World Values Survey Wave 7 in Ethiopia: Sample Design.

Survey population

The target population of the survey (the 'universe') is adults aged 18 or older living in private households with usual residence in the study country and speaking one of the main languages of the country. This means the survey excludes people living in institutions, such as hospitals, student accommodation, prisons and other detention or healthcare facilities.

A household is defined as a group of people who usually live together and "eat from the same pot". They recognize a member within the household who is 18 years or above as the head of household. Members would have lived together not less than six months.

Sample Design

Our overall intention is to use random sampling techniques in Ethiopia and to achieve population coverage of at least 95%, unless there are exceptional circumstances such as security threats affecting more than 5% of the population. In order to increase efficiency in the field, we propose omitting the 5% of the PSUs with the lowest population density. We are confident our sample design and approach will provide sufficiently robust coverage to yield nationally representative survey estimates with minimal non-coverage bias.

The proposed sample design for this study is a multi-clustered sample stratified by region and urbanity. The sample will be selected with probability proportional to size (PPS). The administrative units will be stratified based on the census data i.e. (Regions, Zones, Woreda / districts and Kebeles / Municipalities). The regions will be defined as the 9 Regional states / Kililoch and the 2 chartered cities of Ethiopia. Woreda / districts and Kebeles (urban administrative units) are the smallest administrative units in Ethiopia and these will represent the Primary Sampling Unit (PSU). The 2007 National Census provides detailed statics for small area and small population groups. Therefore, SSUs will be selected with PPS. SSUs will be listed out and randomly selected.

Sampling frame

Individual or address frames are not available for the general population in Ethiopia. We will therefore use the smallest available census administrative units (Kebeles / Municipalities) as our sampling frame and the Ethiopian census provides information on the number of people living in a given Region, Zone, Wereda (district) and Kebele (lowest administrative region). Therefore, we will work in collaboration with the Central Statistical Agency of Ethiopia to draw the sample. The number of SSUs will be provided in the sampling plans, based on the selected sampling approach.

Sample Stratification

Stratification is used to ensure the sample is geo-demographically representative. It can also be used to increase the precision of the estimates collected in the survey, provided stratification is based on characteristics which are correlated with what the survey is measuring. However, stratification variables are dependent on the availability of data. For this study, we will use province/Districts and urban/rural stats as stratification variables.

Consequently, in this design, Primary Sampling Units will first be stratified by geographical region/ province and then by urban/rural status. This approach ensures both geographic and non-geographic variation between strata and reasonable homogeneity within.

We will use the same sampling fraction for each stratum, meaning the sample will reflect the respective regional/provincial distribution and the urban/rural split. It should be noted that since the 5% of the population living in the most sparsely populated areas will be excluded, it is necessary to adjust for this non-coverage. This will be done by substituting the most sparsely populated areas with somewhat less sparsely populated ones. Further details of the sampling frame used, and stratification will be contained in the sampling plans.

Sample size

As specified in the call for tender, the minimum target achieved sample is 1,200 respondents. Below is the proposed sample distribution (n=1,200) by region and urban/rural classification: We will interview a target number of 8 respondents and a maximum number of 10 respondents per sampling point.

Sample Distribution Table

Region	Urban	Rural	Total population	%%	Sample	PSUs
Tigray	842,723	3,471,733	4,314,456	6%	72	7
Afar	188,973	1,222,119	1,411,092	2%	24	2
Amhara	1,932,126	15,026,142	16,958,268	23%	276	28
Oromiya	2,978,541	23,773,422	26,751,963	37%	444	45
Somali	621,210	3,817,937	4,439,147	6%	72	7
Benshangul-Gumuz	97,965	572,882	670,847	1%	12	1
SNNP	1,545,710	13,496,821	15,042,531	20%	240	24
Gambella	77,878	229,038	306,916	0%	0	0
Harari	99,321	84,023	183,344	0%	0	0
Addis Ababa	2,738,248	-	2,738,248	4%	48	5
Dire Dawa	232,854	109,973	342,827	1%	12	1
Special Enumeration	58,056	129,775	187,831	0%	0	0
TOTAL	**11,413,605**	**61,933,865**	**73,347,470**	**100%**	**1,200**	**120**

Sampling procedures

The sampling procedures will comprise the steps outlined below:
1) **Stratification by region/province and urbanity**, applying the same sampling fraction for each stratum.
2) **Selection of administrative areas with a probability proportional to the most recent 18+ population estimates**. These areas will serve as Primary Sampling Units (PSUs). We will also draw a spare 'mirror' sample at the same time, providing each sampled as Primary Sampling Unit (PSU) with a replacement in case the original one cannot be worked for some reason.
3) **Selection of one as Secondary Sampling Units (SSU)** from each selected PSU, the SSUs will then be selected with PPS. Where the population of the administrative unit exceeds the sampling fraction, we will sample more than one SSU as needed. Where population data are not available at SSU level, administrative sub-divisions will be selected using simple random sampling.

4) **Selection of households using the random walk approach**. The starting point for the random walk will be a landmark of one of the entry streets into the sector. The landmark will be randomly selected using the ballot method: the supervisor will list all landmarks on pieces of paper and one piece of paper will be drawn. Examples of landmarks are a health centre, market, school, mosque/church, or main square. From the landmark, interviewers will proceed to enumerate addresses following the random walk instructions described below.

5) **Random selection of respondent** within the household if more than one eligible respondent aged 18+.