World Values Survey Wave 7 in Lebanon: Sample Design.

The fieldwork of WVS-7 took place from May to June 2018. The target population was residents over the age of 18. The target sample size was 1,200 adults.

The database contained a list of 810,000 Households, out of the 877,000 Households available in Lebanon. They were all pin-pointed on aerial images and 1/2000 scale maps, and were usable to draw PPS samples. The lack was present in the southern suburbs of Beirut and the previously known security belt zone in the South of Lebanon.

GIS was used at large to assist in the sample draw (it was previously used in pre-elections polls, and in exit polls, and had provided 99.5% accurate results in previous surveys).

The sample of 1,200 Lebanese citizens were selected from all categories as described under “Respondent Profile” taking into consideration the following:

- Lebanon is formed of 877,000 households.
- The 877.000 households are divided into 1611 cadastral zones.
- These zones are formed of 25353 statistical clusters.

The various clusters were taken into consideration in the sample drawn.

In the case of a (PPS) Probability Proportional to Size sampling technique, around 120 clusters were selected for this survey (for Leb. citizens), which we were considered as the Primary Sampling Unit for this activity. A cluster was considered as a primary sampling unit. Each cluster contained around 100 – 150 households.

Probability proportional to size sampling guaranteed obtaining unbiased estimators for the parameters of interest.

A three-stage stratified sampling was employed. For 1,200 sample, 1,201 clusters were selected (each cluster contained 100 to 150 households). Households were selected using systematic sampling, which led to the selection of 10 households from each cluster. All adults over the age of 21 years who are available at the time of interview were listed on a Kish table matrix. An adult was selected at random, using table from the obtained list.

Statistics Lebanon Ltd. kept a list of all population locations covering the various Lebanese areas, and the estimated population size in each location as collected by Statistics Lebanon starting 1999 and updated on yearly basis, where the last was on October 2016.

Each and every building was numbered and all citizens were listed in each and every building in Lebanon, and divided each group into a cluster.

The cluster selection process is given as in the following procedures:

Location number	Population location size	Cumulative
1	S1	C1=S1
2	S2	C2=S1+S2
3	S3	C3=S1+S2+S3
4	S4	C4=S1+S2+S3+S4
.	.	.
.	.	.
.	.	.
N	SN	CN=S1+…+SN

Rural areas were represented proportionally to census.

Up to 12% of the Lebanese areas are considered rural areas, rural areas are spread in the four Lebanese Mohafazas (administrative divisions), which are Nabatieh, Mount Lebanon, The North and the Bekaa Valley.

The major characteristics of rural areas in Lebanon are the work in the agricultural sector, and the absence of transportation tools to the areas. Most of the areas considered rural, work in basic agricultural projects and do not include any transactional activity. Another characteristic is the lack of basic governmental services like teaching, medical support, and any type of tourism. Rural areas are considered poverty areas, with low population density. Most of homes and residences are made up of one building.

It is worth mentioning that the urban-rural distribution of the selected areas was determined by the sample design. An urban area is characterized by higher population density and vast human features in comparison to areas surrounding it. Urban areas may be cities, towns or conurbations. On the contrary, a rural area has a low population density, and typically much of the land is devoted to agriculture and there may be less air and water pollution than in an urban area.

Method for allocating interviews to PSU's, SSU's and sampling points:

- A list of population locations in the target population was prepared. The primary sampling unit was a cluster of households (contained 100 to 150 households).
- The sampling interval was calculated L = CN/ k, where k was the number of clusters that were selected.
- A random number X0 was selected from the interval [0, L].
- The ith random number Ri=X0+(i-1) *L was calculated.
- The ith cluster was selected in the sample if Ri belongs to the interval [Ci, C(i+1)].
- The sample selection described above was approved by statistical theory (see sampling techniques by Chocrane (1970), Sampling Techniques by Kiesh (1980)) to ensure getting unbiased estimators for the parameters of interest in this survey.

Lebanon Sample				
Mohafaza	Kadaa	Sample	Number of PSUs	Sect
Beirut	Beirut	20	2	Christian
Beirut	Beirut	20	2	Christian
Beirut	Beirut	10	1	Christian
Beirut	Beirut	10	1	Shiaa
Beirut	Beirut	30	3	Sunni
Beirut	Beirut	30	3	Sunni
Beirut	Beirut	10	1	Sunni
		130	13	
El Nabatieh	Bent Jbeil	30	3	Shiaa
El Nabatieh	El Nabatieh	40	4	Shiaa
		70	7	
Bekaa	West Bekaa	20	2	Sunni
Bekaa	West Bekaa	20	2	Shiaa
Bekaa	Zahle	10	1	Sunni
Bekaa	Zahle	20	2	Christian
Bekaa	Zahle	10	1	Shiaa
Bekaa	Baalbek	40	4	Shiaa
Bekaa	Baalbek	10	1	Shiaa
Bekaa	Rachaya	20	2	Druze
		150	15	
Mount Lebanon	Aley	30	3	Druze
Mount Lebanon	Baabda	20	2	Christian
Mount Lebanon	Baabda	20	2	Christian
Mount Lebanon	Baabda	20	2	Druze
Mount Lebanon	Baabda	10	1	Druze
Mount Lebanon	Baabda	30	3	Shiaa
Mount Lebanon	Baabda	20	2	Shiaa
Mount Lebanon	Ech Chouf	20	2	Christian

Mount Lebanon	Ech Chouf	20	2	Druze
Mount Lebanon	Ech Chouf	30	3	Sunni
Mount Lebanon	El Meten	20	2	Christian
Mount Lebanon	El Meten	20	2	Christian
Mount Lebanon	El Meten	20	2	Christian
Mount Lebanon	El Meten	20	2	Christian
Mount Lebanon	El Meten	20	2	Christian
Mount Lebanon	El Meten	20	2	Christian
Mount Lebanon	El Meten	20	2	Christian
Mount Lebanon	El Meten	10	1	Christian
Mount Lebanon	Jbeil	20	2	Christian
Mount Lebanon	Jbeil	20	2	Christian
Mount Lebanon	Jbeil	20	2	Shiaa
Mount Lebanon	Kesseroune	10	1	Christian
Mount Lebanon	Kesseroune	20	2	Christian
Mount Lebanon	Kesseroune	20	2	Christian
		480	48	
North	Akkar	20	2	Sunni
North	Akkar	30	3	Sunni
North	Bcharre	20	2	Christian
North	El Batroun	20	2	Christian
North	El Koura	20	2	Christian
North	El Koura	10	1	Sunni
North	El Minieh-Dennie	20	2	Sunni
North	Tripoli	20	2	Sunni
North	Tripoli	20	2	Sunni
North	Tripoli	20	2	Sunni
North	Tripoli	20	2	Sunni
North	Zgharta	20	2	Christian
		240	24	
South	Jezzine	20	2	Christian
South	Saida	30	3	Shiaa
South	Sour	20	2	Shiaa
South	Sour	30	3	Shiaa
South	Saida	20	2	Sunni
South	Saida	10	1	Sunni
		130	13	
		1200	120	

10 respondents were selected per PSU. A total of 120 PSUs were selected for a total of 1,200 respondents. The respondent from each household was selected by using the kish grid method.