

Neighbourhood Profiles: Shelter condition, access to public services and hygiene behaviours

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To	Coordination
Subject	Neighbourhood Profiles: Shelter condition, access to public services and hygiene behaviours
Reference	Sabil Street, Farhat Street, Ersel Street, Mazaar Street

1. Background and objective

The influx of Syrian refugees into Lebanon has placed further pressure on the country's poor solid waste management, limited water supply (both quality and quantity) and sewerage systems, all of which faced significant issues even before the crisis began. Some of the poorest neighbourhoods in Lebanon have felt the greatest impact, as refugees seek the lower rents and informal livelihood opportunities that are available in these areas. The need to share these limited resources and deficient services is a constant and visible reminder for the host community of the presence of refugees; leading to tensions between the communities and is also impacting the health of the host and refugee residents. The Syrian crisis response to date has largely overlooked the wider needs of these poor areas, often offering only punctual assistance to isolated community members without a sustainable global strategy.

In response to this, ACTED has been implementing a holistic WASH and shelter program comprising both household level and community level interventions supporting vulnerable families residing in ten priority neighbourhoods throughout Beirut and Mount Lebanon since March 2014. The program has been delivered across three phases:

- **Phase 1:** WASH and shelter activities were conducted in five neighbourhoods identified in March 2015: Saint Simon, Kniset al Salib, Tartej and Al Bashaa and Maroun Misk (which was removed from the program due to high security risks)
- **Phase 2:** An additional three neighbourhoods and the extension of one neighbourhood as identified in November 2015: Farhat Mosque, Mar Takla, Tamlees and Hay Al Gharbay (extension of Al Bashaa).
- **Phase 3:** A total of ten neighbourhoods; an additional four neighbourhoods were added: Sabile, Aarsal, Farhat (Ghoberie) and Mazar (Sid El Bouchrieh), and interventions in Tamles were finalised.

The following report provides a general overview of the: 1) General trends per neighbourhood concerning the type of **shelter available**, housing terms and current condition of these shelters and 2) the level and condition of **basic public services** available, focusing on water supply, sewerage and solid waste. This report follows on from the assessment reports prepared for Phase 1 and Phase 2, "Neighbourhood Profiles: Shelter condition and access to public services and hygiene behaviours".

This report is presented in two sections; 1) an overview of the three areas of study listed above, and 2) programmatic recommendations for each of the neighbourhoods considering the most urgent needs. The result of this assessment will 1) inform the neighbourhood shelter strategy and 2) the hygiene key messages to be communicated through HP activities and 3) provide recommendations for potential community level WASH projects.

2. Methodology

A range of data collection tools were used to inform this assessment; some of which were on-going program activities (household vulnerability assessments, technical assessments and social mapping) and others that were specifically conducted for the purpose of the assessment (rapid WASH and shelter assessment, neighbourhood field visits). The methodology was updated between the neighbourhoods assessed in Phase 1 (March to July 2015) and Phase 2 (November 2015 to January 2016) to utilise the household vulnerability assessment in the analysis. The methods used for data collection in each neighbourhood and the sample size of each are highlighted in Table 1 below.

Table 1. Methodologies used for data collection in each neighbourhood

Phase	Neighbourhood	Rapid WASH and shelter assessment	Vulnerability assessment used in analysis	Social mapping	Technical assessments	Neighbourhood field visits
1	Chiyah - Maroun el Misk	Sample size: 50	✗	✓	✗	✗
	Cite Sportive – Al Bashaa Street	Sample size : 60	✗	✓	Sample size: 217	✓
	Naba'a - Al Salib Street	Sample size : 65	✗	✓	Sample size: 166	✓
	Ouzaii - Saint Simon	Sample size : 60	✗	✓	Sample size: 63	✓
	Tartej ¹ *town	Sample size : 13	✗	✓	Sample size: 9	✓
2	Naba'a – Farhat Mosque	✗	Sample size: 140	✓	Sample size: 164	✓
	Naba'a – Mar Takla	✗	Sample size: 66	✓		✓
	Tariq Al Jdede – Tamlees	✗	Sample size: 28	✓	Sample size: 9	✓
	Cite Sportive extension – Hay Al Gharbay	✗	Sample size : 147	✓	Sample size: 85	✓
3	Arsal Street, Ghoubayreh	Sample size: 18	Sample size: 146	✓	Sample size: 58	✓
	Farhat Street, Ghoubayreh	Sample size: 12	Sample size: 126	✓	Sample size: 54	✓
	Mazar street, Sid El Bouchrieh	✗	Sample size: 40	✓	Sample size: 10	✓
	Sabil Street, Ghoubayreh	Sample size: 42	Sample size: 412	✓	Sample size: 54	✓

2.1.1 Rapid WASH and shelter assessment

A rapid WASH and shelter assessment of 130 households was conducted by the engineering team to collect qualitative and quantitative data at household level. The questionnaire included the following:

- Shelter accessibility (safety of access, conditions of stairs)
- Latrine and wastewater

¹ Tartej is also constituted of many medium to high standard shelter units, where Lebanese families reside, however during the rapid WASH/Shelter assessment, given the sensitive nature of the questions, ACTED has only conducted detailed technical assessments within the vulnerable localities of the town, where the proposed intervention would be needed before the upcoming winter. A second version of this report will reflect an adapted questionnaire for more affluent households

- Shelter Condition (doors, roofs, walls)
- Water Supply (source, storage)

2.1.2 Vulnerability assessment:

ACTED teams conduct a comprehensive multi-sectorial vulnerability assessment to determine the most vulnerable households to receive cash grants or rehabilitations of their shelters. The cash assessment assesses the socio-economic vulnerability of households for inclusion into the unconditional cash program using a standardised form developed by the cash consortium. This form includes a number of questions related to WASH and shelter condition this information will be used to pre-identify households for technical assessments. The results of these assessments were used to complement the more detailed shelter condition assessment conducted by the engineering team.

Table 2 below illustrates the number of households assessed in each neighbourhood and this is further illustrated in Figure 1. The number of Lebanese and Syrian households interviewed was significantly higher than other nationalities, and will be the focus of this assessment.

Table 2. Number of households interviewed during vulnerability assessment

Number of households interviewed	Arsal Street	Farhat Street	Mazar street	Sabil street
Lebanese	50	100	11	218
Syrian	96	23	22	180
Palestinian	0	2	0	8
Iraqi	0	0	7	0
Ethiopian	0	1	0	0
Other	0	0	0	6
Total	146	126	40	412

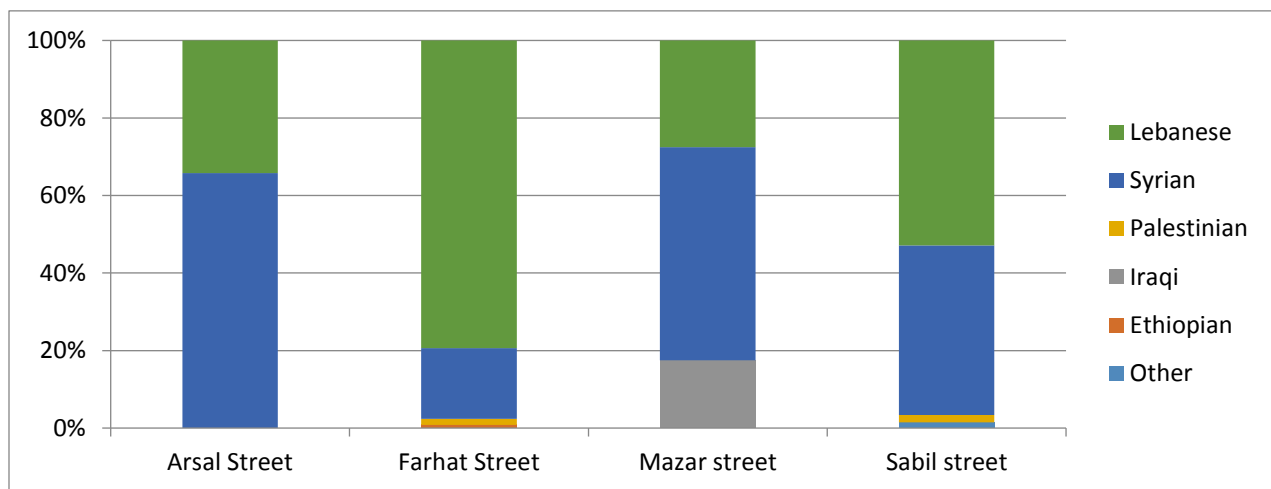


Figure 1. Percentage of population groups interviewed per neighbourhood

2.1.3 Social Mapping: focus group discussions

ACTED teams have conducted focus group discussions in each neighbourhood with each group composed of participants from different socio-demographic groups (disaggregated by community, gender, age). Qualitative findings from these discussions related to shelter conditions or access to basic services have been included in this assessment.

2.1.4 Technical assessments

To ensure that the most vulnerable households are being targeted for the WASH program, households who score mildly to severely vulnerable on the cash assessment and who are flagged as in need of WASH/Shelter support are visited by ACTED's engineering team for a technical assessment as indicated. ACTED engineering teams conduct a technical visit to determine the upgrades or rehabilitations needed to shelters. The results of these assessments have been analysed to determine the general condition of the shelters. The works have both WASH and shelter components and include the following types of works:

- Shelter rehabilitation works include: fixing windows or doors, constructing separation wall, block work, waterproofing, plastering, construction of zinc roof and installation of lighting point.
- Water and sanitation rehabilitation works included: installation of latrines (European or Arabic), kitchen and bathroom sinks, kitchen and bathroom mixers, electrical water heaters and water tanks.

2.1.5 Field visits

ACTED's Senior Engineer conducted a number of visits to the Aarsal Street, Sabil Street and Farhat Street (Ghoubayreh) and Mazar Street (Sid El Bouchrieh) neighbourhoods to better understand the public services available. Furthermore, the local municipalities of Sid El Bouchrieh and Ghoubayreh were contacted for interviews with their technical team to better understand the services available in their area, and the current issues they are facing.

2.1.6 Limitations

Given the poor representative of randomly selected Palestinians (10) and Iraqis (7) households compared to Lebanese (379) and Syrians (322), there will be no analysis based on these two populations alone, with the exception of Mazar neighbourhood where the Iraqi households represent 18% of the sample (n=40).

3. Key findings

3.1 General findings

Of the four new neighbourhoods, three were located in Ghoberie, a municipality in the southern suburbs of Beirut (Dahyia) and one was located in Metn. Their exact location and proximity to Beirut is highlighted in Figure 2. Due to the geographical proximity of Al Salib, Farhat and Aarsal neighbourhoods, coupled with the fact that they are all under the jurisdiction of Ghoberie municipality, as seen in the following report, the conditions for households living in these areas are often similar. This section will detail the general findings in the neighbourhoods, whereas the next section will present the findings pertaining to each neighbourhood.

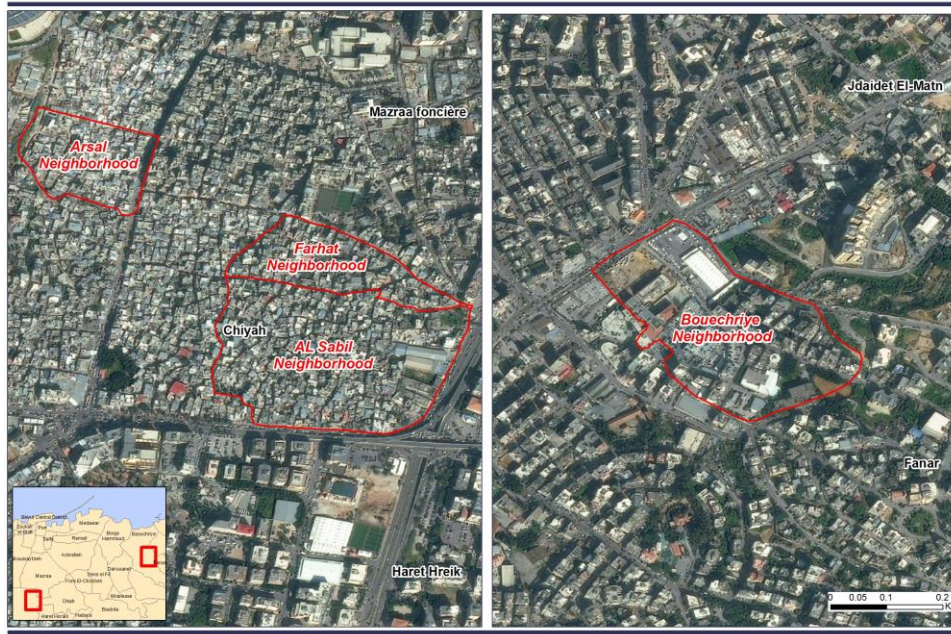


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3.1.1 Household vulnerability assessment

As socio-economic vulnerability will be a factor in targeting a household for rehabilitation or upgrades, an analysis of the general breakdown of vulnerability categories found per each community cohort is illustrated below (Figure 3). The graph below illustrates that across the four neighbourhoods, more than half of Syrian households (60%) and more than a quarter of Lebanese households (28%) are living in 'severely' or 'highly' vulnerable conditions. Although more than double the Syrian population are living in these difficult conditions, this demonstrates that Lebanese families are often living in the same condition as Syrian refugees in these vulnerable neighbourhoods, highlighting the importance of the neighbourhood approach and assisting all households in need, irrespective of their nationality.

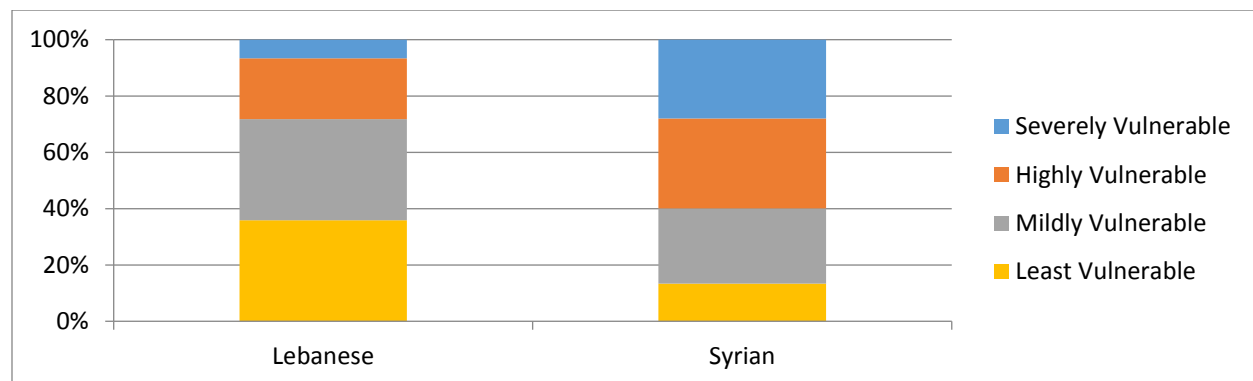


Figure 3. Distribution of vulnerability of Lebanese and Syrian households

3.1.2 Household level shelter interventions

Most of these families are living in very poor quality shelters. Of the households interviewed during the vulnerability assessment, **93% of households assessed were either high (41%) or medium (52%) priority for rehabilitation works**, and the remaining households were either **low** priority (4%) or **did not require any works** (2%). These results are illustrated in Table 3 below which compares the socio-economic vulnerability and the shelter assessment of the cash

assessment, highlighting the households (in green) in most urgent need of rehabilitation. More Syrian families interviewed needed urgent attention to their shelters than Lebanese: 58% were in the high priority category compared to 28% of Lebanese.

Table 3. Comparison of shelter and socio-economic vulnerability

Socio-Economic Vul \ Shelter Vul	Least Vulnerable	Mildly Vulnerable	Highly Vulnerable	Severely Vulnerable
Least Vulnerable	1.79%	1.10%	0.00%	0.14%
Mildly Vulnerable	1.79%	0.97%	0.00%	0.14%
Highly Vulnerable	15.86%	10.34%	3.59%	0.97%
Severely Vulnerable	6.34%	19.45%	21.52%	15.17%

Of the sampled households assessed by the ACTED engineering team in the neighbourhood as needing WASH or shelter upgrades, the majority required improvements to their water supply systems, including water storage, pressure and heating system. Many households lived in shelters that did not have operational latrines and piping systems, and therefore limited access to safe excreta removal, and also required further WASH rehabilitation, notably to ensure separation between their bathroom and kitchens (often one room), or rehabilitations of sinks. As an example of the poor condition of the shelters, over 75% of households that were assessed as needing work to their shelters by ACTED's engineering teams required the installation of a new latrine (either EU or Arabic) and none of the latrines were equipped for people with disabilities or elderly. A number of shelters required improvement to the external structure to ensure it was structurally sound and safe from the elements.

All Syrian were renting their accommodation, most of which were unfurnished (94%), adding an additional cost to the households to purchase needed appliances such as refrigeration or heating. Almost half of the Lebanese families interviewed during the assessment reported owning their properties (47.5%), although most of these were in very poor condition: 94% of the shelters owned by Lebanese considered severely or highly in need of shelter repairs. When vulnerable families own their properties, it means that ACTED does not need to negotiate with a landlord regarding rental reductions and/or rental freeze; however most of the families who reporting owning their properties live in informal areas where buildings are not considered to be legal by the government, presenting additional challenges for ACTED teams, such as restrictions on the scope of work and legal implications.

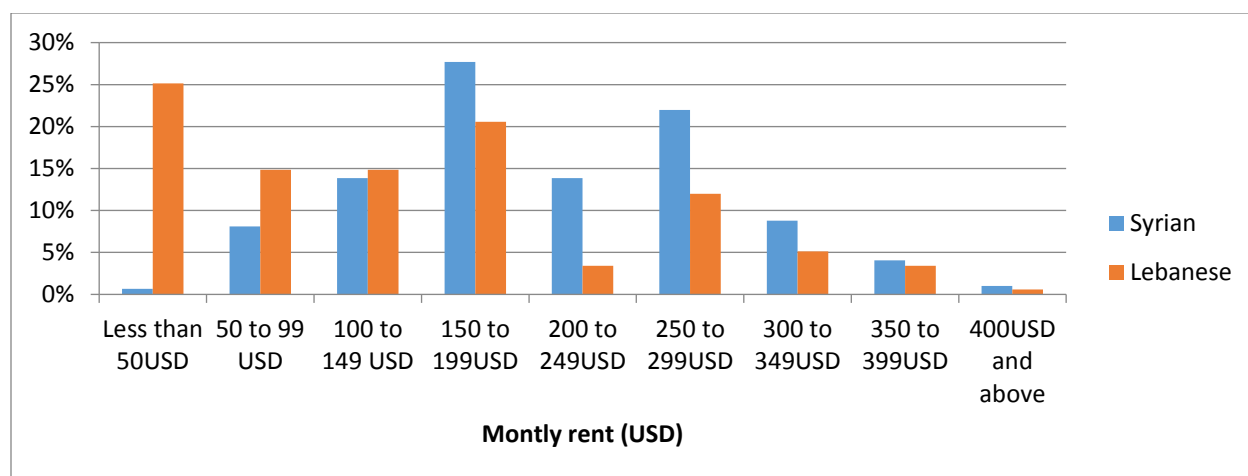


Figure 4. Distribution of monthly rent per population group

As illustrated in Figure 4 above, more than three quarters of Syrian households and almost half of Lebanese households are paying more than \$200USD per month on rent. The true cost of these high rental prices is highlighted in Figure 5, which shows the average Lebanese families are renting their properties are spending a third of their income on rent, and Syrian families are spending over two thirds of their income on rent, with further mounting pressures from other expenditures and debts that amount to 2.7 and 3.1 times the monthly average wage.

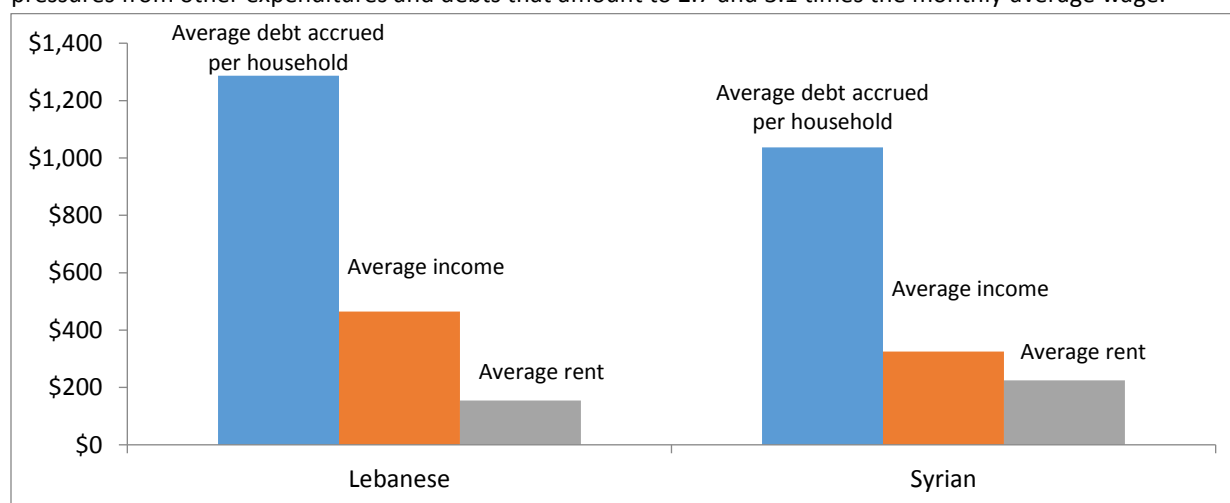


Figure 5. Comparison of average debt, income and monthly rent per population group

Syrians were paying \$70 more per month on average for these poor quality shelters than Lebanese: \$224 compared to \$154. This is in part due to the fact that 25% of Lebanese interviewed renting were paying a price 'old rent': a rental price fixed decades that is now comparably very low to market prices (normally below 50USD per month), and also that Syrian households arrived much later in these neighbourhoods and brought with them a higher demand for poor quality affordable shelters.

3.1.2 Public service availability

Access to sufficient quantities of safe water is a big issue in the assessed neighbourhoods: 75% of households reported that they did not have access to sufficient water supplies for drinking and/or domestic use (cleaning, cooking and washing). Households interviewed reported their monthly expenditure on water was on average 35,500LBP; 10% of the income for households who reported a monthly earning was spent on expenses related to water. Given that the families interviewed were paying close to 426,000LBP per year on water, they were paying

much more than the yearly Water Establishment subscription feeds of 270,000LBP. This is likely due to the fact that they were paying for a number of different sources of water to cover their domestic and drinking water needs. This finding suggests that Lebanese and Syrian families living in vulnerable areas have the capacity to pay for official networked water, and that these services should be extended to these areas. As the crisis continues, the ability to purchase safe drinking water will likely decrease (either sealed bottled water, or treated trucked water and treated unsealed water) as the household financial situation deteriorates, impacting the health conditions as families will most likely either decrease the quantity or quality of drinking water as they purchase from cheaper and less reliable water sources.

Through discussions with local stakeholders, including municipalities and mukhtars, the unsystematic and **incomplete upgrades of the storm, potable and waste water networks** in the neighbourhoods of Ghoberie has been highlighted as an issue. It is clear that there continue to be a number of infrastructural issues impacting wastewater service delivery in the area and the municipality does not properly maintain these networks. Additionally, there are locations where the sewerage network and the storm water networks overflow, flooding blackwater onto the streets, posing a health risk to the community. Children are often seen walking and playing in the streets barefoot in this sewerage water.

There is limited access to electricity at both household and community level. At a household level, there are many illegal connections to the official electricity network, leading to a limited supply for all residents and increased risk for residents of being injured by the wires. Limited light in the shelter severely hinders the ability of the household to function after daylight, and often these shelter do not have. Furthermore, there is no street lighting in the neighbourhoods posing a security risk after dark for pedestrians, in particular women and children, and shop owners.

The **solid waste crisis** has been ongoing in Lebanon since July 2015, leading to an increase in uncontrolled dumping and increased health risks, in particular in densely populated urban areas. Poor solid waste management has been identified as a major challenge in these neighbourhoods throughout community level focus group discussions, interviews with municipalities and mukhtars and local schools. The solid waste crisis not only highlighted the national and regional gaps in solid waste systems, but also the limited community, industry and household awareness or practice of proper solid waste behaviours: there is an immediate need to reduce, reuse and recycle materials used in Lebanon. Although the majority of households in the neighbourhoods reported that they throw their waste in nearby dumpsters that are emptied by the municipality, there is still visible waste dumped in most neighbourhoods, which has the potential to cause additional health risks related to increased vectors.

Given these hygiene and sanitation risks, households were spending on average 20,000LBP per month on **hygiene related items** across the neighbourhoods; however a number of households still reported insufficient access to these items to meet their needs due to financial constraints. 66% households reported not having access to sufficient personal hygiene items (soap, toothbrush, etc), and 26% without sufficient access to cleaning items (laundry detergent, cleaning products, etc). One in three households did not have access to female hygiene items, and 60% of households with babies did not have sufficient access to baby care items to meet their needs.

3.1 Neighbourhood level findings

3.1.1 Aarsal street

Aarsal neighbourhood is part of Ghoberie municipality and is located between the fruit and vegetable market from one side and Diyaa School from the other and is overcrowded with poorly constructed buildings and narrow streets. It is considered an 'illegal' settlement by the municipality of Ghoberie, and deemed the most vulnerable neighbourhood of the four by the ACTED field teams, which is supported by the findings of the household

vulnerability assessments: over one in five of the households assessed in Aarsal were considered ‘severely vulnerable’, and over one in three of the Syrian households assessed were ‘severely vulnerable’ (Figure 6). Given the high vulnerability of the neighbourhood, it is therefore not surprising to find that the Syrian population is higher than any other population in this neighbourhood (66%).

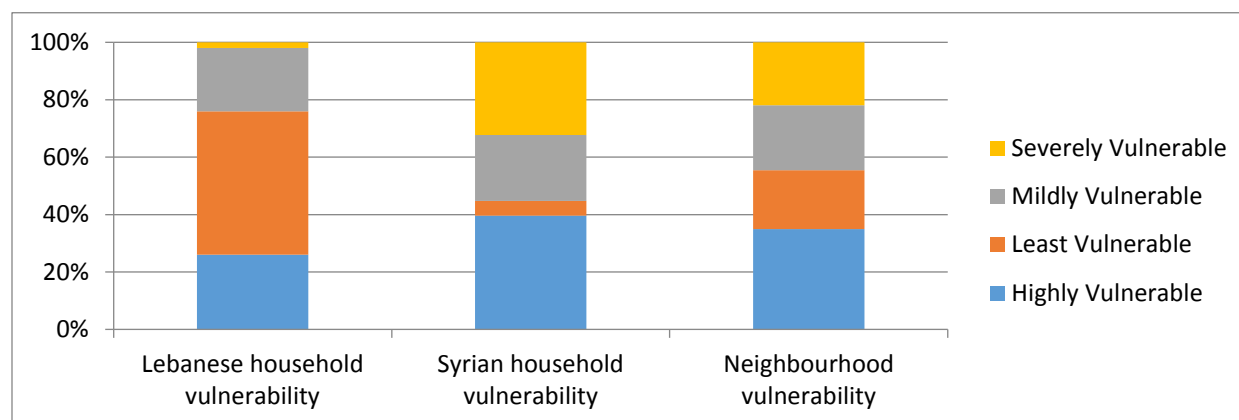


Figure 6. Vulnerability distribution of Lebanese, Syrian and neighbourhood level in Aarsal neighbourhood

The majority of households (80%) interviewed in Aarsal were living in poorly constructed informal shelters, having been built from various materials over time, including zinc, bricks, and cement, without any planning or structural consideration for the proper foundation and design considerations. These shelters are often not closed off to the elements, leading to leakages, humidity and security concerns: 72% of shelters assessed by the engineers had front doors in urgent need of repair. Without sound foundations they are challenging to rehabilitate and given they are not well constructed, they are difficult to securely lock. Most households have serious plumbing issues due to incomplete street level sewerage works and limited household connections: one third of the households assessed by the engineers did not have a connection for plumbing. These issues lead to sewerage water flooding inside the shelter and unsanitary smells. A further one in ten households were crowded into only one room with an average of 4.5 people, suffering from similar plumbing issues.

These shelters are not prepared for the winter conditions: 70% do not have access to a heater increasing their exposure to the cold, and 87% either do not have a water heater or their water heater is not functioning due to lack of electricity, likely impacting the hygiene behaviours of the household. During the focus group discussions with the community, it was reported that some households pay a subscription fee to be connected to private generators in the area; however this is not common as it costs 150,000LBP per 5 amperes monthly. Additionally although Sukleen (the local private waste management firm) has a contract with the municipality of Ghoberie to collect waste in the area, the community reported during focus group discussions that Sukleen workers are only collecting waste from houses that are paying an additional fee of 10,000LL per month. Given the lack of services (water, electricity, sewage systems) provided by the municipality to the residents in the area, the relationship between the two groups is tense. The residents are expected to contact and pay workers directly for these services. Given these harsh shelter conditions, Syrians were still paying on average \$235USD per month to live in this neighbourhood, compared to Lebanese households who are paying on average \$104USD.

The majority of households (84%) reported that they source their domestic water from a private borehole within the neighbourhood. Given the fact that the neighbourhood is considered ‘informal’, the Water Establishment and municipality have not extended their services to this area and none of the households are connected. During the focus group discussions, it was reported that five residents in Aarsal control the supply and charge 60,000LL per month. The overuse of these private boreholes has led to over extraction of the groundwater and increased salinity of the supply. As a result, the usage and circulation of saline water rusts and deteriorates mixers, metallic piping and

electric water heaters. Ghoberie residents purchase sealed bottles from shops located at the borders of the neighbourhood for drinking, and there is also access to a free public water tank that is filled by a local NGO on behalf of the Union of Municipalities.

3.1.2 Farhat street

Farhat Street is a neighbourhood in Ghoberie municipality and is located across the border between Rehab Street (Airport Bridge) and Sabra and Chatila Camp. Similarly to Arsal neighbourhood, it has poor access to services and poor quality buildings; however unlike Arsal and Sabil neighbourhoods, the area is considered legal by the municipality of Ghoberie, and as such parts of the neighbourhood are connected to water and wastewater services. Although partly connected, the community reported the lowest reported water access of all four neighbourhoods: 86% did not have sufficient access for drinking and domestic purposes, and 75% of the households assessed by the engineers relied on private suppliers for water. Water storage is also an issue in this neighbourhood: one in four households were sharing their water tank with other families, and equitable use of these supplies can be a source of tension during times of water scarcity and when paying the private water contractor. Additionally, these tanks are mostly in very poor condition (60%) and have a low capacity: the majority are either 300L (42%) or 500L (42%) and serve an average of four people.

Many shelters are in urgent need of plumbing works to stop flooding inside the shelters and on the streets: half of the shelters assessed by the engineers did not have a functional connection to the sewerage network. The families in the neighbourhood are still living in highly vulnerable conditions: almost half of the households are either severely or highly vulnerable (Figure 7) and 88% of the neighbourhood is considered in severe need of shelter rehabilitations, the highest amongst the four neighbourhoods.

These shelters are not prepared for the winter conditions: 94% do not have sufficient access to a heater increasing their exposure to the cold, and 84% do not have a water heater or their water heater is not functioning due to electricity, likely impacting the hygiene behaviours of the household. The quality of the shelter is also a security concern: half of the shelters assessed by the engineers had front doors in urgent need of repair.

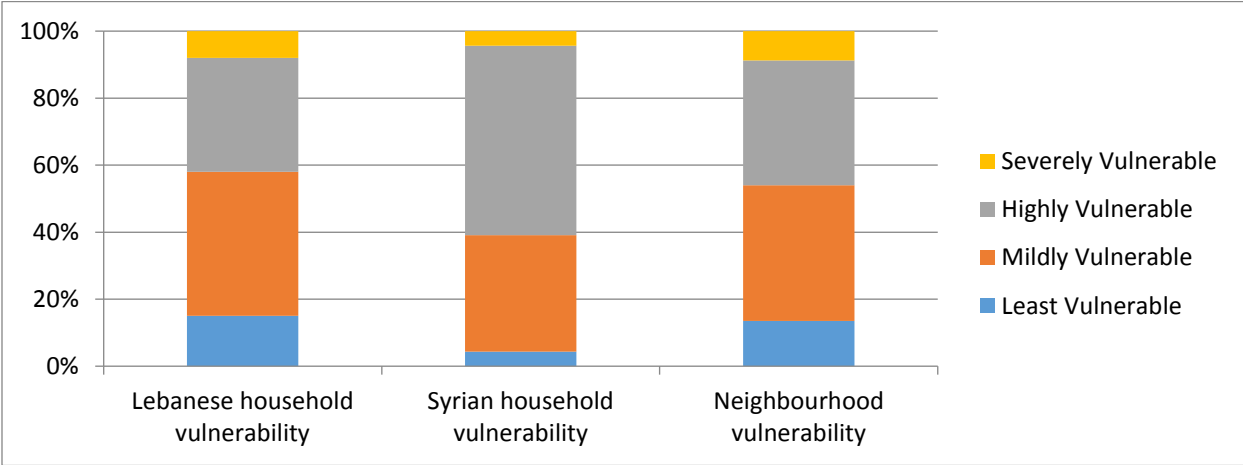


Figure 7. Vulnerability distribution of Lebanese, Syrian and neighbourhood level in Farhat neighbourhood

3.1.3 Mazar Street

Mazar Street neighbourhood is located in Sid El Bouchrieh and falls under the jurisdiction of Metn District. It is bounded by Mar Takla church from one side and Zaatriyeh Street from the other. In this area, it is prevalent the

condensed 4 to 5 story buildings, most of which are below minimum standards and pose serious health and safety risks to residents and their neighbours. 88% of the households assessed were either severely or highly in need of shelter works with have high level of humidity, leakages, windows and no ventilation.

Due to the higher socio-economic status of the areas surrounding Mazar neighbourhood, it better access to infrastructure services, such as sewage and water networks than the Ghoubeyri area, although there are still gaps. 77% of the households interviewed were connected to government water supplies, although the vast majority received water for less than two hours a day and the sewerage networks in the area are in need of repair and they frequently overflow.

Households reported poor access to safe drinking water and no household level water treatment, instead they buy sealed and sometimes unsealed water for drinking and there are approximately five local shops selling drinking water to people. It is not clear if these shops are treating the water prior to sale.

The most pressing service level issue identified by the community is solid waste management. A combination of the garbage crisis in Lebanon and a lack of awareness for proper waste disposal, has led to a pile up of waste in the area; households are dumping their solid waste at the end of a narrow street in an area of 150 m² in between the buildings (Figure 8). ACTED has conducted several focus group discussions in the area in response to this problem and the community is reporting increased a number of safety and health issues due to the waste: bad odours, increased cases of skin diseases due to flies, insects and mosquitos, rat bites (in particular children, elderly and persons with disabilities living on ground floors), and increased risk of children injuring themselves playing in and around the waste.

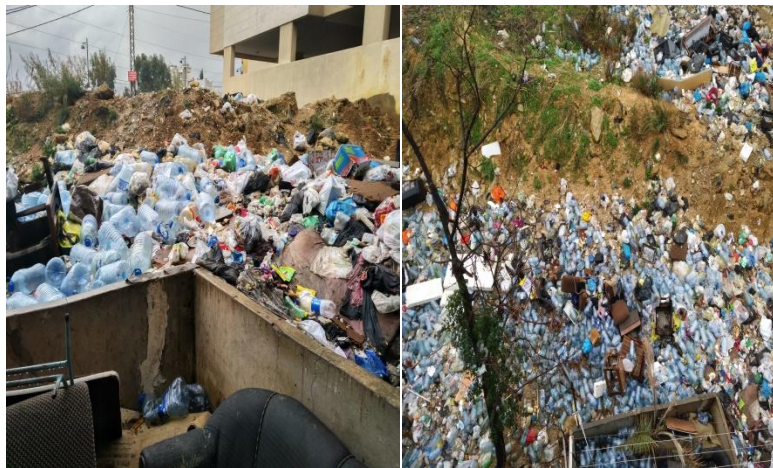


Figure 8. Site of dumped waste (from ground level and aerial)

The sample size of the household level vulnerability questionnaire in Mazar neighbourhood was 40, which was lower than the other neighbourhoods. Of the sample of households interviewed in Mazar, Syrian households were the most prevalent (55%), followed by Lebanese (28%) and Iraqi (17%) households. The high percentage of Syrian and Iraqi households interviewed is likely due to the fact that Sad Al Bachriya is an industrial zone and many refugee families have settled there in search of work. Residents in Mazar street paying rent reported that there had been an increase of 50-100\$ in the rent in the past twelve months, which is also likely due to the area being popular for workers. The Syrian households were found to be living in most vulnerable conditions: 22% were highly vulnerable (Figure 9).

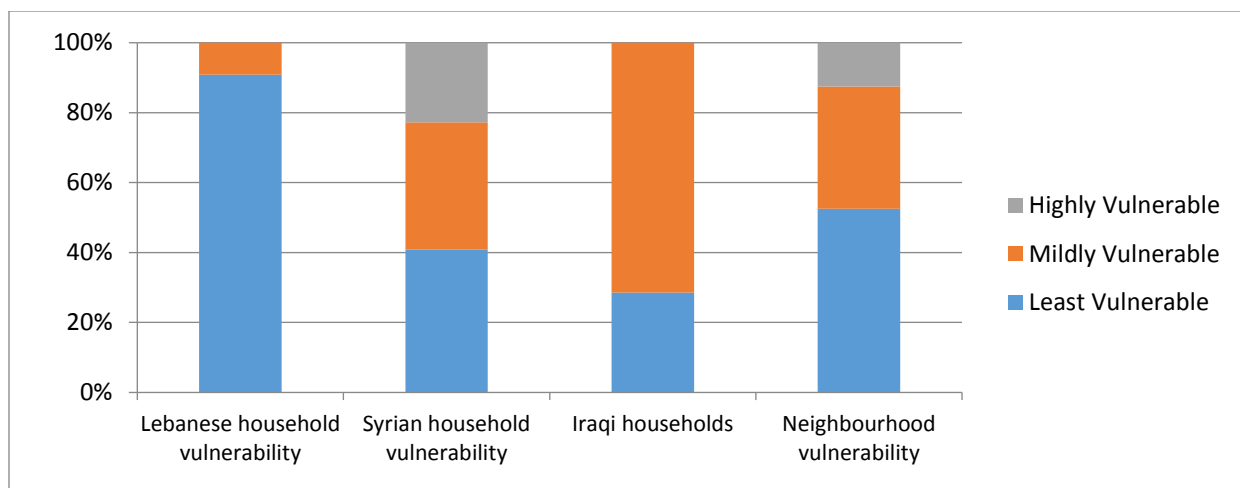


Figure 9. Vulnerability distribution of Lebanese, Syrian and neighbourhood level in Mazar neighbourhood

3.1.4 Sabil street

Sabil Street is a neighbourhood located in Ghoberie between Rehab Street (Airport Bridge) and Sabra and Chatila Camp, and is adjacent to Farhat neighbourhood. Parts of the neighbourhood are considered as legal settlements by the municipality, while other areas are not. Similarly to the other neighbourhoods in the area, Sabil consists of small narrow streets and overcrowded buildings: each shelter had on average 3.4 people per room.

The shelters in Sabil street have been built informally with the majority of families residing in poorly constructed single story structures; 94% of households interviewed were in severe or high need of urgent rehabilitations, including one in five shelters needing urgent repair to their front door which is a serious security concern. Water proofing and proper drainage of sewerage and grey water have been highlighted as shelter priorities by the local residents: 80% of the shelters assessed by the engineers did not have a functional connection from the latrine to the sewerage network. These families were also paying on average \$200USD a month for rent: \$220 a month for Syrian households and \$140 for Lebanese households. Many Syrians are also renting single rooms for approximately \$100, and at times sharing with other families.

The quality of life is difficult for families residing in the neighbourhood and as illustrated in Figure 10, more than half of the Syrian households interviewed Sabil street neighbourhoods are considered ‘highly’ or ‘severely vulnerable’.

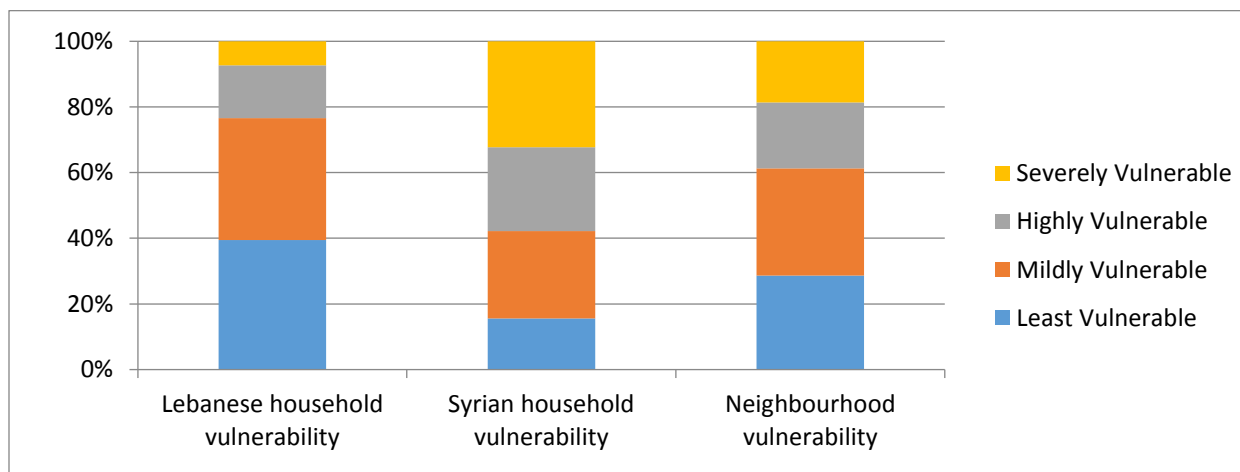


Figure 10. Vulnerability distribution of Lebanese, Syrian and neighbourhood level in Aarsal neighbourhood

The issues with water access are the same in Sabil and Aarsal neighbourhoods: water scarcity is a huge concern due to lack of connection to government networks has led to over-extraction of groundwater from boreholes within the neighbourhood, resulting in households relying on highly saline water. No shelters assessed by the engineers had access to government networked water; all relied on private suppliers. In Sabil, there are three residents from the neighbourhood control a private well that is situated in the neighbourhood and the beneficiaries pay 30000 L.L per month to be connected to the network. Water storage is also difficult for households: 80% of the tanks were poor quality and almost one third of households were sharing their water tank with other families, which can be a source of potential conflict. Additionally the majority of households had small storage tanks: 300L (18%) or 500L (65%) which were providing water for six people on average. In order to sufficiently reach the minimum 35L/person/day these water tanks would need to be filled at least every second day, placing additional financial pressure on the household.

The access to electricity in the area is poor; although the government is providing some electricity, due to poor infrastructure and many illegal connections the supply is weak. Households often resort to paying for a generator as a backup supply; however although the prices set by the municipality many households cannot afford the 75,000LBP a month for 5 amperes of electricity.

4. Programmatic recommendations

The limited public services in water, wastewater and solid waste is putting additional financial pressure and impacting the health of vulnerable households. Given ACTED's good relations with local authorities and access to these vulnerable areas, it is recommended that ACTED support the municipalities to improve the public infrastructure and services in the area through: 1) **capacity building** and 2) **large- scale infrastructure projects**.

- 1) ACTED has the capacity to provide training and support to these GIS units, or to build this data for municipalities that are lacking, to allow the municipality to more accurately collect and understand the cost, scope and priority of infrastructure works needed in their areas. This is an invaluable tool when preparing municipal budgets or when approaching donors for funding. The Union of Municipalities of Dahyia has a dedicated geographic information systems (GIS) unit; however it is unclear if this capacity is available in the other municipalities in Greater Beirut. All municipalities should be contacted and informed of ACTED's capacity to conduct a gap analysis in GIS and provide ongoing training and support.
- 2) It is recommended that ACTED prioritise funding for large scale WASH infrastructural works in these areas, such as water, wastewater and stormwater improvements given the need and the impact of such projects. Longer term stability projects are in line with the strategy of the government of Lebanon and in line with the LCRP 2017-2020. To support the ongoing operation and maintenance of infrastructure, ACTED should also support the authorities in strategies for increased subscriptions. Additionally, over the past few years ACTED has supported the expansion of a free water program in these areas through the donation of public water tanks and a water truck to the municipality who regularly fills these tanks. It is recommended that ACTED provide additional support to the Union in the cleaning of these tanks and the testing of the water supplied at point of use.

Lack of proper solid waste management is an issue in these neighbourhoods. This is due to both poor management of authorities and limited awareness of residents of good health and environmental practices. It is recommended that ACTED focus on household solid waste management during the community forums, including not littering in the

streets, separating wastes for recycling and also reducing and re-using materials in the house. ACTED teams should couple these awareness activities with actions to support these improved behaviours, such as 1) identifying workers in the area who will remove well sorted wastes free of charge or for a reduced fee from households, and 2) installing small bins in the street to deter residents from littering.

The conditions of the shelters in these areas are very poor, and often the households are not prioritising the maintenance of their living spaces due to other pressing needs. ACTED should increase the awareness of the direct impact of poor shelters on the health of the household during the forums and encourage families to better maintain their shelters, including regular cleaning of water tanks.

ACTED has experienced many difficulties in water proofing the shelters with grout and cement due to the way in which they were constructed haphazardly and with whatever material was available, as opposed to the materials that were required for proper construction. It is recommended that tarpaulin sheets are added to the bill of quantities and used in water proofing shelters when there is no other viable option.

No shelters were equipped for people with disabilities or elderly. It is recommended that ACTED work more closely with an NGO specialising in these needs to ensure the program adequately considers and addresses these needs.

Security in these areas is a big concern for many households, and it was reported during the focus group discussion that many women and children have experienced abuse. ACTED can directly improve the security in these areas through the neighbourhood approach: 1) further supporting the local committees to act as 'neighbourhood watch' and to meet regularly to discuss any security concerns or incidents, 2) install solar lighting in the streets to increase the sense of security in the narrow dark streets and 3) to add additional security items to the shelter rehabilitations, such as bars on windows.

Rent payment is huge financial burden for households and has pushed many households into high levels of debt. The 'old rent' laws are being reviewed and if these change, a number of Lebanese households in these areas will not be able to afford their rent. Programs to support the most vulnerable households to continue paying their rent, such as direct cash assistance, livelihood programs and shelter programs to negotiate better rental terms with landlords need to continue in these areas. Additionally, ACTED has been providing legal advice to households regarding the rental law and their rights as a tenant during the community forums, and this component of the program should be expanded.