



REPUBLIC OF CROATIA



CROATIAN BUREAU OF STATISTICS

**QUALITY REPORT FOR STATISTICAL SURVEY**  
**Development of the Geographical Information System (GIS)**  
**For 2015**

Organisational unit: Quality, Statistical Standards and Geoinformation  
System Development Department

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## 0. Basic information

- Purpose, goal, and subject of the survey

The general objective of this project is to geo-reference statistics against a system of grid cells using Cartesian coordinates. Population grids are a powerful tool to describe our society and to study the interrelationships between human activities and the environment. They are particularly useful for analysing phenomena, and their causes, which are independent of administrative boundaries, such as flooding, commuting and urban sprawl.

- Reference period

Several calendar years.

- Legal acts and other agreements

The Census was carried out on the basis of the Act on the Census of Population, Households and Dwellings in the Republic of Croatia in 2011 (OG, No. 92/10).

In order to achieve the international comparability of data, the methodology used in the 2011 Census is in line with the Conference of European Statisticians Recommendations for the 2010 Censuses of Population and Housing as well as with the Regulations (EC) Nos 763/2008 and 1201/2009 of the European Parliament and the Council, which regulate censuses of population and housing in the European Union.

- Classification system

There was no need to use any classification for producing grids for total population. The classification was used for producing grids according to sex and age.

- Concepts and definitions

The GeoSTAT activity is focused on developing guidelines for producing harmonised grid statistics and promoting national grid statistics in national statistical institutes. The reason for this activity comes from two major political definitions of EU: the European Statistical System (ESS) strategic goal to integrate spatial information and statistics and the INSPIRE initiative to develop interoperable spatial data sets. In order to achieve its final goal, Eurostat has made available a harmonised grid net of the whole Europe.

In addition to the European-wide grid net, there are country clips of the grid net covering only one country at a time. The grid net provides a reference system of grid cells for harmonised grid data set. The Croatian Bureau of Statistics uses the grids prepared by Eurostat for the purposes of the project.

The following variables are used for the purposes of merging statistics with geospatial information:

- a) the total population of the Republic of Croatia
- b) ETRS 89 LAEA grid
- c) spatial units ranging from the state level down to the address level.

- Statistical units

The basic statistical observation unit is the population living at a certain address.

- Statistical population

The target refers to the total population living at a certain address connected by the 1 x 1 km grid.

## 1. Relevance

### 1.1. Data users

External data users:

- DG Regio
- Ministry of Regional Development and EU Funds
- others (state and public institutions, private companies).

Internal users:

- demography statistics

#### 1.1.1 User needs

It is expected that DG Regio and the Ministry of Regional Development and EU Funds will be the major users of prepared data. The project of merging statistics with geospatial information resulted in production of the following data sets:

- total population
- number of population by sex
- number of population by age
- number of population by activity
- number of population by educational attainment.

#### 1.1.2 User satisfaction

The user satisfaction survey was carried out once, in 2013. It is planned to be carried out more frequently, at least once a year.

### 1.2. Completeness

Data are published in accordance with the EU legislation.

#### 1.2.1 Data completeness rate

Data completeness rate is: 100%

## **2. Accuracy and reliability**

### **2.1. Sampling error**

Although the 2011 Census was not carried out as a sample survey, the following conclusions can be drawn in a sense of producing the population grid. The 2011 Census did not cover diplomatic personnel of foreign diplomatic and consular missions in the Republic of Croatia. Also, neither representatives of international organisations nor members of their families who lived with them in the Republic of Croatia in dwellings owned by diplomatic or military personnel were not covered by the Census. Enumerators did not enter objects of the Ministry of Defence, the Ministry of the Interior and the Ministry of Justice.

#### 2.1.1 Sampling error indicators

Indicator for this survey is not applicable.

#### 2.1.2 Bias due to sample selection process

Indicator for this survey is not applicable.

### **2.2. Non-sampling error**

Not applicable.

#### 2.2.1 Coverage error

All units are included in the frame, since all addresses on the territory of the Republic of Croatia and all levels of spatial units are observation targets.

#### 2.2.2 Over-coverage rate

Indicator for this survey is not applicable.

#### 2.2.3 Measurement errors

Not applicable.

#### 2.2.4 Non-response errors

Not applicable.

#### 2.2.5 Unit non-response rate

Indicator for this survey is not applicable.

#### 2.2.6 Item non-response-rate

Indicator for this survey is not applicable.

#### 2.2.7 Processing errors

Once the data have been collected in a sample survey, they go through a series of processes before they are calculated to get final results: coding, linking, adding, weighting, etc.

In case of merging statistics with geospatial information, the following errors can occur in data processing:

- addresses having incorrect house numbers,
- technical documentation for the 2011 Census cannot be applied to all situations registered during the Census,
- shapefiles do not correspond to the field situation.

#### 2.2.8 Imputation rate

Indicator for this survey is not applicable.

#### 2.2.9 Editing rate

Indicator for this survey is not applicable.

#### 2.2.10 Hit rate

Indicator for this survey is not applicable.

#### 2.2.11 Model assumption error

Not applicable.

### **2.3. Data revision**

#### 2.3.1 Data revision – policy

Users of statistical data are informed about revisions (preliminary, final data) on the web site of the Croatian Bureau of Statistics.

#### 2.3.2 Data revision – practice

Provisional figures are not published in this survey and therefore regular revisions are not planned.

#### 2.3.3 Data revision – average size

Indicator for this survey is not applicable.

### **2.4. Seasonal adjustment**

Not applicable.

## **3. Timeliness and Punctuality**

### **3.1. Timeliness**

#### 3.1.1 Time lag – first results

Indicator for this survey is not applicable.

#### 3.1.2 Time lag – final results

Indicator for this survey is not applicable.

### **3.2. Punctuality**

#### **3.2.1 Punctuality – delivery and publication**

Indicator for this survey is not applicable.

## **4. Accessibility and clarity**

First results of the project are disseminated to Eurostat, DG Regio, the Ministry of Regional Development and EU Funds and on the GeoSTAT portal of the Croatian Bureau of Statistics.

The draft version of the Methodological Guidelines was prepared together with the first delivery of data on the total population and population by sex. The Methodological Guidelines explain the whole procedure of producing population grids. The current version of the Methodological Guidelines will be revised if new moments appear during the production of data sets.

### **4.1. News release**

Not applicable.

### **4.2. Other publications**

Methodological Guidelines No. 74/2015: "Merging Statistical Data of the Census of Population, Households and Dwellings in 2011 with Geospatial Information in the Republic of Croatia ([https://www.dzs.hr/Eng/publication/metodologije/metod\\_74.pdf](https://www.dzs.hr/Eng/publication/metodologije/metod_74.pdf)).

### **On-line database**

GeoSTAT portal of the Croatian Bureau of Statistics (<https://geostat.dzs.hr/>)

### **4.3. Micro-data access**

The conditions under which certain users can access microdata are regulated by the Ordinance on the Conditions and Terms of Using Confidential Data for Scientific Purposes.

### **4.4. Documentation on methodology**

The draft version of the Methodological Guidelines under the title Merging Statistical Data of the Census of Population, Households and Dwellings in 2011 with Geospatial Information in the Republic of Croatia is bilingual. The Methodological Guidelines explain all levels of preparing and producing statistical data in grids as well as references to other documents that were used in the project.

The results of the project (the total population and population by sex and age, educational attainment and activity) were produced in CSV format and used for producing maps related to a relevant subject matter.

For the purposes of producing grid statistics and on the basis of instructions received from the European Forum for Geostatistics, a bilingual handbook was also prepared, in English and Croatian.

## **5. Comparability**

### **5.1. Asymmetry for mirror flows statistics**

Not applicable.

### **5.2. Comparability over time**

#### 5.2.1 Length of comparable time series

Indicator for this survey is not applicable.

#### 5.2.2 Reasons for break in time series

Not applicable.

## **6. Coherence**

### **6.1. Coherence – short-term and structural data**

Indicator for this survey is not applicable.

### **6.2. Coherence – national accounts**

Indicator for this survey is not applicable.

### **6.3. Coherence – administrative sources**

Indicator for this survey is not computed.

## **7. Cost and burden**

### **7.1. Cost**

The project was financed by the European Commission – Eurostat.

### **7.2. Burden**

Not applicable.