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The future of population censuses and their role for national statistical systems

Experience with and prospects for population censuses in the Russian Federation

Note by the Federal State Statistics Service of the Russian Federation

Summary

This note provides an overview of the population census conducted in the Russian Federation in October 2010. It describes the methods used to collect information on the population and the scope for using administrative data and information and communication technologies to conduct a census. A number of promotional campaigns were carried out to raise public awareness of the census through the media, special events, the Internet and social networks. The findings of the 2010 All-Russian Population Census will be ready by the end of 2012. This note also provides an overview of the planning process for the 2020 population census in the Russian Federation, taking into account previous experience and international recommendations.

I. Introduction

1. As part of the 2010 round of world population censuses, a census was conducted in the Russian Federation in October 2010. Information on the population as it stood at midnight on 14 October was collected from 14 October up to and including 25 October. The country's previous experience and the recommendations of the United Nations, the United Nations Economic Commission for Europe and the Statistical Office of the European Communities were taken into account in the preparation of the 2010 All-Russian Population Census. The next population census in the Russian Federation is due to be conducted in 2020.

2. The main aim of the 2010 census was to find out the exact size of population across all population centres in the country, ranging from "millionaires' cities" to the very smallest villages that may have just one inhabitant.

3. The particular features of population censuses in the Russian Federation are:

(a) The large size of the country – 171 million square kilometres spread over 9 time zones;

(b) The significant proportion (almost 75 per cent) of territory lying within the Far North and similar territories. The census of over 1,600 population centres in these areas was conducted between 1 April and 20 December 2010 as transport connections permitted. Information on about half a million people was gathered;

(c) The uneven distribution of the population across the country. Population density, measured in persons per square kilometre, reaches 9,500 in Moscow and 3,300 in St. Petersburg, whereas in Chukotka and the Nenets Autonomous Area it is 0.1 and 0.2 respectively and the average population density for the entire country is 8.3;

(d) The significant number of population centres, including small ones, and their remoteness from each other. The country counts 2,386 small cities and big towns, 12 cities with populations of over 1 million and 153,000 villages.

4. The 2010 census was conducted on the basis of the Federal All-Russian Population Census Act, which makes participation a civil and social obligation. The list of questions under the Act, on which population data are collected does not include a person's family name, first name or patronymic. The information on the census forms is anonymized.

5. Thus, to obtain complete information on the size of the population, check the completion of census forms by census personnel and ensure that there was no undercounting or overcounting, lists of people to be counted in the census were created indicating family name, first name, patronymic and temporary or permanent address.

II. Collection of information on the population

6. During the 2010 census, information about the population was collected by various methods, in keeping with the Federal Act. Census personnel collected information from 94 per cent of the population by visiting all premises where people might be living. Respondents not wishing to allow census personnel into their homes and homeless persons could complete the census at census stations (6 per cent did). In individual cases people were permitted to respond to the census by telephone.

7. Monitoring procedures were set up to ensure that data on the population size was reliable: people with more than one home were identified, notifications of the census were issued and premises were visited and checked.

8. At the end of the census, administrative sources from their places of permanent residence were used to ascertain the sex and date of birth of everyone who had refused to take part (1 million) and people whom the census personnel were unable to find over the census period (2.6 million) and only these two fields on the census form were completed for these 3.6 million individuals.

9. All this resulted in an exact figure for the total population of 142.9 million (the difference between this and the most recent estimate of population size was 1,007,600, that is, 0.7 per cent). The difference is accounted for by amendments made to migration legislation in 2006.

10. In addition, because it was not compulsory to provide personal information, considerably more people than in the previous census, did not respond to certain questions on the census form for one reason or another (see table):

<i>Indicators</i>	<i>Number of person who did not provide information about themselves for various questions on the census form (millions)</i>	
	<i>2002 census</i>	<i>2010 census</i>
Age	0.12	0.34
Ethnic origin	1.46	5.63
Citizenship	1.3	4.1
Level of education	1.4	3.5
Source of livelihood	1.5	4.0
Economic activity	1.8	4.6

III. Use of administrative data

11. The Russian Federation has no population register. There are, however, administrative department sources which the Federal State Statistics Service (Rosstat) used while organizing the census to obtain a rough idea of the number of people to be covered per building in all population centres, to monitor the progress of the census itself and check the number of persons who had responded. There is, for example, the automated State Vybory (elections) system, which has a list of Russian Federation citizens aged 18 and over based on citizens' registered permanent addresses, there are other organizations that perform registration and provide communal services, and there are local government bodies.

12. None of the administrative files available contains comprehensive data, however. Furthermore, under Russian law, an individual may officially be registered in two places: one permanent and the other temporary. This arrangement leads to duplication in administrative files.

13. For the first time, local Rosstat offices compiled electronic lists, covering all population centres, of the addresses of all buildings (premises in which people do or may live and buildings not suitable for accommodation) in the area, showing population figures from the administrative sources mentioned.

14. A specially created electronic system allowed territories to be divided automatically into census and countable districts by means of schematic diagrams of population centres. It

was checked that all buildings had been included in the countable districts and route maps were drawn up to help census personnel to find buildings and residential accommodation.

IV. Use of information and communication technology

15. An external company was contracted to automate the 2010 census after being selected in a competition. In 2008, an automated system to prepare, calculate and process data and deliver the findings of the 2010 census was introduced at Rosstat and its local branches.

16. The automated system contained over 50 subsystems enabling work to be automated at all levels.

17. From the lowest level (district or town) in every constituent entity of the Russian Federation up to the federal level, information was amassed on population size and on the work to be done by census personnel in all buildings (residential and other) in every population centre in the country. The information was used to divide the census by district, determine the need for census personnel and establish what technical, material and financial resources the census would require.

18. The system automated the process for concluding employment contracts with census personnel (in total, contracts were concluded with almost 600,000 workers), monitoring the progress of the census, overseeing the work of census personnel and generating reference material (updating reference works and classification standards).

19. The subsystems of the automated census system enabled machine-readable census forms to be developed, a database of preliminary census indicators to be created, socio-demographic characteristics to be attributed (no characteristics were attributed when information on individuals was derived from administrative sources), data to be automatically corrected and tables to be created summarizing the census findings.

20. Special software monitored the information-processing and the emerging findings, eliminating double entries. This included checks of the quality of the on-screen coding by analysing the handwriting of census personnel (it helped to recalibrate the codes for answers given by respondents on their census forms to questions about their country of citizenship, native language and ethnic origin) and logging the work of the computer operators processing the census data.

21. Modern mapping technology from ArcGIS was used in the automatic system to enable census findings to be visualized with IBM Cognos software.

22. Subsystems were designed to automate post-census use and storage of census information:

- (a) Comparisons of the results of the 2002 and 2010 population censuses;
- (b) Multipurpose regional sampling, picking out regional or census units for use in various kinds of population surveys depending on the sampling aims and criteria;
- (c) Cross-checking of current population data against the census results;
- (d) Recalculation from the census findings of demographic indicators including indicators for municipalities, since the distribution of municipalities changed significantly over the period from 2003 to 2010.

23. A help and feedback portal for professional staff at the central and local offices of Rosstat was created as part of the automatic system.

V. Findings

24. The findings of the 2010 census will be ready by the end of 2012.
25. As the findings come in, they are prepared for official publication. Ten volumes on individual topics and a compendium are due to be published by the end of 2013. Following publication, each volume is uploaded to the Rosstat site www.gks.ru, where it is freely available in pdf and Excel formats.
26. The findings of the 2010 census will also be issued in the form of popular thematic brochures, booklets and an atlas. Besides being published in print, the census data will be distributed in electronic format, and hosted on an Internet site, while more detailed information will be available to users on individual request.
27. By the end of 2013, the Rosstat website will provide online access to the anonymized microdata files of the 2010 census and the confidentiality of the raw data will be protected.

VI. Promotional campaigns

28. The media called the census one of the most important events of the year. According to the international information agency, Integrum Worldwide, which follows Russian media, there were 29,700 articles and releases on the 2010 census. The only topic which received more was the Skolkovo project, with 30,600 articles and releases (for information, Skolkovo is a project to boost development of new and high technology in the Russian Federation with the support of Russian authorities and priority funding).
29. Following the recommendations of the Conference of European Statisticians, Rosstat ran a campaign in 2008–2010 to inform the population about the forthcoming census and explain its aims and purposes. This work was contracted out to an external professional company selected in a competition.
30. The campaign was conducted in accordance with a specially designed programme which drew on all methods of communication and technology to connect with the general public. This technology ensured that the components of the programme were cohesive and consistent.
31. Since most of the population had already had the experience of participating in a census, the 2010 census modified the main premises and key messages for target groups.
32. Whereas the main focus of the 2002 census had been on the need to obtain new data under the country's new circumstances and eliminate fears and phobias about such things as the confidentiality of information, the 2010 census represented a social milestone and the start of a tradition. It was intended to reflect the changes which had taken place in society over the previous eight years, for instance in demographics, to provide a basis on which to set new objectives of State policy and to correct those already established.
33. The main premises of the 2010 census were as follows:
- (a) Participation in the census is standard practice;
 - (b) The census is a technical solution to a demographic problem;
 - (c) The census has a bearing on crucial State decisions.
34. The campaign ran among all target audiences, but focused in the main on young persons, in particular those who had not taken part in the 2002 census or had no memory of doing so because they were too young and thus regarded the census as something new.

35. Given the presence of foreign nationals in the country, some of whom were in the Russian Federation in violation of migration law, one major thrust of the promotional campaign was to cooperate with diplomatic missions and various civil society organizations, including ethnic cultural communities, their leaders and the media.
36. Measures carried out at the preparatory stage were intended to provide information and foster a positive attitude to the census among target audiences.
37. In the year of the census itself, measures were designed to motivate the target audiences to participate and take a benevolent attitude to census personnel.
38. Rosstat used every news opportunity to provide interesting coverage of the run-up to and holding of the census so as to capture people's attention and provide truthful information.
39. Over the days in which the census was conducted, broad media coverage was given to the following:
- (a) The completion of the census by top officials, the leaders of the federal constituent entities and managers of local government bodies;
 - (b) A commemorative first day cover for the 2010 census;
 - (c) The completion of the census in a communication session with the Russian crew of the International Space Station;
 - (d) The screening on the federal television channel of a 26-minute documentary on the census, "Living numbers".
40. With the assistance of the Russian Ministry of Sport, Tourism and Youth, the Russian Football Union, the Professional Football League and various football clubs, in October 2010, players in all elimination round matches of the Russian Championship and at one friendly international match went onto the field wearing census personnel scarves. At the stadiums and during the broadcasts of the matches, announcers and television commentators gave information on the census and footballers' support for it.
41. Russian businesses assisted in the delivery of a Short Message Service (SMS) containing census information to 65 million subscribers to mobile telephone networks.
42. The Central Bank of Russia issued silver coins and small coins (10 million) with the symbol of the 2010 census.
43. The following means were used to enable two-way communication with the population:

A. Internet opportunities

44. A reference website, www.perepis-2010.ru, was launched in 2009. It was visited by people living not only in the Russian Federation but also in Ukraine, Germany, the United States of America, the Netherlands, the United Kingdom, Kazakhstan, France and elsewhere. In October 2010 alone, over 900,000 visitors to the site were recorded. The Internet search engine, Yandex, indicated that "population census" ranked among the five most popular topics in 2010 (over 100,000 searches per day).
45. In 2010, on social networks and in the blogosphere, the blogs of the Director of Rosstat and local Rosstat bodies discussed the aims and purposes of the census and why it was necessary.

46. A hotline with a Government telephone number. Over the two months it was in operation, almost 200,000 telephone calls were received from all constituent entities of the Russian Federation. Over 86 per cent of callers lived in or near Moscow or St. Petersburg.

47. Monitoring of public opinion. Large-scale sociological surveys were conducted on the attitudes towards the 2010 census and its organizers of various sociodemographic groups, public participation in the census and the trust placed in its results. Focus groups studied the effectiveness of the promotion campaign among various target audiences.

48. Monitoring and analysis of the image of the 2010 census.

VII. Planning for the 2020 All-Russian Population Census

49. To prepare for the next population census, previous experience, best practices from abroad and recommendations by international organizations will be taken into account. It is, however, already possible to mention some features that are sure to be introduced into the Russian census practice.

A. Amending the Federal All-Russian Population Census Act

50. First, there will be a drive to amend the current Federal All-Russian Population Census Act so as to:

(a) Make it compulsory for the public to take part in the census by providing information about themselves;

(b) Use a unique identification number for each inhabitant of the Russian Federation;

(c) Add to the methods for collecting information one using computer networks, that is, an online version of the census;

(d) Increase the list of indicators obtained from administrative files and use this information when organizing the census, collecting information and checking the quality of the census.

B. Preparing to introduce additional methods for collecting information

51. Work has begun on introducing additional methods for collecting information from the population, including the use of modern IT technology — an online version of the census, and the use of tablet computers by census personnel — and on improving traditional data collection methods.

52. This primarily concerns the use of self-registration by individuals, either on census forms or online.

53. There are currently over 50 million Internet users in the Russian Federation. These are mostly inhabitants of St. Petersburg, Moscow and other very large towns and cities.

54. Technological efforts are under way to provide census personnel with tablet computers to record information from respondents while retaining the face-to-face survey technique, and sending the information gathered in encrypted form to regional Rosstat offices.

55. It has also been proposed to use Geographic Information System (GIS) technology to monitor the quality of the census process, keep census personnel safe and, later, to distribute census data.

56. At the same time, the traditional method of surveying the population and recording their replies on paper copies of census forms will be retained and used in circumstances where there is no advantage to using tablet computers, such as in fairly inaccessible and remote districts and small villages with few inhabitants.

57. Census stations will be organized for residents who for one reason or another do not wish to reply to the questions of census personnel in their homes or supply information over the Internet.

C. Considering the possibilities of using administrative sources of information

58. The possibility needs to be considered of using administrative sources of information to check that the entire population has been covered and to obtain personal information held in other State departments. These may include the databases of the Federal Migration Service, which registers citizens by permanent or temporary address, and individual (personalized) records held at the Pension Fund of the Russian Federation, the Federal Compulsory Medical Insurance Fund or the “Demografia” statistics database. The Pension Fund of the Russian Federation currently has in its database information on persons over 14 years of age (i.e. persons legally entitled to be hired to work) and has started to register children under 14 years of age in a system of individual (personalized) records and issue them compulsory pension insurance certificates (SNILS). It is planned in the near future to turn the SNILS number into a unique identification number for the provision of all Government services and subsequently to use it to create a population register.

59. Developing the technology for data collection at various stages of the census and improving the quality of information received requires improvements to the process in which the census questionnaire itself is created. This includes more precise and succinct phrasing of questions and answers, logical checking and ordering of replies to questions for respondents filling in census forms themselves and the use of codes to identify people, premises and addresses.

60. In preparation for the 2015 microcensus, it is planned to establish approaches to setting up a trial system, testing its reliability and security, providing technical and IT support and studying respondents’ attitudes to the new methods for participating in the census.

D. Updating the automatic system to prepare, calculate and process data and deliver the findings of the All-Russian Population Census

61. The automatic system to prepare, calculate and process data and deliver the findings of the All-Russian Population Census is scheduled to be updated. The next stage in the development of a subsystem to prepare the census at the district level will be to update the existing electronic lists of building addresses and link them into the State address database now under construction so as to obtain an initial estimate of the numbers to be surveyed in the population census. This will unify the address system and enable automatic access to up-to-date, reliable and complete information on addresses.

62. The algorithm for data attribution is to be enhanced to increase the percentage of information retrieved.

E. Optimizing printing

63. In the next census, it is planned to cut down on hard-copy printing, increase the distribution of census data on electronic media, place more data on the website and allow access to the microdata in the anonymized census database.

F. Further promotional work

64. In preparation for the next census, new premises and key messages will be developed to explain the reasons for moving from de facto voluntary participation in the census to the principle that it is compulsory to provide information about oneself.

65. Promotional work will be required in the interim, given the change in the law to make the provision of information during a census, compulsory and the introduction of new data collection methods, including online ones.

66. It will be necessary to tell people of the State's ambition to reduce interview time during censuses, demonstrate that the census is secure and provide information on all that will be done to keep the information received confidential. People will also have to be told the need for and meaning of the information obtained in response to each question on the census programme in order to plan and forecast demographic and socio-economic processes.
