

7. Collection of census information

This section, which is one of the most important of the census operation, also includes certain innovations that will ensure the goals set out for the Censuses, listed in the previous section, are accomplished.

Census questionnaires

Consequently, as regards the design of the questionnaires, a system has been devised to allow the perfect combination between register data and the rest of the census information, considering the different nature of both operations and aiming to bother citizens as little as possible (specifically, by not asking questions about information that is already available).

For legal security reasons, the option that from a strictly operative perspective would seem more effective was rejected (i.e. a single document, the census document, that also included the necessary modifications of the register data). This left three options:

a) Register document in which (only) the questions that are common to the censuses are automatically copied onto the actual census questionnaire: very operative, but the use of self-copy paper imposes strict restrictions regarding design and the subsequent computerisation.

b) Two separate questionnaires: one with register data printed beforehand (to be updated) and the other (the census questionnaire) with all the variables, even those same register data printed beforehand: less operative but highlights the different nature of the information they collect.

c) Two separate and complementary questionnaires: one with register data printed beforehand (to be updated) and the other (the census questionnaire) without the census data already included in the Register (sex, date and place of birth and nationality), identified via a code with the corresponding register, to be able to *recover* that information for the census subsequently¹ (once they have been updated, if necessary).

This third model (used by some Communities in their demographic statistics linked to the Renovation of the Register in 1996, for example Madrid, Canarias or Galicia; which means it has passed the supervision of the Data Protection Agency), is, considering the pros and cons, the most appropriate one:

- It is less cumbersome for the citizens who (as occurred in option a)) only have to answer (or check) each question once.
- It increases the separation (as occurs in option b)) between the information provided by both documents, stressing the idea that they pursue different objectives and are not exchangeable.
- This allows maximum flexibility in the selection of the design of the rest of the census documentation and the method used to capture the whole of the information.

There are also three options to choose from to select the model of the actual census questionnaire:

¹This transfer of information (from the Register to the Census) is perfectly legal; however, the transfer of information in the other direction is not. Actually, the incorporation of census data in the local registers was the cause of the notorious failure of the German census performed in the 80s, which the German justice declared unconstitutional. Hence the relevance of the register data appearing on a specific document, without being tempted, however practical and useful it may seem, to use one same document for all four variables that are common to the Census and the Register.

1) Booklet-like questionnaire, similar to the one used in the 1991 Population census: persons are listed on the header of a page and questions appear on the left of the successive pages.

2) Questionnaire similar to the one used in the Register (or the 1981 Census), where persons are listed on the left of the page and questions appear in the header.

3) A questionnaire in which each individual uses separate sheets (model that is gaining relevance in a great deal of countries, such as USA, Australia, France and Great Britain, for example). The third model cuts costs when the capture is based on scanning the image of the questionnaires beforehand, since the process only scans pages that contain information on a person. Another advantage of this model is that it reduces errors, which are very frequent in the censuses, as a consequence of changing the perspective many different times (one single person usually completes the whole questionnaire); using one page for each household member, the respondent would only have to put him or herself in the place of each other person once, and this would also encourage each person to answer their own data, thus improving the precision and the sensation of privacy.

Considering the pros and cons of each of these models, the most appropriate design (which has been verified successfully in the two pilot tests) is a combination of the last two options: **joint dwelling questionnaires** (with single response questions for each household) **and household questionnaires** (with family ties, that are answered more precisely in a questionnaire including all members, and the rest of the universal personal data questions, except for the four variables that are common to the Census and the Register, which will only appear on the register sheets), and as many **individual questionnaires** as persons between 16 and 64 years old reside in each dwelling.

This option (similar to the one used in France, Austria and New Zealand, for example) presents good qualities compared to the essential criteria used to select the best model for the questionnaire:

- the integration of census and register data (specifically, printing the latter on the census documentation beforehand)
- the need for bilingual questionnaires in Autonomous Communities with their own language
- the preservation of privacy in each dwelling (thanks to individual questionnaires)
- the reduction of response errors, both in individual questionnaires and the ones relating to family ties
- reduction of the amount of pages to scan

In fact, in order to reduce the total amount of paper to scan, and more importantly, to reduce the work load for the *citizens*, the only variables that will appear on the individual questionnaires will be connected to economic or academic activity. Questions that have a more universal nature will be moved on to the questionnaire that focuses on the household as a whole. Consequently, large groups of persons no longer have to complete the individual questionnaire (those under 16 years of age, retired persons..., and in general, everybody who does not work or study). This strategy more or less halves the number of individual questionnaires, significantly cutting costs and the deadlines applied to the census stages, that are as critical as the printing, distributing and processing the census documentation.

The remaining census data (building information, postal addresses...) will be included in the itinerary notebooks (also known as *agent notebooks*), which will therefore include the data printed beforehand, instead of being blank like the previous ones. This will ensure information is processed more efficiently, quickly and economically. In the 1996 Demographic Statistics, certain Communities already tried this method successfully. However, the 1991 operation is the first time it will be implemented in a Census at a national level.

Dispatch of the Census documentation

Another immediate advantage of the availability of the register files beforehand is the possible use of the postal service as an alternative, or at least to complement, the traditional method used to dispatch census documentation (whereby the census agents themselves leave the questionnaires in each dwelling). This method, tested in the first pilot study, presents the following advantages:

- the census agent can focus more on the collection and initial filtering of the information, thus improving its quality.
- the personalisation of register data requires each dwelling to receive exact documentation; this task, which is more delicate than the previous one (in 1991 agents simply gave each household blank census questionnaires), should be performed by experienced persons.
- the majority of households will have the documentation when the census is performed, thus avoiding the delays that usually appear when the census agent has to distribute them dwelling by dwelling; with two other important advantages: increased precision of the data (especially those that depend on the exactness of the reference period) and the substantial reduction of the periods for the collection of information.
- can be applied selectively: when appropriate, using the classical method in other places (for example rural nuclei, where a high percentage of the questionnaires are completed by the agent him or herself during the initial contact with the household).
- although it would be the first time it was used in Spanish censuses, this method has been used successfully in other countries.

The most important disadvantage of this method, which was identified during the first test, is the fact that, in some cases, too much time can pass from the moment when each household receives the questionnaire and the moment the agent collects it (this sometimes leads to personalised questionnaires being lost, which then have to be replaced with blank questionnaires). Therefore, the second test (carried out between September and December 2000), tried a different method whereby the same person distributed and collected the questionnaires as this coordinated the rhythm of distribution and collection. The drastic reduction in the number of personalised questionnaires lost has demonstrated that this method should be used in the final Census operation.

Collection methods

As regards the collection, the main method will still be the Census agent. Consequently, agents can perform certain key verifications before leaving the dwelling and maximise the complete itinerary around the section, which should always be

performed anyway (to detect dwellings not included in the base directories, to check that dwellings in which no persons are registered are actually not occupied...).

Nevertheless, technological developments have allowed the creation of two complementary methods for the collection of information (**telephone and the Internet**), albeit only to facilitate the response of groups that, given their occupation or habits, are harder to contact (single-person households or young couples in which both persons work).

Both resources share two major advantages (as well as the aforementioned fact of reaching groups that are hard to contact in person): they are **cheaper**, in relative terms, than the classical method (among other things because the information is captured automatically, thus reducing the capture process which has to be performed for paper questionnaires) and the information is of **greater quality** (thanks to the implementation of interactive quality controls, which are particularly useful for variables that require automatic coding).

As regards **telephonic responses**, it is important to note that there will always be a telephone assistance service (based on and improving the 1991 experience). Therefore, the actual dilemma was to decide whether that service should, as an additional function, envisage the possibility of collecting telephonic responses (for those citizens who request this process; although this option could also be used to cover certain types of non-response). The additional economic cost of using this collection method would consequently be less, as the costs for the general telephone service are already covered. The main problem this option presents is that it requires a very close coordination with the information collected by the agent, to avoid duplicates or gaps.

As regards **collection via the Internet**, the main problem is the lack of absolute security in the communications. Although census information is hardly conflictive from the point of view of the protection of privacy and, furthermore, as it can be sent as anonymous and encrypted information, it is important to consider the cost of somebody intercepting it along the way, simply to hamper the process. There are already resources (*electronic signatures*, for example) that guarantee the integrity of the information sent via the Web, but the novelty of the implementation of this option still restricts the possibility of completing the questionnaires via the Internet.

In any case, this collection method should not be considered as a general alternative for the whole of the population, but as a complementary response method, aimed at specific layers of the population, who were given the possibility of taking part in this census collaboration and not having to wait passively for the census agent to visit them at a suitable time. This could, consequently, reduce the, relatively important, expenses generated by queues, as well as transmitting a modern image of the Administration, that strives to make it as easy as possible for citizens to fulfil their obligations. Another very important aspect to consider is the promotion of the use of new technologies in Public Administrations, in order to be more accessible to the citizens, and in this context, the possibility of completing the Censuses via the Internet would be an example with major public repercussion.

The main disadvantage of both collection methods, especially by telephone (as it has a much greater target population), is the generation of a new requirement: **appropriate coordination with the main method**, which is still the Census agent.

After studying the possible solutions and having found a reliable, and simple, security mechanism, it has been established to allow citizens to **complete the census questionnaires via the Internet**.¹ Thus, Spain has become the fourth country in the world (after United States, Singapore and Switzerland) to use this type of response in a census.

Organising the collection of census information

The collection of the census information will be coordinated at a provincial level, appointing a Provincial Delegate from the National Statistics Institute as the Provincial Inspector.

Each province will be divided into regions so as to improve the advice and coordination of the collection, as well as to facilitate inspection tasks.

The resulting regions will be supervised by Regional Inspectors, establishing one municipality as the head of the region where a Regional Office will be located alongside a centre that controls and monitors all the tasks performed in said region.

There will be complementary Area Offices for each region, which will be the place where the personnel in charge of the collection of the information will work, meet and exchange documentation.

In each municipality, the National Statistics Institute will appoint, after nomination by the corresponding Town council, a person from this institution to act as the Local Advisor, who will advise the INE as regards the delimitation and content of the sections and will provide assistance when solving local problems.

Collection of the information: period and personnel

The tasks concerning the collection of the information onsite will have an estimated duration of two months. There will be a deadline for the completion of questionnaires via the Internet.

The personnel needed to collect the information and the basic tasks linked to this operation will be distributed in the categories of Census Agent, Group Supervisor, Regional Supervisor and Regional Assistant, who will all act under the direction of the Regional and Provincial Inspectors.

The **Census Agents** will collect the information in the sections of the municipal areas and will filter the questionnaires obtained. In order to do so, they will follow an organised and thorough itinerary, using the Itinerary Notebook, checking the limits and visiting each and every one of the buildings to obtain their corresponding characteristics. Once inside the buildings they will visit each of the spaces (dwellings and/or premises) located inside and will distribute the census questionnaires in the appropriate dwellings. They will also collect them once completed and assist in the process of filling them in when necessary.

The **Group Supervisors** prepare and distribute the documentation to the Agents they are in charge of and also control, monitor and inspect the work they perform and filter the questionnaires they collect.

¹Register data can also be modified via the Internet but, as these are administrative data and, therefore, require more legal security, in these cases, it will be necessary to use an electronic signature, similar to that used to send the Income Tax via the Internet.

The **Regional Supervisors** act under the orders of the Regional Inspector and also collaborate in training the personnel that will work in the region, they are in charge of the organisation, monitoring and inspection of the tasks performed by the personnel under their management and control the recording process that will be performed by the Regional Assistants.

The **Regional Assistants** will support the Regional Supervisor's office work tasks, especially in terms of recording the data required to ensure the operation of the application for monitoring and controlling the tasks.

How and where are persons considered for the Census?

Given that the Census includes all persons, Spanish or foreign, that have a permanent residence in the Spanish territory on the reference date, persons are interviewed for the census in the place where they habitually reside. As the place where they are registered usually coincides with the place where they live, **personalised** census questionnaires will be created using the register files, as this will save time for the persons completing them given that, in the case of the Register Data sheet, they simply have to check that the information is correct.

Nevertheless, there are a few cases beyond this norm:

1) When none of the persons that appear printed on the personalised questionnaires reside in the dwelling, the members will be given blank questionnaires (Register Information Sheet, Dwelling Questionnaire, Household Questionnaire and Individual Questionnaires).

2) When there is no information printed beforehand for a dwelling and the persons residing within live there regularly and wish to register there, they will be given blank questionnaires (Register Information Sheet, Dwelling Questionnaire, Household Questionnaire and Individual Questionnaires).

A single itinerary: November 2001

As regards the ideal number of thorough itineraries performed to create the series of Demographic Censuses, initially the 2001 operation was going to use the classic solution, in other words, **two itineraries**.

The first would have been carried out in spring 2000, and its main and almost sole objective would have been to act as a *Pre-Census*, to complete the directories of buildings, dwellings and premises that would be printed beforehand on the 2001 itinerary notebooks. Most of the information (even the main features of the buildings) would have been collected in any case in which there were a second and final itinerary (which is now the only one), given the major operative advantages of having all the statistical information on the units of observation used in the Census referring to the same moment in time.

This first itinerary aimed to create pre-directories of buildings, dwellings and premises by standardising and comparing register files (including *main* dwellings, i.e. with residents)

and cadastral files (that also included dwellings that are not main residences and premises).

After checking that this cross of administrative records (both of which can be used legally for statistical purposes) will provide satisfactory results, it was decided to **eliminate the first census itinerary that had been planned initially**: the directories of what is now the single itinerary (November 2001) will be created directly from the standardisation, filtering and verification of the register and cadastre data, with the consequent reduction of expenses (about six thousand million pesetas) and of resources, which have been used more efficiently in the preparation of the 2001 Population and Housing Censuses with the maximum guarantees.

In all, the 2000 Buildings and Premises Censuses are performed via an operation consisting in crossing administrative records (Register and Cadastre) to create directories for the, single, census itinerary carried out in November 2001. Then, as established, information will be collected on buildings (to enable their association with persons, households and dwellings) and premises¹.

This approach, alongside the maximisation of register data to be used in the Population Census (as described in chapter 2), makes the 2001 Spanish Census enter the category of *Censuses based completely on administrative records*, only behind the Nordic countries, that are the pioneers in this issue.

Pilot tests of the Census operation

A census test was carried out in September 1999, to verify the appropriate operation of the many innovations planned (information printed beforehand on the questionnaires and Itinerary Notebooks, dispatch by mail, scanning...). The test was performed in 25 census sections, distributed in five provinces selected intentionally in an attempt to cover all the different existing types of habitats.

The main outcome was that the general approach for the Censuses seems appropriate and that, in general, the most innovative aspects are feasible and profitable. It is important to refer specifically to printing the information beforehand on the census questionnaires, which is one of the most critical aspects of the census design, which has had to be given a great deal of attention.

The test has also been used, mainly via a *opinion questionnaire* that was sent simultaneously to the selected households, to complete adjusting the wording of certain questions and, furthermore, to decide the inclusion of certain questions which people were hesitant about in the draft project.

A second test was performed in September² (this time with a wider selection: 34 sections), to test, among other improvements, the modifications in the questionnaires and in the distribution and collection methods that, in view of the results of the first test, have finally been included.

¹ This is why this project, although it refers specifically to the Population and Dwellings Censuses, also includes definitions and questions referring to buildings and premises.

² This is the first time in the history of Spanish censuses that two pilot tests have been performed before a Census operation, which should reduce the amount and seriousness of unforeseen events which obviously appear in logistic operations of this size.