Annex: methodology

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Specific objectives and research questions

The 2021 Lebanon Multi Sector Needs Assessment (MSNA) was conducted to support evidence-based decision-making for the 2022 humanitarian planning cycle process and to enable planning among key humanitarian actors through the provision of updated information on multi-sectoral needs and priorities for crisis-affected populations in Lebanon. To approach this objective, the MSNA sought to answer the following research questions:

- What is the character of multi-sectoral humanitarian needs across Lebanon?
  - What are the magnitude, scope, and severity of humanitarian needs across specific sectors, including shelter, education, food security, health, livelihood, protection, and WASH, in Lebanon?
  - To what extent do households have inter-sectoral needs and what are the most common overlapping needs?
  - How do findings differ according to geographic area, population group - Lebanese, migrant, and Palestine Refugee in Lebanon (PRL) households (HHs) -, and vulnerability profile (age, gender, and disability) of households?

Scope

The 2021 MSNA is a nationwide, household-level assessment composed of primary data collection and secondary data review. Primary data collection consisted of a household-level survey conducted across almost the entirety of Lebanon, inclusive of 24 out of 26 Qa'dat/Cazas/Cadastres, which are the official administrate level 3 boundary for Lebanon. Two districts were not accessible during the data collection due to constraints related to the security of REACH and partners' enumerators: Bent Jbeil and Nabatieh.

Three population groups were considered in the 2021 REACH MSNA: Lebanese HHs, PRL HHs living in camps and in adjacent gatherings, and migrant HHs. While other needs assessments exist to evaluate the needs of Syrian Refugees in Lebanon (SRL)[1], very little information is available for Lebanese, PRL, and migrants, making the operational response to existing vulnerabilities difficult to implement. The need for

[1] You can find more information on the VASyR 2021.

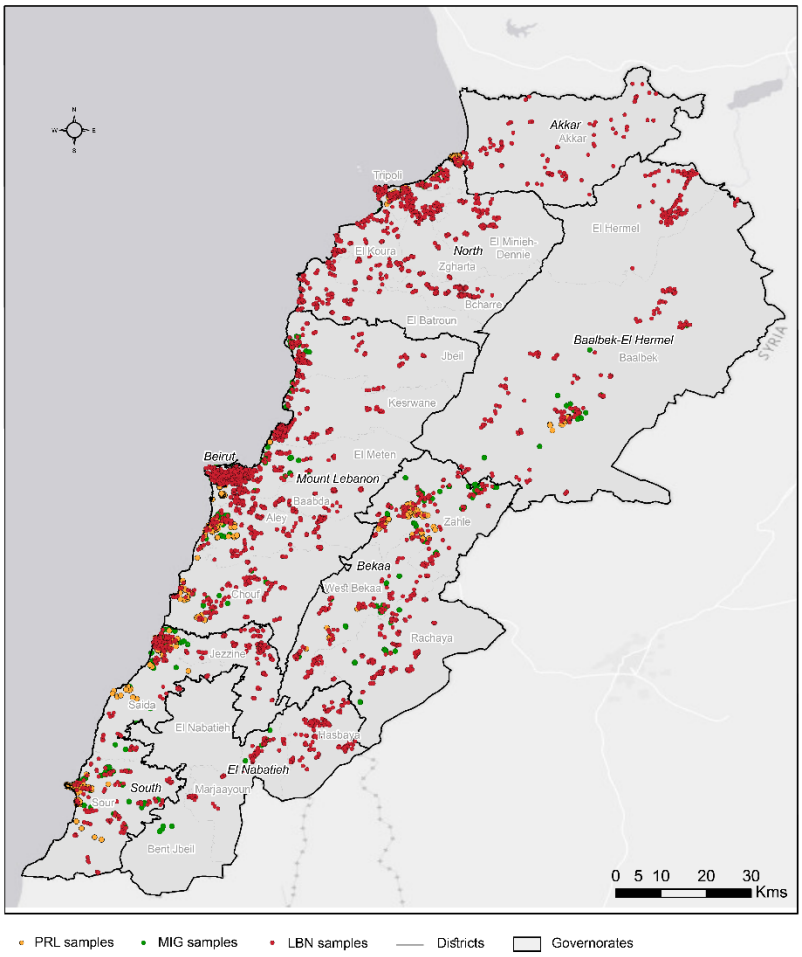
information-based strategies at the national and regional level resulted in the selection of these 3 population groups within this MSNA, in coordination with UNOCHA, IOM, and UNRWA.

In addition, this MSNA covered almost all sectors of humanitarian needs, namely:

- Livelihoods
- Food security
- WASH
- Education
- Protection, including general protection, Washington group indicators, child protection, and gender-based violence (GBV)[2].
- Shelter
- Health

As far as it concerns the nutrition sector's needs for information, only two indicators were included in the MSNA as SMART surveys are implemented nationally by the same Nutrition sector, providing data for most population groups living in Lebanon.

Map 1. Assessment coverage



[2] A gender approach was also adopted, to ensure the gender balance of respondents. Additional disaggregation was realised during the analysis phase to identify trends within vulnerable groups.

Sampling strategy and data collection

For each population group, a different sampling strategy was implemented. Indeed, localisation of migrant and PRL HHs living outside of camps appeared to be challenging during the data collection phase, resulting in an adjustment of the sampling methodology for these two population groups. For all population groups, the cadasters served as the primary sampling unit (PSU) for this exercise. In total, 5,316 surveys were conducted, mostly in-person through face-to-face interviews, disaggregated as follows:

Table 1. Total number of surveys by population groups and date of data collection[3]

	Number of HHs surveys	Date of data collection
Lebanese HHs	4,232	19/10/2021 – 19/11/2021
PRL HHs	668	19/10/2021/04/12/2021
Migrants HHs	713	19/10/2021/04/12/2021

Table 2. Total number of Lebanese HHs surveyed, by district

District	Number of HHs surveys
Akkar	152
Aley	178
Baabda	276
Baalbek	140
Bcharre	208
Beirut	320
Chouf	151
El Batroun	149
El Hermel	111
El Koura	157
El Metn	153
El Minieh-Dennie	193
Hasbaya	186
Jbeil	164
Jezzine	158
Keswrane	164
Marjaayoun	103
Rachaya	151
Saida	243
Sour	159
Tripoli	221

[3] **The following data sources were used to inform the MSNA 2021 sampling strategy:**

- Lebanese: Labour Force and Household Living Conditions Survey (LFHLCS), 2018–2019, Central Administration of Statistics (CAS).
- Palestinian Refugees in Lebanon (PRL): UNRWA Lebanese Palestinian Dialogue Committee: Population and Housing Census in Palestinian Camps and Gatherings 2017, CAS and Palestinian Bureau of Statistics (PCBS) x 3.1974 (as growth rate from July 2017).
- Migrants: IOM, Baseline Assessment Round 1, August 2021

West Bekaa	161
Zahle	143
Zgharta	191
TOTAL	**4,232**

Table 3. Total number of migrant HHs surveyed, by region

Region	Number of HHs surveys
Baalbek-El Hermel	135
Beirut and Mount Lebanon	372
North and Akkar	60
South and Nabatieh	146
TOTAL	**713**

Table 4. Total number of PRL HHs surveyed, by region

Region	Number of HHs surveys
Baalbek-El Hermel	109
Beirut and Mount Lebanon	178
North and Akkar	203
South and Nabatieh	178
TOTAL	**668**

The data collection for all three targeted population groups was conducted through an ODK/KOBO tool, with specific constraints applied for PRL and/or migrant HHs specific questions. Arabic translations were directly included in the KOBO tool. The questionnaire was collected by a pair of enumerators, mostly male/female. In addition, four regionally specific trainings were organised by REACH Initiative; enumerators from REACH and all partners were providing training on the MSNA data collection procedures, standards, and tools (such as the questionnaire), as well as sharing special considerations related to 'Do No Harm', complaint response mechanisms (CRM), and prevention of sexual exploitation and abuse (PSEA).

In mid-October, a three-day pilot was conducted in the Beirut and Mount Lebanon governorates. The purpose of the pilot was primarily to test data collection tools and the MSNA questionnaire. A fourth day was planned; however, due to localized armed clashes in Beirut on October 14th 2021, this pilot day was cancelled.

Daily data cleaning started after 10 days of data collection. The cleaning was done conjointly by the REACH GIS officer and the REACH database officer, to ensure both data quality and data protection. While REACH conducted a first round of cleaning for data collected by data collection partners, the anonymised Excel file was then transmitted to those partners for inputs and additional corrections.

Lebanese HHs

For Lebanese households, a probability proportional to size (PPS) cluster sampling approach was implemented, in which cadastres, are first randomly selected proportional to their size, before a set number of households within each cluster was randomly selected. The minimum cluster size has been set at 4 households. Once the PSUs had been selected at random, geo-points were randomly generated within the

settled areas of each cadastre, corresponding to the prescribed number of households for each cluster. REACH enumerators conducted 4,223 surveys to achieve statistical representativeness at a 95% confidence level and a +/- 10% margin of error across the 24 strata, plus a 10% buffer.

PRL and migrant HHs

Reflecting the fact that this population group is not found in all cadastres, REACH reviewed OCHA and IOM datasets to eliminate all cadastres without any Palestine refugee population. From the remaining cadastres, two distinct methodologies were implemented. For the PRL living in camps or adjacent gatherings, a two-stage, non-clustered stratified random sampling approach was implemented to select 297 households, to achieve statistical representativeness at a 90% confidence level and a +/- 10% margin of error across the concerned strata, plus a 10% buffer. Geo-points were then randomly generated within the settled areas of each cadastre, corresponding to the prescribed number of households for each cluster. Due to difficulties locating PRL living out of camps and in other settings, a snowballing approach was implemented, to obtain indicative findings from 200 households surveys. At the end of the data collection, a total of 668 Assessed PRL HHs were surveyed, providing indicative results in the four assessed regions.

As for PRL, the migrant population group is not found in all cadastres. Therefore, REACH reviewed OCHA and IOM datasets to eliminate all cadastres without any migrant populations. From the remaining cadastres, REACH enumerators encountered difficulties to locate migrants, especially in low density and suburban or rural areas, notably due to seasonal migration in winter. Consequently, a snowballing approach was implemented, which allowed REACH to obtain indicative findings from 713 households surveys.

GPS methodology

For Lebanese and PRL surveys requesting GPS points, the GIS team prepared an adequate buffer of GPS points to account for the possibility that an interview could not be conducted with the initially selected point. It happened for instance when a household refused to participate in the survey, was not home, withdrew from the survey, or did not belong to the population of interest. In this case, enumerators proceeded to the backup geo-point prepared. When there was no eligible household at this point or the household opted to not participate, enumerators attempted to interview with the next nearest household within the pin radius, either an adjoining shelter or a separate floor and apartment unit in the instance of multi-storey shelters.

COVID-19 related adaptation measures

To ensure enumerators' safety while collecting data during the MSNA 2021, especially since the data collection was collected at the end of autumn/beginning of winter when the number of COVID-19 cases started to increase again, REACH implemented several adaptation measures. First, enumerators were provided with masks and hydro alcoholic gel for reducing the risks of contamination when conducting face-to-face interviews. In addition, only 2 enumerators were in each vehicle, to limit the risk of transmission within the enumerators' team during the trips.

Analysis

The analysis presented in this bulletin? is based on a methodology developed by REACH at the global level to analyse the extent and severity of household needs and to capture the cross-sectoral dimension of these needs. This analysis aims to identify households with unmet needs by sector and/or pre-existing vulnerabilities. It then calculates the proportion of households considered to have multi-sectoral needs by area and by group.

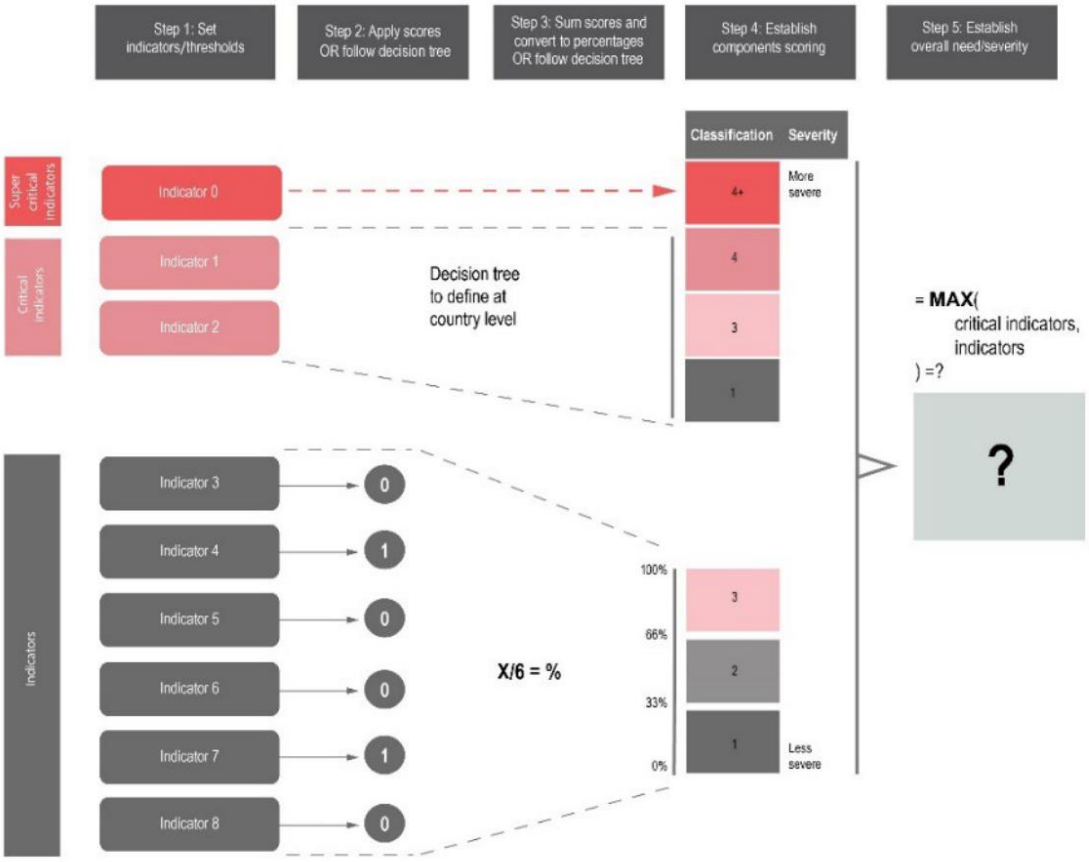
Definitions of key terms:

- Living Standard Gap (LSG): means an unmet need in a given sector, where the LSG severity score is 3 or more;
- Pre-existing vulnerabilities: the underlying conditions or processes that influence the degree of shock and affect household exposure, vulnerability or capacity, which could subsequently exacerbate the impact of a crisis on those affected by the vulnerabilities;
- Severity: refers to the "intensity" of need, on a scale of 1 (none/minimal) to 4+ (extreme+);
- Magnitude: refers to the overall number or percentage of households with needs.

The severity scale is based on the draft Joint Inter-Sectoral Analysis Framework (JIAF), an analytical framework being developed at the global level to better understand the needs of affected populations. It measures a progressive deterioration in a household's situation toward the worst possible humanitarian outcome (Figure 1). While the JIAF severity scale includes 5 classifications ranging from 1 (none/minimal) to 5 (catastrophic), a scale of 1 (none/minimal) to 4+ (extreme+) is used for MSNA purposes. A score of "4+" is used when the data indicate that the situation could be catastrophic. This is because the data needed to assign a score of 5 (catastrophic) is primarily obtained at the area level (e.g., mortality rates, prevalence of malnutrition, etc.), which is difficult to account for in a household-level analysis (technical preparedness, additional resources, etc.).

LSGs for a given sector are calculated by aggregating indicators of unmet needs by sector. For the 2020 MSNA, a simple aggregation methodology was developed, based on the global Multidimensional Poverty Index (MPI) aggregation approach. Using this method, each unit (e.g., a household) is assigned a "deprivation" score based on its deprivations in the indicators that comprise it. The deprivation score for each household is obtained by calculating the percentage of deprivations experienced, meaning the deprivation score of each household is between 0 and 100. The method is based on categorizing each indicator on a binary scale: has a gap ("1") / does not have ("0") a gap. The threshold at which a household is considered to have a particular gap is determined in advance for each indicator. The 2021 MSNA aggregation methodology, detailed below, can be described as "MPI-like," and uses the steps of the MPI approach to determine a needs severity score, with the addition of "critical indicators" that determine the highest severity scores. The section below provides guidance on how to perform the aggregation using household-level data.

Figure 1. LSGs identification by sector



- Identify indicators that measure need for each sector, capturing the following key dimensions: accessibility, availability, quality, use and knowledge. Set binary thresholds: has ("1") / does not have ("0") a gap;
- Identify critical indicators that, on their own, indicate a gap in the sector generally;
- Once data is collected, identify individual indicator scores (0 or 1) for each household;
- Calculate the severity score for each household, based on the following decision tree (adapted to each sector);
    - "Super" critical indicator(s): may lead to a 4+ if an extreme situation is found for the household;
    - Critical indicators: using a decision tree approach, a severity class is identified on a discontinuous scale of 1 to 4 (1, 3, 4) according to the scores of each of the critical indicators;
    - Non-critical indicators: the scores of all non-critical indicators are summed and converted to a percentage of the possible total (e.g., 3 out of 4 = 75%) to identify a severity a severity class;
    - The final severity score is obtained by taking the highest score generated by the supercritical, critical or non-critical indicators, as shown in Figure below.

- Calculate the proportion of the population with a final severity score of 3 and above, by sector. Having a severity score of 3 and above in a sector is considered **having an LGS in that sector**;

- Project percentage results onto the population data that were used to construct the sample, with accurate weighting to ensure the best representativeness.

The Multi-Sector Needs Index (MSNI) is a measure of the overall severity of a household's humanitarian needs (expressed on a scale of 1 to 4+) **based on the highest LSG severity score identified within each household**. The MSNI is determined through the following steps:

1) First, the severity of each of the sectoral LSGs is calculated per household, as illustrated above.

2) Then, a final severity score (MSNI) is determined for each household based on the highest sectoral LSG severity score identified for each household.

As shown in Table 1 below, Household 1 (HH 1) has a final MSNI of 4 because it is the highest severity score of all LSGs within that household.

Table 1 : HHs' MSNI score example, based on LSG results

	LSG severity score by sector							MSNI final
	Food security	Livelihood	WASH	Health	Shelter	Education	Protection	
HH 1	4	4	4	4	3	3	2	4
HH 2	2	3	2	4	2	1	1	4
HH 3	3	3	1	3	4+	1	1	4+
Etc.	2	3	2	1	1	2	3	3

The MSNI captures multi-sector needs from a global perspective. **The final MSNI score is therefore the same whether the household has an LSG in one particular sector or several concurrent LSGs in different sectors.** For example, in the Table above, the final MSNI score will be the same (4) for the household that has a very severe LSG in one particular sector (in health for HH 2) as for the household that has several concurrent LSGs in different sectors (in food security, health, WASH, and livelihood for HH 1). While this method is relevant from the point of view of humanitarian response planning at the global level (if a household has extreme needs in a sector, this implies the implementation of a humanitarian intervention regardless of the concomitance of sectoral needs), **additional analyses need to be conducted to understand the differences in the magnitude of severity between different households.**

Secondary data

Secondary data was provided by EOC members to inform the MSNA analysis. Moreover, REACH gathered additional secondary data to complement EOC existing studies. It also organised external engagements with the following sectors to discuss the MSNA results: Education, Shelter, Food security, Health, Protection (including child protection and GBV), Livelihoods, and WASH sectors. During these discussions, REACH presented the MSNA results, and actors identified trends, discrepancies with other available data when existing, and underlying dynamics and factors of vulnerabilities.

Ethical considerations

Field officers and enumerators received training to introduce the organization's zero-tolerance policy on Protection from PSEA. The training was also provided on the protection of minors (including the prohibition

on interviewing children under the age of 18). In addition, all the MSNA tools were reviewed and implement according to the Do No Harm principles.

Because data collection took place in the context of the COVID-19 pandemic, enumerators were also trained in barrier procedures and conducted all assessments with a distance of at least 1.5 meters from the interviewee, wearing a mask. REACH also ensured there would be only one team per vehicle, meaning a total of three persons by vehicle, driver included. Enumerators were also provided with hand sanitiser to use before and after each interaction with respondents.

In each region of interest, REACH recruited field officers to act as team leaders who were familiar with the area of investigation, to allow for culturally adapted communication with households and local stakeholders. Survey teams were recruited to meet the same criteria.

Limitations and challenges

It is important to highlight the MSNA in Lebanon was implemented for the first time in 2021.

- **Proxy reporting:** Data on the individual level was reported by proxy by one respondent per household, rather than by the concerned individual household members themselves, and therefore might not accurately reflect lived experiences of individual household members, who also might be more vulnerable.
- **Subset indicators:** Findings related to a subset of the overall population may have a wider margin of error, potentially yielding results with lower precision. Any findings related to subsets are indicated as such throughout the different MSNA outputs.
- **Respondent bias**: Certain indicators may be under or over-reported due to the subjectivity and perceptions of respondents. For instance, respondents might tend to provide what they perceive or believe others, such as employers, to perceive as to be the "right" answers to certain questions (i.e. social desirability bias, social taboo bias[4], constraint for migrants to report on some vulnerabilities when being surveyed in their employers' home in their presence, etc.). In addition, several indicators, especially those related to expenses, food consumption, menstrual hygiene, and girls and women's protection questions were reported by MSNA enumerators to create some discomfort within the three population groups[5]. This should be taken into consideration when interpreting these results, as a potential bias linked to social taboo may have impacted the results.
- **Limitations of household surveys**:
    - While household-level quantitative surveys seek to provide quantifiable information that can be generalised to represent the population groups of interest, the methodology is not suited to provide in-depth explanations of complex issues. Thus, some questions on "how" or "why" are best suited to be explored through qualitative research methods.
    - Since "households" are the unit of analysis, intra-household dynamics (including for instance intra-household power relations across gender, age, disability) cannot be captured. Users are reminded to supplement and triangulate household-level findings with other data sources. Similarly, community-level indicators, such as GBV indicators, may be biased because of the unit of analysis.
    - The methodology used to select HHs could contribute to an under-representation of HHs without a shelter within the assessment[6].

[4] The following questions were reported by enumerators as making HHs within the three population groups uncomfortable: expenses, debt, food consumption, capacity to cover food needs, food coping mechanisms, menstrual hygiene, security and safety for women and girls. In addition, the question on information access was difficult to understand for HHs.
[5] Enumerators were in male/female pairs in the field to limit the discomfort of the participant when answering sensitive questions. However, participants were often reluctant to answer questions regarding the aforementioned subjects.
[6] The question has been discussed with shelter experts in Lebanon, but no conclusive suggestions were found to minimize this bias.

  - During data collection, high income areas had a disproportionately high non-response rate. This might have an impact on the MSNA results, through a potential over-representation of low and medium-income HHs in these specific areas.
  - HHs level surveys do not capture the situation directly in health services, nor the geographical uses of health services. Similarly, the integration of supply side-related issues and bottlenecks that can pose barriers to accessing basic services, such as education, was limited due to the nature of the assessment.
  - The snowball sampling used with migrants might carry a risk of overrepresentation of certain nationalities.
  - Lebanese sampling is based on the latest data available in Lebanon, being the *Labor Force and Household Living Conditions Survey* (2018-2019) from the Central Administration of Statistics. Due to the economic crisis, many Lebanese nationals have left the country, or left rural areas to find employment opportunities in urban centres. These variations in population density are not reflected in the document, which was produced before the crisis began.

- The unavailability of data for a specific population group, especially when it is vulnerable and hard-to-reach, does not mean this population group is not present in the country and does not have important needs. For instance, while the MSNA was not able to capture sufficient data on LGBTIQ+ head-households or households with LGBTIQ+ persons to be reliable, these results should not be interpreted to suggest they do not exist or do not have specific and diverse vulnerabilities in Lebanon. Similarly, migrant live-in workers may present significant vulnerabilities which are not presented in the Bulletin.
- **Geographic coverage**: National and regional results are not indicative of the situation for the population living in El-Nabatiyeh and Bint Jbeil and in the Southern Suburbs of Beirut in Baabda, as those districts were not covered by the assessment due to access constraints during the data collection
- **GPS points:** In Baalbek-El Hermel, Bekaa, South, and El Nabatieh governorates, REACH and partners' enumerators were not allowed to collect GPS points at the end of the survey. Therefore, no control of GPS point locations was possible during the data cleaning for these four governorates, which limited our capacity to geospatially monitor the data collection in these specific areas.
- **Timeliness:** When interpreting findings, users are informed that the data collection took place:
  - During the global COVID-19 pandemic, which could contribute to limit access and use of services, and access to basic needs. While the consequences of the COVID-19 pandemic were integrated in the questionnaire, their effects could have contributed to worsen the situation of the assessed population groups.
  - Before the adjustment of governmental subsidies on medication by the Lebanese government in November 2021.
  - After fuel subsidies were lifted in August 2021, which directly increased both the availability and cost of fuel but indirectly impacted electricity supply, availability of water, and communications, as well as transport costs.
  - During an ongoing fuel distribution by WASH actors.
  - Education indicators refer to the 2020-2021 school year. Considering the teachers' strike which started in Lebanon in January 2022, it is expected needs will increase for the 2021-2022 school year.
  - The conflict in Ukraine could spill over and further aggravate the food insecurity in Lebanon, as more than 80% of Lebanese wheat would be imported from Ukraine[7].

[7] Mercy Corps, Flash Update: Humanitarian Impact of Ukraine Conflict in Lebanon, March 2022.