World Values Survey Wave 7 in Tunisia: Sample Design.

The fieldwork for the 7th wave of World Values Survey in Tunisia was executed directly the ASSF team. A team of 24 interviewers and Supervisors was developed that covered all the Tunisian territory. The survey fieldwork took place in April 2019.

The target population was residents (during the past six months in the unit, which is the "household") aged older than 18 years (no dormitories were included.)

The final sample size was 1200 interviews with a representative distribution on 24 governorates of Tunisia.

The national geographical distribution is called a national classification of administrative units. These units were divided into Governorates than Delegations than municipalities and districts.

The National Institute of Statistics in Tunisia has an area frame with about 40000 enumeration areas (ZD) created for the needs of the General Census of Population and Housing 2014 (RGPH-2014). An ZD is a community created to group an average number of households of 70. It is the smallest geographic unit created for the purposes of the 2014 RGPH, to serve as a sampling frame for household surveys. Each ZD contains the following information: governorate, delegation, sector, municipality, district, area of residence (Urban and rural), number of households and total population. The boundaries of each ZD are clearly identifiable on maps.

The fieldwork was conducted on a sample of 120 ZD randomly selected from the INS (National Institute of Statistics) covering the whole country governorates.

A stratified three-stage probability sampling was employed.

First level: Clusters selection

The National Institute of Statistics (NIS) divides each governorate into districts. This method has been adapted and standardized for all statistical studies. A table of representative proportions of households in 24 governorates and urban and rural regions had been provided by the NIS.

Second level: Household Selection

The random selection of households followed a mapping of the blocks belonging to the selected cluster; mapping was performed to determine a systematic random walk or a systematic interval calculated based on the estimated number of households in each block.

In each map, the starting point and systematic random walk were selected in each block by the regional supervisor.

The blocks were mapped to give an estimate of the number of households that were covered, following "random Walk." For example, when the block contained 30 households (knowing 10 households were selected in each block (30/10 = 3)), the first household was randomly selected from 1 to 10, for instance, saying that the first selected household was the number 3, the second household was the number 6 and so on. When the household owner refused to conduct the survey, the surveyor moved to the second household automatically.

With the district notebook and a quota sheet, the surveyors began the interview process at a particular geographical point and followed a pre-determined route to select the households to be interviewed. A random walk was calculated for each district and it was proportional to the number of households in each selected district:

$$RW = NH / 10$$

*RW: (Random walk)

*NH: Number of households (Indicated in the table as N° of households)

*10: (Number of Interview in ZD)

Each supervisor in all the teams fixed a starting point for each interviewer to guarantee the equal-probability selection of households.

When the individual who was randomly selected was not present in the household, the interviewer made at maximum three callbacks before replacing it with another household. In total, there were three visits before removing the household from the sample.

Level 3: Respondent selection

At the household level, the selection of individuals based on Kish table that was used to randomly select male and female members in the household older than 18 years old.

The design produced an equal-probability sample of households.

As described above, the sampling primary units were enumeration areas (ZD) "zone de dénombrement, in French", these units were selected in proportion to the population distribution on the 24 governorates and on the rural and urban areas.

Example: If in the governorate named "X", the expected sample size was 70 respondents (taking into account that one respondent was targeted by household) 60 urban areas and 10 rural areas, the number of selected clusters in the governorate "X" was 6 clusters (ZD) from urban areas, and 1 (ZD) cluster from rural areas.

The maximum number of respondents (full interviews) per one ZD was 10 interviews. The interviews were conducted within the household or at the front of the household.

The survey methodology that was applied in WVS-7 was a multi-stage territorial stratified selection (multistage probabilistic sampling).

The proposed research was a quantitative research based on conducting questionnaire inside households. Studying the perception people in Tunisia was proposed, 1200 respondents were targeted within households. 1200 households were covered with the frequency of one interviewee per household.

It covered 120 data collection areas (DZ) within the Tunisian territory (Urban and rural areas).

I. Sampling Procedure

• The design produced an equal-probability sample of households.

• The household in their place of residence was generally the most appropriate unit for identifying people, assessing their socio-economic and demographic characteristics and

their housing conditions.

- Probabilistic household sampling surveys provided an efficient approach to estimating the perception of citizens.

- The National Institute of Statistics in Tunisia has an area frame with about 40000 enumeration areas (ZD) created for the needs of the General Census of Population and Housing 2014 (RGPH-2014).

- A ZD was a community created to group an average number of households of 70. It was the smallest geographic unit created for the purposes of the 2014 RGPH, to serve as a sampling frame for household surveys.

- Each ZD contained the following information: governorate, delegation, sector, municipality, district, area of residence (Urban and rural), number of households and total population. The boundaries of each ZD were clearly identifiable on maps.

II. Selection of data collection areas

The National Institute of Statistics (NIS) divided each governorate into districts. This method had been adapted and standardized for all the statistical studies. A table of representative proportions of households in 24 governorates and urban and rural regions based on national statistics provided by the National Institute of Statistics (INS).

Proportionally to the general distribution of the sample and taking into account that in each sampling point 10 households were covered; a probabilistic selection of a list of clusters sorted by Governorate and rural and urban Areas was done.

Total number of 1200 face-to-face interviews corresponded to 120 data collection areas.

Sample size

Expected sample size = 1200

GOUV	CIR	DISTRICT	Code_délégation	Code_Secteur	Lib_Sect_Fr	Lib_Sect_Ar	TYPEDIST	Milieu_Agg	Nbre_Men_definitif	Inclusion Probability_1_	SampleWeightCumulative_1_	Population Size_1_	SampleSize_1_	Sampling Rate_1_	Sample Weight_1_	SampleWeight_Final_
11	3	43	53	57	Hédi Chaker	الهادي شاكر	1	1	51	0,00	456,23	10075	30	0,00	456,23	456,23
11	8	20	61	56	Mellassine	الملاسين	1	1	59	0,00	394,36	10075	30	0,00	394,36	394,36
11	12	39	63	57	El Foula	الفلة	1	1	96	0,00	242,37	10075	30	0,00	242,37	242,37
11	15	73	64	51	Borj-Chakir	برج شاكير	1	1	68	0,00	342,17	10075	30	0,00	342,17	342,17
11	19	31	65	51	El Ouardia	الوردية	1	1	98	0,00	237,42	10075	30	0,00	237,42	237,42
11	24	44	66	57	Ibn Sina (2)	إبن سينا (2)	1	1	59	0,00	394,36	10075	30	0,00	394,36	394,36
11	29	58	60	58	El Fath	الفتح	1	1	126	0,01	184,66	10075	30	0,00	184,66	184,66
11	34	2	55	56	Oued El Sebai	وادي السبعي	1	1	65	0,00	357,96	10075	30	0,00	357,96	357,96
11	39	40	56	55	Cité El Intilaka	حي الإنطلاقة	1	1	54	0,00	430,88	10075	30	0,00	430,88	430,88
11	45	8	59	54	Khéreiddine Pac	خير الدين باشا	1	1	58	0,00	401,16	10075	30	0,00	401,16	401,16
11	49	24	70	55	Le Kram Ouest	الكرم الغربي	1	1	65	0,00	357,96	10075	30	0,00	357,96	357,96
11	54	36	71	52	La Marsa Medina	المرسى المدينة	1	1	60	0,00	387,79	10075	30	0,00	387,79	387,79
12	1	13	51	53	L'Ariana Ville	اريانة المدينة	1	1	50	0,00	465,35	10075	30	0,00	465,35	465,35
12	5	37	51	59	Ennasr 2	النصر 2	1	1	66	0,00	352,54	10075	30	0,00	352,54	352,54
12	9	52	52	53	El Bessatine	البساتين	1	1	113	0,00	205,91	10075	30	0,00	205,91	205,91

All the procedure of sampling is realised by the National Institute of statistics.

For each urban or rural DZ (Data collection Area), there was a district notebook describing

the boundaries, starting point, path, and list of approximate number of households for each district.

Example of Maps 1205037 (Origin INS)

Governorate code is 12 (Ariana)

Circumscription Code is 05 (cite Nasr)

District code is 037 (Nasr 2)

III.   Selection of Households

With the district notebook, and a quota sheet, the interviewer was instructed to begin the interview process at a geographical point, and follow a determined route to select the households to be interviewed.

A random walk was calculated for each district and it was proportional to the number of households in each selected district:

$$RW = NH / 10$$

*__RW__: (Random walk)
*__NH__: Number of households (Indicated in the table as N° of households)
*__10__: (Number of Interview in each district)

Each supervisor in all the teams fixed a starting point for each interviewer to guarantee the equal-probability selection of households.

IV. Selection of Interviewees

The only variation that was taken into accounts was the random selection of respondents within the household. Only one person per household was interviewed.

Throughout the method taken, when the household included the target individual that had met the requirements of the quota sheet matrix, the interviewers completed their questionnaires. Households were interviewed for the survey until a predetermined quota was reached.

In case that more than one individual matched with demographic characteristics that the interviewers were looking for and as the information is figuring in the quota sheet matrix, a Kish-table method was used to guarantee the random selection of the interviewees.

Before starting the survey, each interviewer was asked to read the entire information sheet to the approached individual in each household and to clearly explain to them what they are asked to do and get their consent.

Participants were asked to give a written informed consent (the ethical procedures). Interviews were open and conversational, with respondents asked to explain and elaborate on their answers, explaining how they reconcile what may otherwise appear to be incongruent attitudes and values or behavior. They were also be asked to explain how they understand questions, and how they think as they come to a response, verbalizing their thought processes as they come to an answer. Interviews were written up in Arabic using the notes and Arabic-language recordings immediately following an interview, based on a prearranged format. The interviewer and Fieldwork Manager reviewed the transcript to ensure it was as accurate and detailed as possible. They also wrote a reflexive account of the interview based on a previously agreed template and covering contextual details, e.g. non-verbal behavior (example attached with this document).

When the investigator finished the total sweep of the EA, and the quota had not yet been reached, a list of boundary DZs were provided to determine missing individuals, while admitting that neighboring DZs had more or less the same characteristics.

The quota sheet matrix took into account during the interviews a number of variables that guaranteed a distribution that match the Tunisian population.

The sampling frame included age, gender, education.

No automatic replacement was allowed. The interviewers had to make 3 callbacks at minimum to be allowed to replace the household.

The interviews took place every day, including weekends, from 08:00 am to 19:00 pm.

The survey method of data collection that the ASSF was implementing is computer assisted personal interview which allowed the application of some automatic control measurements as:

- The daily data sending
- The GPS positions
- The Phone number of the respondents.

These information, despite of the fieldwork sheet presenting the positions of the districts and household the random walk the starting points, allowed the central team to make the quality controlling procedure based on the quota table, GPS position and callbacks using the telephone numbers during the fieldwork.

As explained, the quality controlling procedure was based on verifying the GPS coordinates and the telephone callbacks of 10% of the sample, which were selected randomly as the work progresses and from the first days of fieldwork.

There was an external control in the study in collaboration with the Florence institute and the FAO organization "food security and rural migration in Tunisia", the external control was made by Mme Nadia Touihri <touihri.nadia@ins.tn>; from the National Institute of Statistics.

The difference in percentage between sex groups in the survey data compared to census data:

	% in census data	% in your survey	Δ %
Male	49.8	50	
Female	50.2	50	

Age Distribution of the Population:

Indicateur	2012	2013	2014	2015	2016
00-04	896070	956823	974366.5	971160	1057906
05-09	824640	851267	850908	862270	893438
00-04	896070	956823	974366.5	971160	1057906
05-09	824640	851267	850908	862270	893438
10-14	811610	813960	791382	801960	805398
15-19	888330	855652	829335	840400	801924
20-24	1017370	936059	927469	939870	887393
25-29	1025840	929613	936729	949250	920248
30-34	921880	959153	986023	999200	970488
35-39	781580	808081	818834	829770	886447
40-44	708850	720884	729493	739240	751607
45-49	684050	671498	684494	693640	694780
50-54	605570	628253	652073	660790	666469
55-59	497970	511531	536367	543510	579393
60-64	352350	408171	426367	432050	466135
65-69	252290	261433	262875	266360	311467
70-74	221750	218515	221153	224090	219781
75-79	172930	162458	167248	169490	170737
80 & +	114490	201851	212211	215040	220872

The population 10 years and over by level of education, Area classification and gender

Indicator	2014
Null	18.80%
Primary and first cycle of basic education and equivalent	32.51%
Secondary and 2nd cycle of basic education and equivalent	34.99 %
University	12.78 %
Undeclared	0.92%

The conditions that were taken into account during the planning of fieldwork:

- The Main troubles are related to the position of households in some rural regions. In rural regions, households are scattered, with an average distance of 2 Kms between the households. Household agglomerations are limited.
- The security measurement, in some case the situation of transition and the state of emergency in Tunisia still posed problems when it comes to team safety in the field and on the relational side with local authorities.

The responsible organization did not need any special permission from the state governing bodies in order to do the WVS-7.