




World Vision

الرؤية العالمية



Assessment of reduction of water provision in informal tented settlements and its association with the livelihood status of Syrian refugees in the Bekaa Valley.

**Assessment of reduction of water provision in informal tented
settlements and its association with the livelihood status of
Syrian refugees in the Bekaa Valley**

September 2018

World Vision Lebanon

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This report is based on a field assessment and data collection undertaken by World Vision Lebanon (WVL) - Evidence, Learning and Accountability (ELA) department. The report was prepared by Ms. Juliana Breidy (WVL/Research and Data Analyst) with contributions and technical support from Ms. Joelle Semaan (WVL/ELA Manager), Ms. Sandy Malak (WVL/Senior ELA Coordinator), Ms. Shaymaa El Khatib (WVL/ELA WASH Coordinator), Ms. Rita El Khoury (WVL/Programme Officer), Mr. Ralph Yaacoub (WVL/Technical WASH Coordinator), Mr. Georges Abi Rizk (WVL/Technical Livelihood Coordinator), Mr. Paul Skayem (WVL/WASH Portfolio Manager) and Ms. Mirdza Abele (WVL/CASH and Livelihood Portfolio Manager).

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ACRONYMS

ANOVA	Analysis of Variance
Cap	Capita (of i.e. l/cap/day = litres per capita per day)
CL	Child Labour
ELA	Evidence, Learning and Accountability
GOL	Government of Lebanon
HH	Household
HOH	Head of household
ITS	Informal Tented settlement
LBP	Lebanese Pound
LCRP	Lebanon Crisis Response Plan
PIM	Post-Implementation monitoring
SD	Standard Deviation
SMEB	Survival Minimum Expenditure Basket
SPSS	Statistical Package for Social Sciences
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations International Children's Emergency Fund
VASyR	Vulnerability Assessment of Syrian Refugees
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WVL	World Vision Lebanon

EXECUTIVE SUMMARY

This study examined the problem of providing less water quantities to Syrian refugees following the funding cuts in the first half of 2018 in the water, sanitation and hygiene (WASH) sector and its association with their livelihood status in terms of employment, expenditures and livelihood coping strategies. To assist them previously in water provision, Syrian refugees in informal tented settlements (ITS) in the Bekaa were supplied with an average of 35 litres per capita per day (l/cap/day). However, this amount decreased gradually from January 2018 following donor funding cuts, and reached half this amount as of March 2018 (approximately 15 l/cap/day). The objective of this study was to assess the association of this water reduction with the employment status of household (HH) members, child labour (CL), HH monthly expenditures, as well as with livelihood coping strategies.

For the purpose of this study, 364 Syrian refugee households benefitting from WASH programming implemented by World Vision Lebanon (WVL) and funded by United Nations International Children's Emergency Fund (UNICEF) in West and Central Bekaa were surveyed during the month of May 2018 and asked to report on longitudinal data from December 2017 till April 2018. The survey included sections on demographics, occupation and employment, CL, health status, income and expenditures, water access and coping strategies.

Findings have shown that during the first half of 2018, the percentage of working adults in HHs significantly increased by 59.6 per cent ($p < 0.0001$).^{*} Moreover, the average working days per month for an adult significantly increased by 4 days during the same period ($p < 0.0001$).^{*} With regard to CL, the results showed a significant 37 per cent increase in the amount of working children ($p < 0.0001$).^{*} In April 2018, with the beginning of the agriculture season in the Bekaa Valley, 19 per cent of HHs declared that their children (aged 5 to 17 years old) are engaged in economic activities outside the HH.

During the same period of time, from December 2017 to April 2018, 38.6 per cent of the surveyed HHs indicated that they would prioritise spending on water. The monthly average amount spent on water increased by LBP 8,000 for each HH, the equivalent of paying for one additional water truck transportation per month. Fuel, HH assets and clothing related expenditures were deprioritised by Syrian refugees, which might be associated to the warmer weather in springtime.^{*} Moreover, the monthly amount allocated to health expenditures for infectious diseases such as medical services and medications decreased significantly by approximately one third following the water reduction.^{*} To cope with the reduction in water quantities, Syrian refugees reported a variety of coping strategies that they will have to rely on. The identified coping strategies are mostly negative ones affecting livelihoods and the resilience of the surveyed HHs. Forty six per cent declared that they have had to increase their debt status, adding more to the poverty cycle that they are already caught up in. One third declared potentially accepting low paid jobs, therefore creating competition with the Lebanese host community on the labour market. Eight per cent declared accepting illegal jobs that will compromise their resilience capacity and create tensions with the host community, leading to further discrimination

against Syrian refugees. Five per cent expressed a willingness to send their children to work and 1.9 per cent stated that they would accept high-risk jobs that can contribute to illnesses and disabilities, despite their lack of any social security or insurance. As a result of this situation, the CL problem will increase among Syrian refugee children. Moreover, Lebanon's economic situation in the Bekaa will be negatively affected by an increase in the unemployment rate among the Lebanese because of competition on the labour market.

* Due to the cross-sectional design of the research that cannot capture the causal relationship between the exposure (water reduction) and the outcome (employment and child labour), the captured increase could be due to many reasons (agricultural season in April, warmer climate, etc.) and not only as a result of the reduction in water provision.

Based on the findings, WVWL recommends seeking alternative solutions to the water reduction by proposing innovative and sustainable ways to facilitate water provision. WVWL also proposes different interventions (such as cash-for-work programming) to help provide Syrian refugees with a more secure, dignified income and therefore prevent them from having to engage in risky and/or illegal work. Concerning child labour, WVWL recommends working with children, parents and communities and adopting a holistic educational approach to prevent CL. Moreover, at the advocacy level, WVWL will lobby the donor community to maintain its funding to the WASH sector and to increase their funding for stabilisation and infrastructure programmes to address the current shortage, in alignment with the Lebanon Crisis Response Plan (LCRP). WVWL will engage with the Ministry of Labor to identify key priorities to address CL and will lobby for the activation of the National Committee on Child Labor. Moreover, WVWL seeks the continuous coordination and monitoring between WASH sector working groups and other child protection and basic assistance working groups to mitigate negative coping mechanisms as a result of any reduction in the current service provision.

I- OVERVIEW OF THE SYRIAN REFUGEE CRISIS WITH REGARDS TO WASH ASSISTANCE AND TO WATER REDUCTION IN LITERATURE

I.1 Syrian refugees' poverty status, livelihood conditions and WASH assistance

Lebanon is hosting over 1.2 million vulnerable Syrian refugees, representing over 30 per cent of the overall population (Blanchet et al, 2016). With more than half of Syrian refugees living in extreme poverty and over three quarters living below the poverty line, Syrian refugees in Lebanon are more vulnerable than ever and finding it even more difficult to make ends meet (UNHCR, 2017). In 2018, 7 years after the start of the crisis, Syrian refugees living in over-crowded informal tented settlements (ITSs) on private or public land, rely heavily on the support and assistance of humanitarian partners to meet their basic daily needs (UNHCR, 2018). The 2017 Vulnerability Assessment for Syrian Refugees in Lebanon (VASyR, 2017) survey provides global figures on livelihood conditions at the ITS and HH level. Syrian refugees in Lebanon are spending less every year, reporting per capita monthly expenditures of US\$98, a drop of US\$6 compared to 2016 and US\$9 since 2015. This is a sign that HHs have fewer resources. Fifty eight per cent of HHs had a per capita expenditure below the Survival Minimum Expenditure Basket (SMEB), meaning they were living in extreme poverty, unable to meet survival needs—an increase of five percentage points over 2016. Similarly, the proportion of HHs living below the poverty line has continued to increase, reaching 76 per cent of refugee HHs in 2017.

In the WASH sector, the existing Lebanese water infrastructure – often old and poorly maintained – was unable to cope with the increased demand resulting from the influx of Syrian refugees. Additionally, there has long been a resistance from the Government of Lebanon (GOL) to connect ITSs to public water and wastewater systems. In the new LCRP (2018), the government has approved the connection of the ITSs to the public water networks, on condition that there is a surplus in the water supply, which is, in most cases, highly unlikely. Therefore, ITSs are rarely connected to existing public water and sanitation networks. As a result, basic water, sanitation and hygiene (WASH) needs are mostly met through WASH assistance provided by different humanitarian organisations.

To assist Syrian refugees, WV, through its partnership with UNICEF, relied on WASH activities to provide WASH assistance to targeted Syrian refugee populations across Central and West Bekaa. Over the programme duration, World Vision provided a total of 300 ITSs with continuous WASH services and hygiene promotion sessions, wherein a total of 35,000 Syrian refugee individuals were supported with water provision through water trucking (and other modalities), water quality monitoring, supply and rehabilitation of water tanks, wastewater management through site sludge removal and other innovative solutions, the construction and rehabilitation of latrines, and the provision of hygiene promotion sessions. Finally, WASH committees and community mobilisers were given the means to provide sustainable involvement in the community and enhance community resilience.

1.2 Reduction of provision of water to Syrian refugees

Following the current funding cuts, a decision was made by the different sector partners to start providing less water to Syrian refugees residing in ITSs, but to maintain the number of people served, rather than withdrawing completely from sections of the ITSs that were already being served. Previously, and according to Sphere sector standards, Syrians refugees were supplied with an average of 35 l/cap/day. However, this amount decreased gradually from January 2018, reaching approximately half that amount as of March 2018 (approximately 15 l/cap/day).** On the other hand, site sludge removal was maintained due to the environmental considerations, coupled with determined efforts to find innovative and more cost-efficient solutions to wastewater management. Finally, the supply of water tanks and the construction of latrines were both ceased.

** The water quantity increased again to 35 l/cap/day during the months of July, August, September and October 2018.

1.3 Reduction of water provision and its association with the livelihood status of Syrian refugees

1.3.1 Syrian refugees' livelihood coping strategies

The VASyR 2017 identified a list of livelihood negative coping strategies reported by Syrian refugees to cope with poverty. These coping strategies include the following:

- ♣ Sell assets: HH goods, land or productive assets
- ♣ Accept high-risk or illegal jobs
- ♣ Accept low-paid, hard and dirty jobs
- ♣ Beg
- ♣ Engage in early marriage
- ♣ Put children into work
- ♣ Send HH members to work elsewhere
- ♣ Reduce essential non-food expenditure
- ♣ Buy less
- ♣ Buy cheaper products
- ♣ Buy on credit (food, heating fuel, hygiene products)
- ♣ Spend savings
- ♣ Reduce health expenditure
- ♣ Reduce education expenditure
- ♣ Move to cheaper accommodation
- ♣ Reduce food expenditure: By buying cheaper and less preferred food, by reducing the number of meals per day, by reducing the portion sizes, borrowing food from friends and relatives, sending children to eat at neighbours, and finally by reducing adults' consumption.

1.3.2 Water reduction and its association with WASH expenditures

In an ethnographic study carried out by Oxfam Lebanon in March 2018, an assessment of HH expenditures was done in ITSs where Oxfam has WASH programming versus those with no external

support for WASH services. The findings have shown that HHs not benefitting from WASH services spend, on average, twice as much on water as those who receive services. Hence, it is probable that if the water provision is stopped, then HHs benefitting from it currently will have to increase their spending on water. This will represent a significant extra cost for HHs that already have difficulty meeting their basic physical, social and cultural needs (Oxfam, 2018).

1.3.3 Water reduction and its association with health-care expenditures

Health-care costs account for a significant proportion of HH expenditure for Syrian refugees in Lebanon, estimated from VASyR 2017 at 14 per cent in Zahle, 15 per cent in Baalbek and 16 per cent in Hermel. The Oxfam ethnographic study did not demonstrate directly that health-care costs are higher or lower in ITSs that have no external support for WASH services or have had those services reduced.

1.3.4 Water reduction and its association with other essentials expenditures

Increased expenditure on WASH will mean some ITS HHs have to reduce spending on other basic needs. Taking children out of school is one way to reduce spending (VASyR, 2017). In the 2017 VASyR, 31 per cent of respondents reported having reduced expenditure on schooling (i.e. taking their children out of school) as a livelihood coping strategy. Other ways to reduce expenditure, as mentioned during interviews in the Oxfam study, included cutting spending on heating fuel. Different ways to achieve this were cited, such as: changing to a solid-fuel stove, burning scrap wood and plastic waste, spending time with neighbours who heat their tents and gathering in the same room to save on heating costs.

1.3.5 Water reduction and its association with employment status

There are limited options for Syrian refugee HHs to increase their income, as job opportunities are restricted. Regular assistance through the WFP OneCard is limited and, for new applicants, getting a card can take many months. Occasional assistance, such as 'the winterization package' from WFP, or an allowance for clothes from UNICEF, have been either reduced or stopped. As noted in the Oxfam qualitative study, the refugees are increasingly having to resort to less favourable options to supplement their income, such as accepting high-risk or illegal jobs, accepting low-paid, hard and dirty jobs, begging, early marriage and putting children to work.

1.3.6 Water reduction and its association with debt status

As also shown in the Oxfam study, an increase in debt has been unavoidable when HHs are unable to increase their income or reduce other costs to compensate for increased spending on WASH as a result of service reduction. Two strategies employed by ITS HHs are spending on credit, or borrowing money from relatives or neighbours. Both are a form of debt that has to be paid later, further jeopardising HH resilience in an already compromised community.

2- METHODOLOGY

2.1 Research objectives

Due to an evidence gap related to water reduction in terms of quantitative assessment, the objective of this research was to identify the association between the reduction of water provision (specifically the reduction in provided water quantities due to reduced funding in the WASH sector), with the livelihood status of Syrian refugees residing in ITSs. More specifically, the secondary objectives are to:

- 1- Identify the association between the reduction of water provision with the HH members' employment status (adults and children).
- 2- Identify the association between the reduction of water provision and the refugee HHs' monthly expenditures.
- 3- Assess the refugees' livelihood coping strategies resulting from the reduction of water provision.

2.2 Study design

A cross-sectional study was carried out among a representative sample of Syrian refugees' HHs from different ITSs in the Bekaa Valley, where WVVL is implementing WASH programming funded by UNICEF.

2.3 Target population

The population included Syrian registered refugee HHs residing in different ITSs, which benefitted from the WVVL's WASH interventions under the UNICEF project in the Bekaa Valley.

2.4 Sampling technique

A representative sample of Syrian refugees' HHs was randomly selected from the list of refugees benefitting from WVVL's WASH programming. The random selection of the participants was based on a multistage probability sampling, where the strata were the ITSs (the clusters) of Bar Elias, Dakwe, Haouch Al Harime, Haouch Es-Siyadé, Haouch Mandara, Haouch Qayssar, Harimé Es-Soughra, Jdita, Makse, Marj, Mzaraat Zahlé and Qabb Elias. The second stage was selecting HHs based on a proportionate random sample in each selected ITS according to the number of HHs initially present in the ITS, and finally sampling a primary respondent within each HH.

2.5 Sample size

The sample size was calculated from a total of 5,769 HHs that are benefitting from WVVL's water services, taking into account a 95 per cent confidence level and 5 per cent margin of error. The collection of information for the full scope of the study was achieved through recruiting a representative sample of 364 Syrian refugees' HHs residing in ITSs in the Bekaa Valley.

2.6 Tool

The tool used is a survey, developed by the Evidence, Learning and Accountability (ELA) team in coordination with the technical team and the project team for the purpose of post-implementation monitoring (PIM), as well as to assess the research objectives. PIM is a tool to continue monitoring programmes after activities have been implemented. It provides two distinct values: validating the improvement effort through tracking of indicators and checking for the occurrence of new problems. The survey included several sections; the first section is the demographics and household information, followed by sections about water access, latrines and wastewater management, hygiene promotion, satisfaction of beneficiaries, protection-related issues and finally humanitarian accountability. Additional questions on reduction of water provision services, working HH members, coping strategies and expenditures were added to the initial PIM survey in order to answer the research questions.

2.7 Data collection

After receiving the approval of the Lebanese Army Intelligence, the PIM surveys were collected from targeted ITSs via enumerators using mobile data collection (using the Open Data Kit [ODK] software) to increase the efficiency of data collection and to reduce data entry errors. The ELA team trained the enumerators on data collection, including focusing on necessary aspects of data privacy. In order to ensure the collection of high quality data and an adherence to ethical principles, quality checks were performed during data collection. Each interview took an average of 35 minutes per HH. 10 enumerators were hired and divided into 5 teams. The administration of the survey took 9 working days with around 40 to 45 questionnaires (8 to 9 per team) collected on a daily basis. In order to abide by WV's child protection policy specific to HH visits: (1) each team included 1 male and 1 female; and (2) the 2 enumerators filled in the survey through one-on-one interviews in the selected HH ITSs.

Table 1: Number of targeted HHs in Bekaa areas.

AREA	#TARGETED HH
Qab Elias	51
Mazraat Zahle	10
Melse	8
Jdita	6
Haoush El Saydeh	6
Haoush Qaysar	8
Harim El soughra	6
Housh El Harime	23
Marj	81
Dakwe	8
Bar Elias	157
Total	364

2.8 Statistical analysis

Data was transferred into a database using IBM SPSS 24 for Windows. Descriptive analysis was conducted to describe the sampled population, where means with standard deviations (SDs) for continuous variables, and the frequencies and percentages for categorical variables were reported. Inferential statistics was carried out to assess the associations between different factors using either the independent t-test, one-way ANOVA or the chi-square test. A $p\text{-value} < 0.05$ was used to indicate significance in all cases.

2.9 Ethical considerations

Ethical considerations related to social research have been strictly respected in this study. The purpose of the research was explained to every respondent. In addition, confidentiality was assured and each participant was informed that s/he was able to choose freely whether to participate or not in the study. Furthermore, a written informed consent was sought from the respondents, before asking them the questions. Participants also understood that they had the right to withdraw from the study at any time. Names on the survey were replaced by coded numbers to guarantee the anonymity and make it impossible to track the results of specific HHs or individuals.

3- LIMITATIONS

The main limitation of this study is the adoption of a cross-sectional design due to budget restrictions. Ideally, to capture the impact of the reduction in water provision on livelihoods more precisely, an experimental or quasi-experimental design was needed with a randomised sample size in both a control group and an intervention group. By definition, cross-sectional studies have no dimension of time, so they are unable to support conclusions on causal relationships. With cross-sectional design, it is possible to test for associations of actual outcome with potential exposure, but not possible to know whether the exposure preceded the effect or not.

Another limitation is the timing of the study. The data collection was conducted during the month of May with the beginning of the agriculture season in the Bekaa Valley. This period was not exactly suitable for respondents to report on their employment status as the majority of Syrian refugees are often engaged in agriculture-related working activities during springtime, and engaged in other activities or unemployed during other seasons. Along with the cross-sectional design, this fact creates some doubt regarding the increase in HH working members and working days due specifically to water reduction.

4- RESULTS AND ANALYSIS

4.1 Demographic and socio-economic characteristics of household members

This section depicts the result of the field survey and data collected from 364 Syrian refugee HHs residing in ITSs in the districts of Zahle (74%) and West Bekaa (26%) (Figure 1). In approximately 49.5 per cent of the interviews, the main respondent was the head of household (HOH); the remaining interviews were conducted with the spouse (92%) and with other family members (8%) (Figure 2). Overall, the majority of HHs were headed by males (71%); the share of HHs headed by females was 29 per cent compared to 19 per cent in the last VASyR assessment in 2017 (Figure 3). The Syrian refugee sampled population is young with an average age of 39.7 (± 12.3) years old for the HOH. A large proportion (82%) of the respondents were married (Figure 4). The majority of the respondents (98.9%) were registered with the UNHCR.

Figure 1: Classification of HHs per geographical area

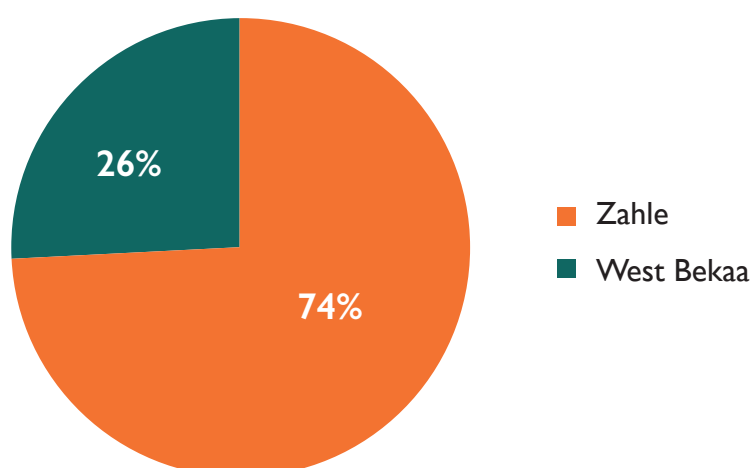


Figure 2: Distribution of non-HOH respondents in relation to HH head

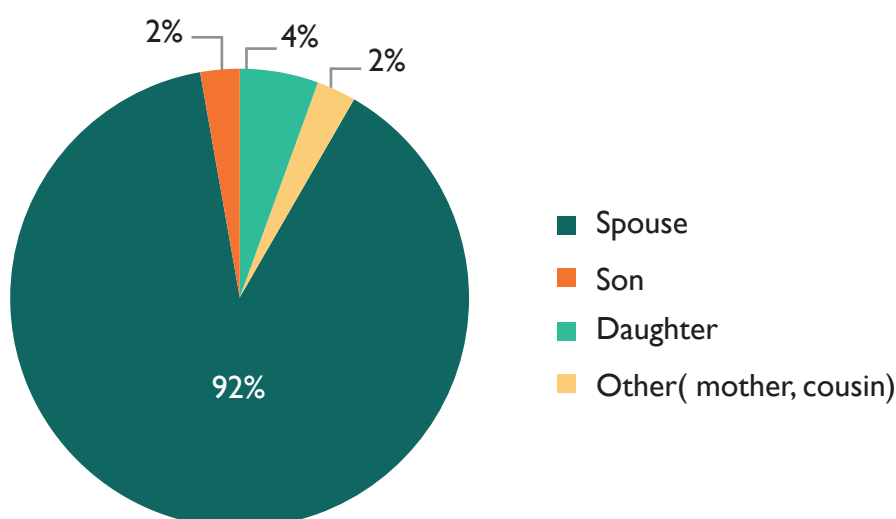


Figure 3: Distribution of respondents and HOH by gender

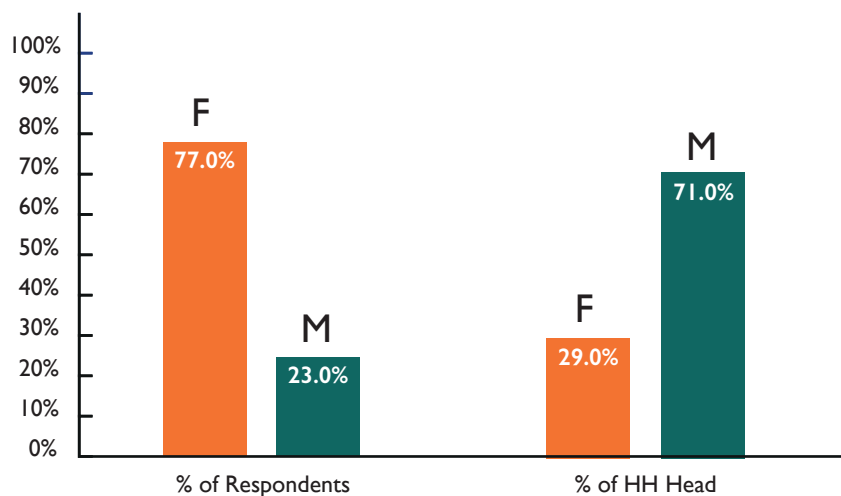
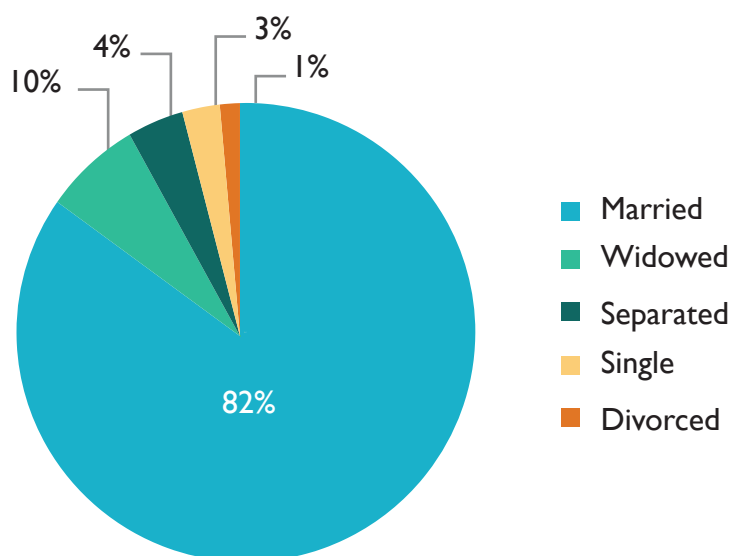


Figure 4: Distribution of respondents by marital status

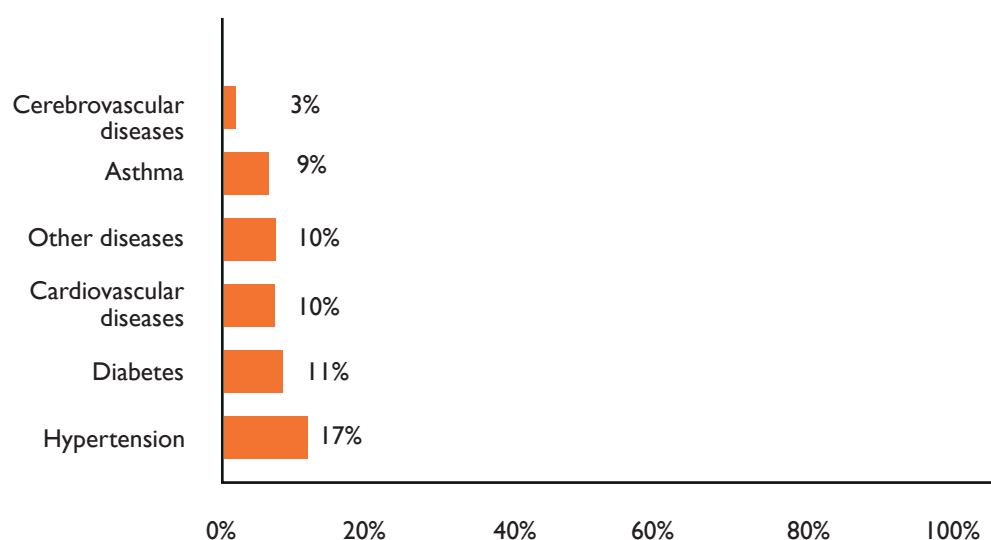


The survey found that the average Syrian refugee HH size was comprised of 7.3 (± 3.3) members, 1.6 (± 1.4) children aged five and under. These results are higher than the last VASyR assessment in 2017 where the average number of family members was 4.9. Twelve per cent of HHs reported at least one member with a disability, a 2 per cent decrease from 14 per cent reported in the VASyR assessment in 2017 (Table 2). 62.2 per cent of HHs reported having one or more members with chronic or temporary illness (Figure 5).

Table 2: Demographic distribution of HH members

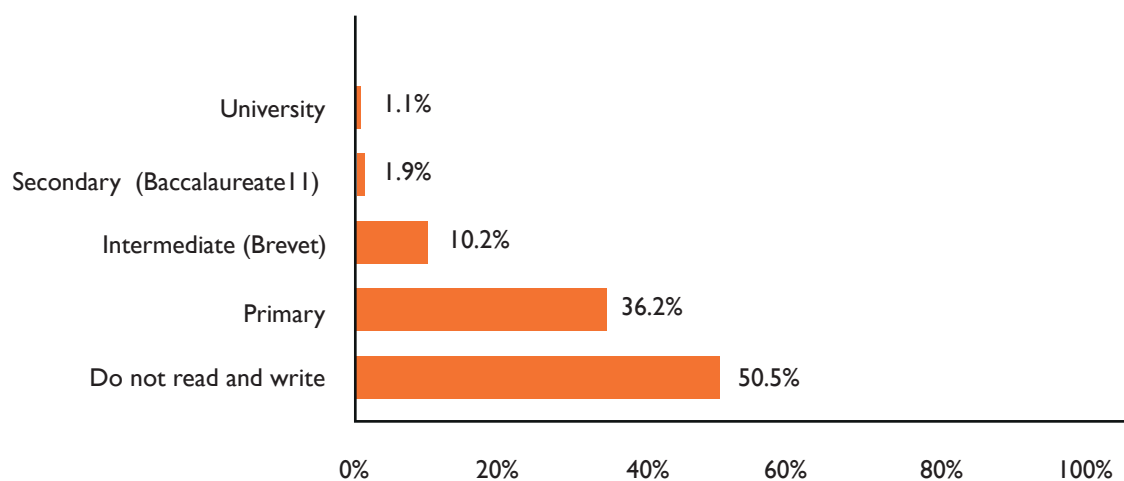
Variables		Frequency (%)
Sample Size		N=364
Number of HH members	Mean (\pm sd)	7.3 (\pm 3.3)
Number of children under 5 years old in HH	Mean (\pm sd)	1.6 (\pm 1.4)
Number of disabled people living in HH	0 members	319 (87.6%)
	1-2 members	44 (12.1%)
	>2 members	1 (0.3%)

Figure 5: Distribution of HH members with chronic illnesses



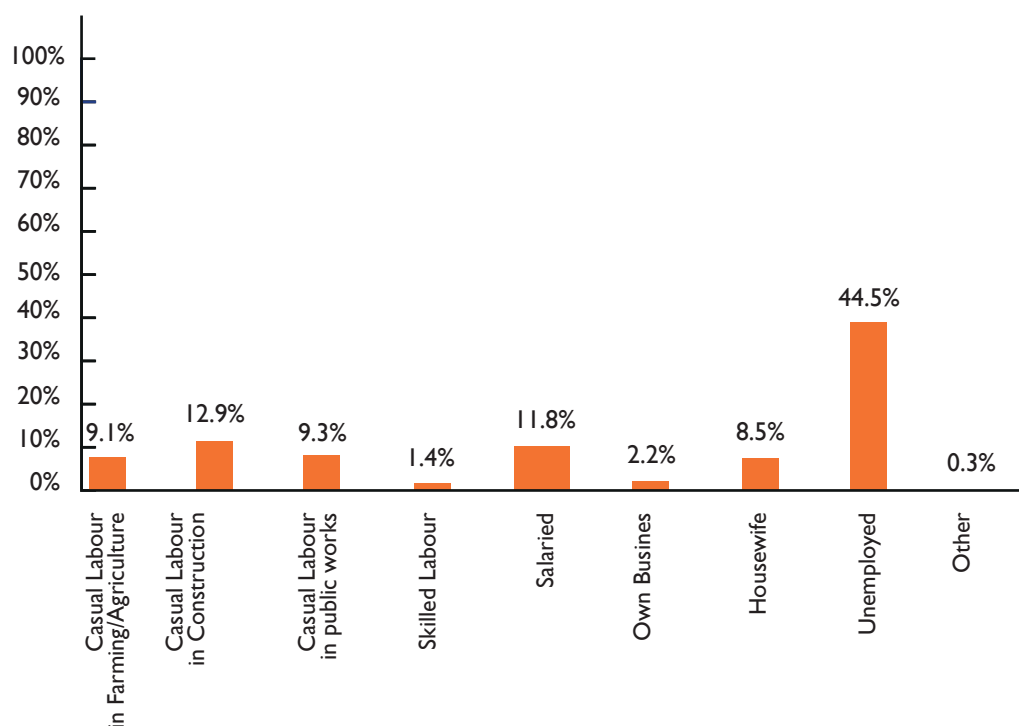
The educational attainment of Syrian refugees is generally low with 50.5 per cent of the respondents illiterate, 36.3 per cent have primary education or below and only 1.1 per cent have obtained university education (Figure 6).

Figure 6: Distribution of the respondents by educational level



The survey data showed that less than half of the Syrian refugees surveyed (47%) are actually working in Lebanon. This puts the activity rate among Syrian refugees at a roughly equal stance with both the Lebanese population and the Palestinian refugees as a result of generally high unemployment (ILO, 2013). Construction activities (12.9%) and salaried employments such as domestic/personal services (11.8%) provide most of the employment for Syrian refugee workers, followed by agriculture (9.1%). A small number of Syrian workers (1.4%) are engaged in jobs that require higher skill levels, such as technicians and professionals. The occupational distribution of Syrian workers reflects the fact that Syrian refugees in Lebanon are legally permitted to work only in agriculture, construction and the environment and highlights the fact that Syrians are mainly engaged in occupations that provide little income, social protection or job security (Figure 7).

Figure 7: Employment and occupation status of HOH



4.2 Impact of reduction of water provision on households' employment status

The data collected from the survey showed a significant increase ($p < 0.0001$) of 59.6 per cent in the percentage difference of HHs with one working adult member between December 2017 and April 2018. Moreover, the HHs with 2-3 working adult members reached 4.4 per cent with an increase of 78.2 per cent from December 2017 to April 2018 ($p = 0.05$) (Figure 8). The average working days per month for an adult significantly increased by 4 days ($p < 0.0001$) after the reduction of water provision (Figure 9).

Figure 8: Change in percentage of working adult members at the HH level

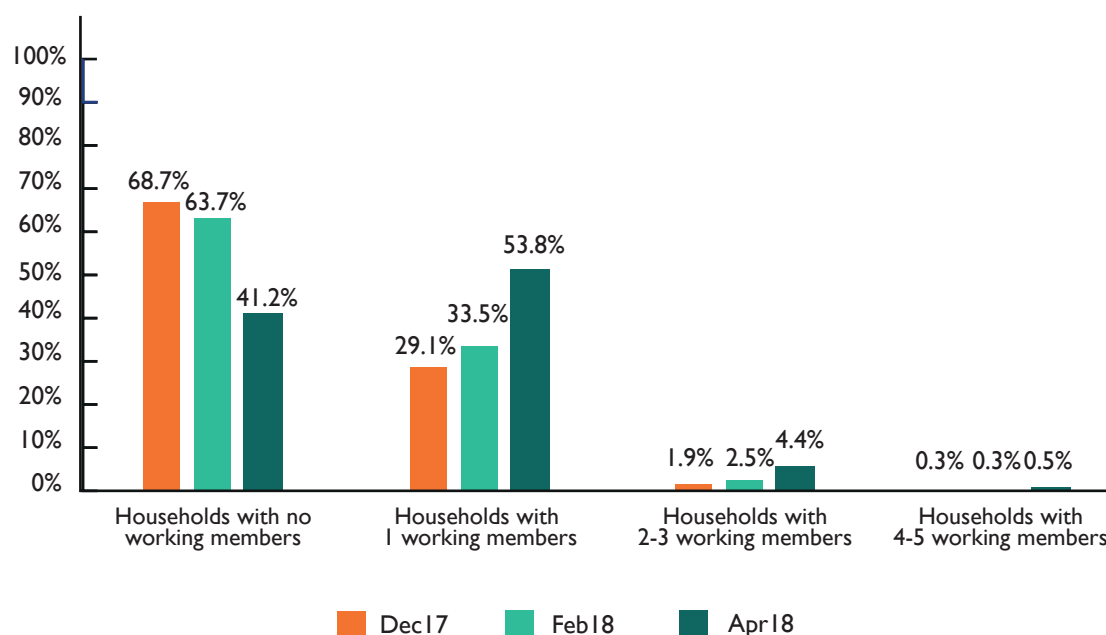
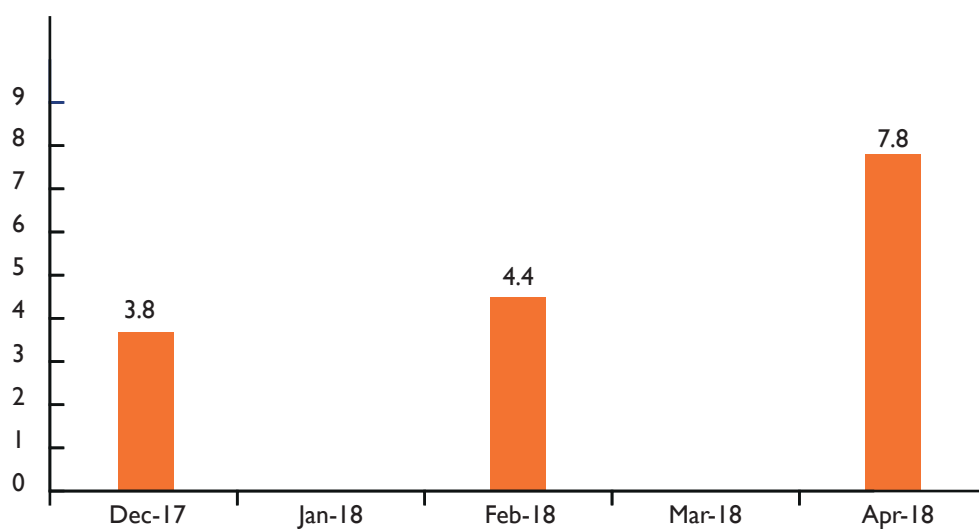


Figure 9: Change in percentage of working adult members at the HH level

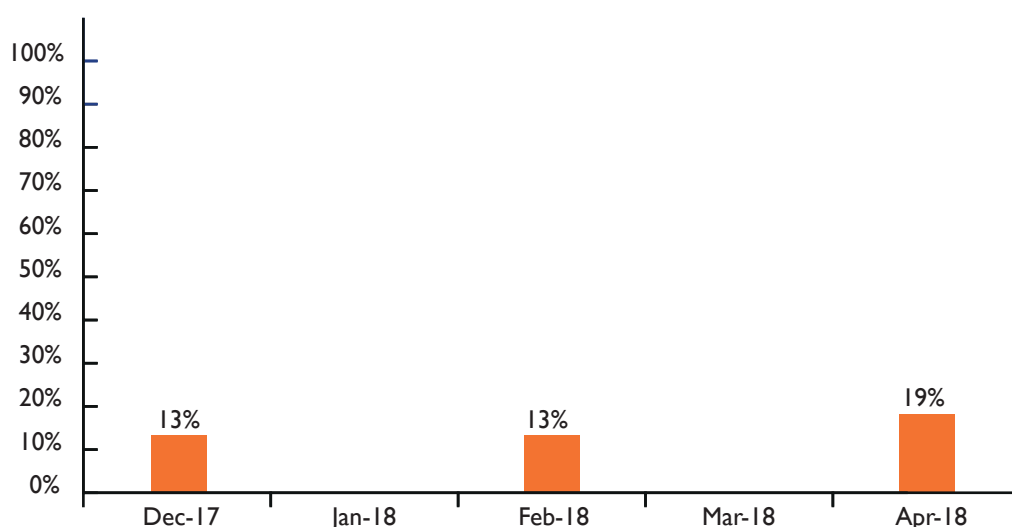


There are many reasons that could explain this change in the working status of Syrian refugees. The main reason could be the beginning of the agriculture season in April since 22 per cent of Syrian refugees are usually involved in agricultural activities according to the last VASyR assessment. Moreover, the Lebanese parliamentary elections that were held during the month of May might have affected the livelihood of Syrian refugees. A few months before the elections, candidates usually engage in public works and constructions. Syrian refugees who are legally allowed to work in construction activities might have been recruited to do such jobs. Another explanation could be that

Syrian refugees are provided with winter cash support during the winter months. The cash support usually stops in April leading them to search for a job to maintain their income and expenditures during the spring and summer seasons.

With regard to working children, the survey highlighted a significant increase of 37 per cent ($p=0.04$) in the percentage difference of working children between December 2017 and April 2018. In April 2018, 19 per cent of the HHs had their children (aged 5 to 17 years old) engaged in economic activities outside the HH (Figure 10). These findings may be due to the fact that children are enrolled in schools during the academic year (October until June) and the change might be greater during the summer season or specifically during the season of harvesting potatoes. Although the results might be affected by the agricultural season, the percentage of children engaged in economic activities outside the HHs is still very high compared to the VASyR assessment in 2017 in the Bekaa region (3.9%).

Figure 10: Change in percentage of HHs with working children



4.3 Impact of reduction of water provision on household expenditures

The reduction in water quantities significantly affected ($p=0.04$) the priority allocated to spending on water of 38.6 per cent of HHs. In December 2017, 15.7 per cent of Syrian refugees considered buying water as a high priority. The percentage increased to 21.7 per cent in April 2018. At the same time, the monthly average amount spent on water during the same period increased significantly ($p<0.0001$) by LBP 7,945 after the water quantities were reduced. Syrian refugees were provided by water trucking twice every month during April 2018. Buying another truck accounts for LBP 8,000, which reflects the average increase shown in the findings (Figure 11, Figure 12).

Figure 11: Changing HH expenditures in terms of prioritisation

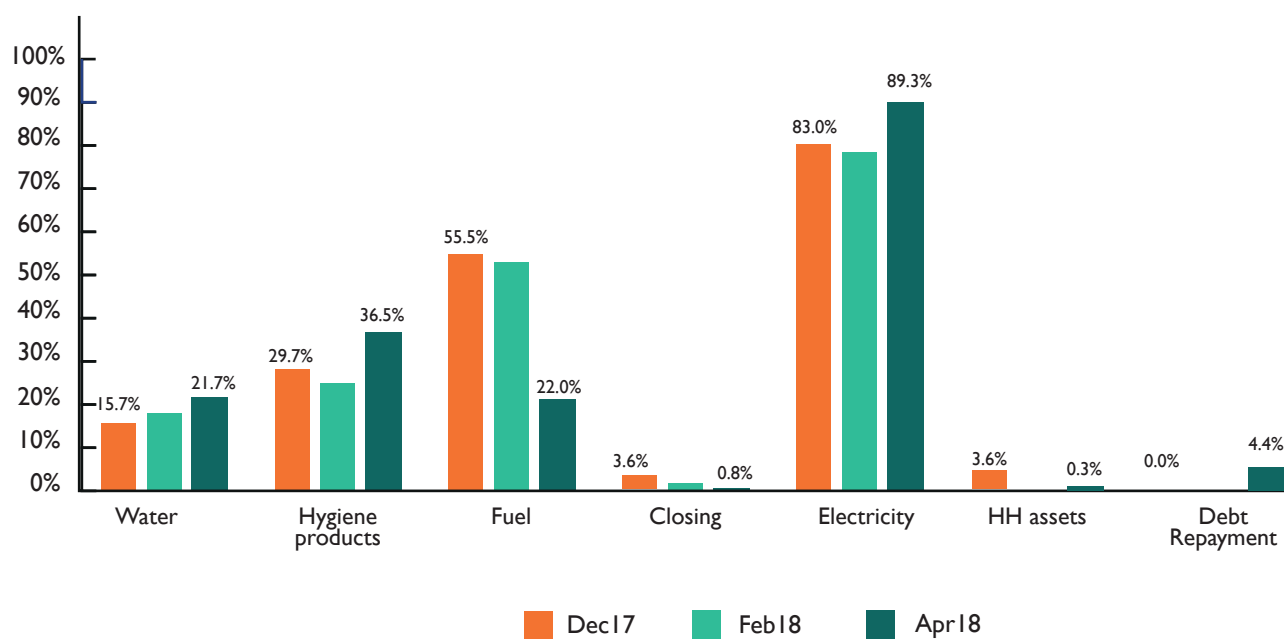
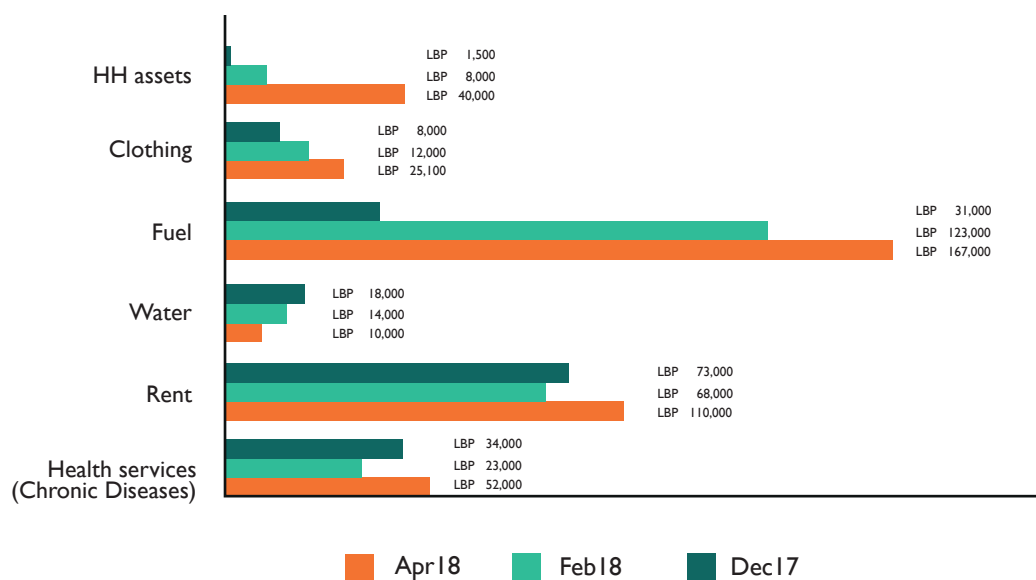
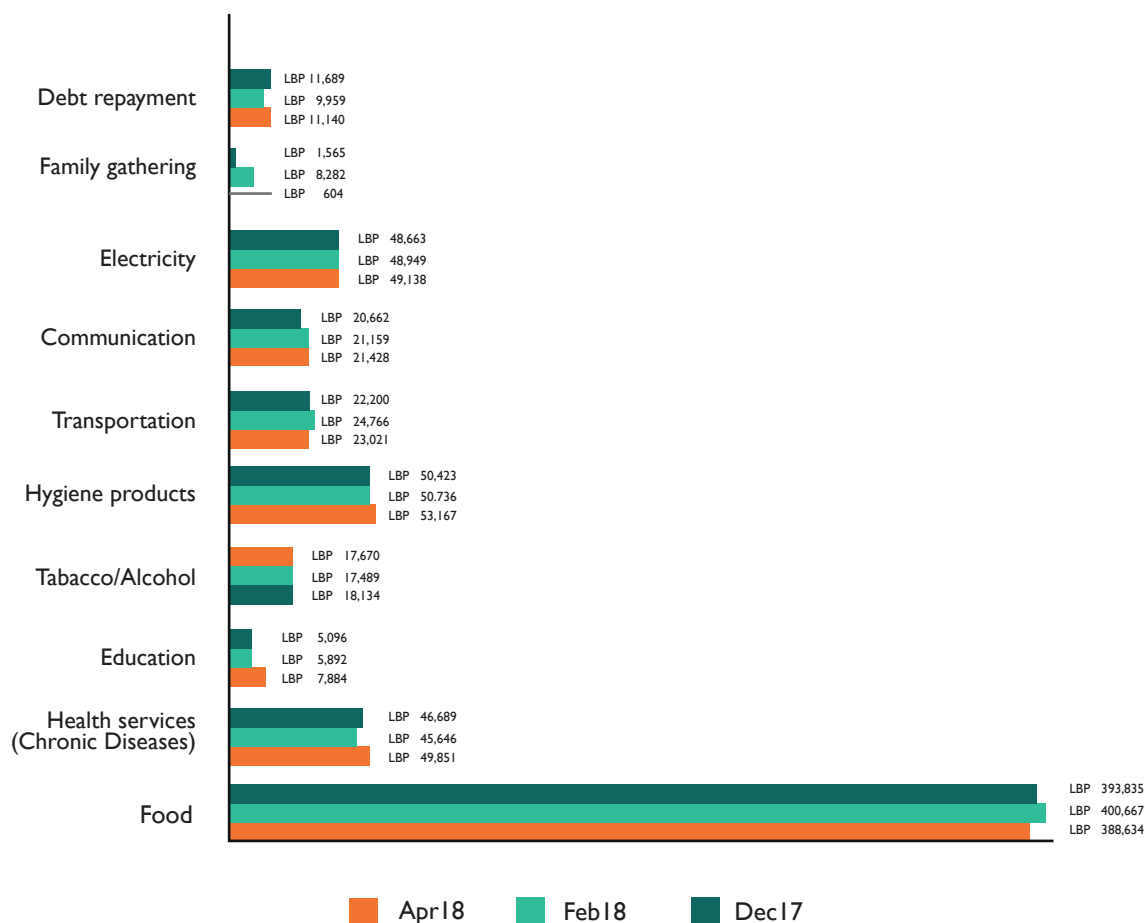


Figure 12: Changing HH expenditures in terms of average monthly amount



A significant increase of 23.1 per cent and 7.6 per cent respectively was observed in terms of HHs that would prioritise expenditures related to hygiene products ($p=0.04$) and to electricity ($p=0.01$). However, the amount spent on these expenditures did not significantly change and remained constant (Figure 11, Figure 13). The increase in HHs prioritising the expenditures on hygiene products may also be specifically due to water reduction. Syrian refugees might be compensating for the lack of water by using hygiene products such as wipes, tissues, etc.

Figure 13: Constant HH expenditures in terms of average monthly amount



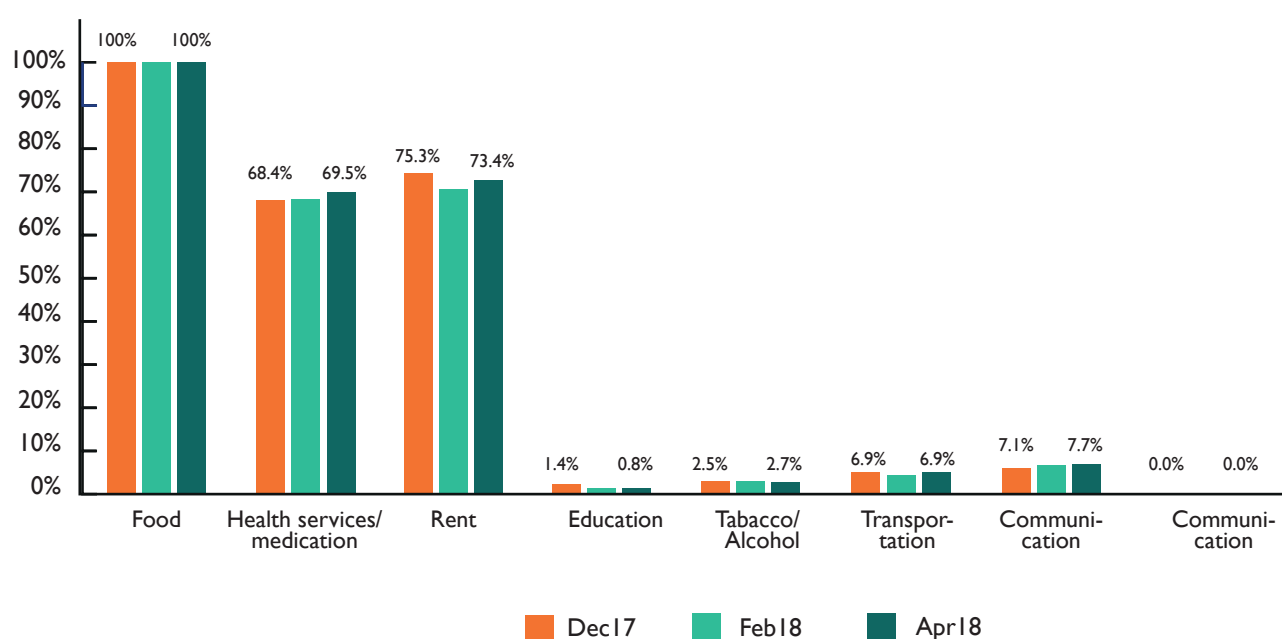
Debt repayment was prioritised significantly by HHs after water reduction ($p<0.0001$). However, the amount spent on the debt repayment did not change significantly (Figure 11 and 13). The debt repayment prioritisation could be due to the fact that the agriculture season started in April therefore increasing the opportunities to work and have an income.

On the other side, fuel, HH assets and clothing related expenditures were deprioritised by Syrian refugees during the period between December 2017 and April 2018. The percentage of HHs that prioritised their spending on fuel decreased significantly by two thirds, and the amount spent on fuel decreased significantly ($p<0.0001$) by LBP 135,986 (an 81.4% drop). The prioritisation of spending on miscellaneous HH assets also decreased significantly (92%), with a decrease in spending of LBP 39,094 (a 96% drop), as was the case with the prioritisation of spending on clothing (a 76% decrease), amounting to a decrease of LBP 16,758 spent per HH (a 67% drop) (Figure 11 and 12). In addition

to the reduction in water quantities that might have affected the deprioritisation of fuel, HH assets and clothing expenditures, another main reason could be the seasonal change since the need for fuel, clothing, isolating materials for tents, and heaters for water decreases with the warmer weather.

Expenditures on health services and medications did not change in terms of HH prioritisation. However, the amount dedicated to these expenditures decreased significantly ($p < 0.04$) by approximately one third or 34.5 per cent (Figure 11 and 14). This decrease in the amount spent could be a livelihood strategy as a result of the reduction in water, since 53 per cent of Syrian refugee HHs previously revealed (in the VASyR assessment in 2017) the reduction of health expenditures (including medicine) as a means of coping with poverty. The decrease may also be due to the transition from winter to spring, with less exposure to winter colds.

Figure 14: Constant HH expenditures in terms of HH prioritisation



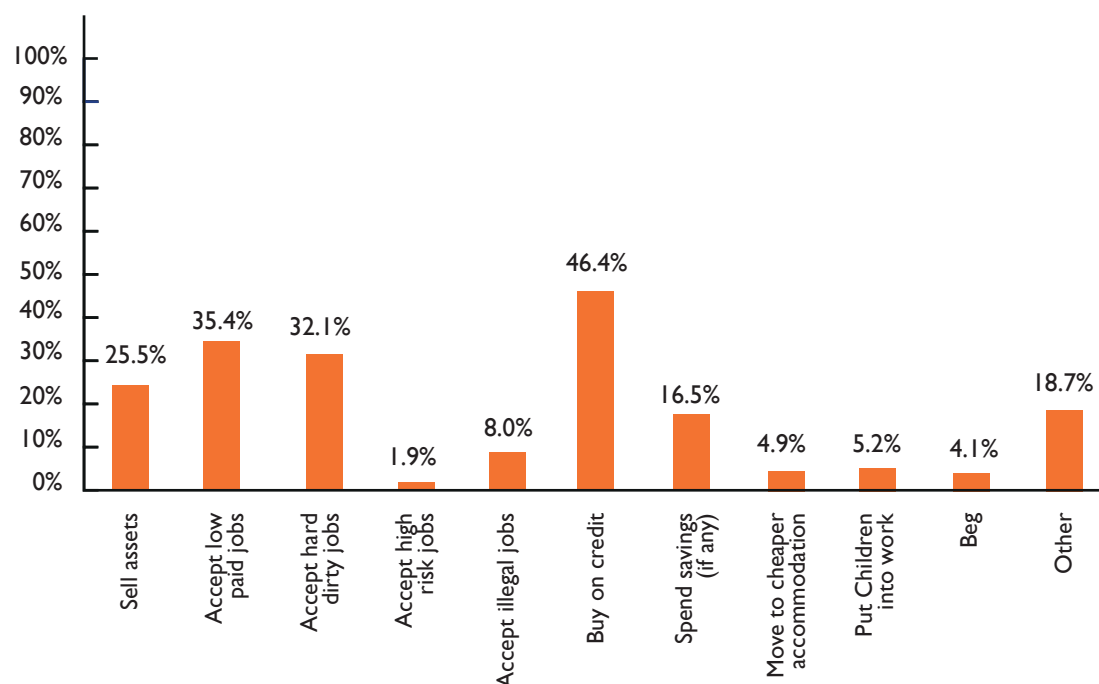
A significant decrease ($p < 0.0001$) of 33 per cent in the average amount allocated to rent has been observed between December 2017 and April 2018 despite the fact that the prioritisation of rent expenditures remained the same among Syrian refugees (Figure 11 and 14). This decrease may be due to the beginning of the agriculture season where Syrian refugees move to cheaper lands where they do not pay rents, or rent is exchanged for working hours.

The expenditures that remained the same in terms of priority, as well as in terms of amount spent, are for food (which remained as the first priority), education, tobacco/alcohol, transportation, communication and family gatherings (Figure 12 and 14).

4.4 Livelihood coping strategies

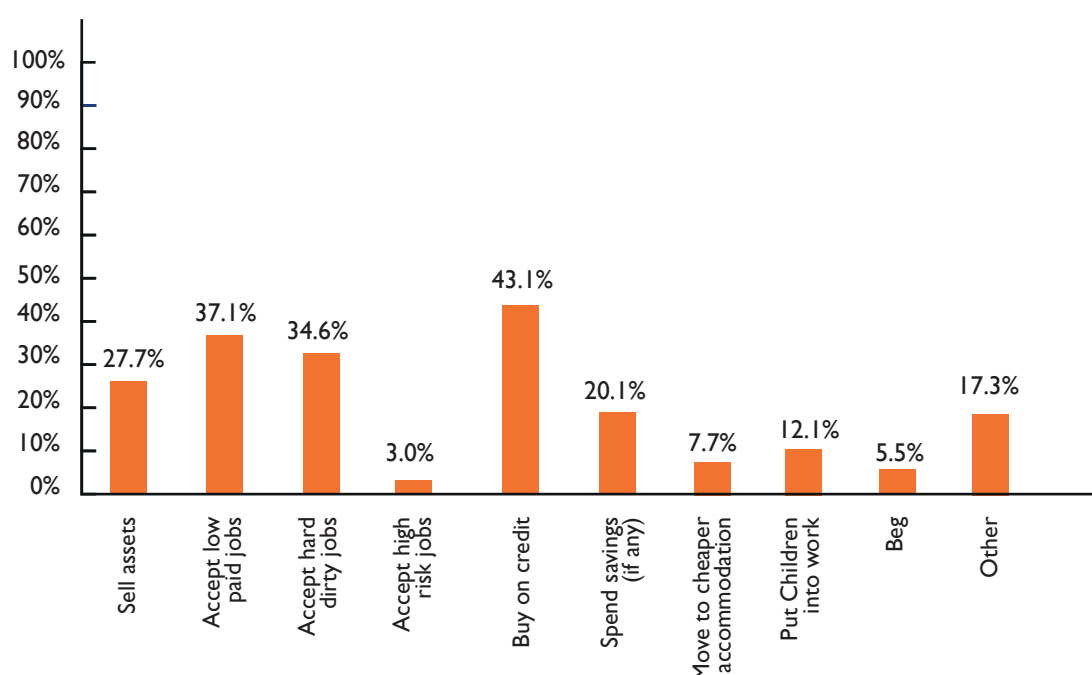
The percentage of Syrian refugee HHs using strategies that have a negative impact on HH livelihoods to cope with the reduction in WASH service provision has increased compared to the VASyR assessment that was conducted in 2017 (Figure 15). When asked about the community coping strategies, the results are alarming, especially in regard to CL (Figure 16).

Figure 15: HH coping strategies



Accepting illegal jobs is considered as sensitive behaviour to assess and a decision was made to assess it through list randomisation. The whole sample is randomly divided into two groups. The first group is given a list of n statements ($n=3$) and asked to say how many of the three statements they agree with. The second group is given a list of $n+1$ statements, consisting of the same n statements as the first group, plus an additional statement which is about the behaviour of interest. Since respondents only need reveal the number of statements they agree with, and not which ones specifically, this can yield more truthful responses. The difference in the mean number of responses between the two groups then gives an estimate of the incidence of the behaviour of interest.

Figure 16: Community coping strategies



Syrian refugees in Lebanon are caught up in a cycle of poverty and debt that is being exacerbated by the decrease in funding and they are having to rely on a variety of negative coping mechanisms. Borrowing money for food or to cover health expenses or to pay the rent continues to be extremely common, with almost 9 out of every 10 refugees saying they are in debt, with the average family owing US\$842. This is a considerable amount of money which, for many, only continues to grow larger and will take years to repay, if they are ever able to (UNHCR, 2015). This underlines the vulnerabilities facing most Syrian refugees in Lebanon.

The difficult economic situation facing Syrian refugee HHs and the fact that the cost of living in Lebanon is high, has also exacerbated the problem of CL in Lebanon. These circumstances have led to Syrian refugee children often working for long hours under exploitative and unsafe conditions (ILO, 2013). The reduction in water service provision will only increase this recourse to income-generating strategies that pose protection-related and health-related threats to Syrian refugees such as CL. CL has severe consequences for children. It is mentally, physically and socially dangerous. It deprives them of the opportunity to attend school, causing them to leave school prematurely or forcing them to attempt to combine school attendance with excessive long and heavy work. It increases the likelihood of the child sustaining injuries and/or abuse, the risk of sexual, physical and emotional abuse at the workplace, and finally it reduces the child's resilience capacity, something that may affect them during their entire lifetime (ILO, 2013).

The acceptance of low-paid jobs by Syrian refugees to cope with the reduction in water will have a negative impact on the Lebanese host community, specifically on the labour market, by increasing competition for jobs and causing downward pressure on wages. A high unemployment rate has been

a long-term feature of the Lebanese labour market and it has increased with the massive influx of Syrian refugees. As a result of limited income-generating options, Syrian refugees are likely to be paid less than host workers in the same sector, as well as being denied domestic labour law protection including social security coverage, and often having to work with no employment contracts (Cherri et al, 2017). In Lebanon, 88 per cent of Syrian refugees who are employed are paid 40 per cent less than the minimum wage (ILO, 2014). Therefore, Lebanese labourers are unable to find work and have to compete in a particularly intensified informal sector that contributes to more than 56 per cent of total employment (Cherri et al, 2017). A common response in any host community is to blame refugees for existing social and economic problems. The Lebanese host community has fears that Syrian refugees are taking jobs, increasing rents and food prices, and causing a strain on public services. Governments, seeking to avoid political destabilisation in a historically tense region, are responsive to such public sentiments. This situation will lead to rising social tension between Syrian refugees and the host communities, as well as between local communities and administrative and governmental authorities.

Accepting high-risk jobs to cope with the financial burden of water reduction will lead to increases in the likelihood of serious and long-term injuries, resulting in more disabilities among Syrian refugees. Accidents while doing high-risk jobs like construction work, operating mining or other heavy industrial machinery, sanitation work, truck driving, etc. are likely to end a career or cause either temporary or permanent disability. Syrian refugees are often not trained by their employers on proper safety procedures in order to reduce the risk. They do not have insurance to cover work accidents and they are not compensated for the high-risk work they do. HH members with disabilities affect the HH's livelihood by increasing the expenditures on health services and medication and by reducing the number of working adult members in the HH, which will lead to increasing the child labour problem.

Illegal jobs (such as prostitution, drug dealing, joining gangs, etc.) are more likely to increase with the economic burden of water reduction as reported by surveyed beneficiaries. Strong evidence has suggested that Syrian women are coerced into prostitution to provide food and shelter for their families (The Freedom Fund, 2016). Youth are engaged in drug dealing and stealing activities. This will lead to deteriorating relations with the Lebanese community, especially in areas with the highest concentration of refugees such as in Bekaa, and will have long-term negative consequences on the well-being and social situation surrounding Syrian refugees.

5- RECOMMENDATIONS/ACTIONS

Despite political, economic, and social factors that hinder many Syrian refugees and Lebanese host communities from living a dignified life, access to water is a basic need and it is vital for Syrian refugees living in ITSs to access the minimum standards of water provision. Based on the findings, WVL proposes the following recommendations and actions:

- 🔥 WVL will be contributing to the expansion of the WASH sector's efforts to seek alternative solutions for the water reduction and more innovative and sustainable ways for water provision as per the WASH sector Sphere standards in terms of the quantity and safety of water. Some of the possible solutions could be: access to other nearby water sources and rain water harvesting, etc.

- 🔥 Continuous coordination, monitoring of the situation within ITSs and evidence sharing between WASH sector working group members and other sector working groups, namely health, child protection and basic assistance, to mitigate negative coping mechanisms as a result of any reduction in the current service provision.

- 🔥 To prevent Syrian refugees in engaging in risky and illegal jobs, and to alleviate debt, WVL proposes different interventions to secure and dignify income sources for Syrian refugees:

- 🔥 Supporting cash-for-work programming under WVL, a short-term intervention to provide temporary employment in public projects (such as repairing roads, clearing debris or rebuilding infrastructure) to the most vulnerable segments of a population. This type of work does not compete with the type of work that the Lebanese host communities engage in, hence, decreasing any social tension and economic repercussions that may arise.

- 🔥 Cash-for-work programming can be implemented alongside other cash and assistance programmes, such as those aimed at food security and multi-purpose cash assistance. This combination of programming would support Syrian refugee families in securing a stable income, while providing them with opportunities for additional income.

- 🔥 As CL was highlighted as one of the main negative coping strategies to be adopted by Syrian refugees, WVL will be focusing some of its programming to address CL, by working with the children themselves (life skills, psycho-social support sessions, and informal education), with the parents (changing attitudes and behaviour around CL), with communities (creating local level committees to identify, refer and address CL issues). This holistic approach will support children in better integrating into school settings, specifically with the support of their parents and communities.

- 🔥 WVL will engage with national and local stakeholders to enhance CL prevention and response mechanisms:

- 🔥 Engage with the Ministry of Labor to identify key priorities to address CL and lobby for other stakeholders based on the input from local level committees.

🔥 Lobby for the activation of the National Committee on Child Labor through the Higher Council for Childhood to work towards the development of clear actions and priorities for national level engagement and policy implementation.

🔥 WVWL will engage with employers of Syrian refugees (adults and children) to enhance protection mechanisms in the workplace.

🔥 WVWL will lobby the donor community to maintain its funding to the WASH sector, guaranteeing that the level of water service provision does not fall short of the minimum requirement (35 l/cap/-day), especially in the most vulnerable informal settlements with no access to alternative water sources.

🔥 WVWL will lobby the donor community to increase their funding for stabilisation and infrastructure programmes to address the current shortage of water provision to Lebanese communities. And, in alignment with the LCRP, when water needs for Lebanese communities are met, and where surplus can be achieved, connect ITSs to the water networks, with the support of the Lebanese government.

6- CONCLUSION

In summary, this research highlighted the problem of the reduction in water provision to Syrian refugees following the funding cuts in the first half of 2018 and its impact on their livelihood status.

The analysis led to the conclusion that HHs total working members and total working days increased during the period where they have been exposed to the reduction in water quantities. This increase may also be due to other factors (that this research could not control) such as the start of the agriculture season in the Bekaa Valley and the warmer weather during the month of April. Child labour also increased, highlighting the fact that Syrian refugees will send their children to work in order to cope with the financial burden of increased HH expenditures due to buying water. Moreover, the priority allocated to spending on water, as well as the deprioritisation of other expenditures such as fuel, HH assets, clothing and health expenditures, were observed during the reduction in water provision period. To cope with the reduction in water quantities, Syrian refugees stated that they will rely on strategies that have a severe impact on HH's livelihoods and will also compromise their capacities for resilience as they will have to rely more on borrowing and accept high-risk, low-paid and illegal jobs.

Although this research contributed to learning and evidence to inform the decisions made by the WASH sector following the reduction in water provision, it is still difficult to come to any conclusion in regards to the causal effect of water reduction on the actual findings since the design of the study does not allow a comparison between two groups (one with and one without exposure to the change in circumstances). Ideally, these findings should be duplicated in a study with an experimental design. Moreover, new research following one year after the funding cuts is likely to capture more evidence on the impact of the reduction in water provision on education, CL, child protection and social cohesion. In addition to this, a further study that concentrates on understanding more about the consumption and usage of water by Syrian refugees residing in ITSs is required to inform WVL programming and help with the development of alternative solutions for water provision.

With regards to child labour, WVL is currently conducting research to assess and evaluate the impact of multi-purpose cash assistance funded by the World Food Programme (WFP) on CL and the protection risks associated with CL. This research will contribute to a better understanding of CL and what causes it, and can be used in redefining the research objectives for the upcoming research targeting the WASH sector.

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