World Values Survey Wave 7 in Ukraine: Sample Design

Fieldwork was conducted by InfoSapiens and NGO "Social Monitoring Centre" in July 2020. Target population was defined as general population of Ukraine aged 18 and older, including citizens, residents, IDPs living in Ukraine for at least 2 months, excluding institutional populations, e.g. militaries, prisoners etc. Effective sample size was planned as N=1200.

Representative nationwide stratified random sample was designed. Sample allowed to cover the whole territory of the country, excluding uncontrolled by the Ukrainian government territories of Donetsk and Luhansk oblasts and the Autonomous Republic of Crimea. Territories not controlled by the Government of Ukraine are defined in the Decree of the President of Ukraine №32 / 2019 (dated February 2, 2019) "On the boundaries and list of districts, cities, towns and villages, parts of their territories temporarily occupied in Donetsk and Luhansk regions" (available at: https://www.president.gov.ua/documents/322019-26050).

The whole population of Ukraine was stratified according to the criteria: regional affiliation and size of the settlement. For a uniform regional distribution, the regions were grouped into 7 macro-regions and Kyiv as a separate unit. In total, 8 macro-regions. In each of them settlements were grouped by size: villages, small settlements with a population of up to 100 thousand people; settlements with a population of 100 to 250 thousand people; from 250 to 500 thousand; from 500 to 1 million, and more than 1 million people. In total, Ukraine was represented by 32 strata in the territorial and spatial dimension. (See Table 1.) Data collection was conducted in each of them.

Table 1. The structure of voters in the territorial-settlement space (by type of settlement and regions), %

	Population, thousand						
	1000+	500-1000	250-500	100-250	Less 100	Village	TOTAL
West 1	**1,9%**			**1,4%**	**4,6%**	**7,4%**	**15,4%**
Volyn region				0,54%	0,80%	1,17%	2,51%
Zakarpattya region				0,29%	0,84%	1,89%	3,02%
Ivano-Frankivsk region				0,58%	0,93%	1,92%	3,43%
Lviv region	1,88%				2,06%	2,46%	6,40%
West 2			**1,4%**	**1,4%**	**2,6%**	**5,6%**	**11,0%**
Rivne region				0,63%	0,73%	1,39%	2,76%
Ternopil region				0,55%	0,65%	1,51%	2,71%
Khmelnytsky region			0,68%	0,26%	0,91%	1,48%	3,32%
Chernivtsi region			0,67%		0,31%	1,27%	2,26%
The city of Kyiv	**7,4%**						**7,4%**
The city of Kyiv	7,42%						7,42%
South	**2,7%**		**2,1%**		**3,1%**	**3,9%**	**11,8%**
Mykolaiv region			1,31%		0,76%	0,93%	3,00%
Odesa region	2,69%				1,47%	1,92%	6,08%
Kherson region			0,78%		0,92%	1,04%	2,73%

North			**1,5%**	**0,5%**	**4,4%**	**4,0%**	**10,4%**
Zhytomyr region			0,70%		1,18%	1,31%	3,18%
Kyiv region				0,55%	2,18%	1,68%	4,41%
Chernihiv region			0,78%		1,00%	1,02%	2,80%
East 1	**6,5%**	**1,7%**	**0,7%**	**1,2%**	**4,9%**	**3,7%**	**18,7%**
Dnipropetrovsk region	2,61%	1,68%		1,22%	1,63%	1,37%	8,52%
Sumy region			0,70%		1,33%	0,95%	2,98%
Kharkiv region	3,89%				1,95%	1,39%	7,22%
East 2		**2,0%**	**1,2%**	**2,0%**	**3,6%**	**2,6%**	**11,5%**
Donetsk region			1,22%	0,73%	2,24%	0,87%	5,06%
Zaporizhya region		2,04%		0,72%	0,85%	1,03%	4,63%
Luhansk region				0,56%	0,56%	0,69%	1,81%
Center			**2,5%**	**1,2%**	**4,2%**	**5,9%**	**13,8%**
Vinnytsia region			0,95%		1,12%	2,05%	4,12%
Kirovograd region				0,61%	1,00%	0,94%	2,54%
Poltava			0,78%	0,59%	0,98%	1,46%	3,81%
Cherkasy region			0,75%		1,11%	1,42%	3,28%
TOTAL	**18,5%**	**3,7%**	**9,3%**	**7,8%**	**27,5%**	**33,1%**	**100,0%**

There is no registry of population or households in Ukraine. Electoral registry was suggested as the only available source. The information regarding the number of electoral districts, electoral units and the number of voters in each electoral unit, along with the description of borders of electoral districts and units (the list of settlements, districts, streets) is publicly available. On the level of electoral units, the information regarding the voters' addresses (settlement / street / house / apartment) is not publicly available.

Taking into account the absence of a compete registry listing all households or individuals in the general population in Ukraine, it was impossible to apply the simple probability selection approach. Assuming this, the **multistage stratified sampling approach with random selection on each stage** was used. The planned volume of the implemented sample was 1200 respondents. The target level of reach of respondents was estimated as 70%. Thus, the size of the calculated sample is 1714 respondents. Each route (at the polling station level) provided for the selection of 10 households to select one respondent in each. A total of 171 polling stations have been selected.

Stage 1 – Determining the number of PSUs (polling stations) for each of the 32 strata.
For each stratum, the number of polling stations is calculated in proportion to the population aged 18+ (number of voters). In cases when the calculated number of polling stations in the stratum is not whole, randomized rounding to the whole is performed. The result is presented in TABLE 2.

Table 2. Number of PSUs (polling stations) in each stratum

	1000+	500-1000	250-500	100-250	Less 100	Village*	TOTAL
West 1	3			2	8	13	**26**
West 2			2	2	4	10	**19**
The city of Kyiv	13						**13**
South	5		4		5	7	**20**
North			3	1	7	7	**18**
East 1	11	3	1	2	8	6	**32**
East 2		3	2	3	6	4	**20**
Center			4	2	7	10	**24**
TOTAL	**32**	**6**	**16**	**13**	**47**	**57**	**171**

* This approach means that big cities and smaller towns, as well as villages represented in the sample.

Stage 2 – Selection of the PSUs - electoral stations.

Number of electoral stations in Ukraine without stations in foreign electoral districts is 29888. The so-called "closed" polling stations, which are located in prisons, on ships, military units, and hospitals, to which there is no possibility to conduct a survey, have been removed from the list of polling stations. (In total – 64 electoral districts were excluded.)

The number of voters at the polling station in cities with a population of more than 50 thousand people is on average about 1,700 voters; for cities with a population of 20 - 50 thousand people - 1600 people; for cities with a population of less than 20 thousand people - 1400 people. For polling stations located in villages - an average of 600 people.

At this stage, the list of all the electoral stations for each from the 32 strata was created. Every electoral station in the list has its unique ID number. The selection of the required number of polling stations in each stratum was implemented as a simple random selection from the list.

Stage 3 – households' selection within each PSU

At the stage of sample development due to the lack of official information on population composition and number of households, the chosen approach to sampling needed the mapping process and preliminary mapping.

In spite of absence of database of households' addresses (street / house number / apartment number), the follow mechanism was used for random selection of households within SSU (electoral units):

For rural areas:

For selection of households the base of post addresses (street / house number) was used (publicly available). Each address (street / house number) was equated to one household. The fieldworks coordination team randomly selected for survey 10 households in each PSU and send them to the interviewers' teams.

For urban areas:

For locations in which the population lives in apartment buildings the following algorithm was implemented: the fieldwork coordination team received a list of addresses of the houses that are included into the selected PSU (electoral unit); the team was going round all houses and fixing the number of the apartments in each of them; the fieldwork coordination team formed a general list of apartments in PSU, and then selected 10 households using a random selection algorithm and sent them to the interviewers team.

In addition, 4 reserve households were randomly selected in each PSU (within both algorithms for rural and urban areas). During preparatory stage research team formed lists with selected addresses. If during the visits the interviewers team found that some address from the main 10 households did not belong to a residential house / apartment, but to non-residential premises (post office, shop, hospital, school in rural areas / notary, hairdresser or any business company in urban areas), they transmitted this information to the fieldwork coordination team. The fieldwork coordination team replaced this address of non-residential premises with reserved address (from 4 preliminary randomly selected).

In case if household was as not eligible (there is an office/shop/salon/ etc instead of the apartment; the address/street did not exist; no one lives at the address because of the owner's death; non-residential, abandoned building; building under construction; owners reside at a different address etc.) the address was replaced.

Stage 4 – participant selection

Only one interview was conducted in every apartment/ private house. Interviewer conducted only one interview among the residents of the same dormitory. The selection of the respondent was random and selected respondent was the person with the closest birthday to the day of survey. If the necessary respondent was not at home, interviewer made 3 re-visits to this household to reach the respondent. In total 171 electoral units and 10 households in each, total - 1710 households were selected. Expected response rate was about 70%.

The survey method was face-to-face interview on tablets (CAPI — Computer Assisted Personal Interviewing). CARDS were prepared and printed for the respondents to those questions where the use of CARDS was envisaged.

CAPI provided ongoing monitoring of fieldwork, as interview data was uploaded daily. It also provided additional control of interviewers using a GPS-navigator through tablet tracking, which allowed to monitor routes and monitor the results of fieldwork (selection of routes and buildings, the number of interviewers working in each locality at one time).

The geographical coordinates of the interview were recorded in the database for each interview. Upon completion of the field phase and control, this data was deleted. The software recorded the first and second visits, their duration, the reasons for not conducting the interview, the facts of the change of the day of the week and the time of the revisit. The program controlled the quality of answers to questions (no missed questions, the ability to select only a certain number of answers, the transition to the desired question after the filter questions).

In addition, field supervisors from field campaigns (InfoSapiens and SMC) have monitored

the geographical coordinates of the interviews, the quality and completeness of the interviews, and the logic of the transitions. Supervisors have also monitored the level of consent of respondents to provide their telephone number to various interviewers. Additionally, the supervisor was monitored using a telephone to control the quality of the selection of respondents (up to 10%). In case of poor performance of the interviewer, he/she was replaced; poorly conducted interviews were replaced.

Main problems experienced by the survey teams included:
- irregular transport connection between small towns and villages;
- access to the houses located in a closed and protected area (such as cottage towns, large condominiums);
- a large number of empty residential apartments, especially in the western regions, whose residents are labor migrants;
- high refusal to contact interviewers, especially in large cities.

Ethical approval of the survey was given by the Sociological Association of Ukraine.