# Bosnia and Herzegovina - Living Standards Measurement Survey 2001 (Wave 1 Panel)

State Agency for Statistics (BHAS), Republika Srpska Institute of Statistics (RSIS), Federation of BiH Institute of Statistics (FIS)

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# Overview

## Identification

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#### **Overview**

#### ABSTRACT

In 1992, Bosnia-Herzegovina, one of the six republics in former Yugoslavia, became an independent nation. A civil war started soon thereafter, lasting until 1995 and causing widespread destruction and losses of lives. Following the Dayton accord, BosniaHerzegovina (BiH) emerged as an independent state comprised of two entities, namely, the Federation of Bosnia-Herzegovina (FBiH) and the Republika Srpska (RS), and the district of Brcko. In addition to the destruction caused to the physical infrastructure, there was considerable social disruption and decline in living standards for a large section of the population. Alongside these events, a period of economic transition to a market economy was occurring. The distributive impacts of this transition, both positive and negative, are unknown. In short, while it is clear that welfare levels have changed, there is very little information on poverty and social indicators on which to base policies and programs. In the post-war process of rebuilding the economic and social base of the country, the government has faced the problems created by having little relevant data at the household level. The three statistical organizations in the country (State Agency for Statistics for BiH - BHAS, the RS Institute of Statistics-RSIS, and the FBiH Institute of Statistics-FIS) have been active in working to improve the data available to policy makers: both at the macro and the household level. One facet of their activities is to design and implement a series of household series. The first of these surveys is the Living Standards Measurement Study survey (LSMS). Later surveys will include the Household Budget Survey (an Income and Expenditure Survey) and a Labour Force Survey. A subset of the LSMS households will be re-interviewed in the two years following the LSMS to create a panel data set.

The three statistical organizations began work on the design of the Living Standards Measurement Study Survey (LSMS) in 1999. The purpose of the survey was to collect data needed for assessing the living standards of the population and for providing the key indicators needed for social and economic policy formulation. The survey was to provide data at the country and the entity level and to allow valid comparisons between entities to be made. The LSMS survey was carried out in the Fall of 2001 by the three statistical organizations with financial and technical support from the Department for International Development of the British Government (DfID), United Nations Development Program (UNDP), the Japanese Government, and the World Bank (WB). The creation of a Master Sample for the survey was supported by the Swedish Government through SIDA, the European Commission, the Department for International Development of the British Government and the World Bank. The overall management of the project was carried out by the Steering Board, comprised of the Directors of the RS and FBiH Statistical Institutes, the Management Board of the State Agency for Statistics and representatives from DfID, UNDP and the WB. The day-to-day project activities were carried out by the Survey Management Team, made up of two professionals from each of the three statistical organizations. The Living Standard Measurement Survey LSMS, in addition to collecting the information necessary to obtain a comprehensive as possible measure of the basic dimensions of household living standards, has three basic objectives, as follows: 1. To provide the public sector, government, the business community, scientific institutions, international donor organizations and social organizations with information on different indicators of the population's living conditions, as well as on available resources for satisfying basic needs. 2. To provide information for the evaluation of the results of different forms of government policy and programs developed with the aim to improve the population's living standard. The survey will enable the analysis of the relations between and among different aspects of living standards (housing, consumption, education, health, labour) at a given time, as well as within a household. 3. To provide key contributions for development of government's Poverty Reduction Strategy Paper, based on analysed data.

KIND OF DATA Sample survey data [ssd]

UNITS OF ANALYSIS Households

#### Scope

The scope of the study was:

- · Household roster
- · General education
- · Health data
- · Labour
- · Credit information
- · Privatization vouchers and certificates
- · Migration information
- · Social assistance
- · Non-agricultural activities
- · Agricultural activities
- · Daily expenses
- · Household businesses
- · Land used
- · Inputs and investments-machinery
- · Livestock
- · Animal feed
- · Capital assets

#### TOPICS

Торіс	Vocabulary	URI
Health	FAO	
Labor	FAO	
Access to Finance	FAO	
Migration & Remittances	FAO	
Social Development	FAO	
Agriculture & Rural Development	FAO	
Forests & Forestry	FAO	
Food (production, crisis)	FAO	
Land (policy, resource management)	FAO	
Livestock	FAO	

#### Coverage

GEOGRAPHIC COVERAGE National coverage

# **Producers and Sponsors**

# Name Affiliation State Agency for Statistics (BHAS) Republika Srpska Institute of Statistics (RSIS) Federation of BiH Institute of Statistics (FIS)

#### OTHER PRODUCER(S)

Name	Affiliation	Role
The World Bank		Technical assistance

#### FUNDING

Name	Abbreviation	Role
Department for International Development of the British Government	DFID	Financial assistance
United Nations Development Program	UNDP	Financial assistance
World Bank	WB	Financial assistance
Japanese Government		Financial assistance

# **Metadata Production**

#### METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Office of Chief Statistician	OCS	Food and Agriculture Organization	Adoption of metadata for FAM
Development Economics Data Group	DECDG	The World Bank	Generation of the DDI

DDI DOCUMENT VERSION BIH\_2001\_LSMS-W1\_v01\_EN\_M\_v01\_A\_OCS\_v01

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# Sampling

## **Sampling Procedure**

#### (a) SAMPLE SIZE

A total sample of 5,400 households was determined to be adequate for the needs of the survey: with 2,400 in the Republika Srpska and 3,000 in the Federation of BiH. The difficulty was in selecting a probability sample that would be representative of the country's population. The sample design for any survey depends upon the availability of information on the universe of households and individuals in the country. Usually this comes from a census or administrative records. In the case of BiH the most recent census was done in 1991. The data from this census were rendered obsolete due to both the simple passage of time but, more importantly, due to the massive population displacements that occurred during the war. At the initial stages of this project it was decided that a master sample should be constructed. Experts from Statistics Sweden developed the plan for the master sample and provided the procedures for its construction. From this master sample, the households for the LSMS were selected. Master Sample [This section is based on Peter Lynn's note "LSMS Sample Design and Weighting - Summary". April, 2002. Essex University, commissioned by DfID.] The master sample is based on a selection of municipalities and a full enumeration of the selected municipalities. Optimally, one would prefer smaller units (geographic or administrative) than municipalities. However, while it was considered that the population estimates of municipalities were reasonably accurate, this was not the case for smaller geographic or administrative areas. To avoid the error involved in sampling smaller areas with very uncertain population estimates, municipalities were used as the base unit for the master sample. The Statistics Sweden team proposed two options based on this same method, with the only difference being in the number of municipalities included and enumerated.

#### (b) SAMPLE DESIGN

For reasons of funding, the smaller option proposed by the team was used, or Option B. Stratification of Municipalities The first step in creating the Master Sample was to group the 146 municipalities in the country into three strata- Urban, Rural and Mixed - within each of the two entities. Urban municipalities are those where 65 percent or more of the households are considered to be urban, and rural municipalities are those where the proportion of urban households is below 35 percent. The remaining municipalities were classified as Mixed (Urban and Rural) Municipalities. Brcko was excluded from the sampling frame. Urban, Rural and Mixed Municipalities: It is worth noting that the urban-rural definitions used in BiH are unusual with such large administrative units as municipalities classified as if they were completely homogeneous. Their classification into urban, rural, mixed comes from the 1991 Census which used the predominant type of income of households in the municipality to define the municipality. This definition is imperfect in two ways. First, the distribution of income sources may have changed dramatically from the pre-war times: populations have shifted, large industries have closed, and much agricultural land remains unusable due to the presence of land mines. Second, the definition is not comparable to other countries' where villages, towns and cities are classified by population size into rural or urban or by types of services and infrastructure available. Clearly, the types of communities within a municipality vary substantially in terms of both population and infrastructure. However, these imperfections are not detrimental to the sample design (the urban/rural definition may not be very useful for analysis purposes, but that is a separate issue).

#### **Response Rate**

82 percent

### Weighting

To produce unbiased estimates for LSMS, each sample household should be weighted by the inverse of its selection probability. Detailed information is available in document "BASIC INFORMATION DOCUMENT (2001)". An important point about the LSMS weights is that they have considerable variability.

# Questionnaires

No content available

# Data Collection

# Start End Cycle 2001-09 2001-11 N/A Data Collection Mode Ka

Face-to-face [f2f]

# Data Processing

# **Data Editing**

#### (a) DATA ENTRY

An integrated approach to data entry and fieldwork was adopted in Bosnia and Herzegovina. Data entry proceeded side by side with data gathering to ensure verification and correction in the field. Data entry stations were located in the regional offices of the entity institutes and were equipped with computers, modem and a dedicated telephone line. The completed questionnaires were delivered to these stations each day for data entry. Twenty data entry operators (10 from Federation and 10 from RS) were trained in two training sessions held for a week each in Sarajevo and Banja Luka. The trainers were the staff of the two entity institutes who had undergone training in the CSPro software earlier and had participated in the workshops of the Pilot survey. Prior to the training, laptop computers were provided to the entity institutes, and the CSPro software was installed in them. The training for the data entry operators covered the following elements:

- Introduction to the LSMS Survey questionnaire; Introduction to the personal computers/ lap top computers; Copying data on diskette and printing of output

- The Data entry programme (CSPro). Understanding of the Round 1 data entry screens (Modules 1-10)
- Practice of Round 1 (data entry trainees enter questionnaires completed by interviewer trainees during practice interviews)
- Understanding of Round 2 Data entry screen (Modules 11-13)
- Practice of Round 2 Data entry screens (data entry trainees entered the questionnaires completed by interviewer trainees)
- Control Procedures; Copying data on diskette and printing lists of errors; Transfer of the data through email to the institutes

The data entry programme was fine-tuned during the training. Some unexpected responses during the interviews had to be accommodated and a few skip patterns fixed. The training emphasized the role of the data entry operator as a member of the survey team, and how the outputs of the programme (error lists) were to be provided to the supervisors and interviewers for necessary correction. The goal was to produce high quality data. Several of the key features of this were:

- 1. Pre-coded verbatim questionnaires
- 2. Error detection at the time of data entry
- 3. Data entry that was concurrent with fieldwork
- 4. Correction of suspected errors in the field.

#### (b) QUALITY CHECKS

The following checks were incorporated in the data entry software:

1. Value Range: The program checked to ensure that the values entered were within the valid range for each variable;

2. Reference tables: Where appropriate, the entered data were checked against reference values (e.g. the price of a kilo of tomato could not exceed 10 KM

3. Skip checks: The program checked that all appropriate skips were followed, both within and between different units of observation;

4. Checks for consistency between different responses: The program checked for internal consistency. For example, whether the age of a person was sufficient for the education level attained, if a filter question for agriculture had a positive response that the module had all relevant information entered and the like.

After the data entry was completed in the field, the data were transferred through email to the central offices in Sarajevo and Banja Luka with the help of PCAnywhere Software. The data entry programme was designed to detect many of the errors even at the stage of data entry, thereby minimizing the need for ex-post facto data editing. Once all data was compiled in the entity offices, a check was made to ensure the structural consistency of data files, i.e. that no records were duplicated or omitted. When the RS and FBiH data files were merged it became apparent that a last minute decision on the treatment of decimal places in several modules had been different in the two entities. Thus, the two data bases were not compatible. A correction was made and data from these modules were re-entered. Once this was done, the data sets were compatible, and a countrywide data set was created. During this process some additional double entry was carried out to correct any data entry operator errors that had occurred. Data Cleaning It is important to note what is meant by 'data cleaning' in terms of the BiH-LSMS data set. In the sense that the data set is a faithful reflection of the responses of all interviewees the data set can be considered 'cleaned'. Every effort was made to ensure that the information provided during the interviews was correctly entered in electronic format.

# Data Appraisal

# Other forms of Data Appraisal

As in any survey, this does not mean that the data set is perfect. As participation in the survey is voluntary, informants had the option to refuse to answer specific questions and may have provided information that is not always consistent. The interviewers resolved as many inconsistencies as possible with the informants but there are, of course, limits. However, given the widely differing needs of the range of analysts who will use the BiHLSMS data, nothing further has been done to the original data. While some data sets are processed so that all missing values are imputed, all outliers revalued and all inconsistencies fixed based on some set of assumptions, this has not been done here. The reason being that there is no correct way to resolve the problems of missing data, outliers and inconsistencies. Each person will need to make his or her own decision on how to treat such data problems based on the type of analysis being carried out. For some analyses, the information in outlier values is key while for others, such outliers would distort findings and would need to be dropped or provided an imputed value. The same for missing values. Some analysts will choose to drop cases with missing values for the variables of interest to them while others will impute such values, using medians, mean or complex multi-variate techniques. In order to ensure the usefulness of the data set for all users, no attempt has been made to impute missing values, reconcile inconsistencies, re-value outliers, or in any way alter the responses provided by the respondents.