

**Economic and Social Council**Distr.: General
13 July 2022

Original: English

Economic Commission for Europe

Conference of European Statisticians

Group of Experts on Population and Housing Censuses**Twenty-fourth Meeting**

Geneva, 21–23 September 2022

Item 2 of the provisional agenda

Lessons learned from censuses of the 2020 round**Census 2021 in Croatia: performance, challenges, lessons learned and direction for the next Census****Note by Croatian Bureau of Statistics****Summary*

The 2021 census was carried out from 13 September to 14 November 2021 according to the situation on 31 August 2021 at midnight. The first census phase, computer-assisted web interviewing, or CAWI, was carried out from 13 September to 27 September, in which citizens were able to enumerate themselves and all members of their households.

The second phase, computer-assisted personal interviewing, or CAPI, was carried out from 28 September to 14 November. Due to two devastating earthquakes that occurred several months before the planned implementation of the census (the first one in March 2020 and the second one in December 2020) and the epidemiological situation in the country caused by the Covid-19 pandemic, some adjustments had to be made regarding the census reference day, training of census personnel, methodology, the census web application, transport and procurement of census equipment, legal framework and census budget. Furthermore, the Croatian Bureau of Statistics (CBS) planned to conduct the Post-Enumeration Survey immediately after the 2021 census, but it was decided that it would not be carried out due to the significant deterioration of the epidemiological situation in the Republic of Croatia.

First results were available 60 days after the fieldwork. They provide data on the total number of enumerated persons and the total population, households and housing units, at the levels of the Republic of Croatia, statistical regions at HR_NUTS level 2, counties, cities, municipalities and settlements.

* Prepared by Damir Plesac and Dubravka Rogić-Hadžalić.

Note: The designations employed in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.



I. Introduction

1. The transition to a new, fully digitized way of conducting the census in the context of the Covid-19 pandemic and the serious earthquakes that occurred in the central part of the country posed numerous challenges that had not been present in recent census history. Aimed at increasing the involvement of the population and reducing physical contact, citizens were given an opportunity for self-enumeration, i.e., they were enabled to enumerate themselves and all members of their household through the e-Citizen system.
2. This paper focuses on census challenges, especially those relating to human resources and the challenges they met in carrying out the census and the challenges related to the census applications.
3. This paper also discusses the general features of the 2021 census in Croatia, including the pilot census, the census questionnaires, and the computer-assisted web interviewing (CAWI) and computer-assisted personal interviewing (CAPI) methods of enumeration. Based on the recent census experience, the advantages and disadvantages of these census methods and the challenges faced with regards to the communication strategy are also discussed. The paper provides a summary of lessons learned, conclusions and directions for the next census round.

II. Census 2021 in general

4. The Census of Population, Households and Dwellings 2021 was carried out in the Republic of Croatia from 13 September to 14 November 2021 according to the situation on 31 August 2021 at midnight, which is considered the census moment. In 2018 it was decided and in 2019 it was confirmed that the census would be carried out in two phases using two census methods.
5. The first census phase used the CAWI method and was carried out from 13 September to 27 September. Self-enumeration took place using an electronic census questionnaire which was available via the e-Citizen digital portal. This phase was extended by one day.
6. The second phase used the CAPI method and was carried out from 28 September to 14 November. It was prolonged twice, first from 17 to 29 October and then to 14 November.
7. In preparation for the 2021 census, EU regulations and the Conference of European Statisticians Recommendations for the 2020 Censuses of Population and Housing were applied. With regards to the national legal framework, the Census Act was adopted by the Croatian Parliament in April 2021. The Census Act contains general provisions, provisions on confidentiality of census data, content of the census questionnaire, census organisation, financing of the census, and misdemeanour provisions.
8. The census was prepared, organized, coordinated, and implemented by the Croatian Bureau of Statistics (CBS) in cooperation with state administration bodies, units of local and regional self-government bodies, and census participants. Units of local and regional self-government bodies were obliged, at the request of the CBS and free of charge, to provide premises and the use of equipment and other resources necessary for the implementation of census activities.

III. Pilot census

9. The pilot census, which had been initially scheduled for December 2020, was postponed to March 2021. The reasons for postponing the Pilot Census were as follows:
 - (a) The very unfavourable epidemiological situation in the whole country;
 - (b) The explicit recommendation of the Civil Protection Headquarter of the Republic of Croatia that the pilot census could not be conducted given the circumstances, issued at the meeting held on 17 November with representatives of the CBS;

(c) The number of pilot census enumerators who contracted Covid-19 or were required to self-isolate;

(d) Based on the knowledge and predictions of CBS employees from the field, there was a great possibility that selected households would not be willing to participate in the survey;

(e) An extremely negative image of the CBS and the Government in the media due to the implementation of the pilot census in such conditions.

10. It is important to remember that the postponement of the pilot census inevitably meant the postponement of the 2021 census as well, because the time period between the pilot census and the census must be at least 5 to 6 months, or about 160 days.

11. Eventually, the pilot census was carried out in two phases, from 1 to 15 March 2021. The first phase, or the CAWI phase, lasted from 1 to 7 March. The second phase, or the CAPI phase, lasted from 8 to 15 March. For the needs of the 2021 pilot census, 50 enumeration areas in 4 out of 21 counties plus the City of Zagreb were selected. It included about 5,000 households or 12,000 people.

12. The main goals of the pilot census were to test new data collection methods, to test the public acceptance of the methods used, and to test the methodological, organizational and IT solutions to quickly and appropriately eliminate possible shortcomings in the implementation of the 2021 census. The pilot census fulfilled its purpose, identifying some shortcomings in the census application such as problems with data synchronization, logging in to the application, and entering data on institutional households. In the part of the application called the Census Management System, which was intended for junior, middle, and senior census management, it was necessary to arrange the census reports to be more efficient and simpler in monitoring the progress of the census.

IV. Human resources and their challenges in the census

A. Recruitment and selection of enumerators and supervisors

13. Candidates for enumerators and supervisors applied via e-application on the CBS website. Candidates had to meet the following criteria: be age 18 years or older, have completed high school, and have computer literacy. Candidates were required to complete an e-test that included questions about personal data, experience in survey work, computer literacy, and demography. Based on the achieved points, a ranked list of candidates was made.

14. The Census 2021 engaged about 7,900 enumerators (see table 1) and slightly more than 1,000 supervisors. This is a significantly smaller number of enumerators compared to the 2011 census, for which there were about 13,000 enumerators and 2,000 supervisors, or compared to the 2001 census, for which there were about 20,000 enumerators. Fewer enumerators participating in the fieldwork also means a larger workload for each one. Thus, in the 2021 census, each enumerator had to enumerate about 500 people, while in 2011 each enumerator had to enumerate about 300 people. Yet, the exact number depended on the number of self-enumerated citizens in the first phase of the census.

15. In some parts of the country, the number of candidates who applied to work as enumerators was insufficient. The reasons for this included the time period of the census fieldwork (reference time), a relatively small number of unemployed persons, the Covid-19 pandemic, students with school obligations, low compensation for work performed, etc.

Table 1
Number of personnel in 2021, 2011 and 2001 censuses

<i>Personnel</i>	<i>Census 2021</i>	<i>Census 2011</i>	<i>Census 2001</i>
Enumerators	7,900	~14,000	~20,000
Supervisors	1,038	1,950	~2,900
Instructors	175	193	193
Coordinators	45	45	45
Members of county committees	147	126	147
Members of county committee branches	615	602	610
Heads of enumeration centres	480	699	~550
Extra hired processing workers	25	400–500	400–500

Source: Croatian Bureau of Statistics

B. A small number of candidates applying had a direct impact on the recruitment and selection of enumerators

16. In some parts of the country, there was a small number of back-up enumerators due to insufficient number of candidates applying for positions, which led to the rapid depletion of back-up enumerators (see table 2 and figure 1). In the cases when there were no back-up enumerators available, the addresses not processed by the enumerators who quit were distributed to those remaining enumerators in the area who were willing to do the job.

Table 2
Number of candidates, planned number of enumerators, enumerators who participated in the census and enumerators who quit before the census started, by county

<i>County</i>	<i>Candidates¹</i>	<i>Planned number of enumerators²</i>	<i>Number of enumerators who participated in the census³</i>	<i>Appointed enumerators who quit before the census started⁴</i>	<i>%</i>
Zagreb county	1,072	607	588	221	36.4
Krapina-Zagorje	431	239	225	116	48.5
Sisak-Moslavina	538	249	251	110	44.2
Karlovac	485	228	227	6	27.6
Varaždin	553	327	324	95	29.1
Koprivnica-Križevci	449	210	205	63	30.0
Bjelovar-Bilogora	463	210	201	93	44.3
Primorje Gorski-kotar	840	556	513	222	39.9
Lika-Senj	228	120	114	31	25.8
Virovitica-Podravina	321	145	142	39	26.9
Požega-Slavonia	288	131	125	59	45.0
Slavonski Brod-Pos.	577	272	264	87	32.0
Zadar	560	330	370	86	26.1
Osijek-Baranja	1,369	541	538	237	43.8

¹ Applies to all candidates for enumerator positions who submitted a valid e-application.

² Planned number of enumerators for 2021 Census at the county level determined by the Croatian Bureau of Statistics.

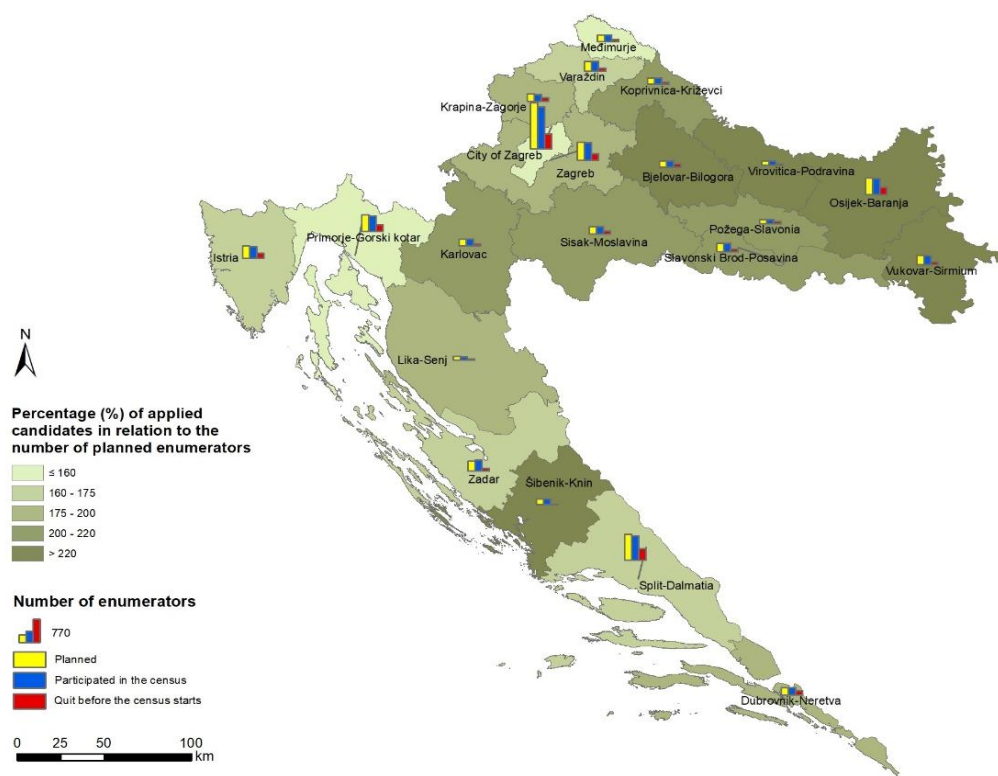
³ The total number of enumerators who participated in the census, regardless of their performance and time spent in the census. This means that enumerators who participated only one day and then quit are also included.

⁴ This applies only to already appointed enumerators who quit the census a few days before it began (the most common reason was making decision about mandatory testing for Covid-19 every 48 hours). It does not apply to enumerators who quit during the census fieldwork.

County	Candidates ¹	Planned number of enumerators ²	Number of enumerators who participated in the census ³	Appointed enumerators who quit before the census started ⁴	%
Šibenik-Knin	440	196	201	6	3.1
Vukovar-Sirmium	910	300	298	83	27.7
Split-Dalmatia	1,452	877	810	384	43.8
Istria	655	409	402	169	41.3
Dubrovnik-Neretva	454	238	237	127	53.4
Međimurje	344	215	215	63	29.3
City of Zagreb	2,391	1,541	1,402	514	33.4
Total	14,820	7,941	7,652	2,868	36.1

Source: Croatian Bureau of Statistics

Figure 1
Number of candidates, planned number of enumerators, enumerators who participated in the census and enumerators who quit before the census started, by county



Source: Croatian Bureau of Statistics

C. A large number of enumerators quit the census fieldwork at all stages

17. Census fieldwork was prolonged twice. After three weeks of hard work in the census, some high-quality and well-trained enumerators did not want to continue working on the census. Therefore, CBS was forced to hire somewhat lower-quality candidates, that is, candidates with lower selection criteria scores, to complete the work. In addition, some enumerators who applied to work for the census already had full-time jobs and were not aware that the work required a full-time engagement, from early morning to late afternoon, and complete dedication.

D. Online training

18. A major benefit of online training is that the online environment is time-independent and place-independent. Online training also notably reduces census costs. Face-to-face training would cost twice as much as online training (€110 per candidate instead of €55). On the other hand, the success of online training depends very much upon the technology itself and candidates' abilities to handle the technology. If the technology fails, the online course fails as well. No matter how many guidelines were written or how much time is spent on explaining, some candidates repeatedly faced difficulties when trying to join online meetings. That caused frustration and dissatisfaction among those candidates who easily mastered the technique of joining the training meetings.

19. The advantages of face-to-face training include easier and better monitoring of the candidates and better insight into whether the candidates are progressing in learning or not and whether the material is understandable and clear to candidates. It also provides the opportunity for immediate interaction between candidates and teachers.

20. Do the benefits of online training outweigh its drawbacks? In the 2021 census, online training was prepared and implemented in Croatia for the first time. Training of enumerators lasted for four days and covered the Census 2021 methodology, the Census 2021 IT application and some organizational aspects. As stated in the previous paragraph, online training has many benefits. However, with online training it is more difficult than with face-to-face training to assess which enumerators have attained the required knowledge. This drawback became apparent during data collection in the field, when it was clear that some enumerators and their immediate superiors had not adopted a significant part of the methodology. Some enumerators and supervisors had difficulties joining virtual training which led to their frustration and caused the candidates to either avoid the course (to a lesser extent) or to focus on the technology rather than the content of the course (more often). In those cases, additional trainings were implemented. In addition, training material was recorded and made available to all census personnel.

V. The census application and related challenges

A. How to determine the limit of complexity or simplicity of the census application? What should the application contain?

21. CBS wanted to make the fieldwork as easy as possible and fully digitized for all personnel: enumerators, supervisors, instructors, coordinators as well as members of the main coordinating body, members of county committees and county committee branches, but also for persons who calculated the wages of all census staff. Therefore, the application had to contain many functionalities. The application included the CAWI module, the CAPI module and the Census Management System module (CMS).

22. The CMS was the central part of the system where planning and preparation activities were carried out as well as quality assurance and control processes during census implementation. The CMS module included a messaging system, interactive maps, report generation, finance reports, a log management system (monitoring all data changes that occur in the system) a rights management system (depending on the job role in the census), and many other functionalities. The more complex the application is, the longer it takes to create it, the longer it takes for users to fully master it, and the more expensive it is because each new functionality requires more money and a bigger budget. It also takes more time to test it because every functionality needs to be well tested. It turned out that there had not been enough time to develop the census application, and time is something that can be very difficult to make up.

B. Intensity of data verification in CAWI method (week or strong data verification, minor or major errors)

23. Data verification ensured the quality of the collected data in the following ways:
- (a) By blocking the completion of the questionnaire by pointing out errors, or;
 - (b) By warning about implausible values in the data without blocking the continuation and completion of the census questionnaires.
24. The data verification rules were specified for each question and for each offered response or free response input value. There were several types of data verification:
- (a) Mandatory or optional questions;
 - (b) Interdependence of questions or so-called skips – certain questions were answered depending on previous answers;
 - (c) Interdependence of offered answers – answers depending on previous answers were offered to certain questions;
 - (d) Structural checks, e.g., number entries, letter entries, correct date of birth entries, correct OIB entries according to mod 11, 10 rules, etc.;
 - (e) Content checks. e.g., a person gave contradictory answers to two related questions.
25. All data verification rules were activated immediately after entering the answer. Warnings and errors were displayed after entering and saving the answer, as well as viewing the questionnaires in the CMS.
26. It was extremely important, and yet very demanding and difficult, to find a balance regarding the intensity of the data verification, because data verification that was too intense could have led to respondents' frustration and incompleting the questionnaire. On the other hand, control that is too weak can cause an increase in errors and poorer response quality.
27. That is why "minor" and "major" errors were integrated in the answers on each question. The system recognized two levels of incorrect input, or errors, that could have occurred during the input by users:
- (a) Warning, "minor error", e.g., the respondent entered information that was structurally acceptable, but semantically it seemed incorrect or unlikely: he stated that he had an apartment of 80 m² and that he had 10 rooms;
 - (b) Error, "major error", e.g., the user did not answer the question; the user gave two answers in the questionnaire that were in direct contradiction, etc.
28. Warnings referred to issues that were not critical and did not block further use of the system, but encouraged the user to check his or her entry. Errors related to cases in which the system did not allow the user to proceed until the errors had been corrected.

C. Enabling respondents to add addresses (house numbers) of their place of residence, if necessary

29. If, in the CAWI phase, the e-respondent could not find his house number and/or addition to the house number in the offered menu, he or she could add them manually. In addition, if the enumerator in the field noticed a new house number that was within his or her enumeration area but was not included in the address list, he or she could add that address to the address list.
30. Such a solution was necessary in the case when a person lived at an address that does not exist in the official technical documentation of the State Geodetic Administration (SGA). The only relevant, official address is the one in the SGA technical documentation. All recently added addresses were not recognised by the programme (because they have not been entered in the technical documentation) and were characterized as unknown. Later on, in the processing phase, correct addresses were assigned to respondents. In a large number of cases,

new addresses entered by e-respondents were incorrect because they failed to enter the exact settlement of residence. To conclude, according to field experience, it is better not to allow e-respondents to independently enter addresses that do not exist in the official technical documentation of the SGA.

D. Should CBS allow online self-enumeration outside the borders of the Republic of Croatia or not? If yes, how to check who has actually been enumerated?

31. According to the Act on the Census of Population, Households and Dwellings in the Republic of Croatia in 2021, natural persons who are citizens of the Republic of Croatia, foreign nationals and stateless persons permanently residing in the Republic of Croatia and persons temporarily residing in the Republic of Croatia at the reference time of the Census were to be enumerated. Persons who were enumerated according to the Census Act and were outside the Republic of Croatia at the time of the enumeration were allowed to self-enumerate from 13 to 27 September through the e-Citizen system. It was necessary for at least one member of the household to be registered in the e-Citizen system, i.e. to have credentials that allowed him to register. It raised the quality of the census coverage. According to the IP address, it was possible to locate the country of self-enumeration in the data processing phase, and special attention was paid to those persons in order to determine their actual place of usual residence.

VI. Comment on the census questionnaires

32. In early 2018, the draft CAPI version of the census questionnaire was sent to 49 reviewers (academics, scientists, state ministries and organizations, institutes and other stakeholders), of which 17 replied with their suggestions and comments. Some of these were accepted.

33. It is important to emphasize that in the CAWI version of the census questionnaire collective dwellings, institutional households, homeless persons and uninhabited dwellings were not included. The census questionnaire consisted of four parts: a part related to identification data, a part related to the household, a part related to housing units and a part related to the person. The questionnaire structure of the 2021 census was similar to the questionnaire structure of the 2011 census, although there were some differences. For example, questions about disabled persons were excluded, since there is a high-quality Register of Persons with Disabilities kept by the Croatian Institute for Public Health, as well as questions about internet connections and computer skills, due to the fact that these questions are covered by other CBS surveys.

34. If a person had not managed to fill in the questionnaire in one attempt, it was possible to save the entered data and continue filling in the questionnaire later. The e-respondent could re-apply and continue to fill in the census questionnaire at any time until submission. If the e-respondent had not filled in any of the mandatory questions or had filled them in with inaccurate information, the system did not allow the transition to the next question and a warning message was displayed indicating it was not possible to continue. After successfully completing and submitting the census questionnaire, the e-respondent received a unique code which served as a proof of successful submission of the census questionnaire and which the respondent provided to the enumerator during the field enumeration.

35. The second earthquake which occurred in December 2020 affected the content of the questionnaire. New questions and new modalities were added to key questions related to the definition of usual population. New questions had to be introduced in the questionnaire because a large number of people had left their destroyed homes. Some of these individuals emigrated outside the borders of the Republic of Croatia, while most found refuge within the country. The aim was to get as accurate information as possible about people who had left their homes because of the earthquake.

36. The questionnaire was designed to be user friendly, simple to complete, and to minimize respondents' errors. Feedback provided by citizens indicate that most of these goals have been achieved, especially in terms of its ease of completion and accessibility. However, some questions were not completely clear to all citizens. After processing and more thorough analysis, it will be possible to give a clearer and more precise description of these issues.

37. The questionnaire started with a short introduction in which the respondent learned what is the purpose of the census. Compatibility was high, since respondents could use most common devices such as mobile phones, smartphones, tablets, laptops and PCs to enumerate themselves. Most of the questions were close-ended, but questions related to ethnic and cultural topics remained open-ended. Experiences from this census have shown that vocabulary had to be simpler and clearer.

VII. CAPI versus CAWI methods

38. Computer-assisted personal interviewing, or CAPI, is a face-to-face data collection method in which interviewers use software on a computer or tablet to record interviewees' responses. CAPI is an interviewer-administered mode, meaning that interviewers can clarify questions that may be unclear to respondents and ask follow-up questions. Because CAPI is an in-person data collection mode, it can reach all enumeration units, populations without internet access, empty dwellings, homeless persons and low-income populations. However, CAPI requires well-trained interviewers capable of working all day, reaching every household, and conducting interviews.

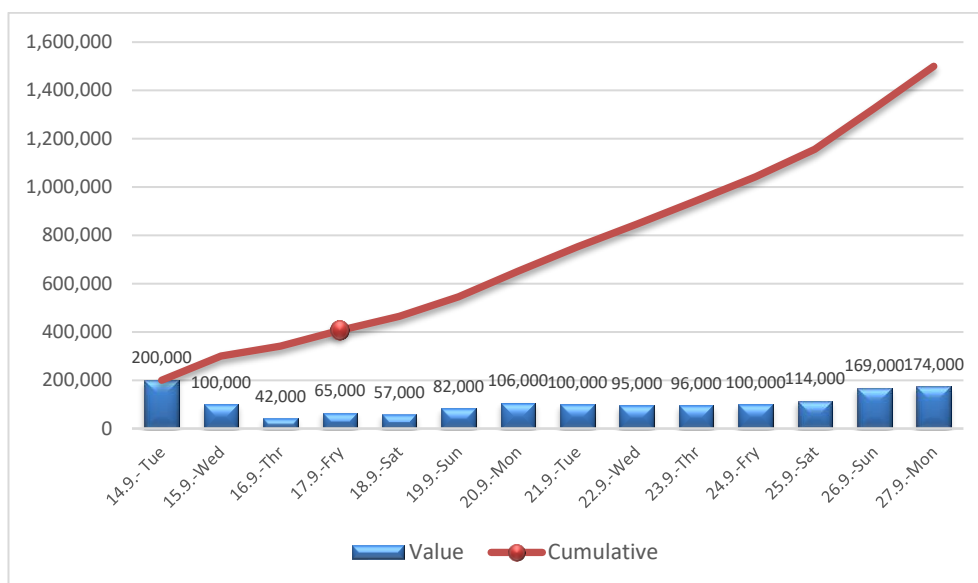
39. In rural areas, where houses can be dispersed over a large area, the CAPI method can be time-consuming. In urban areas, where population mobility is high, especially among the younger population, a significant coverage error can occur. In addition, CAPI can be costly due to the need for trained interviewers and the length of time it takes to collect data. Some respondents are not comfortable during the CAPI surveys, which may result either in respondents' refusal to answer the questions or in low-quality data due to a lack of trust.

40. Computer-assisted web interviewing, or CAWI, is an online survey that is administered through a web browser or a mobile application. CAWI supports both close-ended and open-ended census questions. However, it may not provide as detailed data as CAPI.

41. CAWI does not require the training of interviewers and can be distributed very widely, but it is limited to the population with internet access who are comfortable using computers or internet-enabled phones or tablets. CAWI is also self-administered, meaning it relies on respondents' ability to fill in a survey questionnaire accurately without the guidance of an interviewer. In general, these questionnaires need to be shorter and as simple as. The absence of an interviewer may also be seen as an advantage, especially for questions on sensitive topics which can be a source of discomfort to the respondent. In addition, CAWI gives the census respondent an impression of greater anonymity.

42. In the process of self-enumeration, citizens had the opportunity to fill in a digital questionnaire about their dwellings and households as well as about all members of the household. A single reference person provided all information on a single household, that is, e-respondents were expected to fill in the questionnaire with identification data as well as with data on their dwelling and household and with information on all members of the household.

Figure 2
Number of self-enumerated persons per day



43. The line chart presented in Figure 2 shows the progress of the number of self-enumerated persons per day during the first phase of the census. The first day and the last two days of self-enumeration were the most active days, in which the most citizens enumerated themselves. This was expected because of similar experiences in other European countries that conducted their census in this way.

44. To conclude, the benefits of introducing the CAWI method were the following: a safer environment in the circumstances of the Covid-19 pandemic, a positive impact on implementation costs, and citizens were able to enumerate themselves at the time of their choice. In addition, respondents could answer questions without restraints that might emerge if the interviewer were present in the household.

Table 3
Comparison of CAWI vs CAPI data collection

	CAWI	CAPI
Population coverage	Low – medium	High
Initial investment	Low	High
Cost per interview	Low	Medium – high
Reliability of collected data	Low – medium	Medium – high
Dropout rate	Low – medium	Very low
Good for long questionnaires	Low – medium	High
Good for complex questionnaires	Very low	High

Note: According to the 2021 Census experience in Croatia

VIII. Communication strategy

45. A necessary precondition for the recognition of the census and the implementation of the promotional campaign was the design and production of census logos and slogans. A simple but effective slogan—“Let’s create an image of Croatia together”—and an appropriate logo were used throughout the promotional campaign on all communication channels and on all promotional materials.

46. A separate website was set up to provide all relevant information related to the implementation of the census. The current Census Act, methodological materials, international standards, samples of census questionnaires in Croatian and English and in the 22 national minority languages, press releases, instructions for census participants, etc. were published.

47. The conceptual design of the census promotional campaign was developed. It included an elaborate script for TV and radio spots as well as the placement of advertisements in newspapers, leaflets, brochures, posters, billboards and lighted billboard signs using the previously established visual identity of the census. A plan to lease media space was developed to ensure that communication messages could reach as many residents as possible through various offline and online channels. Offline channels included broadcasting of TV and radio spots, publishing advertisements in newspapers, distributing leaflets, brochures, and placing posters, billboards and lighted billboard signs throughout the Republic of Croatia (national coverage). Special attention, on the other hand, was paid to online channels (digital media space, social networks), which could convey communication messages to a wide range of people in a more efficient and cost-effective way.

48. Promotional materials were very well received and contributed to the visibility of the project. Television and radio spots conveyed information about the census to viewers and listeners in a visually and audibly attractive and appealing way. TV and radio spots are the most effective marketing tools and were therefore an integral part of the promotional campaign. Other promotional materials (pens, business folders, bags, USB sticks, etc.) had an emotional effect and long-term promotional value that fulfilled its purpose.

49. Prior to the start of the 2021 census, a centralized information centre (Help Desk) was launched to provide information at the request of citizens. Within the information centre, work was organized in two shifts and answers to questions received via e-mail, telephone and social networks were continuously being prepared. In this way, uniform answers were given through all communication channels, which contributed to the quality and credibility of the Croatian Bureau of Statistics.

50. The promotional campaign included several types of activities. Furthermore, the promotion of the census was also done at the local level aimed at informing the population about the purpose of the census and its implementation. In addition, media representatives were informed on a daily basis about the applied methodology and the number of enumerated citizens in the CAWI phase. Media representatives received relevant information on the preparation, implementation, course and results of the census through daily press releases and regular press conferences.

Table 4

Communication activities, comparison between Census 2011 and Census 2021

	<i>Census 2011</i>	<i>Census 2021</i>
Promotion on CBS website	✓	✓
Promotion through specialized radio shows in quiz form	×	×
Organization of press conferences	✓	✓
TV and radio spot broadcasting	×	✓
Newspapers advertising	×	×
Leaflets, brochures and poster distribution	✓	✓
Billboard and lighted billboard signs advertising	×	✓
Rental of media space covering national and regional area	×	✓
Press conferences presenting first and final data	✓	✓

Source: Croatian Bureau of Statistics

51. Table 4 shows the activities that were planned and implemented, but also those that were planned and not implemented in the 2011 and 2021 censuses. In communication with the public, the CAWI phase of the census implementation was emphasized, especially topics such as: how citizens can participate in self-enumeration, the advantages of self-enumeration, the benefits of using digital services, and simplicity of access to census digital services. In addition, it was emphasized that the census is used only for statistical purposes and not for tax institutions and taxes.

IX. Summary of lessons learned, conclusions and directions for the next census

52. With the introduction of new data collection methods (e-Citizen collection and field collection via laptops), CBS planned to improve and modernize the data collection process, improve the accuracy and quality of collected data, improve the efficiency of fieldwork management and improve data processing.

53. The national e-Citizen platform was used and it was very well received by the public. The e-Citizen platform is a portal providing information and e-services of governmental and public bodies and institutions of the Republic of Croatia. It can be used by all Croatian citizens, digital nomads, and all foreign nationals (EU, non-EU, EEA) who temporarily reside in Croatia. Its main purpose in the 2021 census was to identify and authenticate citizens who accessed the census e-questionnaire.

54. Around 41 per cent of the population was self-enumerated. This was somewhat of a pleasant surprise for CBS staff, as standard surveys implemented via CAWI usually generate much lower response rates. This also indicates that the census is a unique statistical activity that is still widely accepted by the general public. The first day and the last two days of self-enumeration were the most active days in which the most citizens were self-enumerated. This was expected by CBS due to similar experiences in other European countries that conducted the census in this way.

55. Due to the epidemiological situation in the country, some adjustments had to be made to certain census activities. Changes in the legal framework had to be made with regards to the reference time (initially it had been set at 31 March 2021; new reference time was set at 31 August 2021). Before the very beginning of the census field enumeration, the epidemiological situation significantly deteriorated, and the Civil Protection Headquarters of the Republic of Croatia ordered that census enumerators must have EU-Covid certificates. Protective equipment (most notably masks and disinfectants) for enumerators collecting data in the field had to be provided. In addition, CBS had to ensure PCR tests for unvaccinated enumerators. This had to be done in quite short notice, provided that those enumerators had to be tested every 48 hours. Those who were not willing to do so had to withdraw from the census activities accordingly.

56. Due to the epidemiological situation caused by Covid-19, online training of enumerators was prepared and implemented. Although online training had certain benefits, it also had drawbacks when it came to assessing the level of knowledge attained by enumerators or connecting to the virtual training. The consequence was that some enumerators did not adopt a significant part of the methodology.

57. The second large earthquake which occurred in December 2020, just three months before the planned census, together with the pandemic, had a significant impact on the decision to delay the implementation of the census, but also on the introduction of new questions and modalities in the census questionnaire.

58. The CBS has been encouraging and pointing out the need for establishing a population register for years. An analysis of the current state of major administrative sources was made, many meetings were held, ideas and opinions on this topic were given and, in general, a positive atmosphere was created for the use of administrative sources, even for this census. Contacts have been established with responsible persons and experts from other state institutions who recognized the benefits of cooperation with the CBS and who are looking forward to further cooperation.

59. One of the main goals of the CBS is to create all the preconditions for the establishment of a statistical population register, or, at least, the possibility of conducting the census entirely by using administrative sources. One of the conditions is the establishment of a register of buildings and dwellings, which is crucial for the identification of households and all persons living within a dwelling. Then, a legal framework has to be made, and recording methods and the data management methodology in different registers have to be harmonized. These are the steps that CBS, together with other interested state institutions, need to take in order to establish a statistical population register in the near future.

References

The 2021 population and housing censuses in the EU, <https://ec.europa.eu/eurostat/documents/4031688/14081269/KS-09-21-344-EN-N.pdf/5907978a-011d-52fc-100e-f6a67735d938?t=1641392358489>.

EU legislation on the 2021 population and housing censuses, Explanatory notes, Eurostat, 2019 edition.

Internal methodological materials for the 2021 Census, Croatian Bureau of Statistics of the Republic of Croatia, 2021.

Internal organisational materials for the 2021 Census, Croatian Bureau of Statistics of the Republic of Croatia, 2021.

Internal technical materials for the 2021 Census, Croatian Bureau of Statistics of the Republic of Croatia, 2021.

Paolo Valente, Census taking in Europe: how are populations counted in 2010?, INED; Population & Societies, No. 467, May 2010, https://www.ined.fr/fichier/s_rubrique/19135/pesa467.en.pdf.
