

Preparations for the 2011 Population and Housing Census in Hungary and the Planned Implementation Method

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This article summarizes all the preparatory work which was carried out at the Hungarian Central Statistical Office from 2007 to 2011, the census year. The reader can get a short overview of the census work from the start to the realization of the final execution.

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Census.

Survey.

Legislation.

The article presents the census preparatory work carried out at the Hungarian Central Statistical Office, from the starting ideas to the development of the census execution method. It contains a short description of the European and Hungarian census legislation and organization. As the paper was written before the census, it closes with a short summary on the realization.

1. The first steps of the census preparatory work

The preparatory work of Census 2011 started in 2007. What stood in the centre of our thinking is how to change from the traditional, interview-based census to a more modern method using partly or fully registers. At that time, a European Union project called “Preparation for the Population Census 2011” was running at the Population Statistics Department of the Hungarian Central Statistical Office (HCSO). It had two objectives:

- to discover which authorities in Hungary have such an administrative database that may contain census type information. Besides, as this information collection could have been the basis of a new type of Hungarian census using partly or fully registers, we wanted to find out where these data can be found, who the data owners are, how they can be used.
- to check the census addresses and block identifiers, that is, to correct the census address database (for example the related maps) of the Census Department of HCSO which serves as a basis for the census.

Simultaneously with this project, three census concepts were elaborated:

1. data are exclusively obtained from administrative registers, linking personal data for statistical purposes;
2. basic data are acquired from the Population and Address Register maintained by the Central Office for Administrative and Electronic Public Services and from the Address Register of HCSO, while supplementary data are collected from a representative sample survey;
3. data originates from full-scope enumeration.

The concepts identified the way of implementation, (time) conditions as well as the material and human resources.

The first idea – relying exclusively on administrative registers – was soon rejected as it had no suitable legal background and there was not enough time for its implementation.

The second one – using basic data from the Population and Address Register – was a serious matter of consideration. Many analyses and comparative studies were conducted and their results were built in the methodology of the test censuses.

Besides these, the concept of the conventional census grounded on the latest technology (for example on using hand-held devices during the enumeration process or on the self-enumeration method (self-fulfilling paper or electronic questionnaires)) was also under deliberation.

2. Regulation of the European Parliament and of the Council on population and housing censuses

In recent years not only the preparations for Census 2011 have started in the countries but a substantial change has also occurred at European level. Around the millennium, the European censuses no longer met the quality criteria related to users' needs. There was a several-year difference among the reference dates of the censuses of various countries, and consistency errors were also found in data. As some countries forwarded their data to Eurostat with long delays, the European-level dissemination finished only in September 2005, 44 months after the end of the reference year. Instead of loose cooperation (gentlemen's agreement), a plan for stronger collaboration, that is, for creating a legally-binding European census regulation was outlined. The first draft of the European regulation on censuses was presented to the Directors of Social Statistics on 28 September 2005. Then intensive consultations started on the details with UNECE, the Eurostat and the representatives of national statistics, together with international experts. HCSO has also continuously participated in these consultations, followed and helped the process till its end. As a result of the multi-annual work, the Regulation of the European Parliament and of the Council on population and housing censuses (hereinafter referred to as the Regulation) was adopted on 9 July 2008.

Herewith the members of the European Union strengthened their cooperation related to censuses as the Regulation is compulsory for all member states. This legislative act stipulates that every country shall conduct a census in the same year, for the first time in 2011. It does not state the implementation method but declares the data to be collected. The member states have to meet both general and individual quality

requirements declared in the Regulation. The data collected compulsorily have to be provided to Eurostat within 27 months of the end of the reference year.

Three Commission regulations implementing the Regulation have also been adopted as regards the detailed rules (for example the technical way of data collection).

Even though the Regulation gives freedom to the member states to choose the implementation method, it also imposes a new obligation on them to prepare for the census.

3. Test censuses

Several test censuses and test processes were carried out in the years prior to the census in order to realise the planned, new methods. We conducted test censuses in 2008, 2009 and a pilot census in 2010. In doing so, we tested the usability of the Personal Data and Address Register which is the official state register and the citizens' reception of self-fulfilment of both paper and electronic questionnaires. We also analysed the main demographic features of those who chose these forms or the interview method and the time of answering via internet, regarding the whole enumeration period and the time of day. The advantages and disadvantages of the temporal separation or concurrence of the self-enumeration and conventional – enumeration with interviews – methods were also examined.

The questionnaire of the test censuses, the 'quality' of each question, the answering possibilities and the order of the questions were also tested. Before each test census, focus group researches were carried out for quality correction of the questionnaire during which a small number of participants were asked to fill it in and share their experience on how they understood the questions. The understanding of the questionnaire and the fact whether it allows an easy filling were analysed with this method.

While determining the census topics, special attention was paid that the compulsory data and their breakdowns provided for in the Regulation, could be collected and created.

Budget is always a fundamental point of censuses and this was so with us. It was the reason why we concentrated primarily on the compulsory information stipulated by EU legislation, followed by the domestic needs arising partly from the previous Hungarian censuses, partly from meeting the new demands of society.

Census topics have been negotiated with different organizations representing the needs of many professional and interest groups like the representatives of ethnic mi-

norities, disabled persons, churches and with the Commissioner for Data Protection and Freedom of Information, in order to meet all kinds of confidentiality rules.

4. Creation and content of the Hungarian act on population and housing census

The first version of the act was adopted in 2009 (Act CXXXIX of 2009 on the census of 2011, hereinafter referred to as Census Act), then it was modified two times in consequence of the change in the government which has taken place in the meantime. The final version was born on 30 November 2010 (Act CXXXIX of 2009 on the census of 2011 in a unified structure with Act XLIX of 2010 and Act CXXXVII of 2010 amending it). As a result of the modifications, the method of implementation was changed, the enumeration period was shortened, and the number of census topics was increased.

In accordance with the Census Act, a population and housing census shall be held in the territory of the Republic of Hungary, covering the natural persons living in the country and all dwellings, with the reference date of 1 October 2011. Data collection will take place between 1 and 31 October 2011. The supplementary enumeration of those persons who were omitted from the 'normal' enumeration for some reason has to be finished till 8 November 2011. Questionnaires can be answered by self-fulfilling a paper or an electronic questionnaire or by interview with an enumerator. Citizens can freely choose the way of answering.

The Census Act lists those data topics to be collected on natural persons, dwellings and institutions for which response is compulsory. Besides, there are questions on nationality, mother tongue, religion, long-lasting illness and disability, answering to which is not mandatory. The topics cover all variables prescribed in the Regulation, and, over and above, other subjects, for example, fertility and daily commute that are contained by the Census Act and were collected in the previous Hungarian censuses.

Respondents shall give true data on census topics. However, their names must not be recorded in the questionnaires. Dwelling addresses get an internal identification number which has to be handled separately from other collected census data after checking full coverage.

The Hungarian Central Statistical Office is in charge of the professional supervision of the (local) preparation and execution of the census; provides the technical conditions of the enumeration and performs data processing, dissemination and publication. The notary of the local government takes care of the local preparation of the

census and the execution of data collection in the administrative territory of the locality.

A separate government decree covers the detailed rules of the census (Government Decree 305/2010. (23 Dec) on the execution of Census 2011).

5. Features of the opportunities to respond

A major innovation of the Hungarian Census 2011 is that self-enumeration is provided as an option for inhabitants. This method was tested several times, and according to our experience, people do need self-enumeration through paper questionnaires or via internet, without enumerators, as some population groups are unwilling to answer to census takers. This option will be highlighted in communications to the population. Provision of data via internet is cost-effective for the statistical office because of data capturing and processing.

Before the reference date, the first task of the enumerators is to roam their enumeration areas in order to check the completeness of the list of addresses, to correct it, if necessary, and to distribute the respondent packages to every single address. Each respondent package contains an informative letter as well as a copy of a dwelling and a personal questionnaire.

Citizens may provide data in three ways:

- Questions can be answered via internet. For this action, respondents have to enter a website (www.enepszamlalas.hu) where they can start answering the questions after getting their unique internet access codes. These, namely the “Identifier” and the “Identification code”, can be found on the first page of the dwelling questionnaire included in the respondent package. In case of online fulfilment, all persons living in the same dwelling have to choose this answering method. Answering via internet is possible from 1 to 16 October 2011.

- Citizens may complete the paper questionnaires found in their respondent package on their own and then give it (being placed back in the envelope) to the enumerator at an agreed date. If more than one individual lives in the dwelling, the enumerator provides them the further copies of the personal questionnaire. Self-enumeration in this way is possible only in the first two weeks of data collection, from 1 to 16 October 2011, such as in the case of the internet method.

- Citizens can answer census questions with the help of an enumerator who visits and interviews them at an agreed date between 1 and 31 October 2011. It is necessary to keep the questionnaires found in the respondent package for this action.

6. The organization of implementation

The key to the success of the census is the implementation of data collection according to uniform principles throughout the country. The order of responsibility and the division of labour stipulated in the Census Act and the aforementioned government decree on the implementation of the census serve as a basis for the tasks of the actors taking part in it.

HCSO professionally manages the tasks concerning census preparatory work and directs the execution of the data collection. Its president has appointed a *county instructor* for each county and for the capital. The latter organizes the preparation for the local implementation of data collection, directs the territorial instructors' work in the given county or in the capital and maintains contact with the county administrative instructor of the census.

HCSO enforces the professional aspects through the territorial instructors' network. A *territorial instructor* represents the statistical office in the localities. He/she maintains strong professional relation with the *local administrative instructor of the census*. The tasks of a territorial instructor are the following: organizing the supervisors' network, supporting and controlling their job, providing professional supervision of the enumerators' work with the help of the supervisors and the local administrative instructor of the census.

Supervisors, who are at the lowest level of the managing and controlling hierarchy, directly manage, control and support the enumerators' work. Their task is to qualify and accept the fulfilled questionnaires and to record the information needed by the electronic monitoring system.

The leader of a government office (previously called public administration office) for the county or the capital appoints a *county administrative instructor of the census* for the period of the preparation and implementation of the data collection. He/she fulfils his/her task which is to check whether data collection is conducted according to the law, in close cooperation with the county instructor.

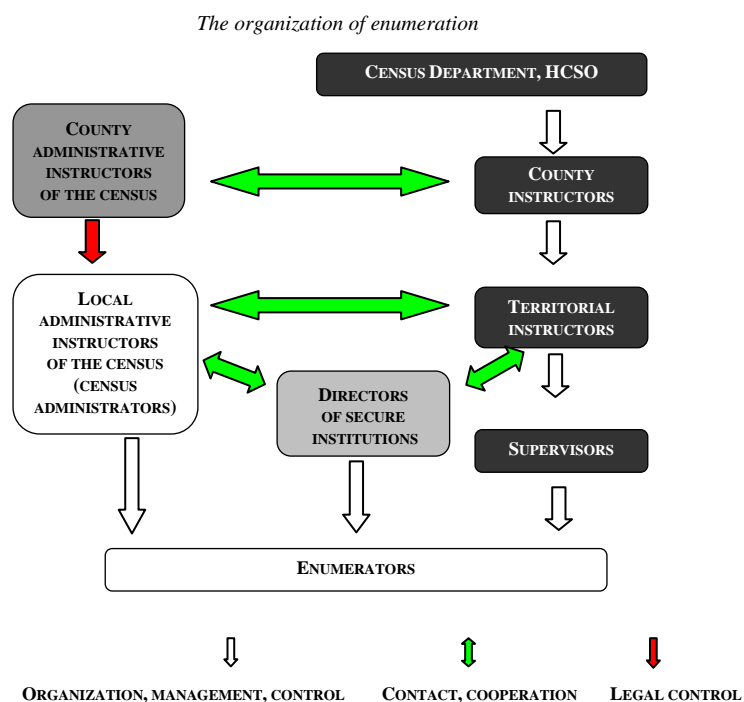
The notary of the locality or the district (in the capital) as the *local administrative instructor of the census* takes care of the local preparation and implementation of the data collection. In the case of larger settlements, a census officer and/or a census ad-

ministrator assists his/her work. The tasks of a local administrative instructor are to provide for the adequate number of enumerators, to ensure the technical conditions of implementation, to control the progress of data collection, to handle the data providers' problems and to organize supplementary data collection in the given locality, if necessary. The local administrative instructor of the census cooperates closely with the territorial instructor of HCSO.

The *enumerator* is in direct connection with the data providers. His/her task is to distribute respondent packages to the addresses, to conduct interviews, to collect paper questionnaires from those who completed them on their own and to correct the details of addresses in the address store. His/her work is directed and controlled by the supervisor.

The *director of a secure institution* is responsible for the implementation of the data collection process concerning persons living in that *institution* (maintained by the Hungarian Defence Forces or law enforcement agencies like police, national security services, etc.), in cooperation with the notary of the locality.

The relations of the actors of implementation are shown in the Figure.



7. The dates, types and novelties of data dissemination

The users of census data including central and local administrative bodies, research institutions, individual researchers, interest groups and civil society organizations as well as the broad public rightly expect that the results of the census whose budget was significant should be accessible and usable as widely as possible, at the earliest opportunity, in a form and detail needed by them. When preparing the dissemination plan, our aim was to make such a user-friendly dissemination program which satisfies the formerly mentioned needs and also fulfils the reporting obligation of the country towards the European Union.

The most important change compared to the previous census is the reduction of paper publications and the better exploitation of the electronic dissemination potentials.

A stressed criterion of data dissemination is the earliest possible publication of the preliminary results. These data are planned to be released in March 2012. The final data and the relevant details will be published after completion of data processing, from the fourth quarter of 2012.

We will bring out the preliminary results, a national summary volume and its county versions in paper (printed) format as previously. Our aim is to reduce their content by combining print publications with CDs, decreasing the number of tables in the paper format but increasing it in the CD supplement.

Dissemination of the results will mainly rely on electronic publication forms. One part of them is static tables by territories and topics which can be used easily even by unprofessional users. Owing to the growing need for analytical studies, we plan to produce several downloadable publications for what the census database offers a great opportunity. We will continue the tradition of publishing our thematic volume set distributed previously in print but this time it will be disseminated in the form of downloadable internet publications.

The other part of the electronic dissemination channel is made up by databases that provide dynamic access for professionals and researchers having more interest in our data. A good example is the Dissemination Database of HCSO which would serve as a model for the Census Database.

There is always an increased interest in spatial data during census period. This is the reason why we plan to organize census data into regional/local databases besides the main census indexes of territorial (local, Budapest district, county, regional) level in line with the previous practice.

It is expedient to present the territorial data not only in the previously mentioned databases but also in interactive thematic maps such as the Atlas of Regions already available on the website of HCSO.

We are working on finding the appropriate way to make the census data accessible for researchers and hereby to provide certain micro data sets for scientific analysis.

The Regulation on population and housing censuses and the related implementing regulations define the dataset to be submitted to Eurostat, specifying exactly the topics and their breakdowns as well as the technical conditions, method and date of data submission. Data will be submitted in the so-called electronic hypercubes instead of Excel tables used in the previous European censuses. Sixty multidimensional hypercubes with defined content will be submitted by all member states of the EU. Among them, five hypercubes refer to the country level, 40 to the region level, 10 to the county level and 5 to the locality level.

The Eurostat recommends the Census Hub for data submission. This data dissemination and submission system is based on the concept of data sharing. Its main point is that the national statistical offices use their own IT system for storing their data to be supplied, which serves as a basis for query answering with the help of a uniform data query system provided by the Eurostat. The technical format of transmission shall be Statistical Data and Metadata eXchange (SDMX) developed for data submission of statistical data and metadata. Although the application of this system is not an obligation just a proposal, we would like to use it to offer an easier way to access data at international level, too.

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Since the time the former part of the study was written, Hungary has successfully carried out its 15th census between 1 and 31 October, 2011.

The data collection period lasted from 1 to 31 of October and was followed by a supplementary data collection phase from 1 to 8 of November.

The 15th Hungarian census provided, for the first time, the opportunity for the inhabitants to choose from three methods of data provision: fulfilling the questionnaires via internet or on paper on their own, or answering to the enumerators. The electronic data collection was carried out in the first half of the month. 19 percent of the “addresses” completed the questionnaires through internet, while another 15 percent chose self-enumeration on paper. However, most of the households answered the questions about themselves and their dwellings to enumerators in traditional interviews.

Among the three methods, respondents chose that way of answering which was the most convenient for them. The electronic enumeration was practical, comfortable, fast and flexible for those who had only a short time for such an activity. The in-built instructions and checks as well as the answer dropdowns helped answering.

Self-enumeration on paper was preferred by those who did not want to agree on an appointment for enumeration or to let an “unknown enumerator” in their flat. This method proved to be the most difficult for the respondents as they could lean only on themselves in fulfilling the questionnaires, and thus, the accuracy of completion was determined considerably by their responsibility and attitude.

The personal interview was chosen by those who opened the door with confidence to the enumerators, trusted in their knowledge, competence and expertise and did not want to wrestle with the fulfilment.

The processing of the census data has already started. The preliminary data will be published in spring 2012, while the dissemination of the final data will begin from the end of 2012.¹

¹ *Editorial comment.* The *Hungarian Statistical Review* will also report on the final results.