to each gathering..

Some of the gatherings require infrastructure works however for the majority the situation could be significantly improved through awareness and capacity building activities, such as information sessions on water related hygiene and training for technicians in charge of the water treatment.

Summary of Watsan and shelter findings for all the gatherings.

	Gathering, Region	Shelter			Watsan				Feasibility
		Nb of Households	Nb USN/HUSN	Level of needs	Grade Quality (/5)	Grade Quantity (/5)	Grade Sanitation (/5)	Level of needs	
Bekaa	Al Marj	44	0/1	No needs	4	5	4	No needs	Feasible
	Bar Elias	258	1/1	No needs	5	5	5	No needs	Feasible
	Goro	23	6/8	Urgent needs	3	4	2	Urgent needs	To be confirmed
	Al Jalil surroundings	70	0/0	No needs	4	5	5	No needs	Feasible
	Taalabaya-Saadnayel-Jalala	427	10/5	No needs	4	3	4	Moderate needs	Feasible
North Lebanon	Al Mina	43	7/3	No needs	4	5	5	No needs	Feasible
	Bab El Ramel	48	0/1	No needs	5	5	5	No needs	Feasible
	Bab El Tabane	Not assessed							
	Mankoubeen	108	6/6	Moderate needs	4	2	2	Urgent needs	Low feasibility
	Mouhajjareen	161	7/10	Moderate needs	5	5	3	Moderate needs	To be confirmed
	Surroundings of NBC	Not assessed							
	Zahariye	95	0/1	No needs	5	5	5	No needs	Feasible
Beirut - Mount Lebanon	Salwa el Hout	45	0/0	No needs	4	5	4	No needs	To be confirmed
	Gaza Buildings	190	0/0	No needs	4	5	4	No needs	Feasible
	Daouk	133	2/8	Moderate needs	2	5	2	Urgent needs	Feasible
	Naemi	247	0/0	No needs	4	5	5	No needs	Feasible
	Said Ghawash	128	3/7	Moderate needs	2	5	2	Urgent needs	To be confirmed
	Bustan Al Kods	133	8/7	Moderate needs	3	4	3	Urgent needs	Feasible
Saida	Baraksat	448	9/44	Moderate needs				No needs	To be confirmed
	Chehim	86	3/4	Moderate needs	5	4	5	No needs	Feasible
	Hamshari	81	15/29	Urgent needs	4	4	3	Moderate needs	Low feasibility
	Jabal El Halib	235	23/15	Urgent needs	1	4	3	Urgent needs	To be confirmed
	Old Saida	453	114/74	Urgent needs	3	5	5	Moderate needs	Feasible
	Seerob	508	0/1	No needs	4	5	5	No needs	Feasible
	Sekke	410	0/0	No needs	3	4	4	Moderate needs	Feasible
	Surroundings of Mie w Mie camp	109	18/25	Urgent needs	5	4	4	Moderate needs	To be confirmed
	Tawari	Not assessed							
	Wadi El Zeini	683	19/9	No needs	4	4	5	No needs	Feasible
	Adloun	123	1/0	No needs	4	4	3	Moderate needs	To be confirmed
Tyre	Baysariyeh	125	1/2	No needs	4	5	5	No needs	To be confirmed
	Burghliyeh	65	9/13	Urgent needs	3	4	4	Moderate needs	Feasible
	Itaniyeh	44	4/3	Urgent needs	2	5	3	Urgent needs	Feasible
	Jal El Baher	266	54/38	Urgent needs	5	5	3	Moderate needs	Low feasibility
	Jim Jim	56	1/0	No needs	5	3	4	Moderate needs	Feasible
	Kfar Badda	111	1/6	Moderate needs	5	3	4	Moderate needs	Feasible
	Mashouk	369	45/30	Urgent needs	4	5	3	Moderate needs	To be confirmed
	Qasmieh	369	45/65	Urgent needs	4	4	5	Moderate needs	Feasible
	Shabriha	287	6/9	Moderate needs	4	5	3	Moderate needs	To be confirmed
	Wasta	140	27/17	Urgent needs	2	4	3	Urgent needs	Feasible
	Ebb	19	5/5	Urgent needs	4	4	3	Moderate needs	Feasible
	TOTAL	7140	450/447						

Abbreviations

CISP Comitato Internazionale per lo Sviluppo dei Popoli
DRC Danish Refugee Council
ECHO European Commission's Humanitarian Aid department.
EU European Union
EEH Ein El Helweh
HH Household
IDP Internally Displaced People
LBP Lebanese Pounds (USD - LBP exchange rate was 1 USD to 1,500 LBP)
NBC Nahr Al Bahred Camp
NRC Norwegian Refugee Council
PARD Popular Aid for Relief and Development
PRCS Palestinian Red Crescent Society
UN United Nations
PC Popular Committee
PU Premiere Urgence
UNHCR United Nations High Commissioner for Refugees
UNRWA United Nations Relief and Works Agency for Palestine Refugees in the Near East
USD American Dollars (USD - LBP exchange rate was 1 USD to 1,500 LBP)
USN Urgent Shelter Needs
WATSAN Water and Sanitation
WFP World Food Program

Assessment stakeholders

- The donor

The European Commission's Humanitarian Aid department is one of the largest donors for humanitarian operations. Since 1992, the Commission has financed relief projects in more than 140 countries, easing the suffering of millions of disaster victims in crisis zones outside the EU.

Within the Commission, operations are managed by the Humanitarian Aid department (ECHO). Operations include assessment of humanitarian needs in disaster areas, appropriate allocation of funds for goods and services such as food, shelter, medical provisions, water supplies or sanitation and evaluation of the impact of the aid provided.

- The implementing NGOs

- The Norwegian Refugee Council (NRC) is an independent, humanitarian non-governmental organization which provides assistance, protection and durable solutions to refugees and internally displaced persons worldwide.

NRC provides humanitarian assistance to refugees, internally displaced persons (IDPs) and returnees. Their activities are concentrated on five core activities: building of homes and schools, distribution of food and non-food relief items; information, counseling and legal assistance, camp management and education.

- Premiere Urgence (PU) is a non-governmental, non-political, non-religious and non-profit organization working in the field of international solidarity.

PU offers direct assistance to victims of natural disasters, economic crisis or armed conflicts.

Its primary objective is to provide these vulnerable populations with tools and means necessary to rebuild their own futures, and to regain their autonomy and dignity.

PU was founded in 1992, during the war in former Yugoslavia. Over the past 17 years, it has grown and expanded its activities, implementing programs in 33 different countries. PU is currently operational in 13 countries in the world.

Acknowledgement

NRC and PU would first like to thank ECHO for its support in the making of this assessment.

Also, both NRC and PU teams address their gratitude to all the Organizations met during the assessment and which shared valuable information (ACF, PARD, UNRWA, PRCS, DRC...).

Finally, our main thoughts go to the Palestinian refugees living in the gatherings we assessed.

We appreciated their courage, hospitality and cooperation.

PU Team

Country Director : Julien Mulliez

Head of Office: Sahar Assaf

Assessment Coordinator: Frédéric Murat

Watsan Evaluator: Yann Bonami

Senior Field Officer: Majed El Bdeiwi

Field Investigators: Amneh Dirbas, Hala Mughrabi, Ali Najjar, Bahaa Jradi, Hasan Abou Salah, Inas Assaf

Data entry officers: Mohammed Mezian, Heba Merhi

NRC Team

Program Director : Michael Copland

Program Manager: Richard Evans

Shelter Technical Adviser : Graziella Ito-Pellegrini

Field investigators: Hala Chibli, Mohammed Maarouf, Fatima Chhadi, Oday Muslimani, Hassan Manatche, Samah Hassoun, Shadi Al Hawwash, Roshan El Sholi, Rasheed Al Mansi

Introduction

ECHO, NRC and PU have been working, as donor and respectively implementing partners, in Lebanon for many years.

NRC has been active in Lebanon since July 2006, providing protection and humanitarian assistance to refugees and internally displaced persons.

Since 1996, PU has been adapting its humanitarian response to Lebanon's ever-changing context. During and after the main crisis that recently affected Lebanon, PU has conducted emergency relief operations such as food, water and hygiene kits distribution, mobile clinics, installation of water treatment units for the production of drinking water as well as shelter rehabilitation. Most of these projects were funded by ECHO

At the beginning of the year 2009, NRC and PU submitted a proposal to ECHO to launch a needs assessment in all the Palestinian gatherings of Lebanon.

The main motivation behind this assessment lies in the situation of Palestinian refugees in Lebanon which constitutes a continuous and specific humanitarian crisis. The majority of the Palestinians live within the 12 official camps managed by UNRWA while a large number of these refugees are living outside in so-called "unofficial gatherings".

The construction or rehabilitation of houses and infrastructure located in those areas is not part of UNRWA's mandate, and local Lebanese municipalities are usually reluctant to support these settlements which are often illegal, and have no or very little Lebanese population.

This absence of public services results in frequent substandard housing and infrastructure conditions. The most vulnerable families in these areas have to cope with unhealthy and sometimes dangerous housing conditions and sanitary environments.

Some high quality assessments have already been undertaken in the Palestinian gatherings of Lebanon. However, most of them chose to focus on the social environment of the refugees.

This assessment, focused essentially on housing and water and sanitation needs, even if detailed data on the population in the gatherings, history and land ownership were also collected,

The preparatory phase of the project was launched in February 2009. Field investigations started one month later and lasted for four months.

The present document is the final report of this assessment.

This first part of the report presents the general context as well as the objectives and methodology. In the second part, the detailed results of the assessment are provided for each gathering and accompanied with recommended interventions.

A. The General Context

I. Historical Context

a. Lebanon in a nutshell



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Estimated population: 4.1 millions.

Surface area: 10,452 km².

Capital city: Beirut

Major cities: Tripoli (Trablous), Saida (Sidon), Tyre (Sour) and Baalbeck.

The country became independent in 1943 after being under French mandate for 25 years. With 18 different recognized sects, the country is a multi-religious society. Its political system, a parliamentary Republic, reflects this multiplicity. The three main communities (Christian Maronite, Sunni and Shia Muslims) share the three most important political positions. The President of the Lebanese Republic is always a Maronite while the Prime Minister is a Sunni and the Parliament President a Shia.

b. Palestinians-Lebanese: an intertwined History

- 1948: the Arab-Israeli war forces about 140,000 Palestinians to flee their homes. Those new refugees established themselves in Lebanon in what they thought would be temporary shelters.
- 1949: the UNRWA is founded to provide assistance to the displaced Palestinian population. Fifteen UNRWA administered refugee camps are created around the major cities of Lebanon. During the Lebanese civil war (1975-1990), three of these camps will be destroyed: Nabatiyeh, Jisr al-Pasha, Tall al-Zaatar.
- 1948-1967: the Palestinian struggle intensifies.
- Following the defeat of the Arab Coalition in the 1967 Arab-Israeli war, the Palestinian armed groups begin to launch attacks on Israel from southern Lebanon.
- 1970: the Jordanian army and the Palestinian armed groups fight violently in what is remembered as Black September. As a result, the PLO leaves Jordan and establishes its headquarters in Lebanon.
- 1970-1975: the division regarding the "Palestinian question" among the Lebanese population deepens. The Christian population and right wing political parties do not accept the armed presence of the Palestinians while Muslims and leftist groups encourage their struggle.
- April 13th 1975: the violent exchanges between the Palestinians armed groups and the Phalanges party culminate. The Christian militia took revenge after the assassination attempt by a Palestinian commando of one of its leader. About 20 Palestinian civilians, traveling in a bus through the Beirut neighborhood of Ain al-Remmaneh, are killed.
- The Lebanese civil war starts.
- 1975-1976: violent fighting in East Beirut between Christian parties and Palestinian factions.
- 1976: the violence spread to Damour near Saida and the south of the country.
- 1978: first Israeli invasion.
- 1982: second Israeli invasion. The Israeli army besieges west Beirut and forces the PLO and its leader Yasser Arafat to leave Lebanon
- 1982: several hundreds of Palestinian civilians are massacred by Christian militias under the eyes of the Israeli army in Sabra and Shatila.
- 1985-1987: war of the camps between Palestinian armed groups and the pro-Syrian Shia party Amal.
- 1989-1990: The Taef agreement is signed and ends the Lebanese civil war.

Today, the 12 remaining camps still host a Palestinian refugee population estimated between 215,000 and 450,000 individuals. Central questions such as the refugees' right to return or the weapons of the various Palestinian groups have not yet found answers. This situation, not only increases tensions within and around the camps, but also hinders the advancement of basic civil rights for the Palestinian refugees in Lebanon.

Official Palestinian camps in Lebanon¹

Beirut

Burj al-Barajneh, located in Beirut southern suburb and established by the Red Cross in 1948, is home to approximately 16,000 refugees.

Chatila, located in West Beirut was established by the International Committee of the Red Cross (ICRC) in 1949. Many parts of it were destroyed during Israel's 1982 invasion and the 1985-1987 war of the camps. It is now home to more than 8,000 Palestinian refugees.

Dbayeh was created in 1959 in the eastern suburb of Beirut. The vast majority of the 4,000 inhabitants are Christian. Unlike in other camps, residents enjoy only loose ties to Palestinian factions and leaders.

Mar Elias, a relatively small camp in northwestern Beirut, was established in 1952. In the beginning, most of its residents also were Christian. However it experienced an influx of Muslims after the 1975 civil war.

Saida region

Ein El Helweh, the most populated Lebanese camp, was established by the Red Crescent in 1949 in Saida. According to official sources, it houses some 46,000 refugees though local residents and camp officials claim the number to be closer to 70,000. It is a microcosm of the Palestinian political universe. All PLO, Tahaluf and Jihadi factions are represented and perpetually compete for influence and power, resulting in frequent clashes.

Mieh wa Mieh, east of Saida, hosts fewer than 5,000 people.

Tyre region

Burj al-Shemali, under Fatah control and home to some 19,000 Palestinians, is located east of Tyre.

Rashidiyyeh, located seven kilometers south of Tyre, hosts 29,000 refugees, and is divided between an older section created in 1936 by the French-mandate authorities to welcome Armenian refugees and a more recent one built by UNRWA in 1963.

Al-Bass, which adjoins Tyre, was also established in 1936. Palestinian refugees moved there in 1948 and today, UNRWA estimates its population at roughly 9,000.

North Lebanon

Nahr al-Bared, founded by the Red Crescent seventeen kilometers from Tripoli, consists of two sections: one recognized by UNRWA is known as the "old camp", the unofficial one is called the "new camp". Dominated by Tahaluf factions during Syria's military presence, it subsequently witnessed a power struggle that facilitated the growth of less disciplined jihadi groups. In mid-2007, violent clashes opposed the Lebanese army and one such group, Fatah al-Islam, destroying the old and much of the new camp. Most of the 30,000 refugees fled, but some 10,000 have returned.

¹ *Crisis Group Middle East Report N°84, 19 February 2009; Nurturing Instability: Lebanon's Palestinian Refugee Camps*

Beddawi, on a hill five kilometers from Tripoli accommodates some 16,000 people. It was profoundly affected by the Nahr al-Bared events as many refugees sought sanctuary in the camp. Beddawi is known for maintaining cooperative relations among Palestinians who tend to focus on shared social, economic and commercial interests. Representatives of both the PLO and Tahaluf sit in a joint popular committee.

Bekaa

Al-Jalil, also known as Wavel, is located in the Bekaa Valley. UNRWA estimates its population at over 7,000, although local residents claim that more than half have emigrated.

c. A population facing discrimination

The troubled and violent history between the Lebanese and Palestinian populations is probably one explanation among others for the deplorable living conditions that the Palestinian refugees are facing in Lebanon.

According to several studies, of all countries in the Middle East, it is in Lebanon that the refugees are experiencing the highest degree of discrimination.

The status of Palestinian refugees in Lebanon falls into three¹ different categories:

UNRWA Registered Refugees (413,962) who are registered with the Lebanese government and the UNRWA

Non UNRWA but Lebanese authorities Registered Refugees (30,000 - 35,000) who are only registered with the Lebanese government.

"Non ID Refugees" (4,000) who are not registered with any authorities. Their stay in Lebanon is considered illegal.

The majority of the Palestinian population in Lebanon is living in the UNRWA official camps or in the gatherings.

Many of them, not only inhabit shelters with poor characteristics and environments that are harmful to the health; but also suffer from the deprivation of their basic civil rights.

The main discriminations involve specifically three areas: work, travel and ownership. In these three fields, the discriminatory nature of the Lebanese legal framework² results in a situation where a Palestinian refugee living in Lebanon enjoys sub-standard freedom.

For this assessment, a closer interest should be given, within the legal Lebanese framework, to the ownership issue.

¹ Some refugees obtained the Lebanese citizenship, especially Christian refugees in the 80's. The number of these Lebanese-Palestinians who are still counted as registered refugees is unknown.

² For a detailed information on these issues: ECHO report, *the status and situation of Palestinian refugees in Lebanon-A review of current documentation*, 2008.

d. Ownership and feasibility

In every unofficial gathering, the land and shelter ownerships are important issues since they are good feasibility indicators for any potential rehabilitation project. In some cases, despite the identification of urgent needs in a gathering, an authorization for intervention could be hard to obtain.

For this reason, the assessment studied the ownership issue in each gathering in order to determine the degree of feasibility for a rehabilitation project¹.

The most common types of land ownership are²:

- The land belongs to a public authority (government, municipality...).
- The land belongs to a private Lebanese owner.
- The land belongs to the refugees themselves.

Within each type of land ownership, different cases of shelter occupation can be found.

- The refugees occupy the land illegally.
- The refugees pay rent.
- The refugees live freely on the land with the landowner agreement.
- Some refugees also claim to own their shelter but often have no official documents to prove it.

II. Objective and result

a. Objective

The objective of this assessment was to provide a clear description of the current situation in terms of needs for shelter rehabilitation and water and sanitation interventions in the Palestinian gatherings of Lebanon.

b. Result

A comprehensive map of the housing and water and sanitation needs in the Palestinian gatherings of Lebanon has been drawn³. Consequently, this report provides donors and potential implementing NGOs with tangible data to be used for potential new rehabilitation projects targeting the gatherings' population.

¹ See Chapter III *Methodology* for the feasibility classification

² For more details on the ownership issue: DRC report, *Needs Assessment of Palestinian Refugees in Gatherings in Lebanon*, 2005. NRC report, *Legal Assessments of Housing, Land and Property ownership, Rights, Transfers and Property Law related to Palestinian Refugees in Lebanon*, 2008.

³ Detailed data on the gatherings population, history, land ownership and feasibility for potential rehabilitation projects are presented. These informations were not linked to any initial objective.

III. Methodology

a. Task distribution between PU and NRC

Given that this assessment was a cooperative work between PU and NRC, the different tasks were distributed among the two NGOs.

The assessment design, planning, coordination, data analysis and reporting were implemented by PU, with regular consultations with NRC. Investigators from both organizations received trainings by PU and NRC's project managers and technical staff, and attended joint site visits to harmonize their approach.

As NRC is working in the Tyre and Beirut/Mount Lebanon regions and is familiar with these gatherings, it was proposed that they undertook the field work in these locations. For the same reasons, PU took care of the field investigation in the regions of Saida, Bekaa and in the North.

This repartition applied for all field work, except for the water and sanitation assessments, which were undertaken in all gatherings by PU.

b. Definition of a gathering

For this assessment, in order to maintain consistency from one study to another and because we considered it relevant, we used the gathering definition proposed by DRC in its 2005 report *"Needs Assessment of Palestinian Refugees in Gatherings in Lebanon"*:

Consequently, in this report the definition of a gathering is an area that:

- Has a population of Palestinian refugees, including Palestinian refugees who are registered by UNRWA and/or the Lebanese Government, or are not registered.
- Has no official UNRWA camp status or any other legal authority identified with responsibility for camp management;
- Is expected to have clearly defined humanitarian and protection needs, or have a minimum of 25 households; and
- Has a population with a sense of being a distinct group living in a geographically identifiable area.

c. The assessment preparation

- Literature review
- Questionnaire design: based on the objectives set by ECHO and the knowledge of both PU and NRC on the situation in the gatherings, a questionnaire was designed to provide a broad range of information in the social field (population profile, work, land ownership...) but focused essentially on the technical fields (shelter, water and sanitation...)¹.
- Investigators training: each investigator was introduced to the questionnaire technicalities and trained to identify a shelter with urgent needs.
- Exploratory visits: Prior to the survey by the investigation team, Senior Field Officers visited every gathering, met with key informants such as PC representatives,

¹ The full questionnaire as well as the FGD and exploratory visit forms used for the assessment are presented in the annexes.

and gathered basic information (estimated population, general situation, main needs, land ownership...).

d. The Assessment

It was decided for this assessment that every shelter in the gatherings would be visited and that a questionnaire would be filled.

- Door-to-door survey: For each shelter, the investigators fill one questionnaire. The information is obtained through an interview with a household member and a visual inspection of the shelter condition.
- Focus Group discussions: Led by the Senior Field Officer in all gatherings, they give an opportunity to representative groups of different age and gender to express their needs and expectations in a free environment.
- Watsan evaluation: a PU expert visited every gathering in order to evaluate the water and sanitation situation and identify potential urgent needs for an intervention.
- Verification visits: In order to control the quality of the assessment, PU and NRC Program Coordinators made field visits to a sample of gatherings.
- Data entry
- Data analysis

e. Urgent Shelter Needs

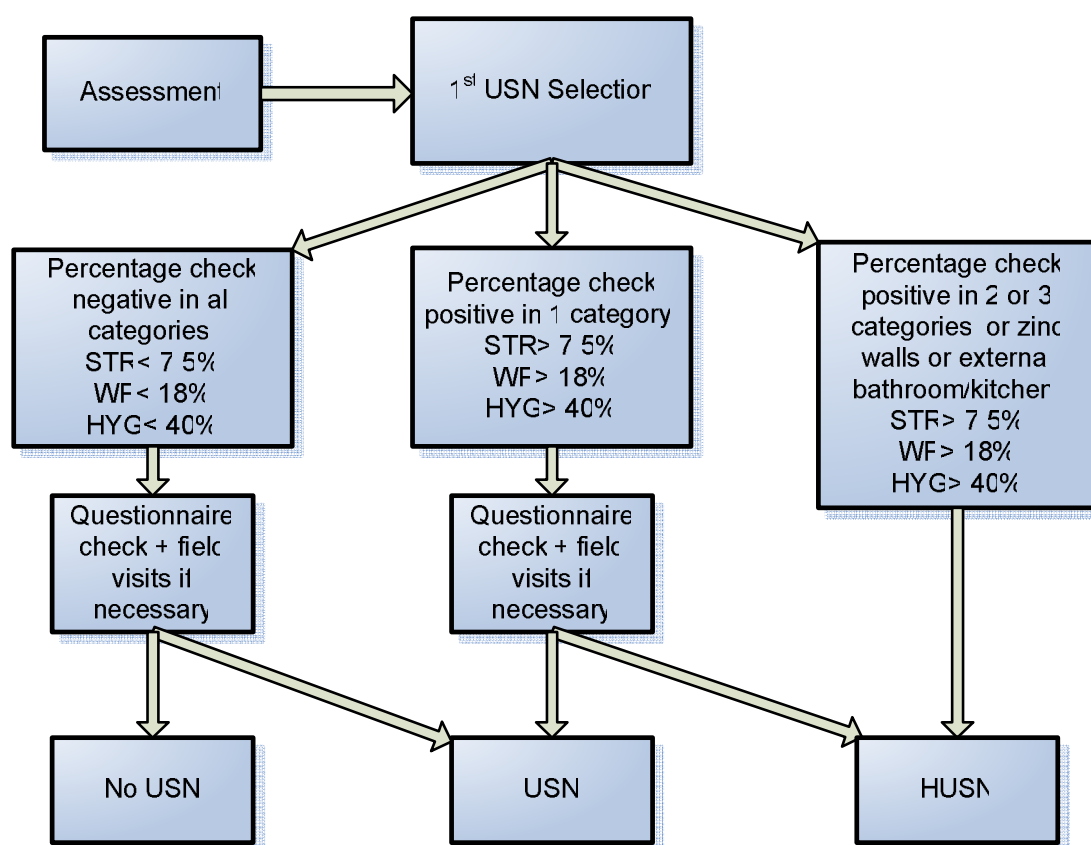
The housing situation was studied in each gathering of Lebanon in order to determine the number of shelters with urgent needs for rehabilitation, according to the criteria agreed upon between ECHO, NRC and PU:

A shelter that includes one or more of the following criteria is considered as a case of Urgent Shelter Needs (USN):

1. Significant structural problems (STR)
2. Does not provide adequate protection against the elements (WP)
3. Does not have kitchen and/or bathroom facilities and fixtures which permit good and safe hygiene practices (HYG)

The general methodology regarding USN identification is described in the diagram below:

Given the high number of USN, we introduced the notion of Highly Urgent Shelter Needs (HUSN). Those shelters within the USN category are the ones which suffer from a combination of major problems and ought to be considered in priority for rehabilitation.



After the selection process described above, each gathering was classified as follows:

% of USN + HUSN	Level of needs
USN+HUSN > 15%	High needs
5% < USN+HUSN < 15%	Moderate needs
USN+HUSN < 5%	None or little needs

f. Water and Sanitation

The water and sanitation situation of each gathering was analyzed to determine:

- The water supply situation in terms of quantity and quality

After the evaluation was undertaken by PU watsan expert, each gathering received a grade regarding water quantity and quality as explained in the table below.

	5 Very Good	4 Fair	3 Medium	2 Low	1 very low
Quantity	Needs covered and water used for other aims (i.e.: gardening)	Needs covered (water available all day long)	Punctual shortages of water during the year	Regular shortages of water during the year.	Important shortages of water, people forced to get water from unsafe places.

Quality	Chlorinated, no contamination. Good organoleptic indicators	No chlorination but no contamination, good protection of network.	No chlorination No contamination or little one (less than 10 coliforms per 100ml) at the time of the assessment but visual inspection shows unprotected network in bad condition and high risk of contamination	No chlorination, bacteriological contamination (more than 10 fecal coliforms per 100 ml).	No Chlorination. High Contamination (More than 100 fecal coliforms per 100 ml).
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- The disposal situation of waste water and rain water.

The sanitation network of each gathering was examined in terms of potential or proven risk for the health and of its technical sustainability.

As for the water quantity and quality, a grade from 1 to 5 was given for sanitation.

	5 Very Good	4 Fair	3 Medium	2 Low	1 very low
Sanitation	Good protection of the sewage disposal. All households are connected. Good general Hygiene.	Good protection of the sewage disposal. General Hygiene can be improved	Variable protection of the sewage disposal. Risk of contact with water.	Regular contact between water and sewage. Regular flooding. Bad hygiene.	Important contact between sewage and water. Important flooding.

Finally, a global comment, based on the grades regarding water quantity and quality and sanitation, was given to every gathering according to their degree of water and sanitation urgent needs:

- High needs
- Moderate needs
- No needs

g. Land ownership

For each gathering a degree of feasibility for a potential rehabilitation project is indicated. This feasibility indicator is mostly based on the ownership information collected during the assessment. It takes also into account the situation regarding security in the gathering.

As a result, a gathering can be described for potential project as:

- Feasible
- Feasibility to be confirmed
- Not feasible

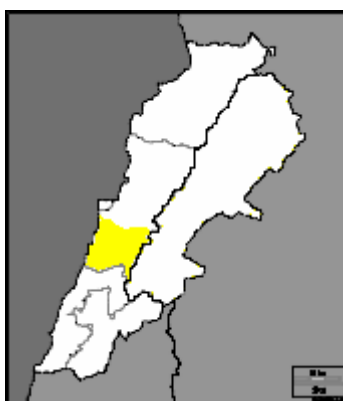
B. Assessment findings

The following section presents the findings of the assessment. For each gathering, a general profile, the land ownership, the shelter and the water and sanitation situations are presented accompanied by recommendations.

The presentation of the findings is organized by regions and then gatherings.

I. Saida

a. General presentation



1. General Situation

The table below summarizes the population data for the gatherings in Saida region:

Gathering	Nb of Palestinian households	Nb of Palestinian refugees
Baraksat	448	2019
Bustan Al Kods	133	688
Chehim	86	395
Hamshari	80	417
Jabal El Halib	235	999
Old Saida	453	1877
Seerob	508	2309
Sekke	410	1741
Surroundings of Mie w Mie camp	109	398
Tawari	-	-
Wadi El Zeini	683	2380
Total	3146	12681

In the 11 identified gatherings of Saida region, 3146 Palestinian households have been assessed. It represents a population of 12681 refugees. Tawari gathering has not been assessed for security reasons.

Four (Baraksat, Bustan, Sekke, Jabal el Halib, Tawari) of these 11 gatherings are located inside Ein El Helweh, the most populated official camp in Lebanon. Two (Hamshari, Surroundings of Mie w Mie) lies between Mie w Mie village and Saida city. The four others

gatherings are located within Lebanese neighborhoods or regular urban context (Old Saida, Wadi al Zeini, Seerob, Chehim)

The watsan and shelter urgent needs depend mostly on the geographical locations of each gathering mentioned above. The ones inside EEH have often high urgent needs either in terms of water and sanitation or shelters. The ones in regular urban context are the less in need. Finally, the two located in the Mie w Mie hills are, in terms of urgent needs, in between the two.

2. Feasibility

The table below summarizes the feasibility for the gatherings in Saida region:

Gathering	Feasibility
Bustan Al Kods	Feasible
Baraksat	To be confirmed
Chehim	Feasible
Hamshari	Low feasibility
Jabal El Halib	To be confirmed
Old Saida	Feasible
Seerob	Feasible
Sekke	Feasible
Surroundings of Mie w Mie camp	To be confirmed
Tawari	-
Wadi El Zeini	Feasible

3. Shelter

The majority of these gatherings have either high or moderate shelter urgent needs. The most recurrent issues are the leaking zinc roofs and the water infiltrated concrete block walls. A lot of shelters suffer as well from serious structural problem.

The table below summarizes the shelter findings for the gatherings in Saida region:

Gathering	Nb USN	Nb HUSN	Shelter urgent needs
Bustan Al Kods	8	7	Moderate needs
Baraksat	9	44	Moderate needs
Chehim	3	4	Moderate needs
Hamshari	15	29	High needs
Jabal El Halib	23	15	High needs
Old Saida	114	74	High needs
Seerob	0	1	No needs
Sekke	0	0	No needs
Surroundings of Mie w Mie camp	18	25	High needs
Tawari	-	-	-
Wadi El Zeini	19	9	No needs
Total	209	208	

4. Water and Sanitation

The gatherings in Saida region present various level of urgent needs depending on their location. Most of the worrying issues are the following:

- The chlorination is not done or not done regularly even when the equipment is available
- A lot of water tanks are not being filled and the water is directly sent to the network, mainly because electricity availability is low.
- Many water networks are old, not maintained properly and upper ground.

The table below summarizes the water and sanitation findings for the gatherings in Saida region:

Gathering	Contamination	Observation		WATSAN urgent needs
Bustan Al Kods	No	Water network upper ground, old metal pipes Some water pipes cross sewage network	Common network for sewage and rain waters Sewage pipes diameters too small and damaged Lack of manholes at intersections and existing manholes undersized and in poor state (broken covers...)	High needs
Chehim	No	No needs		No Needs
Hamshari	No	No sewage system for 80% of HH which are using private pits without drainage.		Moderate needs
Jabal El Halib	Yes	Water network upper ground, old metal pipes Some water pipes cross sewage facilities (cesspits...) No sewage network in the southern part Existing rain water network used for sewage		High needs
Old Saida	Yes	Outdated pipes with leakages.		Moderate needs
Seerob	No	No needs		No Needs
Sekke	Yes	New water network built by PARD. Chlorine pump not working yet	New sewage network built by PU but works not finalized by contractor.	Moderate needs
Surroundings of Mie w Mie camp	No	Sewage network does not reach 20% of the shelters	Generator not working :water tank never filled, water goes directly from borehole to network	Moderate Needs
Wadi al zeini	No	No needs		No Needs
Baraksat	No	PU works		No Needs

b. Findings per gatherings

○ Baraksat

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
448	2019	No needs	Moderate needs	To be confirmed

1. Gathering profile

Baraksat is located in the north-eastern region of Ein el Helweh Camp. The initial shelters were built in 1956 by the Lebanese government for the Lebanese people who lost their houses after the earthquake that hit Lebanon at that time. In 1963, the Lebanese people started selling these "barracks" to the Palestinians and left the area for a cosier one named Villat. In 1971, the Palestinian families started extending these barracks and building new shelters. The Palestinians, form now about 80% of the total population, moved in from different areas (such as Chehim, Nabatiye, Al Rashidiyee, Tyre, other gatherings of EEH camp, Beirut, Sarafand, Mie w Mie, and recently from Nahr el Bared after the war).

2. Land Ownership

Part of the land belongs to private Lebanese owners and other parts belong to public Lebanese owners under the local authorization of Mie w Mie municipality.

3. Shelter

Baraksat is a crowded gathering. The streets are narrow and in very bad state. The shelters are mostly multi-story buildings built with concrete block walls. Most of the roofs are made of concrete but some zinc can also be found. The shelter situation in Baraksat is moderately urgent.

- Highly urgent shelter needs : 44 units
- urgent shelter needs : 9 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
20%	80%	-	2%	98%	-	44%

4. Water and sanitation

Note: At the time of writing, PU is finalizing the rehabilitation of both the sewage and water networks in Baraksat.

a. Water source

Main source: Baraksat is not connected to Ein el Helweh network and mainly receives water from a 100 m deep borehole located just outside the camp.

We were not allowed to visit the pumping station which falls under the responsibility of the Lebanese government. The borehole is supposed to fill a water tower, but there is not enough electricity during the day to do so. Consequently, the water is directly sent to individual 1m3 water tanks inside Baraksat.

Secondary source: Saida general network for 25% of the gathering

Third source: Villat network for the remaining 5%.

b. Water quantity

No shortage of water. The population fills 1m3 water tanks located on the roof.

○ **Bustan al Kods**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
133	688	High needs	Moderate needs	Feasible

1. Gathering profile

Bustan al-Kods is a densely populated gathering located in the centre of Ein el Helweh camp but outside UNRWA mandate. All residents are Palestinians who arrived in Bustan from other gatherings or camps like Sekke, Bourj Al Barajne, Bourj As-Shamali, Tyre and Nahr al-bared (lately after the 2007 war).

2. Land Ownership

The land of Bustan al Kods belongs to Lebanese Jewish families who emigrated from Lebanon more than 30 years ago. The refugees are occupying the land illegally.

3. Shelter

The shelters in Bustan are small multi-story buildings. Many of them are made of old concrete block walls. Some have zinc roofs. The streets are very narrow with sometimes not more than one meter between two houses. In 2009, Premiere Urgence is rehabilitating a minimum of 30 shelters and will aim at covering all the highly urgent shelter needs, leaving only moderate needs.

○ urgent shelter needs : 8 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
50%	50%	-	-	50%	50%	-

4. Water and sanitation

a. Water source

Bustan is not connected to Ein el Helweh network and receives water from a 100 meters deep borehole. The equipment to chlorinate the water exists but is out of order. Therefore, no chlorination is done. There is no water tower in Bustan. The water is passing through the network without prior storage.

The water network is upper-ground and made of old metal pipes. In various places, it crosses sewage manholes.

b. Water quantity

No serious shortage of water. The population is filling 1m³ water tanks located on the roof tops.

c. Water quality

Despite the absence of chlorination, no evidences of contamination have been found -9 analyses have been done in November 2008, and 5 more in April 2009. This shows that the borehole is well protected. However, this is not a guarantee given the very bad conditions of the water network distribution pipes. According to the population the quality is changing during the year, with sometimes unpleasant taste and smell.

d. Analyses results

Name of Gathering :		Bustan al Kods	Date : 22/04/2009
Overview			Rating
Quality	Medium (Given the risk of contact with sewage)		3/5
Quantity	No shortage of water		5/5
General quality indicators			
Free Chlorine Test	0 mg/L		
Conductivity	650 μ S/m		
pH	7.5		
Organoleptic indicators	Generally good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Main source	Borehole	0 mg/L	0
Household 1	Water tank	0 mg/L	0
Household 2	Network	0 mg/L	0
Household 3	Network	0 mg/L	0
Household 4	Water Tank	0 mg/L	0

e. Sanitation (3/5)

The pipes diameters on the main lines are under-dimensioned (usually 150 or 200mm), and often saturated. Approximately half of the network suffers from this kind of congestion.

Manholes are too small and not sufficient for the large number of houses connected to them. They are quickly full of water, causing flooding in houses.

Most manholes covers have holes or cracks or are broken. This was sometimes done on purpose by local inhabitants to facilitate the evacuation of storm water. This “solution” increases dramatically the volume of water collected by the network during storms, which results in an immediate congestion.



Open-air inspection chamber



Underdimensionned manhole

There is no storm water network, and the ground profile does not always allow natural evacuation of water. Many private manholes are inadequate: built with stones, without cover and have significant leakages, making the environment unhealthy.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Water network upper ground, old metal pipes	Quick and frequent damages	Creation of a new underground water network with polyethylene pipes
Some water pipes cross sewage network	High risk of contamination	Isolation of the 2 networks
Sewage pipes diameters under-dimensioned and damaged	Saturated network, flooding in houses and streets, hygiene	Change of all damaged or under-dimensioned sewage pipes
Lack of manholes at intersections and existing manholes under-dimensioned and in poor state (broken covers...)	Difficult network maintenance, numerous network saturation	Creation of new manholes, renovation or change of old and damaged ones
Common network for sewage and rain waters	Sewage network often saturated during storms	Separation of the sewage and rain network (the rain water can be evacuated upper ground)

○ **Chehim**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
86	395	No needs	Moderate needs	Feasible

1. Gathering profile

Chehim is located northeast of Saida. The gathering was created in 1978. Most of the Palestinians came from Nabatiyeh and Borj al Shemali. They left because of the camps war.

2. Land Ownership

The land belongs to various Lebanese owners to which most of the refugees pay a rent.

3. Shelter

The shelters in Chehim are spread on a large area. They are for most of them multi-story buildings made of concrete. The urgent shelter needs in Chehim are moderate.

- Highly urgent shelter needs : 4 units
- urgent shelter needs : 3 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
20%	80%	-	-	90%	10%	50%

4. Water and sanitation

a. Water source

Chehim is connected to El Barouk pumping station, located in the Chouf area. Chlorination is done at pumping station level.

b. Water quantity

The situation improved as there was only two days of water per week during DRC assessment. Today, there is no more shortage of water. The population fills a 1 m³ water tank located on the roof tops.

c. Water quality

Chlorination is done in El Barouk pumping station. We found evidences of chlorine in the network (0,1 mg/L). The water has a chlorine taste. The families generally trust the water coming from the network.

d. Analyses results

Name of Gathering : CHEHIM		Date : 07/04/2009
Overview		Rating
Quality (urban network)	Good	5/5
Quantity	No shortage of water	5/5
General quality indicators		
Free Chlorine Test	0.1 mg/L	
Conductivity	450 µS/m	
pH	7.5	
Organoleptic indicators	Good taste, no smell, no turbidity, clear	

Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1	Network	0.1 mg/L	0
Household 2	Water Tank	0 mg/L	0
Household 3	Network	0.1 mg/L	0

e. Sanitation (5/5)

Palestinian families take advantage of the existing network done in the 60's.

Even if the network lacks maintenance in some points, it is in good conditions and well-dimensioned.

f. Watsan summary table

No needs

○ **Hamshari**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
80	417	Moderate needs	High needs	Low

1. Gathering profile

Hamshari is located on the hills between Saida and Mie w Mie village. The gathering is composed of two parts: one upper part along the road and a lower one near Hamshari hospital. The gathering was established in 1986.

Most of the families there are Palestinians and came from the camps of Tal El Za'tar, Rashedeye, Nabateyeh and Burj Al Chemali.

2. Land Ownership

The land belongs to a private Lebanese owner. The refugees are occupying the land illegally. There have been some threats of eviction.

3. Shelter

The shelters in Hamshari are single-story units in very poor conditions. Many are made of old concrete walls damaged by water infiltration and leaking zinc roofs. The sanitary situation is therefore worrying and the structure of many shelters (cracks in walls...) represents a real risk for the population.



Damaged concrete roof, rusting reinforcements

The urgent shelter needs in Hamshari are high.

- Highly urgent shelter needs : 29 units
- urgent shelter needs : 15 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
50%	50%	-	10%	90%	-	40%

4. Water and sanitation

a. Water source

Hamshari receives water from Mie w Mie water tower. The tower is new, in very good conditions and well protected. The refugees benefit from illegal connections to this network.

Some pipes of the gathering's network are upper ground.

b. Water quantity

No shortage of water. The population fills 1m3 water tanks located on the roof tops.

c. Water quality

No chlorine was found in the network. Mie w Mie municipality confirmed not using chlorine. Given Hamshari upper ground network, there is a risk of punctual contamination especially during raining episodes.

People consider the water as safe and use it for drinking.

Four analyses have been done, showing good water quality.

d. Analyses results

d. Analyses results			
Name of Gathering :		HAMCHARI	Date : 14/04/2009
Overview			Rating
Quality (Miye Network)	Miye	Miye	Fair
Quantity	No shortage of water		4/5
5/5			
General quality indicators			
Free Chlorine Test	0 mg/L		
Conductivity	650 µS/m		
pH	7.6		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		

Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1	Network	0 mg/L	0
Household 2	Tank	0 mg/L	0
Household 3	Network + filter	0 mg/L	0
Household 4	Tank	0 mg/L	0

e. Sanitation (3/5)

No sewage system available -except for some shelters near the road (about 20%). The population uses cesspits which could be a source of contamination of ground water. The people dig new pits when full.

Open drainage for the water used for washing. It was mentioned in DRC assessment "wastewater from some households leads to a lower area, where the stagnant water provides a breeding ground for mosquitoes and other insects."

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
No sewage system for 80% of HH which are using private pits without drainage.	Risk of contamination	Creation of a sewage network
Open drainage	High risk of contamination	Creation of a drainage system

○ **Jabal el Halib**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
235	999	High needs	High needs	To be confirmed

1. Gathering profile

Jabal el Halib is located in the south-western corner of Ein el Helweh camp but is out of UNRWA mandate. The Palestinian refugees represent almost all the population of the gathering. They started to move there in 1975 at the beginning of the civil war.

2. Land Ownership

The land ownership in this gathering is complicated. Some part of the land owned by Lebanese private owners, some refugees own their land while the rest is public land (municipality of Darb el Seem).

3. Shelter

The shelters situation in Jabal el Halib is deplorable. The old concrete walls suffer from water infiltration and cracks. In some cases the hygiene inside the homes is worrying. Some houses have a zinc roof with leakages.



Crack in masonry

The shelter needs are high.

- Highly urgent shelter needs : 15 units
- urgent shelter needs : 23 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
35%	65%	-	-	100%	-	60%

4. Water and sanitation

a. Water source

Main source: Three Boreholes provide water to Jabal el Halib. No chlorination is done.

Secondary source: UNRWA borehole. The water goes directly to the network without passing by the UNRWA water tank where the chlorination is supposed to be done. As a result, no chlorination is done.

According to the general state of the pipes, generally upper ground and passing near sewage, there is an important risk of contamination.

b. Water quantity

No shortage of water. The population fills 1m3 water tanks located on the roof tops.

c. Water quality

In the northern part of the gathering, no evidences of contamination were found.

On the contrary, in the southern where the upper ground pipes are not protected, damaged and cross sewage, contamination was found.

d. Analyses results

Name of Gathering :	Jabal Al Halib	Date : 28/04/2009
Overview		Rating
Quality (Goro Borehole)	Good	3/5
Quality (unrwa)	Medium	3/5
Quantity	No shortage of water	5/5
General quality indicators		
Free Chlorine Test	0 mg/L	
Conductivity	650 µS/m	
pH	7.5	
Organoleptic indicators	Good taste, no smell, no turbidity, often clear but sometimes red	

Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Borehole1	Borehole	0 mg/l	0
Borehole 2	Borehole	0 mg/l	0
Borehole 3	Borehole	0 mg/l	0
Borehole 4	Unrwa Pumping station	0 mg/l	0
Household 1	Network	0 mg/l	25
Household 2	Network	0 mg/l	15
Household 3	Network	0 mg/l	30
Household 4	Network	0 mg/l	16

e. Sanitation (3/5)

The northern part of the gathering is taking advantage of an old sewage network; few shelters still have private cesspits.

In the southern part, there is no sewage network. The shelters are either connected to storm water drainage or have badly conceived cesspits.

This situation causes a very unpleasant smell, a deplorable hygiene and increases the risk of contamination that is already important with the water pipes running upper ground.



Uncovered inspection chamber, crossed by with water supply pipes

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Water network upper ground, old metal pipes	Quick and frequent damages	Rehabilitation of the network with underground pipes
Some water pipes cross sewage facilities (cesspits...)	Contamination	Isolation of the 2 networks
No sewage network in the southern part	Saturation of cesspits, flooding in houses and streets, bad hygiene	Creation of sewage network
Existing rain water network used for sewage	Water flooding during storms	Extension of storm water network and separation of the sewage and rain networks.

- **Old Saida**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
453	1877	Moderate needs	High needs	feasible

1. Gathering profile

Old Saida is located in the city of Saida. Palestinians families came to this area after the Arab-Israeli war started in 1948. The Palestinian population is estimated to be around 35% of the total population of Saida Old City. The remaining 65% is Lebanese and for a small minority from other nationalities.

2. Land Ownership

The land is a public land that the Palestinian families are occupying illegally but with the municipality consent.

3. Shelter

Old Saida shelters are multi story houses made of old concrete walls. Some buildings are threatening to collapse. The high humidity inside the houses is a recurrent and very serious issue. Some houses do not even have windows. It has clearly a potentiality for health problems. The need for immediate shelter rehabilitation is very high. PU has already covered some of the shelter needs in the gathering. However, even after PU's intervention, the urgent shelter needs remain high :

- Highly urgent shelter needs : 74 units
- urgent shelter needs : 114 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
20%	80%	-	2%	40%	58%	5%

4. Water and sanitation

a. Water source

The Gathering is taking advantage of the urban network of Saida city. The network is old and not well maintained. Punctual contamination during the year is a risk. People do not consider the water drinkable and purchase bottled water in the market.

b. Water quantity

No shortage of water. The population fills 1 m³ water tanks located on the roof tops.

c. Water quality

There are little evidences of Chlorine in some points of the network - less than 0.1 mg/L. The chlorine is consumed showing contamination along the network. Regular analyzes should be done all year long to highlight the most critical periods of contamination.

Four samples show little contamination (from 1 to 2 coli form per 100 ml) and 5 shows no contamination. The water is still suitable for consumption but emphasis should be made on chlorination to guarantee good water everywhere. As the water network is old and not maintained properly, we can suspect contamination due to leakages.

d. Analyses results

Name of Gathering :		OLD SAIDA	Date : 08 and 09/04/09	
Overview			Rating	
Quality (urban network)		Fair to Medium	3 to 4/5	
Quantity		No shortage of water	5/5	
General quality indicators				
Free Chlorine Test		0 mg/L to 0,1 mg/L		
Conductivity		615 to 780 μS/m as different water sources provide water		
pH		7.6		
Organoleptic indicators		Good taste, no smell, no turbidity, clear		
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
	Network , tap equipped with a filter since one month		0 mg/L	1
HH2/ Coffee Shop	Network		< 0,1 mg/L	0
HH 3/ bad shelter conditions, from tap in toilet	Network		0 mg/L	0
HH 4/ bad shelter conditions	Network		0 mg/L	2
HH5	Tank		0 mg/L	1
	Network		< 0,1 mg/L	0
HH6	Network		0 mg/L	1
HH7	Network		0 mg/L	0
	Tank		0 mg/L	0

e. Sanitation (5/5)

Almost all the houses are connected to the municipal sewage system.

The manholes are in good conditions. The sewage system is combined with storm drain system.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Outdated water pipes with leakages.	contamination	Maintenance of pipes by replacing old pipes by PEHD, chlorination control

○ **Seerob**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
508	2309	No needs	None or little needs	Feasible

1. Gathering profile

Seerob is located about 2 kms from Ein el Helweh camp near Saida. The gathering was created in 1957 as refugees from the official camps were looking for more comfortable and less crowded houses. A lot of people also moved there after the camps war in the 80's. The Palestinians represent about 60% of the gathering's total population.

2. Land Ownership

70% of the Land in Seerob is owned by the Palestinians. 30% of the land belongs to private Lebanese owner. There are no occupied houses.

3. Shelter

The gathering is composed of apartment buildings in excellent state. Almost all have concrete roofs. About 70% of the houses are new. Most of the streets are wide and paved. There are no shelter urgent needs in Seerob.

○ Highly urgent shelter needs : 1 unit

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
-	100%	-	-	100%	-	-

4. Water and sanitation

a. Water source

A 100 meters deep borehole provides water to Seerob. The water goes to a water tower. The source and network are well protected.

b. Water quantity

No shortage of water.

c. Water quality

The conductivity is high and confirms the taste described as chalky.

No chlorination is done but no evidences of contamination have been found after 3 analyses. This shows that the borehole is well protected. However, in the absence of chlorination, special care should be given to the cleaning of the water tower in order to avoid punctual contamination.

d. Analyses results

Name of Gathering : SEEROB		Date : 02/04/2009
Overview		Rating
Quality (urban network)	Fair	4/5
Quantity	No shortage of water	5/5
General quality indicators		
Free Chlorine Test	0 mg/L	
Conductivity	640 µS/m	
pH	8	
Organoleptic indicators	Good taste, no smell, no turbidity, clear.	

Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1	Network	0 mg/L	0
Household 2	Tank	0 mg/L	0
Water Tower	Network	0 mg/L	0

e. Sanitation (5/5)

All the houses (except 4) are connected to the municipal sewage network which is in a good state.

f. Watsan summary table

No needs except a regular cleaning of the water tank.

○ **Sekke**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
410	1741	Moderate needs	None or little needs	Feasible

1. Gathering profile

The gathering is located in the North-eastern corner of Ein el Helweh camp and is out of UNRWA mandate. The Palestinian families came from different camps all over Lebanon and settled there for security reasons, starting in 1974. The gathering was originally larger but the government gave compensation to people in the 1990's and many families returned back to their camps, mainly Rashedeye and Borj al Chemali.

2. Land Ownership

The land is public and belongs to the Ministry of Transport.

3. Shelter

Premiere Urgence has rehabilitated all shelters with urgent needs. There are no shelter urgent needs remaining in Sekke.

4. Water and sanitation

a. Water source

One borehole done in 2006 by PARD is providing water for all the gathering. According to the data collected the water table level is 280 meters. Chlorination is done directly at pumping level.

b. Water quantity

No shortages of water. A generator is providing electricity at all time and ensures water for all the families equipped with water tanks. The popular committee is paying for the fuel used by the compressor.

c. Water quality

The chlorine pump has just been set up but is not yet working. It should be effective soon according to PARD.

For the moment, a technician does the chlorination manually and randomly which is difficult at pumping level without storage.

No contamination was found at pumping level and in the network.

However, we found contamination in three water tanks. That does confirm a previous contamination either during borehole drilling or during the work done by PU on the sewage network as sewage mixed with water. It also shows that since the works, the network is no more contaminated.

d. Analyses results

Name of Gathering :		SEKKE	Date : 28/04/2009
Overview			Rating
Quality (Sekke Borehole)	Good to medium (need further analyses to see the origin of contamination in the water tank.)		3 to 4/5
Quantity	No shortage of water		5/5

General quality indicators			
Free Chlorine Test	0 mg/L		
Conductivity	670 μ S/m		
pH	8		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Mohamed Chebel House	Network	0 mg/L	0
Mohamed Chebel House	Tank	0 mg/L	15
Abu Mohamed House	Network	0 mg/L	0
Abu Mohamed House	Tank	0 mg/L	20
Ziad Mahrouf House	Network	0 mg/L	0
Ziad Mahrouf House	Tank	0 mg/L	17
Pumping Station	Borehole	0 mg/L	0

e. Sanitation (4/5)

The sewage disposal has been renewed by PU in 2008 and some finalization works were still ongoing as of July 2009.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Recent Water supply network, but chlorine pump not working	Random chlorination. Unpleasant taste of the water. Contamination in some individual water tanks	Start using the chlorine pump. Training of the technician. Washing the water tanks

○ **Surroundings of Mie w Mie**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
109	398	Moderate needs	High needs	To be confirmed

1. Gathering profile

The gathering was built in 1985. It is located a few kms away from Saida on the outskirts of the official camp of Mie w Mie, Palestinian families moved there because of the camps war coming from different areas and settled there due to lack of space in the official camp.

2. Land Ownership

The land belongs to Mie w Mie Christian municipality. The refugees are occupying the land illegally.

3. Shelter

Mie w Mie gathering is built on a hill. Most of the shelters are single-story houses made of old concrete walls. About half of them have zinc roofs with leakages. Some of the shelters are in deplorable state and are threatening to collapse. The urgent shelter needs in Mie w Mie are high.

- Highly urgent shelter needs : 25 units
- urgent shelter needs : 18 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
30%	70%	-	2%	88%	-	25%

4. Water and sanitation

a. Water source

The water comes from an UNRWA borehole built in 2005. The water tower is not working well because of poor electricity availability. As electricity is available for 4 hours per day, it is not enough to fill the water tower and insure continuous water distribution. A generator is waiting to be connected. In the meantime, the water goes directly from the borehole to the network. Chlorination is done randomly.

b. Water quantity

No shortage of water. The population fills 1m3 water tanks located on the roof tops.

c. Water quality

The water is randomly chlorinated by a technician without proper knowledge or training. The taste of the water is sometimes unpleasant because of high chlorine level. There could be a problem of poisoning and acceptance of the water by the population. Also, it is worth mentioning that the people complain about the hardness of the water which they associate with kidney diseases. No contamination was found.

d. Analyses results

Name of Gathering :	MIE w MIE	Date : 14/05/2009
Overview		Rating
Quality (UNRWA borehole)	Good	5/5
Quantity	No shortage of water	5/5

General quality indicators			
Free Chlorine Test	0.7 mg/L		
Conductivity	488 µS/m		
pH	7.6		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1	Network	0,6 mg/L	0
Household 2	Well	0 mg/L	0
Household 3	Water Tower	0.7 mg/L	0

e. Sanitation (4/5)

Roughly 80% of the shelters are connected to the UNRWA network linked to the urban network. The pipes are in good conditions. The remaining 20% of the population has cesspits generally not emptied on a regular basis.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Generator not working :water tank never filled and water goes directly from borehole to network	Difficult chlorination. Dependence towards electricity	Connect generator
Sewage network does not reach 20% of the shelters	Cesspits often in bad conditions, hygiene	Extension of the existing network

○ **Wadi al Zeini**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
683	2380	No needs	None or little needs	Feasible

1. Gathering profile

Wadi al Zeini was created between 1977 and 1979. It is located by the sea a few kilometers north of Saida. Most of the population is Palestinian and came from other camps escaping violence.

2. Land Ownership

The land belongs to the Palestinians and to private Lebanese owner. There is no illegal occupation.

3. Shelter

Wadi al Zeini is a nice neighborhood. The shelters are in fact apartment buildings in good state. The streets are wide and paved. The urgent shelter needs are little.

- Highly urgent shelter needs : 9 units
- urgent shelter needs : 19 unit

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
-	100%	-	-	100%	-	5%

4. Water and sanitation

a. Water source

There is an urban network passing through the gathering. However it is undersized and not distributing water efficiently. As a result, most of the people in Wadi El Zeini have their own boreholes with a pump and private water tanks.

b. Water quantity

No shortage of water.

c. Water quality

The water is not chlorinated. The people do not drink it because of the salty taste. The conductivity confirms a high concentration of salt, especially near the sea shore (1870 micro siemens/sec). Upstream where the salinity is less important (around 850), some people drink the water. The WHO recommended guideline is 400 micro siemens/sec.

The water network is underground and in good state.

Four analyses have been done, showing good water quality.

d. Analyses results

Name of Gathering :		Wadi El Zeini	Date : 06/04/2009
Overview			Rating
Quality (Private well)	Fair		4/5
Quality (urban network)	Fair (salty)		4/5
Quantity	No shortage of water		5/5

General quality indicators	
Free Chlorine Test	0 mg/L
Conductivity	850 to 1850 μ S/m
pH	7.5
Organoleptic indicators	Good taste, no smell, no turbidity, clear

Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1	Tank	0 mg/L	0
		0 mg/L	
Household 2	Tank		0
		0 mg/L	
Household 3	Tank		0
Household 4	Tank	0 mg/L	0

e. Sanitation (5/5)

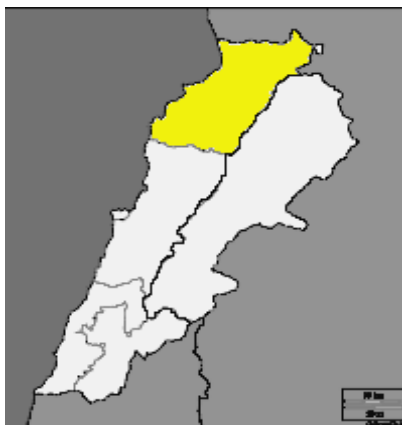
All houses are connected to the urban network which is wide and in good conditions. Both sewage and storm waters are evacuated through a unique network.

f. Watsan summary table

No needs

II. North Lebanon

a. General presentation



1. General Situation

The table below summarizes the population data for the northern gatherings:

Gathering	Nb of Palestinian households	Nb of Palestinian refugees
Al Mina	43	213
Bab El Ramel	48	181
Zahariye	95	358
Bab El Tabane	-	-
Mankoubeen	108	580
Mouhajjareen	161	677
Surroundings of NBC	-	-
Total	455	2009

In the 7 gatherings of north Lebanon, 455 Palestinian households have been assessed. It represents a population of 2009 refugees. The gathering of Bab el Tabane in Tripoli was not assessed for security reasons nor was the surroundings of NBC, already under numerous NGO's supervision.

All the northern gatherings are located in an urban and crowded context, either within the city of Tripoli or next and inside the official camp of Beddawi.

The gatherings located in Tripoli (al Mina, Bab el Ramel, Zahariye) share the same urban facilities as the Lebanese population. As a result, their situation regarding watsan and shelter is fair according to Lebanese standards.

The situation is more difficult for the gatherings (Mankoubeen, Mouhajjareen) located near and inside Beddawi camp, one of the most crowded official camps since NBC conflict and the massive arrival of displaced families.

2. Feasibility

The table below summarizes the feasibility for the northern gatherings:

Gathering	Feasibility
Al Mina	Feasible
Bab El Ramel	Feasible
Zahariye	Feasible
Bab El Tabane	-
Mankoubeen	Low feasibility
Mouhajjareen	To be confirmed
Surroundings of NBC	-

3. Shelter

The urgent shelter needs in the north are moderate. Most of the needs are concentrated in Mankoubeen and Mouhajjareen where very small units are gathered. In many of them, the roofs are leaking and the structure of the shelters is unsafe. The hygiene situation is sometimes very poor in these two gatherings.

The table below summarizes the shelter findings for the northern gatherings:

Gathering	Nbr USN	Nbr HUSN	Shelter urgent needs
Al Mina	7	3	None or little needs
Bab El Ramel	0	1	None or little needs
Zahariye	0	1	None or little needs
Bab El Tabane	-	-	-
Mankoubeen	6	6	Moderate needs
Mouhajjareen	7	10	Moderate needs
Surroundings of NBC	-	-	-
Total	20	21	

4. Water and Sanitation

Generally, the gatherings in Tripoli have no needs while the ones near Beddawi moderate or high needs.

- In Tripoli, several programs led by different development organizations are on going or will be effective in the coming months. We can expect an improvement of an already fair general situation.
- Important shortage of water in Mankoubeen. The population drinks unsafe water from different sources.
- Generally speaking, good connections of the gatherings to urban networks. Use of cesspits in Mankoubeen.

The table below summarizes the water and sanitation findings for the northern gatherings:

Gathering	Contamination	Observation	WATSAN urgent needs
Al Mina	No	No needs	No needs
Bab El Ramel	No		No needs

Zahariye	No				No needs
Bab El Tabane	-	-			-
Mouhajjareen (Beddawi)	No	Sewage network undersized and not all households connected.			Moderate needs
Mankoubeen	No	Water network undersized, poor yield, important shortage of water	cesspits in very bad conditions	Cesspits quickly filled by rain water	High needs
Surr. of NBC	-	-			-

b. Findings per gathering

○ Bab el Ramel, Al Mina, Zahariye

The results for these gatherings are presented together because of their similarities.

BAB EL RAMEL

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
48	181	No needs	None or little needs	Feasible

AL MINA

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
43	213	No needs	None or little needs	Feasible

ZAHARIYE

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
95	358	No needs	None or little needs	Feasible

1. Gathering profile

Bab el Ramel: The gathering was created in 1948 after the Arab-Israeli war. It is located within the city of Tripoli. The Palestinian families of Bab el Ramel represent a minority of the gathering's total population.

Al Mina: The gathering was created in 1948 after the Arab-Israeli war. Like Bab el Ramel, Al Mina is located within the city of Tripoli in "Al Mina" neighborhood. The Palestinian families are a minority of the total population. In its report, DRC mentioned 600 families in the gatherings. For this assessment, we visited 43 Palestinian households. This number is not an exhaustive figure but represents the families in need. The other refugees in al Mina live in very good conditions and do not consider themselves as living in a gathering.

Zahariye: The gathering was created in 1970. Most of the Palestinian families in the gathering came from Beddawi, NBC and Wavel camps. Few came from other camps. The number of refugees in the gathering increased due to NBC conflict. The Palestinian families are also a minority in Zahariye.

2. Land Ownership

The shelter and land ownership is private. Most of the refugees are renting their apartments. Some occupy them illegally.

3. Shelter

There are no major needs in these three gatherings. The shelters are, in fact, apartments located in buildings where the majority of the population is Lebanese.

- Highly urgent shelter needs : 5 units
- urgent shelter needs : 7 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
30%	60%	10%	5%	70%	25%	5%

4. Water and sanitation

a. Water source

The three gatherings are connected to the municipality network.

According to Tripoli municipality, two water sources provide water to a treatment plant where 40.000 m3 of water is treated daily. This quantity is planned to be increased to 70.000 m3 daily. Additionally to this two water sources, 17 wells are used for Tripoli, the second largest city of Lebanon.

Projects funded by various donors are under process either to treat water or increase the volume distributed. The three gatherings are taking advantage of these projects.

b. Water quantity

There is no preoccupying shortage of water.

c. Water quality

The water network is outdated and needs maintenance which has already started in some areas like Bab el Ramel.

No contamination was found. However, despite a general good situation the population buys its drinking water from the market.

Chlorination is done at treatment plant level. Free chlorine was found in Bab el Ramel and Zahariye but not in al Mina.

d. Analyses results

d. Analyses Results			
Name of Gathering :		Al Mina, Bab el Ramel, Date : 07/05/2009 Zahariye	
Overview		Rating	
Quality (Al mina)	Fair	4/5	
Quality (Bab el Rahmel- Zahie)	Good	5/5	
Quantity	No shortage of water	5/5	
General quality indicators			
Free Chlorine Test	0 mg/L in Al Mina, 0.2 mg/L in Bab El Ramel and Zahariye		
Conductivity	750 µS/m		
pH	7.8		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1 Bab el Ramel	Network	0.2 mg/L	0
Household 2 Bab el Ramel	Network	0.2 mg/L	0

Household 3 Bab el Ramel	Network	0.2 mg/L	0
Household 1 Zahariye	Network	0.3 mg/L	0
Household 2 Zahariye	Network	0.2 mg/L	0
Household 1 al Mina	Network	0 mg/L	0
Household 2 al Mina	Network	0 mg/L	0
Household 3 al Mina	Network	0 mg/L	0

e. Sanitation (5/5)

The three areas are taking advantage of the urban sewage network. The main pipe is pouring the sewage directly to the sea without treatment.

f. Watsan summary table

There are no needs regarding water and sanitation facilities for the Palestinian families living in these gatherings. Various programs led by different development organizations are on going or will be implemented in the coming months. An improvement of an already fair general situation can be expected.

○ **Mankoubeen**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
108	580	High needs	Moderate needs	Low

Gathering profile

Mankoubeen is located on the outskirts of the official camp of Beddawi. Most of the refugees moved to Mankoubeen from southern camps during the Israeli invasion of 1982. The population relies on Beddawi health and education structures managed by UNRWA. The Palestinian families represent only half of the gathering's total population.

Land Ownership

The land belongs to Lebanese families and is occupied illegally by the Palestinian refugees. There have been several justice decisions in favour of the owners. However, no actions have yet been taken.

Shelter

The shelters in Mankoubeen are single-story units. The streets are unpaved and dirty. A large number of shelters have zinc roofs and are made of concrete block walls infiltrated by water or structurally unsafe. The hygiene inside the homes is poor in some cases. The urgent shelter needs in Mankoubeen are moderate.

- Highly urgent shelter needs : 6 units
- urgent shelter needs : 6 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
45%	55%	-	-	100%	-	30%

Water and sanitation

a. Water source

Main source: UNICEF well located near the entrance of Beddawi camp. No evidences of Chlorination were found. The yield is not sufficient to fill the main water tank. Also the low pressure does not allow the water to reach all areas of the gathering. Originally dimensioned for Mankoubeen alone, the well is also used by some people from Beddawi living next to the main water tank.

Secondary source: Part of the gathering population living along Beddawi border takes advantage of the general network managed by UNRWA. Chlorine was found along the network. Although, it is undersized and fails to provide water to all the camp as originally planned.

Third source: Najib Mikati (former prime minister) funded a well which provides water to about 40 Households. No chlorination is done.

For political and technical (undersized network) reasons, there are no possibilities to connect Mankoubeen gathering to Beddawi network.

b. Water quantity

The majority of the gathering population suffers from a preoccupying shortage of water. Water is available during approximately 4 hours per day with a very poor yield. The families are not able to fill their 1 m³ water tank located on their roof tops. This forces them to buy water from other sources.

c. Water quality

No contamination was found. However, this is not a guarantee given the absence of chlorination and the very bad conditions of the area regarding sewage.

d. Analyses results

Name of Gathering :		Mankoubeen	Date : 04-05/05/2009	
Overview			Rating	
Quality UNRWA	Good		5/5	
Quality UNICEF	Fair		4/5	
Quality Mikati	Fair		4/5	
Quantity	Serious shortage of water		1/5	
General quality indicators				
Free Chlorine Test	0 mg/L in Unicef and Mikati water tower, 0.4 mg/L in UNRWA network			
Conductivity	750 to 845 µS/m			
pH	8			
Organoleptic indicators	Good taste, no smell, no turbidity, clear			
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
Unicef Water tower	Pumping station		0 mg/L	0
Household 1 Unicef	Unicef Network but no pipes reaching the house.		0 mg/L	0
Household 2 Unicef	Network		0 mg/L	0
Household 3 UNRWA	Network / no taps they collect water in the neighbourhood		0 mg/L	0
Household 4 UNRWA	Network		0.2 mg/L	0
Household 5 Mikkati Well	Network		0 mg/L	0

e. Sanitation (2/5)

No sewage network is available. The population uses private or collective septic tanks that actually work as cesspits with no drainage system. The resulting hygiene situation is bad and the possibility of water contamination is very high.

When pits are full, people build new ones. The pits are not properly covered. A lot of small and upper ground pipes from collective cesspits are damaged.



Mouth of cesspit



Damaged manhole crossed by water supply pipe

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Water network undersized, poor yield	Serious shortage of water, risk of using other sources of water	Creation of a new underground water network with polyethylene pipes
Sewage facilities (cesspits) in very bad condition	High risk of contamination	Creation of a sewage network
Evacuation pipes from cesspits too small and damaged	Saturated network, flooding in houses and streets, hygiene	
Cesspits quickly filled by rain water	Cesspits saturation	Separation of the sewage and rain networks (the rain water can be evacuated upper ground)

○ **Mouhajjareen**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
161	677	Moderate needs	Moderate needs	To be confirmed

1. Gathering profile

Mouhajjareen is an extension of Beddawi Camp. It is a small and crowded gathering. Most of the population came from the southern camps after the Israeli invasion of 1982. Because there is only a street separating this small gathering from the official camp, education and health infrastructures from UNRWA are close and available.

2. Land Ownership

The land belongs to the Islamic Awkaf (an Islamic organization). The refugees are occupying the land without paying rent.

3. Shelter

The gathering is composed of houses piled along several narrow streets. The houses face each other with only a couple of meters between them. Zinc roofs are common. Some of the refugees are people who escaped from NBC. Some minor shelter rehabilitations have already been done for these people.



Diagonal crack in masonry (symptomatic of major structural problem)

The urgent shelter needs in Mouhajjareen are moderate.

- Highly urgent shelter needs : 10 units
- urgent shelter needs : 7 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
90%	10%	-	-	100%	-	35%

4. Water and sanitation

a. Water source

A water tower managed by UNRWA provides drinking water in Mouhajjareen. The general state of the tower is good. The water is chlorinated.

b. Water quantity

There is no important shortage of water.

c. Water quality

Chlorination is done in the water tower and a good residual chlorine concentration was found (0.4 mg/l). A technical office is available and equipped with chlorine pump.

d. Analyses results

Name of Gathering :	Mouhajjareen	Date : 04 and 05/05/09
Overview		Rating
Quality (UNRWA network)	Good	5/5
Quantity	No shortage of water	5/5
General quality indicators		
Free Chlorine Test	0.4 mg/L	
Conductivity	750 µS/m	
pH	8	
Organoleptic indicators	Good taste, no smell, no turbidity, clear	

Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Water tower	Pumping	0.4 mg/L	0
Household 1	Network	0.4 mg/L	0

e. Sanitation (3/5)

UNRWA renewed the two main lines. However, all Mouhajjareen houses are not connected and sometimes the connection is not properly done.

More generally, the sewage network is undersized and the slope is too weak to evacuate rain water or waste pieces in the pipes.

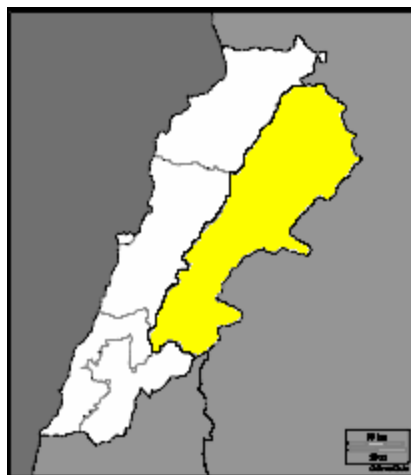
Rats and flooding in houses are a recurrent problem.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Sewage network undersized, all houses not connected	Bad hygiene, saturated network, flooding in houses.	Sewage network rehabilitation.

III. Bekaa

a. General presentation



1. General Situation

The table below summarizes the population data for the gatherings in Bekaa:

Gathering	Nb of Palestinian households	Nb of Palestinian refugees
Al Marj	44	210
Bar Elias	258	1188
Goro	23	92
Al Jalil Surroundings	70	225
Taalabaya-Saadnayel-Jalala	427	1916
Total	822	3596

In the 7 gatherings of Bekaa, 812 Palestinian households have been assessed. It represents a population of 3596 refugees.

In this region, the urgent needs are very limited. Six gatherings out of the seven are located within Lebanese towns (Al Marj, Bar Elias, Taalabaya-Saadnayel-Jalala) or next to an official camp (Al Jalil surroundings) and their Palestinian populations live in fair conditions according to Lebanese standards. Goro is the only exception in Bekaa. This small gathering just outside the archaeological site of Baalbeck has high urgent needs both in terms of water and sanitation and shelter.

2. Feasibility

The table below summarizes the feasibility for the gatherings in Bekaa:

	Feasibility
Al Marj	Feasible
Bar Elias	Feasible
Goro	To be confirmed
Al Jalil Surroundings	Feasible
Taalabaya-Saadnayel-Jalala	Feasible

3.

Shelter

Goro is the only gathering with high shelter urgent needs. The old concrete block barracks suffer from high humidity, poor hygiene and structural problems.

The table below summarizes the shelter findings for the gatherings in Bekaa:

Gathering	Nb of Palestinian Households	Nb USN	Nb HUSN	Shelter urgent needs
Al Marj	44	0	1	None or little needs
Bar Elias	258	1	1	None or little needs
Goro	23	6	8	High needs
Al Jalil Surroundings	70	0	0	None or little needs
Taalabaya-Saadnayel-Jalala	427	10	5	None or little needs
Total	822	17	15	

4. Water and Sanitation findings

The most urgent water and sanitation needs are concentrated in Goro but the gatherings of Taalabaya-Sadnayel-Jalala, despite a better situation, suffer from water shortages in summer and spend a lot of money on external water.

Also, it is worth mentioning that a master plan assessment led by the government water service is on going. It mainly concerns the Baalbeck area -Goro excluded- and Bar Elias.

The table below summarizes the water and sanitation findings for the gatherings in Bekaa:

Gathering	Contamination	Observation			WATSAN urgent needs
Al Marj	No	No needs			No needs
Bar Elias	No				No needs
Goro	No	Unsafe water coming from badly protected borehole.	Disorganized water network, running at the surface	Anarchical sewage network and use of cesspits drain to a canal passing nearby the gathering. Absence of storm water disposal	High needs
Al Jalil surroundings	No	No needs			No needs
Taalabaya-Saadnayel-Jalala	No	Several leakages along the water network	Pumping station in bad state, no security perimeter and human activities on the station.	Poor knowledge regarding chlorination Undersized network with shortage of water in several locations	Moderate needs

b. Findings per gathering

o Al Marj

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
44	210	No needs	None or little needs	Feasible

1. Gathering profile

The gathering was created around 1982 in al Marj town, in central Bekaa, not far away from the Syrian border. The Palestinian families moved there after the Israeli invasion of 1982. They came from different camps all over Lebanon. The refugees are living together with the Lebanese population.

2. Land Ownership

The land belongs to different Lebanese private owners and the Palestinian families pay rent. There were 15 shelters located on a public land but the people were evicted after receiving compensation from the municipality. Today these families are renting houses in al Marj.

3. Shelter

The shelters in al Marj are for the great majority multi story buildings or houses in good state. The urgent shelter needs in al Marj are low.

o Highly urgent shelter needs : 1 unit

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
100%	-	-	50%	-	50%	-

4. Water and sanitation

a. Water source

Bar Elias receives water from Anjar Pumping station. Since 2007, a rehabilitation program has been lead by ICRC to increase the capacity of the pumping. Three new pumps have been set up as well as old pipes are being progressively replaced.

The pumping station is well protected in a relatively clean area, with little human activities upstream.

Generally speaking the network is undersized and it does affect Al Marj during summertime. This should change with the three new pumps added recently by ICRC.

b. Water quantity

Small shortage of water during summer but, most of the time, the population has running water 24h per day.

c. Water quality

Chlorination is done and consumed as El Marj is located at the really end of the network. No contamination has been found showing the efficiency of chlorination.

Given the basic PH, specific attention has to be paid to chlorination as chlorine is less efficient under such conditions.

d. Analyses results

Name of Gathering :		Al Marj	13/04/09
Overview			Rating
Quality	Fair		4/5
Quantity	Small shortage of water		4/5
General quality indicators			
Free Chlorine Test	0 mg/L (very low concentration but presence anyway)		
Conductivity	470 μ S/m		
pH	8		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1	Network	0 mg/L	0 fecal col/100
		traces de	ml
		chlore	
		total	
Household 2	Well	0 mg/L	0 fecal col/100
			ml

e. Sanitation (4/5)

Almost all the houses are connected to the municipal sewage network made in the 60's. On the main line the manholes covers, made in iron are in place, and in good conditions. The government water company is in charge of the maintenance.

f. Watsan summary table

There are no urgent water and sanitation needs in al Marj.

○ **Bar Elias**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
258	1188	No needs	None or little needs	Feasible

1. Gathering profile

Bar Elias was built in the 1950's, as Palestinian families moved there from different camps in Lebanon. The refugees were looking for more job opportunities (at that time there were many jobs available in Bekaa especially in the agricultural field). Palestinian families are living together with Lebanese families, as the gathering is in fact located within the city of Bar Elias a few kms away from the Syrian border.

2. Land Ownership

The land belongs to the refugees.

3. Shelter

Bar Elias is located within a medium size city. The refugees are living in apartment buildings in good state. The urgent shelter needs in Bar Elias are low.

- Highly urgent shelter needs : 1 unit
- urgent shelter needs : 1 unit

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
95%	5%	-	-	100%	-	-

4. Water and sanitation

a. Water source

Bar Elias receives water from Anjar Pumping station. Since 2007, a rehabilitation program has been lead by ICRC to increase the capacity of the pumping. Three new pumps have been set up as well as old pipes are being progressively replaced.

The pumping station is well protected in a relatively clean area, with little human activities upstream.

Generally speaking the network is undersized but it does not affect Bar Elias.

b. Water quantity

No shortage of water. The population has running water 24h per day.

c. Water quality

Chlorination is done. The concentration of residual Chlorine decreases from the pumping station to the end of the network. This indicates that there is contamination along the network. This has been confirmed by the mayor. However, the chlorination is enough to maintain a good level of quality for the water.

Given the basic PH, specific attention has to be paid to chlorination as chlorine is less efficient under such conditions.

d. Analyses results

d. Analyses Results			
Name of Gathering :	Bar Elias	Date : 13/04/2009	
Overview		Rating	
Quality	Good	5/5	
Quantity	No shortage of water	5/5	
General quality indicators			
Free Chlorine Test	0.5 to 0.7 mg/L		
Conductivity	470 µS/m		
pH	7.8		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1	from Urban Network, water tank	0.5 mg/L	0
Household 2	from urban network, Khalid Ziad	0.5 mg/L	0
Household 3	from urban network, Abu Mazhen	0.7 mg/L	0

e. Sanitation (5/5)

Almost all houses are connected to the municipal sewage network built in the 60's.
On the main line the manholes covers, made in iron are in place, and in good conditions.
The government water company is in charge of the maintenance.

f. Watsan summary table

There are no water and sanitation urgent needs in Bar Elias.

○ **Goro**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
23	92	High needs	High needs	To be confirmed

1. Gathering profile

Goro is located behind Baalbeck ruins, in an old army base from the French mandate period. The Palestinian families moved to this gathering after the first Israeli invasion of Lebanon in 1978. The majority of the families escaped Rashedeye camp in the Tyre region.

The inhabitants of Goro are slightly isolated and are not taking advantage of close-by infrastructures. The population goes to the official camp of Wavel (al-Jalil) for education and health services.

The gathering is also inhabited by Lebanese families which represent about 60% of the total population.

2. Land Ownership

The land is a public land owned by the Lebanese government. The Palestinian families are occupying the land illegally.

3. Shelter

The majority of Goro's shelters are single storey units made of old concrete walls and roofs in poor state with leakages. No real rehabilitation has ever been done in the gathering since the French mandate period. The high humidity inside the houses is a recurrent issue. It has clearly a potentiality for health problems. Some houses are structurally unsafe.



Damaged concrete floor



Substandard bathroom

The urgent shelter needs in Goro are high.

- Highly urgent shelter needs : 8 units
- urgent shelter needs : 6 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
30%	70%			100%		15%

4. Water and sanitation

a. Water source

Main source: Private borehole located nearby Goro (see picture).

The Borehole depth is 120 meters and the water table is 40 meters deep. The general hygiene around the borehole is bad with cracks in the paving and leakages. The borehole is obviously badly protected and no chlorination is done.



Mouth of borehole

Secondary source:

Illegal connection to the urban network just outside the gathering. Not a trustworthy water source, as water is sometimes cut for several days.

The network is made of old HDPE pipes and totally disorganized. The pipes are exposed to risks of damages and leakages as they are running on the surface.

b. Water quantity

The quantity of water delivered by the borehole is sufficient, except occasionally in summertime, when the water table gets down too much.

c. Water quality

Main source: An analysis made in 2003 by a private company showed a high level of contamination (125 E.Coli per mL). The exact conditions of this analysis are unknown.

During the assessment, no bacteriological contamination was found. This indicates that the quality of the deep aquifer is satisfying. However, the risk of contamination is very serious given the state of the borehole and the absence of chlorination.

Secondary source: The municipality network, on which illegal connections are made, is outdated. Its water is not chlorinated and considered unsafe by the population.

A new municipal network is under construction but will not reach Goro. The Municipality does not consider the gathering as falling under its responsibility.

No bacteriological contamination was found but the risk of contamination is very serious.

d. Analyses results

Name of Gathering :	GORO	Date : 20/05/2009
Overview		Rating
Quality (Goro borehole)	Good	3/5
Quality (urban network)	Medium	3/5
Quantity	No shortage of water	5/5

General quality indicators			
Free Chlorine Test	0 mg/L		
Conductivity	650 µS/m		
pH	7.5		
Organoleptic indicators	Good taste, no smell, no turbidity, clear (except for urban network)		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Main source	Borehole	0 mg/L	0
Household 1	from BH, after indiv. water tank	0 mg/L	0
Household 2	from urban network, Abu Ahmad	0 mg/L	0
Household 3	from urban network, Abu Mazhen	0 mg/L	0

e. Sanitation (2/5)

The families use cesspits discharging into the nearby river through pipes. No storm water disposal is available, and the rain water regularly fills the pits causing flooding.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Unsafe water coming from badly protected borehole.	Waterborne diseases	Protection of existing borehole or creation of autonomous treatment plant (filtration or chlorination system). Due to the size of the gathering, the creation of a new water point is not relevant.
Disorganized water network, running at the surface	Quick and frequent damages	Creation of an underground network.
Absence of sewage network and general use of cesspits.	Risk of contamination of ground water and flooding in houses	Creation of a sewage network connected to urban network passing nearby the gathering
Absence of storm water disposal	Bad hygiene and flooding of sewage water.	Creation of storm water disposal that could be upper ground

○ **Al Jalil**

Nb of Palestinian households	Nb of Palestinian people	Watsan	Shelter	Intervention feasibility
70	225	No needs	None or little needs	Feasible

1. Gathering profile

The gathering is located on the outskirts of al Jalil (Wavel) official camp near the city of Baalbeck. It is an extension of the official camp built when the official camp became too small for the growing Palestinian population.

2. Land Ownership

The refugees own the land.

3. Shelter

There are no shelter urgent needs in al Jalil.

4. Water and sanitation

a. Water source

Main source: The Baalbeck urban network

Secondary source: UNRWA water point from the official camp

Third source: Some private wells.

People trust the urban network water and are more suspicious about the UNRWA network because they recorded variation of taste and colour during the year

b. Water quantity

No shortage of water. The population fills 1m3 water tanks located on the roof tops.

c. Water quality

No free residual chlorine has been found in the urban nor in the UNRWA network. The municipality confirms the absence of chlorination. A master plan is on going with the construction of 3 water tanks and a chlorination system.

UNRWA is not using its water tank and the water is directly distributed after pumping without chlorination.

No evidences of contamination have been found.

d. Analyses results

Name of Gathering :		AL JALIL Surroundings	Date : 21/05/2009
Overview			Rating
Quality (Baalbeck Network)	Fair		4/5
Quality (UNRWA network)	Medium		3/5
Quantity	No shortage of water		5/5

General quality indicators			
Free Chlorine Test	0 mg/L		
Conductivity	650 µS/m		
pH	7.5		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1 Fatima Zhala	UNRWA network	0 mg/L	0
Household 2 Ines Marja	Urban network	0 mg/L	0
Household 3 Abou Ziad	Urban Network	0 mg/L	0

e. Sanitation (5/5)

All households are connected to the urban network except few houses newly built. The network is in good state and partly renewed as it is part of the master plan. The municipality also built a treatment plant but it still has to be connected. .

f. Watsan summary table

There are no urgent needs.

○ **Taalabaya-Saadnayel-Jalala**

These three gatherings were considered as one, given their high proximity and common characteristics.

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
427	1916	Moderate needs	None or little needs	Feasible

1. Gathering profile

These 3 close gatherings from central Bekaa were created around 1948 when the first families from Palestine settled there. Then, as the years passed, more families from other camps started to move to Taalabaya, Saadnayel and Jalala because they were looking for more job opportunities especially in the agricultural field. In these gatherings, the Palestinian families are living together with the Lebanese population.

2. Land Ownership

The land belongs to Lebanese private owners. There are no illegal occupations. The refugees pay rents.

3. Shelter

Most of the shelters in Taalabaya, Saadnayel and Jalala are multi-story buildings in good state. Roofs are made of concrete for the majority of them. The urgent shelter needs in Taalabaya-Saadnayel-Jalala are very low.

- Highly urgent shelter needs : 5 units
- urgent shelter needs : 10 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
10%	85%	5%	5%	95%		40%

4. Water and sanitation

a. Water source

Main source: A pumping station located in Jdita and built in 1962. It provides water for Taalabaya, 30% of Saadnayel and a small part of Jalala. Three pumps are working and boreholes reach 101, 120, 130 meters deep.

This water source is old and not maintained properly with several leakages despite the presence of a caretaker living on site.

The chlorination pump inside the station is out of order. A new one has been set up next to the pumping station by the government water company

Secondary source: Many places in Saadnayel and Jalala do not take advantage of the water coming from the pumping station, either the network is undersized and water does not reach households especially during summertime, or new buildings are not connected to the network. For these reasons, people are drilling private boreholes or building water catchments when they can afford it.

b. Water quantity

There are shortages of water especially during the summer. The population is forced to buy possibly unsafe water from the market which represents a high expenses for those families.

c. Water quality

Chlorination is done at pumping station level, but in many places no chlorine, or a very low concentration, has been detected in the network. However, no contamination has been found. The absence of chlorine in the network indicates its consumption and contamination seems likely. It is confirmed by several leakages observed along the network.

d. Analyses results

Name of Gathering :		Taalabaya-Saad	Nayel-	Date : 13/04/2009
		Jalala		
Overview			Rating	
Quality (urban network)	Fair	4/5		
Quantity	Shortage during summer in many places		3/5	
General quality indicators				
Free Chlorine Test	0 mg/L for 4 samples. 0.1 mg/L for 2 samples			
Conductivity	300 µS/m			
pH	8			
Organoleptic indicators	Good taste, no smell, no turbidity, clear			
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
Jdita water source	Borehole		0.8 mg/L	0
Taalabaya HH1	Network		0.1 mg/L	0
Taalabaya HH2	Network		0 mg/L	0
Saad Nayel HH1	Network		0 mg/L	0
Saad Nayel HH2	Private BH		0 mg/L	0
Jalala HH1	Network		0.1 mg/L	0
Jalala HH2	Private BH		0 mg/L	0

e. Sanitation (4/5)

According to the municipality, the sewage network was built in the 60's and sized for 1500 families, nowadays the population living around (connected or not) is 25 000 families. Since 2007, the International Bank (BIRD) has been funding a program to increase the capacity of the sewage network. The project will be finished by 2011.

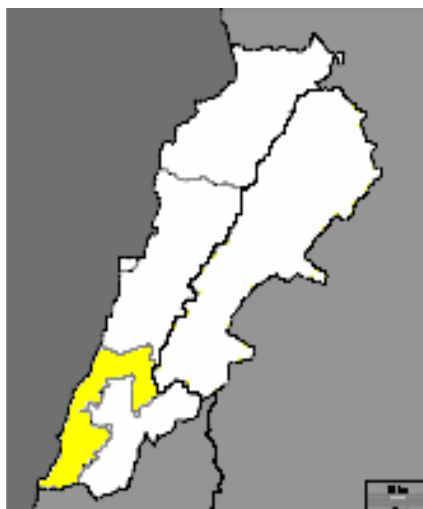
f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Several leakages along the water network	Risk of contamination especially during summertime.	Maintenance of the broken pipes and main leakages.
Pumping station in bad state, no security perimeter and human activities on the station.	Risk of contamination at the beginning of the distribution.	Maintenance and cleaning of the pumping station, creation of security perimeters.
Poor knowledge regarding chlorination	Risk of poisoning and bad treatment	Training of caretakers, maintenance of chlorine pumps.

Undersized network with shortage of water in several locations.	People purchase water in the market, spending a lot of money regarding incomes of families. People will drink unsafe water if they cannot afford to purchase water at the market.	Needs further study.
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IV. Tyre

a. General presentation



1. General Situation

The table below summarizes the population data for the southern gatherings:

Gathering	Nb of Palestinian households	Nb of Palestinian refugees
Adloun	123	446
Baysariyeh	125	564
Burghliyeh	65	262
Itaniyeh	44	202
Jal El Baher	266	1207
Jim Jim	56	205
Kfar Badda	111	463
Maashouk	369	1546
Qasmieh	369	1690
Shabriha	287	1142
Wasta	140	686
Ebb	19	101
Total	1974	8514

In the 12 gatherings of south Lebanon (Tyre region), 1974 Palestinian households have been assessed, representing a population of 8514 refugees. In many of these gatherings, Palestinians are living among Lebanese population or just next to Lebanese villages. However, high urgent needs both in water and sanitation and shelter are important in several gatherings.

2. Feasibility

The table below summarizes the feasibility for the southern gatherings:

Gathering	Feasibility
Adloun	To be confirmed
Baysariyeh	To be confirmed
Burghliyeh	Feasible

Itaniyeh	Feasible
Jal El Baher	Low feasibility
Jim Jim	Feasible
Kfar Badda	Feasible
Maashouk	Feasible
Qasmieh	Feasible
Shabriha	To be confirmed
Wasta	Feasible
Ebb	Feasible

3. Shelter

The shelter urgent needs in those gatherings are generally high. Most of the issues are the same from one gathering to another. Many shelters are structurally unsafe and the 2006 war aggravated significantly some existing problems. A large part of the concrete block walls suffers from water infiltration. Many roofs are made of zinc and leak.

The table below summarizes the shelter findings for the southern gatherings:

Gathering	Nb USN	Nb HUSN	Shelter urgent needs
Adloun	1	0	None or little needs
Baysariyeh	1	2	None or little needs
Burghliyeh	9	13	High needs
Itaniyeh	4	3	High needs
Jal El Baher	54	38	High needs
Jim Jim	1	0	None or little needs
Kfar Badda	1	6	Moderate needs
Maashouk	45	30	High needs
Qasmieh	45	65	High needs
Shabriha	6	9	Moderate needs
Wasta	27	17	High needs
Ebb	5	5	High needs
Total	199	188	

4. Water and Sanitation

In terms of water and sanitation, a high number of the Palestinians in the gatherings do not share facilities with the Lebanese.

- Many programs have been led in the area with a good impact on hygiene and infrastructures.
- A sewage network is available but not working in eight gatherings.
- A master plan is ongoing and a main line is supposed to be built soon with connections to the gatherings. Meanwhile, the frequent bad maintenance of cesspits often leads to a real contamination risk or to actual contamination (Wasta and Itaniyeh).
- ACF is working in 10 gatherings trying to stop contaminations and reduce potential risks. Important efforts concerning awareness and training about chlorination is on going. Those efforts should be sustained.

The table below summarizes the watsan findings for the southern gatherings:

Gathering	Contamination	Observation			Watsan urgent Needs
Adloun	No	Private cesspit emptied in grey water disposal	No storm water disposal People do not trust caretaker competencies in chlorination		Moderate needs
Baysariyeh	No	No needs			No needs
Burghliyeh	No	Cesspits around the borehole (less than 20 meter)	Numerous cracks and no cementation done between drilling and casing.	No chlorination	Moderate needs
Itaniyeh	Yes	No protection of the water sources Chlorination system not used			High needs
Jal El Baher	No	No sewage networks. Use of cesspits directly discharged on the beach next to houses.			No needs
Jim Jim	No	Shortages of water			Moderate needs
Kfar Badda	No	Shortages of water			Moderate needs
Maashouk	No	44 households not connected to sewage network.	Dirty storm water network, blocked in some points.	No chlorination Low acceptance of chlorine in the water	Moderate needs
Qasmieh	No	Chlorination not done in a good way and not regularly. Low acceptance of chlorine taste			Moderate needs
Shabriha	No	Water storm network is undersized	20% of the population not connected to sewage network and using cesspits		Moderate needs
Wasta	Yes	Only 30% of Households connected to grey water network. Flow in the streets, accumulation, bad smell.	Chlorination not done properly and regularly	Cesspits near water source and water contamination	High needs
Ebb	No	Water trucking	No Sewage facilities or cesspits evacuated next to the households		Moderate needs

b. Findings per gathering

o Adloun

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
123	446	Moderate needs	None or little needs	To be confirmed

1. Gathering profile

People coming from Bint Jbeil started to settle in Adloun in 1952. In 1956 another great number of refugees came from various southern villages to settle in the gathering located within the town of Adloun along the highway linking Saidia to Tyre. Adloun is divided in two different neighbourhoods, Arish in the south and Mghara in the north.

2. Land Ownership

The land is public and belongs to the government. The refugees are occupying the land illegally.

3. Shelter

Despite some shelters with leaking zinc roofs and some units being too small, there are no shelter urgent needs in Adloun

o urgent shelter needs : 1 unit

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
100%		-		100%	-	100%

4. Water and sanitation

a. Water source

Main source: The municipal urban network. A water tank is filled by the water coming from Tifarta pumping located 5 km away.

Secondary sources: Few houses have private wells. Some households purchase water coming by truck from two water sources located 3 km away.

Note: Another source done by CISP is not used anymore. The pipe is not connected anymore to the network.

The water table is around 50 meters in the gathering, in a consolidated soil. Most of the population can afford to buy bottled water and prefer to drink this kind of water.

b. Water quantity

Some shortages of water during summer. The population fills 1m³ water tanks located on their roof tops during the night. The needs are overall covered.

c. Water quality

According to the population, the water quality is constant during the year with no variation regarding smell or taste. No contamination was found. Chlorination is done in Tifarta but no chlorine is present at distribution level.

Despite this fair general situation, most of the people buy water because they do not trust the water caretaker competencies in chlorination and/or water distribution.

d. Analyses results

Name of Gathering :		ADLOUN	Date : 09/06/2009	
Overview			Rating	
Quality	Fair		4/5	
Quantity	Some shortages of water during summer but needs covered		4/5	
General quality indicators				
Free Chlorine Test	0 mg/L			
Conductivity	635 µS/m			
pH	7.8			
Organoleptic indicators	Good taste, no smell, no turbidity, clear			
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
UNRWA school	Water Tank		0 mg/L	0
HH1	Water tank		0 mg/L	0

e. Sanitation (3/5)

No network for black water available despite a nearby municipal network. People are using private cesspits. Those pits fill quickly and the population does have to empty them on a regular basis because of the rocky soil. Due to the high price of pit emptying (US\$50 on average), some people are not emptying the sewage pits when full. This causes flooding in the streets and provokes health risks and bad smells.

Some people empty pits on the grey water sewage disposal without the municipality's authorization. According to ACF report, a third of the population is not connected to this grey water disposal and discharges the grey water in the streets causing unpleasant smell and insect's expansion.

ACF is emptying, widening, improving and sealing the most urgent pits in his Phase 2 program.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Private cesspit emptied in grey water disposal	Pollution downstream, problems with authorities	To build a complete black and grey water sewage network connected to the Municipal sewage system.
No storm water disposal	Full cesspits, flooding in the streets, bad hygiene	To build water storm disposal
Lack of trust for from population for chlorination process	Non acceptance of chlorine, buying of external water	To implement an awareness program about water scarcity and water quality

○ **Baysariyeh**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
125	564	No needs	None or little needs	Feasible

1. Gathering profile

Baysariyeh was established right after the Arab-Israeli war in 1948. After, people came from various villages in south Lebanon. The gathering is located 10 km in the south of Saïda.

2. Land Ownership

The refugees own the land.

3. Shelter

Despite some leaking roofs and units too small, there are very little urgent shelter needs in Baysariyeh.

- Highly urgent shelter needs : 2 units
- urgent shelter needs : 1 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
25%	75%	-	-	100%	-	50%

4. Water and sanitation

a. Water source

Main source: The gathering is connected to Tifarta urban network.

Secondary source: Some private wells in good conditions; water table: 120 m.

No chlorination is done but the water protection is good in the gathering.

b. Water quantity

No shortage of water. The population fills 1m³ water tanks located on the roof tops.

c. Water quality

According to the population, the water quality is constant during the year with no variation regarding smell or taste. No contamination was found. No chlorination is done.

d. Analyses results

Name of Gathering :		Baysariyeh	Date : 05/06/2009	
Overview			Rating	
Quality		Fair	4/5	
Quantity		No shortage of water	5/5	
General quality indicators				
Free Chlorine Test		0 mg/L		
Conductivity		773 µS/m		
pH		7.2		
Organoleptic indicators		Good taste, no smell, no turbidity, clear		
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
HH1	Private well		0 mg/L	0
Household 2	Network		0 mg/L	0

e. Sanitation (5/5)

People are connected to the municipal sewage network which is in good state.

f. Watsan summary table

There are no urgent water and sanitation needs in Baysariyeh.

○ **Burghliyah**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
65	262	Moderate needs	High needs	Feasible

1. Gathering profile

Burghliyah was created in 1948. The Palestinians moved there because they knew some Lebanese who used to work in Palestine. The gathering is divided in two areas, the northern one and the southern one. Burghliyah south is mainly inhabited by Lebanese families and Burghliyah north by Palestinians. The gathering is located a few km in the north of Tyre.

2. Land Ownership

The land belongs for half to the Lebanese government and for half to Lebanese private owners. The refugees are occupying the land illegally.

3. Shelter

The shelters in Burghliyah are small single-story units made of old concrete block walls. Serious structural problems are recurrent. A few houses have zinc walls. Most of the shelters' roofs are made of zinc and leak. The urgent shelter needs in Burghliyah are high.

- Highly urgent shelter needs : 13 units
- urgent shelter needs : 9 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
75%	25%	-	5%	90%	5%	50%

4. Water and sanitation

a. Water source

In Burghliyah south there is a recent well drilled in 2005 by the community. It is located in a low area and surrounded by houses under construction which increases the risk of water contamination as people use cesspits for sewage. The well has not been built properly. No cementation around the casing has been made to prevent shallow water intrusion.

In Burghliyah north some people have private wells (with a water table of 60 m deep) and/or are connected to Mukhtar - local authority- water source.

In both locations, the population purchases bottled water mainly because of high calcium concentration which is associated to kidney stones.

b. Water quantity

No shortage of water. The population fills 1m3 water tanks located on the roof tops.

c. Water quality

No contamination was found but it is important to stress the absence of protection in Burghliyah south and the proximity with cesspits. No chlorination is done in any of the different water points, which increases the risk of punctual contamination.

d. Analyses results

Name of Gathering :	Burghliyah	Date : 04/06/2009
Overview		Rating
Quality (Burghliyah North)	Good	4/5
Quality (Burghliyah South)	Medium	3/5
Quantity	No shortage of water	5/5

General quality indicators			
Free Chlorine Test	0 mg/L		
Conductivity	530 µS/m		
pH	7.9		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec.
			Col/100mL
Mukhtar water source	Pumping	0 mg/L	0
Burghliyah north HH1	Private well	0 mg/L	0
Burghliyah South	Network	0 mg/L	0
HH2			
Burghliyah South	Network	0 mg/L	0

e. Sanitation (4/5)

Households are connected to the existing sewage network for grey water. People are using individual cesspits for black water. A few families discharge their black water in the grey water network.

Burghliyah is not currently connected to the Tyre sewage network and sewage is discharged directly to the sea through an irrigation ditch not properly built. Several houses located along the ditch complain about bad smells and flies.

According to the master plan for south Lebanon, Burghliyah will be connected to Tyre municipality wastewater treatment plant. Unfortunately, the general network is still not built and no official date for completion is available. The office in charge is not interested about mid term solutions such as a treatment plant.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Cesspits around borehole (less than 20 m)	Contamination of the borehole	Seal or close those pits
Numerous cracks and no cementation done between drilling and casing.	Contamination by intrusion of sewage and rain water.	Maintenance of the borehole
No chlorination	No protection of the borehole, contamination	Chlorine pump and caretaker training

○ **Al Ebb**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
19	101	Moderate needs	High needs	Feasible

1. Gathering profile

Al Ebb was built in 1975 2 km from the coast in the north of Tyre. It started with four houses and by the year 1978, it was fully established. Most of the refugees came from, Mansouri, Kfar Badda, Naqura, and Yarine after the 1978 Israeli invasion. Ebb is located in a rural area.

2. Land Ownership

The land belongs partly to el Kharayeb municipality and partly to Lebanese private owners.

3. Shelter

Most shelters in El Ebb are single-story units suffering from severe leakages and cracks in the concrete block walls. These problems have increased after the July war in 2006. Some houses need general repairs such as tiling, fixing of window frames and window glasses.



Kitchen and bathroom affected by high humidity and missing separation

The urgent shelter needs in Ebb are high.

- Highly urgent shelter needs : 5 units
- urgent shelter needs : 5 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
5%	95%	-	-	100%	-	10%

4. Water and sanitation

a. Water source

The gathering is not connected to any urban network.

Main source: Private wells.

Secondary source: Water delivered by truck from two water sources located 3 km away. The water table is around 50 meters in the gathering, in a consolidated soil.

b. Water quantity

No shortage of water. The population fills 1m³ water tanks.

c. Water quality

According to the population, the water quality is constant during the year with no variation regarding smell or taste. No contamination was found. No chlorination is done in all the different water sources. ACF provided water tanks to the families in a previous program. Some people were more sceptical about the water trucking and said that they are purchasing bottled water when they can afford it.

d. Analyses results

Name of Gathering :	AL EBB	Date :	05/06/2009
Overview			Rating
Quality (water trucking)	Fair		4/5
Quality (private wells)	Fair		4/5
Quantity	No shortage of water		5/5
General quality indicators			
Free Chlorine Test	0 mg/L		
Conductivity	495 µS/m		
pH	7.9		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
HH1	Private well	0 mg/l	0
Household 2	Private well	0 mg/l	0
Household 3	Water tank/truck	0 mg/l	0
Household 4	Water tank/truck	0 mg/l	0

e. Sanitation (3/5)

No sewage network. Some people are using private cesspits; most of those pits are full and not emptied on a regular basis. People who do not have cesspits are directly discharging sewage outside in a storm water canal. This situation causes bad smell and bad hygiene with a risk of contamination of the water as the water table is not very deep.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Water trucking	No control on the quality	Creation of a water point for the gathering with distribution network
No Sewage facilities or cesspits evacuated next to the households	Risk of contamination and bad hygiene	Creation of a sewage canal to connect with the urban network

Itaniyeh

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
44	202	High needs	Urgent needs	Feasible

1. Gathering profile

The refugees settled in Itaniyeh between 1955 and 1960. They were coming from different places such as al Jiyeh, al Mansoure and al Rashidiyeh official camp. The gathering is located by the sea coast about 15 km in the north of Tyre.

2. Land Ownership

The land belongs to Lebanese private owners. The refugees are occupying the land illegally.

3. Shelter

Half of the shelters in Itaniyeh are multi-story buildings while the other half single-story units. Most of the walls are made of concrete blocks but many of them suffer from serious structural problems. The 2006 war aggravated some of these problems. About a third of the roofs are made of zinc and leaking. The majority is made of concrete. Water infiltration is common.



All-zinc shelter providing insufficient protection against the weather

The urgent shelter needs in Itaniyeh are high.

- Highly urgent shelter needs : 3 units
- urgent shelter needs : 4 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
35%	65%	-	2%	98%	-	5%

4. Water and sanitation

a. Water source

Main source: A 100 m deep borehole done by CISP/ECHO is filling a water tower which ensures water distribution by gravity. A technical room for chlorination is available but not used.

Secondary source: Some houses have private wells badly protected with a lot of human activities around. No chlorination.

ACF is following the water quality in the gathering and as the results show a recurrent contamination, people used to purchase bottled water when they can afford it.

b. Water quantity

No shortage of water. The population fills 1m3 water tanks located on the roof tops.

c. Water quality

ACF has been following up water quality in 7 gatherings including Itaniyeh for several months. Tests performed by AUB. Recurrent contamination was found in Itaniyeh. Many houses surround the main water source and several cesspits are suspected to contaminate the water. During our assessment, four analyses have been done confirming contamination. No chlorination is done despite the presence of a chlorine pump and the training of a caretaker.

d. Analyses results

Name of Gathering :	ITANIYEH	Date :	05/06/2009
Overview		Rating	
Quality (borehole)	Bad		2/5
Quantity	No shortage of water		5/5
General quality indicators			
Free Chlorine Test	0 mg/L		
Conductivity	774 µS/m		
pH	7.8		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Water Tower	Pumping	0 mg/L	9
Household 1	Network	0 mg/L	14
HH2	Network	0 mg/L	5
HH3	Private well	0 mg/L	3

e. Sanitation (3/5)

No network available. The population is using private cesspits pits which are rapidly full and not emptied on a regular basis. A sewage network has been done but remains to be connected to a general network planned to be built soon (according to master plan managed by South Lebanon Water-waste Establishment (SLWE)). No date is however available and the office in charge is not interested about mid term solutions -as treatment plant.

ACF is emptying, widening, improving and sealing 35 pits in the gathering in his phase 2 program.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
No protection of the water source and private well	Contamination	ACF is already emptying, widening, improving and sealing 35 pits in the gathering in his phase 2 programs. An additional action would be to evacuate those cesspits to the network.
The chlorination system is not used	No water treatment	Refreshment training of the caretaker. Focus group and social awareness in the community about use of chlorine.

○ **Jal el Baher**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
266	1207	Moderate needs	High needs	Low

1. Gathering profile

Jal el Baher was built in 1954. When Jal El Baher's first refugees were displaced from Palestine in 1948, they stayed in the southern villages of Lebanon for a few years and then moved to the coast where they established the gathering. At the beginning, the houses were made of mud and cane. Jal el Baher is located on a sandy area by the sea within the city of Tyre.

2. Land Ownership

The land belongs to Tyre municipality. The refugees are occupying the land illegally. There have been some threats of eviction.

3. Shelter

The shelters in Jal el Baher are small units built on a beach. Many of these shelters cumulate structural, hygiene and weather proofing problems. Most of the houses have zinc roofs with leakages. The walls are made of old concrete blocks infiltrated by water for many of them. There are a few zinc walls. The proximity of the sea is an aggravating factor.



Substandard bathroom



Full-zinc shelter

The urgent shelter needs in Jal el Baher are high.

- Highly urgent shelter needs : 38 units
- urgent shelter needs : 54 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
75%	25%	-	10%	90%	-	20%

4. Water and sanitation

a. Water source

The gathering is connected to the urban network managed by the Tyre Water Service.

b. Water quantity

No shortage of water. The population fills 1m3 water tanks.

c. Water quality

The water network is managed by the municipality and protected by a good chlorination as the free residual chlorine indicates (0.5 mg/L). No contamination was found. The pipes are going underground and covered by sand. Some metal pipes suffer from the corrosion caused by the proximity of the sea.

d. Analyses results

Name of Gathering :		JAL AL BAHER	Date : 04/06/2009
Overview			Rating
Quality (urban network)	Good		5/5
Quantity	No shortage of water		5/5
General quality indicators			
Free Chlorine Test	0.5 mg/L		
Conductivity	637 µS/m		
pH	7.8		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		

Bacteriological Analyses		Res. Cl	Fec. Col/100mL
HH 1	Water Tank	0.3	0
		mg/L	
Household 2	Network	0.5	0
		mg/L	

e. Sanitation (3/5)

No network available. The refugees are using private cesspits made with drums placed in the ground. No drainage system. The grey water is directly sent to the beach. The general hygiene is bad despite absorption by the sand.

The pits are emptied with a pump directly into the sea.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
No sewage network. Use of cesspits directly discharged on the beach next to houses.	Bad Hygiene	Connection to the urban sewage network

○ **Jim Jim, Kfar Badda**

The results for these gatherings are presented together because of their similarities and their proximity.

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
56	205	Moderate needs	None or little needs	Feasible

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
111	463	Moderate needs	Moderate needs	Feasible

1. Gathering profile

Jim Jim and Kfar Badda are located along the sea coast about 15 km north of the city of Tyre just above the Litany River. They are in the neighborhood of al Kharayeb village. Kfar Badda was the first gathering to be built after the refugees displaced from Palestine in 1948 started to gather there. Around 1955, a second wave of refugees came to settle there. Jim Jim appeared around 1970 and used to be part of Kfar Badda. The highway separated them later on.

2. Land Ownership

The land belongs to the refugees except a small area of Kfar Badda owned by a private Lebanese owner.

3. Shelter

Most of Kfar Badda and Jim Jim houses suffer from leakages since the clashes of 1986 which caused damages and the 2006 war which aggravated some structural issues. No or little rehabilitation has been done after. Most of the shelters are small multi-storey buildings made of concrete blocks with concrete or zinc roofs. Zinc roofs need rehabilitation.

The urgent shelter needs in Kfar Badda are moderate;

- Highly urgent shelter needs : 6 units
- urgent shelter needs : 1 unit

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
60%	40%	-	25%	75%	-	30%

While there are little in Jim Jim.

- urgent shelter needs : 1 unit

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
100%	-	-	-	100%	-	-

4. Water and sanitation

a. Water source

Both gatherings are connected to the urban network of Kharayeb. It was built in the 70's by the Palestinian Popular Committees. A new network was fully set up in Kfar Badda and Jim Jim ten years ago. This project was funded by the Council for Development and Reconstruction and supervised by Southern Lebanon Water & Waste Water Establishment. The operation and maintenance of the current network is under the responsibility of SLWE. Most of the population trusts the water. 25% of the population purchase bottled water for drinking.

b. Water quantity

According to Popular Committee members, shortages of water during summer are a real problem for the community. Even during winter it occurs from time to time. The situation is improving with a new connection to the Mosque well in Kfar Badda. Meanwhile, people try to get by with the water tanks located on the roof tops.

c. Water quality

According to the population living in the gathering, the water quality is constant during the year with no variation regarding smell or taste. People are stressing the high calcium concentration and link it to kidney stones.

No contamination was found. Chlorination is done in the urban network, and we found very low concentration of free residual chlorine in individual water tank.

d. Analyses results

Name of Gathering : KFAR BADA and JIM Date : 05/06/2009			
JIM			
Overview			Rating
Quality	Good		5/5
Quantity	Punctual shortage of water during the year		3/5
General quality indicators			
Free Chlorine Test	< 0.1 mg/L (water tank)		
Conductivity	490 µS/m		
pH	7.8		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1	From water tank	< 0.1 mg/L	0
Household 2	from water tank	< 0.1 mg/L	0

e. Sanitation (4/5)

People are using cesspits for both grey and black water. Due to the nature of the soil -low permeability of thick limestone-, waste water in the pits does not infiltrate easily and the pits are quickly filled. Some families have to empty them every 3 months.

A sewage network is available in Kfar Badda but the authorisation to discharge the waste water in the sea has never been granted by the municipality of Kharayeb. A connection to a general network is planned but no date is available and the office in charge is not interested about mid term solutions -as treatment plant.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Shortages of water	Use of bad quality water coming from private well or from the market	Further study, with the municipality about Kharayeb water source capacity and management. Addition of private well to the tanks of Jim Jim and Kfar Badda

○ **Mashouk**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
369	1546	Moderate needs	High needs	To be confirmed

1. Gathering profile

The gathering was created in 1948 after the Arab-Israeli war. The refugees first settled in villages in southern Lebanon and then moved to Mashouk. It is located 3 km east of Tyre city on the main road leading to Borj Al Shemale camp.

2. Land Ownership

The land is public and belongs to the Lebanese government. The refugees are occupying the land illegally.

3. Shelter

The shelters in Mashouk are multi and single-story units made of concrete block walls. There are some zinc roofs which need rehabilitation. Most of the walls suffer from structural problems which were aggravated after the 2006 war.



Outdated zinc roof

The shelter urgent needs in Mashouk are high.

- Highly urgent shelter needs : 30 units
- urgent shelter needs : 45 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
30%	70%	-	-	90%	10%	20%

4. Water and sanitation

a. Water source

The gathering has its own water network done by CISP. The water passes through a water tower and is distributed by gravity.

b. Water quantity

No shortage of water. The population fills 1m3 water tanks located on the roof tops.

c. Water quality

According to the population, the water quality is constant during the year with no variation regarding smell or taste. No contamination was found. No chlorination is done despite training of a caretaker by ACF. The population does not totally trust the water.

Previous analyses done in April/May 2007 by ACF confirm the absence of contamination.

d. Analyses results

Name of Gathering :		MASHOUK	Date : 03/06/2009	
Overview			Rating	
Quality	Fair		4/5	
Quantity	No shortage of water		5/5	
General quality indicators				
Free Chlorine Test	0 mg/L			
Conductivity	490 µS/m			
pH	7.8			
Organoleptic indicators	Good taste, no smell, no turbidity, clear			
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
Household 1	Network		0 mg/L	0
Household 2	Network		0 mg/L	0

e. Sanitation (3/5)

A network is available for both grey and black water. Some of the shelters are not connected either due to a lack of funds or topographic difficulties -44 shelters according to ACF. There is an existing storm water network in bad conditions which needs cleaning. At some points, water remains stagnant creating a source of pollution.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
44 households not connected to sewage network.	Bad hygiene	Extend the existing black and grey water sewage network
Dirty storm water network, blocked in some points.	Risk of flooding and bad hygiene	Clean and rehabilitate storm water network
No chlorination	Water is not protected during distribution.	Refreshment Training of the caretaker for more efficient use of the pump, tank and distribution system
Low acceptance of chlorine in the water	Use of bad quality water for drinking.	Awareness program on water quality

○ **Qasmieh**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
369	1690	Moderate needs	High needs	Feasible

1. Gathering profile

After the Arab-Israeli war in 1948, the Palestinian families settled in Bint Jbeil (located on the Lebanese border with Palestine), and then moved to Qasmieh gathering. Qasmieh is located about 2 km south of the Litani River between Saida and Tyre and 5 km from the official camp of al Buss. The gathering is divided in two (upper and lower Qasmieh).

2. Land Ownership

The land is mostly public but a small part belongs to Lebanese private owners. The refugees are occupying the land illegally with the municipality consent.

3. Shelter

The shelters in Qasmieh are mostly single-story units made of concrete block walls. Many of these suffer from structural problems which aggravated after the 2006 war. More than half of the shelters have zinc roofs. Leakages are common. The urgent shelter needs in Qasmieh are high.

- Highly urgent shelter needs : 65 units
- urgent shelter needs : 45 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
60%	40%	-	5%	90%	5%	10%

4. Water and sanitation

a. Water source

The gathering has its own water network done by CISP. The water passes through a water tower and is distributed by gravity. The water tower is located between the lower and the upper part.

b. Water quantity

No shortage of water. The population fills 1m3 water tanks located on the roof tops.

c. Water quality

According to the population, the water quality is constant during the year with no variation regarding smell or taste. No contamination was found. Chlorination is not done regularly and properly despite the training provided by ACF with the caretaker and the presence of a chlorine pump. ACF has been doing monthly analyses since October 2008 and no contamination has been found in the tank or during the distribution.

d. Analyses results

Name of Gathering : QASMIEH		Date : 05/06/2009
Overview		Rating
Quality	Fair	4/5
Quantity	No shortage of water	4/5
General quality indicators		
Free Chlorine Test	0 mg/L	
Conductivity	530 µS/m	
pH	7.8	
Organoleptic indicators	Good taste, no smell, no turbidity, clear	

Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Water source	Borehole	0 mg/L	0 fecal col/100 ml
HH1 before water Network tank		0 mg/L	0 fecal col/100 ml
HH1 after water tank	Network	0 mg/L	0 fecal col/100 ml
HH2 before water Network tank		0 mg/L	0 fecal col/100 ml
HH2 after water tank	Network	0 mg/L	0 fecal col/100 ml

e. Sanitation (5/5)

A sewage network is available and 50 to 60 households around the water source are connected to it. The gathering gets the authorization to discharge to the sea without treatment. Other shelters have private cesspits, most of those pits are quickly full and people do not empty them on a regular basis which causes bad hygiene.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Chlorination not done in a good way and not regularly. Low acceptance of chlorine taste	No protection of the water during distribution	More training for the caretaker. Awareness session among population about chlorination.
Cesspits not emptied on a regular basis	Flooding, bad hygiene	Connection to the existing sewage network

○ **Shabriha**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
287	1142	Moderate needs	Moderate needs	To be confirmed

1. Gathering profile

The gathering was built between 1955 and 1960. The refugees came essentially from various villages in the south but some also came from Baalbeck in the Bekaa. Shabriha is located a few km in the north of Tyre within the Lebanese village of Shabriha.

2. Land Ownership

Most of the land belongs to the municipality of Shabriha and the refugees are occupying the land illegally. Some part of the land belongs to the refugees.

3. Shelter

The shelters in Shabriha are mostly single-story units made of concrete block walls. Many of them have zinc roofs in bad state. A lot of shelters suffer from structural problems which aggravated after the 2006 war. Some bathrooms are external.



View of shelter zinc roof covered with plastic sheeting

The shelter urgent needs in Shabriha are moderate.

- Highly urgent shelter needs : 9 units
- urgent shelter needs : 6 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
80%	20%	-	5%	95%	-	10%

4. Water and sanitation

a. Water source

An urban water network provides water to all the households. The maintenance is fair and the pipes in good conditions. Despite the presence of a chlorine pump, no residual chlorine was found in the water. People trust the water and drink it.

b. Water quantity

No shortage of water. The population fills 1m³ water tanks located on the roof tops.

c. Water quality

According to the population, the water quality is constant during the year with no variation regarding smell or taste. No contamination was found despite the absence of chlorination.

d. Analyses results

Name of Gathering :		SHABRIHA	Date : 05/06/2009	
Overview			Rating	
Quality	Fair		4/5	
Quantity	No shortage of water		5/5	
General quality indicators				
Free Chlorine Test	0 mg/L			
Conductivity	485 µS/m			
pH	7.8			
Organoleptic indicators	Good taste, no smell, no turbidity, clear			
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
Household 1	network		0 mg/L	0
Household 2	network		0 mg/L	0

e. Sanitation (3/5)

A sewage network exists in Shabriha. The main lines have been funded by ECHO and implemented by different NGOs. It is connected with the municipal network. However, some families -66 shelters according to ACF- are not connected. They use cesspits and empty them in the storm water disposal which causes flooding in the streets. This storm water line is undersized as it gets saturated after each rain.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Water storm network undersized	Flooding in the streets, hygiene problem	Increase the capacity of the drainage
20% of the population not connected to sewage network and using cesspits.	Risk of contamination of water table , risk to empty cesspits on water storm disposal	Connection to the main network

○ **Wasta**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
140	686	High needs	High needs	Feasible

1. Gathering profile

After they left Palestine in 1948, the refugees moved for several years from a village to another in south Lebanon. They started to gather in Wasta around 1955. The gathering is located on the sea coast between Saïda and Tyre.

2. Land Ownership

The land is public and belongs to al Kharayeb municipality. The refugees are occupying the land illegally but the municipality accepts it.

3. Shelter

The shelters in Wasta are small single-story units made of old concrete blocks walls infiltrated by water and with serious structural problems. About half of the roofs are made of zinc and leak. Some shelters have an external bathroom. In some shelters, the sanitary situation is deplorable.



Old rusted zinc roof



Cracked concrete lintel

The urgent shelter needs in Wasta are high.

- Highly urgent shelter needs : 17 units
- urgent shelter needs : 27 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
45%	55%	-	5%	95%	-	15%

4. Water and sanitation

a. Water source

The gathering is taking advantage of an 85 m deep borehole done by CISP and equipped with a submersible pump. Part of the water is going to the mosque where the water is filtrated.

Four taps are available outside to fill bottles and used as drinking water. The general hygiene around the water source is not good with grey water evacuated in the streets without drainage.

b. Water quantity

No shortage of water. The population fills 1 m³ water tanks.

c. Water quality

According to the population, the water quality is not constant during the year with variation regarding smell or taste. Little contamination was found. ACF has been doing analyses regularly since October 2008 and has found regular contamination (between 2 and 7 Fecal col/100mL)

One chlorination pump is available is not working regularly. Although ACF gave chlorine to the caretaker the population trusts the new filtration system more and doubts about chlorine efficiency. ACF also provided water tanks to the families in a previous program.

d. Analyses results

u. Analyses Results

Name of Gathering :		WASTA	Date : 04/06/2009	
Overview			Rating	
Quality	Medium		3/5	
Quantity	No shortage of water		5/5	
General quality indicators				
Free Chlorine Test	0 mg/L			
Conductivity	570 µS/m			
pH	7.8			
Organoleptic indicators	Good taste, no smell, no turbidity, clear			
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
Main source	Borehole		0 mg/L	7
Mosque	from BH and	filtration system	0 mg/L	0
Household 1	Network		0 mg/L	1
Household 2	Network		0 mg/L	0
Household 3	Network		0 mg/L	3
Household 4	Network		0 mg/L	5

e. Sanitation (3/5)

The smell is very unpleasant in the gathering as grey water is evacuated in the streets without any control. People use cesspits and some of them are located around the water source. Most of those pits are full and people do not empty them on a regular basis. There is no sewage network except for grey water but only 30% of the shelters are connected.

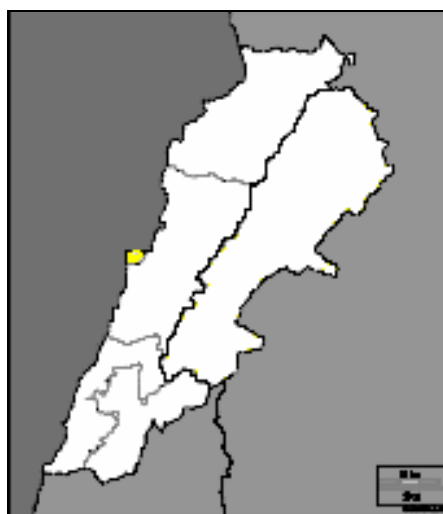
A sewage network done by World Vision is ready but not connected to a general network which is planned to be built soon. No date is however available and the office in charge is not interested about mid term solutions, such as a treatment plant.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
Only 30% of Households connected to grey water network. Flooding in the streets, accumulation, bad smell.	Bad hygiene, sanitary risk	Connection of the remaining households to the network
Chlorination not done properly nor regularly.	No water protection during distribution	More training for the caretaker. Awareness session focusing on chlorination.
Cesspits near water source and water contamination	Waterborne diseases	Sealing or closing of cesspits, protection perimeter around water source.

V. Beirut-Mount Lebanon

a. General presentation



1. General Situation

The table below summarizes the population data for the gatherings in Beirut-Mount Lebanon region:

Gathering	Nb of Palestinian households	Nb of Palestinian refugees
Daouk	133	535
Gaza Buildings	190	713
Naemi	247	922
Salwa el Hout	45	190
Saïd Ghawash	128	514
Total	743	2874

In the 5 gatherings of Beirut-Mount Lebanon region, 743 Palestinian households have been assessed. It represents a population of 2874 refugees.

Four of these five gatherings are actually located within the city of Beirut near the official camp of Shatila. Those gatherings are often crowded buildings with urgent needs either in terms of water and sanitation or shelter rehabilitation. Some of those needs have already been addressed by NRC in Gaza buildings.

The fifth gathering, Naemi, is located in the Mount Lebanon region, about 20 km in the south-east of Beirut. The Palestinian families there live in fair conditions according to Lebanese standards.

2. Feasibility

The table below summarizes the feasibility for the gatherings in Beirut-Mount Lebanon region:

Gathering	Feasibility
Daouk	Feasible
Gaza Buildings	Feasible
Naemi	Feasible
Salwa el Hout	To be confirmed
Saiid Ghawash	To be confirmed

3. Shelter

The shelter urgent needs are concentrated in Daouk and Said Ghawash. The main problems are leaking zinc roofs, unsafe structure and concrete block walls infiltrated by water,

The table below summarizes the shelter findings for the gatherings in Beirut-Mount Lebanon region:

Gathering	Nb USN	Nb HUSN	Shelter urgent needs
Daouk	2	8	Moderate needs
Gaza Buildings	0	0	None or little needs
Naemi	0	0	None or little needs
Salwa el Hout	0	0	None or little needs
Saiid Ghawash	3	7	Moderate needs
Total	5	15	

4. Water and Sanitation

As for the shelter, the water and sanitation urgent needs are concentrated in Daouk and Said Ghawash. The situation in both gatherings is preoccupying. The water is contaminated and the sewage infrastructures are outdated.

The table below summarizes the water and sanitation findings for the gatherings in Beirut-Mount Lebanon region:

Gathering	Contamination	Observation			WATSAN urgent needs
Salwa El Hout	No	There are no water and sanitation urgent needs in Gaza buildings and Salwa el Hout but a chlorination method should be studied			No needs
Gaza Buildings	No				No needs
Daouk	Yes	In the lower part of Daouk, people are living in the basement under the sewage network and can not evacuate their sewage and use floodgate to avoid flooding inside the houses.	No protection of the borehole No good storage and no chlorination	Old and undersized sewage disposal Water from the market not safe and not controlled	High Needs
Said Ghawash	Yes	No protection of the borehole No good storage and no chlorination		Old and undersized sewage disposal Water from the market not safe and not controlled	High needs
Naemi	No	No needs			No needs

b. Findings per gathering

o Daouk

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
133	535	High needs	Moderate needs	Feasible

1. Gathering profile

Daouk is a Palestinian gathering located in Sabra area in Beirut, on the eastern side of Gaza buildings. It was established after Palestinians left Palestine in 1948. Daouk was one of the main PLO base before the civil war and a residential area for PLO officials. During and after the conflict, this area received a lot of people from Sabra and Chatila camps. There are a few Lebanese and Syrian families living in the gathering.

2. Land Ownership

The land belongs to a Lebanese private owner who gave his land to the refugees until they return to Palestine.

3. Shelter

Daouk is a crowded area where the streets between the buildings are narrow and in poor state. The main problems inside the homes are windows, doors and hygiene. The bathroom is also often not separated from the other rooms. The shelter urgent needs in Daouk are moderate.

- o Highly urgent shelter needs : 8 units
- o urgent shelter needs : 2 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
20%	80%	-	-	100%	-	-

4. Water and sanitation

a. Water source

Main source: A 56 meters deep well made 35 years ago provides water to the gathering's population. It is not protected. The water is pumped into a concrete water tank of 30m3. No chlorination is done. The people do not trust the water for drinking and use it for cooking and washing only.



Daouk Borehole

Secondary source: The great majority of the people purchase water in the market (bottle or water trucking). In both cases they do not know the origin of the water.

Third source: Fifteen households benefit from illegal connections to the urban network which delivers water considered as good.

b. Water quantity

No shortage of water. The population fills the 1m³ water tanks located on the roof tops.

c. Water quality

Main source: Analyses show contamination at borehole and distribution level. The borehole is not protected. No chlorination is done. Despite the popular committee already doing some maintenance, leakages and upper ground and not protected pipes are still common.

Secondary source: Two analyzes were done for the water purchased in the market and used for drinking. They show little contamination.

Third source: Residual chlorine was found in the water from the urban network.

d. Analyses results

Name of Gathering :		DAOUK	Date : 15/06/2009	
Overview			Rating	
Quality (Daouk Network)	Bad		2/5	
Quality (Jerrycan)	Medium		3/5	
Quality (urban network)	Good		5/5	
Quantity	No shortage of water		5/5	
General quality indicators				
Free Chlorine Test	0 mg/L			
Conductivity	2000 µS/m			
pH	7.5			
Organoleptic indicators	Good taste, no smell, no turbidity, clear			
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
Borehole	Pumping		0 mg/L	4
Household 1	Network		0 mg/L	12
Household 2	Network		0 mg/L	4
Household 3	Jerrycan Market		0 mg/L	2
Household 4	Network		0 mg/L	14
Household 5	Jerry can Market		0 mg/L	5
Household 6	Urban Network		0.3 mg/L	0

e. Sanitation (2/5)

The sewage network is old and undersized. It is connected to the main Sabra line which is saturated as it is also taking in charge Shatila sewage. As Daouk is at the lowest point of the slope, it suffers from flooding during raining episodes and from regular sewage overflow. A program lead by GTZ in Shatila will decrease the pressure on Sabra main line by the construction of an independent sewage disposal.

The sanitary risk is increased by the fact that some shelters are located under ground level and can not evacuate their black and grey waters which are regularly overflowing into the houses.



Mouth of individual cesspit

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
No protection of the borehole	Contamination and waterborne diseases	Repairing cracks and fencing around borehole.
No good storage and no chlorination	No protection against contamination during distribution.	Rehabilitation of the storage, set up chlorination system
Old and undersized sewage disposal	Overflow inside shelters, and in the streets, bad hygiene.	Study of the area in order to create a new sewage line with a good slope and a wider diameter
In the lower part of Daouk, people are living in the basement under the sewage network and can not evacuate their sewage and use floodgate to avoid flooding inside the houses	During rain, sewage accumulates, overflow in the streets and in the houses, reaching 60 cm	Further topographic study and maintenance of the network
Water from the market not safe and not controlled	Waterborne diseases	Awareness sessions

- **Gaza buildings**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
190	713	No needs	None or little needs	Feasible

Gathering profile

The so called Gaza compound, a former hospital complex, is located in the Mazraa area, outside the Shatila camp in Beirut. The gathering consists of four buildings and is inhabited mainly by Palestinian refugees who were displaced from the destroyed camps, such as Tal el Zaatar and the area adjacent to Shatila camp. The four buildings were never intended for accommodation purposes.

Land Ownership

Four plots are owned by Lebanese private owners. The fifth one is owned by the ministry of interior. The refugees are occupying the land illegally.

Shelter

Gaza gathering is a compound of four multi-story buildings. NRC ran a rehabilitation project in the gathering in 2008 which focused on bathroom, kitchen, windows and structural repairs. There are no shelter urgent needs in Gaza buildings.

Water and sanitation

Water source

A deep well provides water for the four buildings. NRC renewed this water point and the protection is fair. No chlorination is done. For drinking, people purchase bottled water from the market. Previous studies in the neighbourhood showed irregular quality for this water. Some families take advantage of illegal connections to the urban network passing nearby.

Water quantity

No shortage of water. The population fills the 1m³ water tanks located on the roof tops.

Water quality

The quality is fair. No contamination was found. However, given the urban context and the general condition of sewage networks in the area of the gathering, a chlorination method should be studied.

Analysis results

Analysis Results		
Name of Gathering :	Gaza Buildings	Date : 15/06/2009
Overview		Rating
Quality (borehole)	Fair	4/5
Quality (illegal connection to urban network)	Good	5/5
Quantity	No shortage of water	5/5
General quality indicators		
Free Chlorine Test	0 mg/L	
Conductivity	690 µS/m	
pH	7.8	
Organoleptic indicators	Good taste, no smell, no turbidity, clear	

Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Gaza 1	from borehole in Gaza 1 providing water for the four buildings	0 mg/L	0
Gaza 1	from illegal urban connection	0.3 mg/L	0

Sanitation (4/5)

Prior to NRC intervention the sewage situation was mediocre and the hygiene very poor. Today, there are no more sanitary risks linked to the sewage. The building committee is taking care of the maintenance.

Watsan summary table

There are no water and sanitation urgent needs in Gaza buildings but a chlorination method should be studied

○ **Naemi**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
247	922	No needs	None or little needs	Feasible

1. Gathering profile

Naemi is located in the Mount-Lebanon region in the south-east of Beirut. This gathering was built directly after Palestinian refugees moved to Lebanon in 1948. Most of the residents of Naemi came directly from Palestine. The rest of them came during and after the civil war.

2. Land Ownership

The land belongs to various Lebanese private owners. The refugees are occupying the land illegally.

3. Shelter

Naemi is a regular Lebanese living area. There are no urgent shelter needs in Naemi.

4. Water and sanitation

a. Water source

Main source: A municipal network is providing water to all the shelters. Chlorination is done at pumping station level.

Secondary source: As many cuts occur in the network, some private wells were built to compensate.

b. Water quantity

No shortage of water. The population fills 1m3 water tanks located on the roof tops.

c. Water quality

Chlorination is done at pumping station level. Evidences of chlorine were found (0.1 mg/L). The water has a chlorine taste.

d. Analyses results

Name of Gathering :		NAEMI	Date : 29/06/2009
Overview			Rating
Quality (private well)	Fair		4/5
Quality (urban network)	Good		5/5
Quantity	No shortage of water		5/5
General quality indicators			
Free Chlorine Test	0.1 mg/L		
Conductivity	2070 µS/m in the well		
	1800 µS/m in the network		
	450 µS/m when filtrated		
pH	7.5		
Organoleptic indicators	Good taste, no smell, no turbidity, clear		
Bacteriological Analyses		Res. Cl	Fec. Col/100mL
Household 1	Network	< 0.1 mg/L	0
Household 2	Private well	0 mg/L	0
Household 3	Private well	0 mg/L	0

e. Sanitation (5/5)

Palestinian families take advantage of the existing network done in the 60's which has been totally renewed two years ago.

It is in good condition and well-dimensioned.

f. Watsan summary table

There are no urgent water and sanitation needs in Naemi.

○ **Salwa el Hout**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
45	190	No needs	None or little needs	To be confirmed

Gathering profile

The two buildings composing Salwa el Hout were built by the Palestinian Liberation Organization (PLO) in 1975. They are located near Gaza and Daouk gatherings in Beirut. Most of the refugees were displaced from Shatila and other camps during the civil and camps wars.

Land Ownership

The land belongs to a Lebanese private owner. The buildings are not registered and their occupation is illegal.

Shelter

The apartments in the two buildings are in good general conditions as are the stair cases and the lobbies. There are no urgent shelter needs in Salwa el Hout.

Water and sanitation

a. Water source

A private 66 meters deep well built 35 years ago provides water to the gathering's population. The protection is fair. The water is pumped into a water tank of 30m³ located on the building roof top. Individual water tanks are then filled. Chlorination is not done anymore. It was done previously by PARD. For drinking, people purchase bottled water from the market. Previous studies in the neighbourhood showed irregular quality for this water.

b. Water quantity

No shortage of water. The population fills the 1m³ water tanks located on the roof tops.

c. Water quality

The quality is fair. No contamination was found. However, given the urban context and the general condition of sewage networks in the area of the gathering, a chlorination method should be studied.

d. Analysis results

Name of Gathering :		Salwa El Hout	Date : 15/06/2009	
Overview			Rating	
Quality	Fair		4/5	
Quantity	No shortage of water		5/5	
General quality indicators				
Free Chlorine Test	0 mg/L			
Conductivity	690 µS/m			
pH	7.9			
Organoleptic indicators	Good taste, no smell, no turbidity, clear			
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
Household 1	From pumping+ water tank		0 mg/L	0
Household 2	from Pumping+ water tank		0 mg/L	0

e. Sanitation (4/5)

The two buildings are connected to the urban sewage network, managed by the municipality. There are no sanitary risks linked to the sewage.

f. Watsan summary table

There are no urgent water and sanitation needs in Salwa el Hout but a chlorination method should be studied.

○ **Said Ghawash**

Nb of Palestinian households	Nb of Palestinian refugees	Watsan	Shelter	Intervention feasibility
128	514	High needs	Moderate needs	To be confirmed

1. Gathering profile

Said Ghawash is a gathering located near Chatila camp in Beirut. It was one of the main PLO base before the civil war and a residential area for PLO officials. During and after the conflict, this area received a lot of people from Sabra and Chatila.

The Palestinian families represent about 30% of the gathering's total population.

2. Land Ownership

The land is a public land owned by the Lebanese government. The Palestinian families are occupying the land illegally.

3. Shelter

Said Ghawash is a gathering with narrow streets in bad general state. It is composed of 30-years-old multi story buildings. Most of the apartments are small and made of concrete block walls. The shelter urgent needs in Said Ghawash are moderate.

- Highly urgent shelter needs : 7 units
- urgent shelter needs : 3 units

zinc roofs	concrete roofs	other roofs	zinc walls	concrete block walls	other walls	No permanent water supply in K or B
-	100%	-	-	100%	-	-

4. Water and sanitation

a. Water source

Main source: a 50 years-old deep well. The water is pumped into a concrete water tank of 30m³. The water tank and the well are not properly protected. No chlorination is done at the moment.

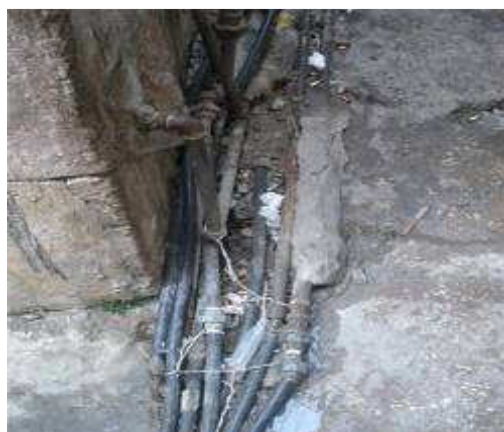
Secondary source: a private well which fills the same water tank to avoid shortage. No chlorination is done

Third source: The population does not drink the water and use it only for cooking and washing. The great majority purchases drinking water in the market (bottles or water trucking).

There has not been any maintenance on the network for 20 years. There are leakages along the network. The pipes are not protected and upper ground. The water tank is heavily leaking and needs urgent maintenance.



Leaking water supply pipes



Surface water supply network

b. Water quantity

No shortage of water. Water is available all year long. The families are filling 1 m3 water tanks located on the roof tops.

c. Water quality

Analyses show contamination at borehole and distribution level. No chlorination is done. Two analyses were done for the water purchased in the market and used for drinking. It shows little contamination. The source of this purchased water is unknown.

d. Analyses results

Name of Gathering :		Said Ghawash	Date : 16/06/2009	
Overview			Rating	
Quality (network)	Bad		2/5	
Quantity	No shortage of water		5/5	
General quality indicators				
Free Chlorine Test	0 mg/L			
Conductivity	875 µS/m			
pH	7.8			
Organoleptic indicators	Good taste, no smell, no turbidity, clear			
Bacteriological Analyses			Res. Cl	Fec. Col/100mL
	Pumping		0 mg/L	5
Household 1	Network		0 mg/L	3
Household 2	Network		0 mg/L	4
Household 3 market water	Jerry can Market		0 mg/L	2
Household 5 market water	Jerry can Market		0 mg/L	5

e. Sanitation (2/5)

The sewage network is old and undersized. It is connected to Sabra saturated network. A program led by GTZ in Shatila plans to decrease the pressure on Sabra main line by the construction of an independent sewage disposal.

There is no storm water network. Flooding is recurrent when raining.

f. Watsan summary table

Field Observation	Associated Risk	Recommendations
No protection of the borehole	Contamination and possible waterborne diseases	Maintenance of cracks, fencing around borehole.
No good storage and no chlorination	No protection against contamination during distribution.	Rehabilitation of the storage, set up chlorination system
Old and undersized sewage disposal	Flooding inside shelters and in the streets, bad hygiene.	Deeper study to create new sewage line with a good slope and a wider diameter
Water from the market not safe and not controlled	Possible waterborne diseases	Awareness sessions

General Conclusion

The total population of the Palestinian gatherings in Lebanon is 40,000 refugees, representing about 8,000 households. These figures represent the first accurate estimate of the population of the gatherings obtained through an exhaustive door-to-door survey in 39 out of the 42 gatherings.

Previous estimates were considerably higher than this figure. Many observers such as NGOs working with the Palestinian refugees believed that the gatherings represented about 40% of the Palestinian population in Lebanon. This assessment concludes that it is an overestimation. Using a figure of 40,000 people, the gatherings are home for only 18% of the Palestinian refugees. the actual percentage depends on the population figures of the official camps managed by UNRWA which are also inaccurate and often contested.

During this assessment, a total of 897 of shelters with urgent needs for rehabilitation were identified representing a large proportion of the total number of houses located in the gatherings. Two conclusions may be drawn from these findings:

- A significant number of Palestinian households, falling outside of UNRWA mandate for support or rehabilitation, are living with very poor housing conditions.
- Although the situation is serious past experiences by PU and NRC indicate that with the appropriate funding, the situation can be rectified in the foreseeable future.

As of today, NRC and PU are the only large international NGOs that are tackling the shelter issues in the Palestinian gatherings. The needs are high but not so high that appropriate action cannot not address them.

With appropriate funds, the most urgent housing needs in the Palestinian gatherings of Lebanon could be covered within four years. This is a reasonable objective based on reliable figures. The result linked to this objective would be providing safe housing conditions for 4,000 Palestinian refugees.

In terms of water and sanitation, the situation could also be greatly improved through awareness sessions on hygiene and water treatment. Such activities will solve many of the current problems identified through this assessment. Only eight gatherings suffer from urgent needs which might require heavier infrastructure works.

Of course, the relief interventions recommended here should not mask the pressing need for a sustainable solution of the Israel-Arab conflict and of the issue of the return of refugees.

The Palestinian refugees living in the gatherings are facing very hard but not desperate conditions. This report should be the basis for an intervention plan. If no concrete measures are taken shortly, the situation in the field will worsen and the refugees themselves will be exposed to severe risks (collapsing shelters, bad hygienic environment, water related diseases...).

Annexes

I. The assessment forms

The questionnaire



Needs Assessment-Housing & Water & Sanitation Conditions of Palestinian Gatherings

Interview with Head of Households

										Q.					
										N:					
The duration of the interview is approximately 40 min. Do you agree to participate?															
<input type="checkbox"/> Yes <input type="checkbox"/> No															
Date of Interview						Name of interviewer									
Location of the interview			<input type="checkbox"/> BEIRUT/MOUNT LEBANON <input type="checkbox"/> BEQAA <input type="checkbox"/> NORTH LEBANON <input type="checkbox"/> SAIDA <input type="checkbox"/> TYRE												
Gathering:															
SECTION 1: GENERAL INFORMATION															
A: Interviewee															
Name of Interviewee						Sex		<input type="checkbox"/> M <input type="checkbox"/> F		Y.O.B:					
Related to household			<input type="checkbox"/> Yes <input type="checkbox"/> No		Specify:										
B: Head of Household															
Name of head of household						Sex		<input type="checkbox"/> M <input type="checkbox"/> F		Y.O.B:					
Nationality				Profession				Working?		<input type="checkbox"/> Yes <input type="checkbox"/> No		Income			
Address									Phone						
Family Registration at UNRWA			<input type="checkbox"/> Yes <input type="checkbox"/> No		Card No				SHC		<input type="checkbox"/> Yes <input type="checkbox"/> No				
Level of Education		<input type="checkbox"/> illiterate <input type="checkbox"/> Elementary <input type="checkbox"/> Middle <input type="checkbox"/> Secondary <input type="checkbox"/> University <input type="checkbox"/> Post Graduate <input type="checkbox"/> Vocational Training													
Social Status		<input type="checkbox"/> Single <input type="checkbox"/> Engaged <input type="checkbox"/> Married <input type="checkbox"/> Widow <input type="checkbox"/> Divorced <input type="checkbox"/> Single Parent													
C: Household Members															
Number of members living in the shelter: <i>(starting by Head of Household in no 1)</i>															
	Age	Sex	Occupation	Income	Disability		Age	Sex	Occupation	Income	Disability				

1	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M	7	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M
2	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M	8	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M
3	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M	9	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M
4	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M	10	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M
5	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M	11	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M
6	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M	12	<input type="checkbox"/> M <input type="checkbox"/> F		<input type="checkbox"/> P <input type="checkbox"/> M

***Does any member in the family have a Lebanese nationality (or any other nationality, specify)?** ☐ Yes ☐ No
who?

.....
.....

***Is any family member: Non ID** ☐ Yes ☐ No Who:

.....

***Non UNRWA Registered:** ☐ Yes ☐ No Who:

.....

D: Housing, Shelter, Property

Is your SHELTER

<input type="checkbox"/> Owned	Have you registered your ownership? <input type="checkbox"/> Yes <input type="checkbox"/> No	Type of registration	
		<input type="checkbox"/> PC	<input type="checkbox"/> Real Estate
		<input type="checkbox"/> Notary Public	<input type="checkbox"/> Don't know
		<input type="checkbox"/> Municipality	<input type="checkbox"/> Other:
<input type="checkbox"/> Rented	Rent Fees:	Duration:	
	Do you have a rental contract? <input type="checkbox"/> Yes <input type="checkbox"/> No	Is this contract archived/registered somewhere? <input type="checkbox"/> Yes <input type="checkbox"/> No	
	If yes, where?		
<input type="checkbox"/> Other: Do you have proof documents? <input type="checkbox"/> Yes <input type="checkbox"/> No Kind?		
Do you own the LAND?	<input type="checkbox"/> Yes		<input type="checkbox"/> No
	Is it registered? <input type="checkbox"/> Yes <input type="checkbox"/> No		Do you know the owner? <input type="checkbox"/> Yes <input type="checkbox"/> No
	With:		Who?
Year and reason of settlement			

Did you ever need legal assistance Regarding Housing, Land, and/or Property? <input type="checkbox"/> Yes <input type="checkbox"/> No	For What and where did you seek the help?	Did you get the help needed? <input type="checkbox"/> Yes <input type="checkbox"/> No Comments:
E: Services		
Where do you go?	For Educational services:	
	For Health services:	
	For permits regarding rehabilitation:	
What are your Family needs in order of priority?	Need 1:	
	Need 2:	
	Need 3:	

SECTION 2: TECHNICAL INFORMATION ON URGENT SHELTER NEEDS

A. General Information

Was this shelter assessed before? <input type="checkbox"/> Yes <input type="checkbox"/> No When:		By Whom:
When was the shelter constructed? (Year)		
Last maintenance? year:.....	Who?	What?
Is there an Entrance door?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Secure: <input type="checkbox"/> Yes <input type="checkbox"/> No Weather and Rodent Proof: <input type="checkbox"/> Yes <input type="checkbox"/> No
Is this a multi-story building ?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Comments if needed

External Walls	Cartoon or other material	Zinc	Mud/Unsound block	Stones	Wood	Concrete blocks

Roof Type	Plastic sheet	Zinc	Wood/Mud	Asbestos	Stones	Concrete	Sandwich Panel

B. Electricity

Electricity	Sources	<input type="checkbox"/> Official Camp	<input type="checkbox"/> Electricite Du Liban	<input type="checkbox"/> Public Generator	<input type="checkbox"/> Private Generator
	How many hours do you				

	have electricity per day (24 hours)				
	How much do you pay for electricity per month				

C. Water

Source of water			Do you have a water tank (include capacity m3 or liter) <input type="checkbox"/> Yes <input type="checkbox"/> No			
General Network	Buying	Well	Plastic	Iron	Concrete	Barrel
			Place of Water Tank: <input type="checkbox"/> On the roof <input type="checkbox"/> Aside <input type="checkbox"/> Other, Specify:			
Frequency of the water supply				Source of Drinking water		
Day per week		Hour per day		Public	Buying	Well
How much do you pay for water?				For drinking water?		
Does the drinking water make you sick? <input type="checkbox"/> Yes <input type="checkbox"/> No						

D. Physical Structure

ROOMS		Salon	Living Room	Bedroom	Kitchen	Bathroom WC	Entrance (other room, specify)	Balcony Terrace	External Room
TOTAL No:					<input type="checkbox"/> External <input type="checkbox"/> Internal	<input type="checkbox"/> External <input type="checkbox"/> Internal			
Number									
Broken or missing internal doors									
Structural	Structural Damages (columns, beams, floor, wall)								
	Diagonal, vertical, horizontal cracks in the walls (<i>measure by pen</i>)								
	Significant cracks in the roof OR apparent reinforcement								
	Structurally unsafe rafters								
	Insufficient light and ventilation								

Weather Proofing	Leaking roof								
	Zinc or clay external walls								
	Openings and cracks in walls that allow rainwater infiltration								
	No windows frames								
	Broken windowpanes with signs of leakage								
	Internal dampness (humidity)								
	Higher exterior ground level causing water pressure in walls								

Is there any member in the family suffering/suffered from Respiratory disease? ☐Yes
☐ No

E. Hygiene				
Is the bathroom and kitchen separated? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is there a door opening for the bathroom? <input type="checkbox"/> Yes <input type="checkbox"/> No				
		Bathroom	Kitchen	Comments
Hygiene	Damaged or missing water mixers or taps			
	Ineffective or missing shower unit			
	Broken or missing necessary sanitary sets			
	leakage from fixtures and fittings			
	No tiles around sink			
	No tiles on floor			
	Insufficient waste pipe or septic facilities which causes backing-up, flooding			
	insufficient light and/or ventilation			

F. Water Sanitation			
		Yes/No	Comments (if needed)
Water Sanitation	Is the bathroom connected to a permanent water supply?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is the kitchen connected to a permanent water supply?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	Is the house connected to sewage net?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	If no, do you have a septic tank?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Do you notice rodents/rats in or around the house?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Do you have a water heater?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does any member in the family suffer from water-related disease?	<input type="checkbox"/> Skin related <input type="checkbox"/> Intestinal <input type="checkbox"/> Other, specify:	
Pictures			

Comment (Social Section):

Comment (Technical Section):

The focus Group form

Focus Group

Title			
Date		Duration	
Place			
Objectives			
1	Evaluate general needs of gatherings, and households		
2	Evaluate quality and availability of services in the gatherings		
3	Get input regarding the Watsan issues		
Animator 1		Animator 2	
No of beneficiaries/ participants		Gender	
Age group		Nationalities	
Education		Profession/salary range	

Introduction
<ul style="list-style-type: none"> • Thank you for taking the time to meet with us. • Introduce yourself –The Organization (PU) • Define the purpose, objectives of doing this focus group <hr/>

Outcome	
1: Needs in households	
2: NEEDS in the shelter	
3: Watsan issues: <u>Water</u> <u>Waste System</u> <u>Sewage</u> <u>Electricity</u>	

4: Services available and needed (health, education...)	
5: Shelters which might need urgent care (numbers, location...)	

Recommendations/comments	
1	
2	
3	
4	

Final Note

Exploratory visit form

Needs Assessment Exploratory Visit Report

Area:		Date	
Participants			
Subject	Description	Source	
History (Location, reasons of implantation, previous place of residency, number of households, of people...)			
General profile of the gathering (roads, streets ...)			
Property of the Land			
Population Profile			
Shelters Conditions			
<u>Watsan</u> (water, sewage, waste system) Note: check use of the water (drink, cleaning, cooking...), and quantity used per month per person <u>Electricity</u> (EDL, illegal?, official camp?...)			
Basic needs:			
Services available:			

Notes/comments:

II. Watsan Needs summary

Urgent needs

Gathering Name	Contamination	Observation			
Goro, Bekaa	No	Unsafe water coming from badly protected borehole.	Disorganized water network, running at the surface	Absence of storm water disposal	Anarchical sewage network and bad use of cesspits
Mankou-been, North	No	Water network under dimensioned, Important shortage	Sewage facilities (cesspits) in very bad condition	Evacuation pipes from cesspits under dimensioned and damaged	Cesspits quickly filled by rain water
Daouk, Beirut	Yes	No protection of the borehole No good storage and no chlorination	Water from the market not safe and not controlled	Old and under dimensioned sewage disposal	Important flooding inside shelters
Said Ghawash, Beirut	Yes				Regular flooding
Bustan Al Kods, Saida	No	Water network upper ground, old metal pipes	Some water pipes cross sewage network	Sewage pipes diameters under dimensioned and damaged	Lack of manholes at intersections and existing manholes under dimensioned and in poor state (broken covers...) Common network for sewage and rain waters
Jabal El Halib, Saida	Yes	Water network upper ground, old metal pipes	Water pipes cross sewage	No sewage network in the southern part	Existing rain water network used for sewage
Itaniyeh, Tyre	Yes	No protection of the water source and private well		The chlorination system is not used	
Wasta, Tyre	Yes	Only 30% of Households connected to grey water network. Flooding, bad smell and hygiene.		Chlorination not done properly and regularly	Cesspits near water source and water contamination

Moderate needs

Gathering Name and region	Contami nation	Observation		
Taalabaya-Saadnayel-Jalala, Bekaa	No	Several leakages along the water network. Pumping station badly protected and human activities on the station.	Poor knowledge regarding chlorination. Under dimensioned network with shortage of water in several locations.	
Mouhajjareen, North	No	Sewage network undersized and not all households connected.		
Hamshari	No	Open drainage	No sewage system for 80% of HH which are using private pits without drainage.	
Old Saida	Yes	Outdated pipes with leakages		
Sekke, Saida	Yes*	New water network built by PARD. Chlorine pump not working yet. * (roof top individual water tank)	New sewage network built by PU but works not finalized by contractor.	
Adloun, Tyre	No	Private cesspit emptied in grey water disposal	No storm water disposal	Chlorination problem
Burghliyah, Tyre	No	Numerous cracks and no cementation done between drilling and casing	No chlorination	Cesspits around the borehole (less than 20 meters)
Jim Jim, Tyre	No	Shortages of water		
Kfar Badda, Tyre	No	Shortages of water		
Mashouk, Tyre	No	44 households not connected to sewage network	Dirty storm water network, blocked in some points	No chlorination Low acceptance of chlorine in the water
Shabriha, Tyre	No	Water storm network is under dimensioned	20% of the population not connected to sewage network and using cesspits	
Ebb, Tyre	No	Water trucking	No Sewage facilities or cesspits evacuated next to the households	

III. Social data sheet

Gathering	Social status			Legal status			Disability			Elderly (55+)
	Single parents	Widow	Divorced	Non ID*	SHC	Non UNRWA registered*	Physical	Mental	Mixed	
Bustan Al Kods	4	15	1	8	19	18	14	1	0	43
Baraksat	9	60	13	20	121	44	6	0	0	138
Chehim	1	18	3	0	15	11	2	1	1	41
Hamshari	3	7	3	1	14	4	7	0	0	38
Jabal El Halib	0	29	5	5	55	30	7	1	0	93
Old Saida	21	34	4	1	46	20	51	1	0	188
Seerob**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Surroundings of Mie w Mie camp	5	9	1	0	12	20	8	0	2	44
Tawari***	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wadi El Zeini**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Al Marj	0	2	0	2	6	3	0	0	0	13
Bar Elias	0	35	5	3	67	7	1	0	3	59
Goro	0	6	0	0	13	0	0	1	0	12
Al Jalil Surroundings	0	7	2	0	14	2	0	1	0	19
Taalabaya- Saadnayel-Jalala	1	50	8	2	102	9	4	0	3	86
Al Mina	1	4	0	0	13	0	0	1	0	15
Bab El Ramel	0	6	0	0	10	0	0	0	0	13
Bab El Tabane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Mankoubeen	3	13	0	0	42	2	2	0	0	25
Mouhajjareen	1	26	0	0	43	3	0	1	0	39
Surroundings of NBC****	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zahariye	0	6	1	1	14	1	4	0	0	37
Salwa el Hout	0	11	1	0	8	0	0	0	0	29
Gaza Buildings	0	7	2	0	22	0	1	1	0	91
Daouk	1	12	0	0	26	1	3	0	2	61
Naemi	2	21	2	1	19	0	3	1	0	105
Saïid Ghawash	0	15	6	1	12	3	4	2	0	39
Adloun	0	9	1	0	18	1	7	0	0	53
Baysariyeh	0	6	0	0	2	3	2	3	0	74
Burghliyeh	2	20	2	0	22	5	2	0	0	44
Itaniyeh	2	8	1	0	19	2	2	1	0	19
Jal El Baher	3	52	6	1	94	7	10	6	0	142
Jim Jim	0	12	1	0	19	1	1	0	0	11
Kfar Badda	2	16	2	0	36	18	1	0	0	86
Mashouk	0	51	4	2	115	17	9	3	0	138
Qasmieh	6	70	7	4	156	17	13	9	3	230
Shabriha	6	24	3	0	81	5	2	0	0	128
Wasta	2	24	8	0	50	5	2	0	0	53
Al Ebb	1	3	0	2	8	0	0	0	0	3

*The number of Non ID and non UNRWA is a household number. Several persons in the same household could be non ID or non UNRWA.

** Given the absence of needs and the large size of Seerob and Wadi el Zeini, we collected only data with regards to population number.

***Tawari and Bab el Tabane were not assessed because of security issues.

**** NBC surroundings were not assessed because of numerous assessments done after the camp war in 2007