



**Economic and Social  
Council**

Distr.  
GENERAL

ECE/CES/GE.41/2009/14  
19 August 2009

Original: ENGLISH

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**ECONOMIC COMMISSION FOR EUROPE**

**CONFERENCE OF EUROPEAN STATISTICIANS**

**Group of Experts on Population and Housing Censuses**

Twelfth Meeting

Geneva, 28-30 October 2009

Item 5 of the provisional agenda

**CENSUS OUTPUT TO MEET USERS NEEDS**

**Determining user needs for the 2011 UK Census**

Note by the Office for National Statistics, United Kingdom

**I. INTRODUCTION**

1. A Census is a complex and costly undertaking and one that is only undertaken when it has been clearly shown that there is a need for it. Planning the Census is inevitably a long process, requiring many phases and it is vital that consultation takes place with a wide range of census users to determine their needs for data. This paper sets out the strategy adopted in the United Kingdom for ascertaining users' needs for information to be collected in the Census, focusing on topics and output geography, and assesses this against the scope and design of consultations as set out in the Conference of European Statisticians (CES) Recommendations for the 2010 round of European censuses. The paper concludes by noting the key decisions in the design of the 2011 Census that have been made following user consultation to date.

**II. BACKGROUND**

2. The design and content of the 2011 United Kingdom Census has been shaped by a number of principal determinants:

- (a) the requirements of users of census statistics;
- (b) the evaluation of the 2001 Census and the lessons learned;
- (c) the international obligations arising from European Union (EU) census regulations; and
- (d) the advice and guidance of international census agencies and organisations with experience of similar operations.

3. In its approach, and particularly with regard to the fourth of these determinants, the United Kingdom has closely followed the guidance as set out in the *Conference of European Statisticians Recommendations for the 2010 Census of Population and Housing*<sup>1</sup>, which has provided the basis of a useful model.

### III. CONSULTATION PROCESS

4. The CES Recommendations notes that consultation on a range of subject areas is an indispensable step in the preparations for the census and should be instigated early in the planning cycle, and that such consultations should (wherever possible and appropriate) cover:

- (a) Enumeration methodology;
- (b) Census topics and questions;
- (c) Definitions;
- (d) Classifications;
- (e) Sampling;
- (f) Planned tabulations;
- (g) Geographic boundaries;
- (h) Processing;
- (i) Edit and imputation;
- (j) Confidentiality and disclosure control;
- (k) Coverage and data quality; and
- (l) Dissemination and conditions of use of the data.

5. It is clear that such consultations will assist the census authorities in planning for a census that is as responsive as possible to the needs of users, and can also serve to provide a better understanding of, and support for, the purpose and benefits of the census, with the ultimate goal of achieving a full as response as possible.

6. In its planning of the 2011 Census the United Kingdom Census Offices have consulted, or are consulting, widely on each of the above area of census design as well as on its testing and rehearsal stages. In particular they have, to date, focused on topic content and geographic boundaries. But with the scope and range of questions and the field methodology now broadly decided, detailed consultation will now concentrate on the form and content of the statistical outputs.

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<sup>1</sup> United Nations Economic Commission for Europe (2006). *Conference of European Statisticians' Recommendations for the 2010 Censuses of Population and Housing*. ECE/CES/STAT/NONE/20006/4. United Nations, New York and Geneva. ISSN 0069-8458

7. In addition, the United Kingdom Census Offices are also putting much effort in consulting and working with key stakeholders such as local authorities to ensure that:

- (a) the Census enumeration process takes account of recent domestic legislation on equality and diversity issues;
- (b) the results of the census, particularly at the local area level, will be accepted and trusted; and
- (c) the post-census evaluations take account of a wide range of user views.

8. User requirements have been determined by extensive consultation through formal Advisory Committees, topic-related Working Groups and *ad hoc* public meetings, and through media such as Office for National Statistics (ONS) Consultation and Information Papers, and the 2011 Census website, and through international liaison with United Nations Economic Commission for Europe (UNECE) and Statistical Office of European Commission (Eurostat). There have been – and continue to be - many full and detailed responses from stakeholders, users and members of the public which have been key in developing the proposed Census design.

#### **IV. USER COMMUNITIES**

9. As recommended by UNECE and Eurostat, the user communities being covered by the programme of United Kingdom consultation include:

- (a) Central government departments and agencies;
- (b) Local government authorities;
- (c) Health service providers;
- (d) Public and utility services, such as energy suppliers, water authorities, fire departments, the police, etc;
- (e) Academics;
- (f) Market researchers and other professional and/or private sector bodies; and
- (g) The Third Sector and other organisations or individuals representing the economic, social, educational and cultural life of the country.

10. The United Kingdom Government departments and agencies are consulted, both on a bilateral basis and collectively through the Heads of Professions of the Government Statistical Service and inter-Departmental Committees, to determine their needs and priorities for topics to be included. Through such forums additional funding for some of the 2011 questions was sought (such as those on carers and educational qualifications, which could not be included within the original budget for the Census in England and Wales). Dialogue with some key non-department agencies such as the Welsh Language Board and the Equality and Human Rights Commission is conducted through bilateral discussions.

11. The United Kingdom Parliament is engaged through appearances before several Select Committees and All Party Parliamentary Groups and by publishing a formal set of proposals in

the form of a Government White Paper<sup>2</sup>. In Wales, representatives of ONS and the Welsh Assembly Government attended a meeting of each of the National Assembly Subject Committees during the period from October 2006 to March 2007 to discuss plans specific to conduct of the Census in Wales, and in particular those relating to Welsh language and Welsh identity issues. Individual Members of Parliament and Members of the European Parliament are involved in the census generally through correspondence related to constituents' concerns. In Scotland the Registrar General has similarly appeared before relevant Committees of the Scottish Parliament.

12. Local authorities, the health service, the academic community, the business sector and local communities are similarly consulted through long-standing Census Advisory Groups convened by the National Statistician. Topic experts and methodologists within ONS have also been consulted to advise on the particular wording of the census questions

13. The Census Advisory Groups for England and Wales (some of which have been running now for over twenty years) comprise representatives of each of the main user communities and Census officials usually meet twice a year but receive information and consultation papers as and when relevant. In addition to those long-standing Groups established before the 2001 Census (covering the interests of central government departments, local authorities, the health service, the academic community, and business and professional associations) two new Advisory Groups were convened for the 2011 Census in response to the recommendation of the United Kingdom Parliament's Treasury Select Committee's report on the 2001 Census<sup>3</sup> in order to provide forums to hear the view of users and wider stakeholders in Wales and the Third Sector bodies representing the interests of local communities, minority population groups, the disabled and faith organisations.

14. Similar forums exist for users in Scotland and Northern Ireland.

15. Additional consultation with local authorities in England and Wales was initially managed through a specially formed Local Authority Liaison Steering Group, which played a particular role in steering the partnership working arrangements between ONS and local authorities in developing the field operation with the overall aim of improving response. Census planners have, in particular, heeded the lessons learned from the 2001 Census in those areas that proved to be especially difficult to enumerate. More recently however, engagement with local authorities at the more senior level has been conducted initially through a network of Census Regional Champions appointed from among the Chief Executives of local authorities within each of the nine Government Offices in the English Regions and in Wales.

16. In addition, there have been formal public consultations, supported by a number of national Roadshows and open meetings, on particular issues. The United Kingdom Census

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<sup>2</sup> Cabinet Office (2008). *Helping to shape tomorrow*. Cm 7513. The Stationery Office. ISBN 978-0-10-175132-2. See <http://www.ons.gov.uk/census/2011-census/2011-census-project/legislation/index.html>

<sup>3</sup> House of Commons Treasury Committee (2002). *The 2001 Census in England and Wales*. First Report of the Session 2001-02. HC 310. The Stationery Office. London

Offices have welcomed views and submissions on the Census from any source with or without invitation. The increasing accessibility and use of the United Kingdom Census Offices' websites has enabled such direct consultation to be carried out among a far wider audience than ever before, including individual organisations and members of the public alike. Box 1 summarises the main consultations carried out in England and Wales to date.

## V. CONSULTATION ON TOPICS

### A. Criteria to meet users' requirements

17. As already noted, a particularly key area for consultation with users has been to establish the requirements for statistical data on each census topic. Though the United Kingdom has recognised the need to collect information on the set of core topics prescribed in the new EU Census Regulation<sup>4</sup> (see the United Kingdom Paper on the agenda item on Compliance with the CES Recommendations) the United Kingdom census must also reflect wider national and local requirements where these are justified. As noted by the CES Recommendations the criteria for accepting these topics should be that:

- (a) there is a clearly demonstrated need;
- (b) users' requirements cannot adequately be met by information from other sources;
- (c) relevant questions should be shown, in tests, to have no significantly adverse effect on the census as a whole, particularly the level of public response; and that
- (d) practicable questions can be devised to collect data that is sufficiently accurate to meet users' requirements.

#### Box 1. Consultations on the 2011 Census in England and Wales

October 2003	Joint Advisory Groups workshop
November 2003	ONS/Royal Statistical Society Conference 'Census 2001 and Beyond: Learning from the past – building for the future'
March 2004	Information Paper '2011 Census: A design for England and Wales'
May 2005	Census Offices' Initial view on topic content published
June-July 2005	Public Roadshow meetings held in Cardiff, Crewe, Harrogate, London, Newcastle and Northampton.
March 2006	Assessment of initial user requirements on content published.
October 2006	Information Paper on the Development of the questionnaire for the 2007 Test published.

<sup>4</sup> Official Journal of the European Union (2008). Regulation (EC) No 763/2008 of the European Parliament and of the Council of 9 July 2008 on population and housing censuses. OJEU, 13 August 2008.

October 2006-March 2007	Attended several National Assembly for Wales Topic Committees.
Nov 2006-Feb 2007	Consultation on small area geographies.
Dec 2006 -March 2007	Consultation on ethnicity, identity, religion and language
March 2007	Updated view on content - open meetings in Cardiff, London and Sheffield.
October 2007	Responses to consultation on ethnicity, identity, religion and language published.
January-February 2008	Gave evidence to the United Kingdom Parliament's Treasury Select Committee as part of its "Counting the population" review.
February- May 2008	Online consultation on user's output needs.
November 2008	Outputs consultation public Roadshow
December 2008	2011 Census White Paper " <i>Helping to shape tomorrow</i> " published. Similar statement published in " <i>Scotland's Census 2011</i> " by the Scottish Government.
May 2009	Joint United Kingdom Census Offices/Statistics Users Forum Seminar on "Beyond 2011: planning for the futures
June 2009	Joint ONS/Royal Statistical Society meeting on "2011 Census: producing the numbers"

18. The topics proposed for the 2011 United Kingdom Census are those that have been shown to be most needed by the major users of census information and for which questions have been devised that can be expected to produce reliable and accurate data. In each case, no other comparable and accessible source of the information is available in combination with other items in the Census.

19. An initial view on the content of the 2011 Census in England and Wales<sup>5</sup> was published in May 2005 with the aim of promoting discussion and to encourage the development of strong cases for topics to be included in the 2011 Census. The consultation resulted in a much larger demand for questions than would be possible to accommodate on a Census form that households could reasonably be expected to complete. Users initially indicated a need for all the topics covered in the 2001 Census and a range of additional topics covering national identity, income, language, nature of disability, second residences, year of entry into the United Kingdom and sexual identity. Subsequently, cases were made for further topics such as, number of bedrooms and intention to stay in the United Kingdom.

20. In coming to a final selection of questions some difficult decisions have had to be made in assessing the different requirements for information and balancing the needs for change

<sup>5</sup> Office for National Statistics (2005). *The 2011 Census: initial view on content for England and Wales*. Consultation Paper. ONS

against continuity. A number of criteria formed the basis of the evaluation of the strength of the case made by users for each topic.

21. Topics must meet a *significant and clearly demonstrated user need*. It is essential, therefore, that every question to be included in the Census has a specific purpose, and that the data collected are of major national importance. Unless a robust case for particular information to be collected has been made by users, a topic has not been included.

22. The Census is particularly appropriate for topics about which users require *detailed information for small geographic areas and/or information about small population sub-groups* that cannot be sufficiently identified through other means, such as administrative records. Information required for broad geographic areas only (such as at the local authority or regional level – NUTS 3 or higher) may be better obtained by other means such as sample surveys, depending on the detail of the cross-classification required. Equally, if the need is restricted to information about a few specific small areas (such as for Cornwall only), other methods of data collection might be more appropriate.

23. A key benefit of census data is the *ability to analyse particular variables against one another*. A requirement to undertake such multivariate analysis strengthened the case for the inclusion of a topic in the Census. And *statistical comparison with previous censuses* is an important aspect of census analysis. Wherever possible, close attention has been given to users' requirements for comparability with content of the 2001 Census.

#### **B. Criteria for the Census Offices to consider**

24. In addition to assessing the strength of users' requirement for information, there are other factors which the United Kingdom Census Offices have needed to take into consideration in deciding what information should be collected from the Census and assessing the priorities for topics:

- (a) the inclusion of particular questions should be shown, in tests, to have had no significantly adverse effect on the Census as a whole, particularly the level of public response;
- (b) it is also essential that practicable questions can be devised to collect data which are of sufficient and measurable statistical quality to meet users' requirements for information.

25. Moreover, as the Census is a compulsory exercise carried out on a self-enumeration basis, and each householder is therefore required to complete all relevant questions on the questionnaire, this imposes constraints on the types of data that can be collected if high quality statistics are to be produced. Therefore the United Kingdom Census does not, in general:

- (a) ask sensitive or potentially intrusive questions that would result in an unacceptable level of non-response;
- (b) ask questions that require a lengthy explanation or instruction to ensure an accurate answer (since research has shown that people often do not read such instructions); or

- (c) seek information not readily known or that people are unlikely to remember accurately and which, as a consequence, is likely to be unreliable.

26. Consideration was also given as to *whether or not data are available from other sources*. Similar or surrogate data may, for example, be collected by another government department or organisation, or there may have been surveys already conducted. The 2011 United Kingdom Census will, therefore, generally only seek to collect information for which there is no other viable source.

27. The *burden on the respondent* is something which also has to be considered when designing a Census questionnaire. Therefore, the length of, and the available space on, the form has to be limited, and the design and size of a question is an important factor in deciding whether or not particular information can be collected by the Census. Although, the 2011 Census questionnaire is a page-per-person longer than the 2001 form, evidence from tests suggests that this increase is not expected to affect response unduly.

28. In addition to these factors, the Census should be seen to be an exercise *carried out purely for statistical purposes*. Therefore, the Census should not be used to collect data that will deliberately promote political or sectarian groups, or sponsor particular causes.

29. Finally, but by no means least, the United Kingdom has considered *the legal and statutory requirements*. The United Kingdom Census Acts restrict, to some degree, what information can be collected from the Census - though it may be argued that any such restrictions could be overridden by EU Regulation requirements. Thus, although the Recommendations made by UNECE and Eurostat have been taken into account in shaping the content of the 2011 Census questionnaire, they have not been overriding. Box 2 lists the topics that are being proposed for inclusion in the 2011 Census in England and Wales following the programme of user consultation. There are some slight differences in the question content in Scotland and Northern Ireland.

## **VI. OUTPUT GEOGRAPHY**

30. The United Kingdom Census Offices aim to meet users' requirements for statistical results to be made available, at varying levels of detail, for a number of geographies, subject to the overriding requirement to protect statistical confidentiality. Through consultation, ONS in England and Wales have concluded that such geographies will be created essentially from the same building bricks as in the 2001 Census – the Output Areas.

31. Output Areas (OAs) are the smallest area for which Census statistics are produced and were first created for the 2001 Census. Super Output Areas (SOAs) are larger areas constructed from groupings of OAs and have been extensively used for the publication of Neighbourhood Statistics and for a range of key statistics from 2001 Census.

32. ONS carried out a wide consultation between November 2006 and February 2007 in order to gain users' views on the value of OAs and SOAs as the core output geographies for the 2011 Census. Response to the consultation was extremely positive and revealed a great deal of support for the key principles of stability and continuity with outputs from 2001.

## Box 2. Questions proposed for the 2011 Census in England and Wales

**At all properties occupied by households and for all unoccupied household accommodation:**

- Address, including the postcode.

**For all households**

- Number and names of all residents whether present or temporarily absent on Census night
- Tenure of accommodation
- Type of accommodation and whether or not it is self-contained
- Type of landlord (for households in rented accommodation)
- Number of rooms (and bedrooms\*)
- Type of central heating\*
- Number of cars and vans owned or available

**For all residents in households**

- Name, sex, and date of birth
- Marital status (including civil partnership status\*)
- Relationship to others within the household
- Student status
- Whether or not students live at enumerated address during term time
- Usual address one year ago
- Country of birth
- Citizenship (passports held)\*
- Month and year of entry into the UK\*
- Intended length of stay in the UK\*
- National identity\* and ethnic group
- Religion
- Language\*
- Welsh language proficiency (in Wales only)
- General health
- Long-standing illness or disability
- Provision of unpaid personal care
- Educational and vocational qualifications
- Second residences\*
- Economic activity in the week before the Census
- Time since last employment
- Employment status
- Supervisor status
- Hours worked
- Job title and description of occupation
- Name of employer and nature of employer's business at place of work (industry)
- Workplace address
- Means of travel to work

**For all visitors in households**

- Name, sex, and date of birth;
- Usual address (or country of usual residence if a non-UK resident)

**For residents in communal institutions**

- As for residents in household except for the relationship to others within the household
- Status of persons within the establishment

**For communal institutions**

- Type of establishment

Topics marked\* are proposed for inclusion in the Census in England and Wales for the first time.

33. Consequently, ONS decided that the OAs for which 2011 Census outputs will be presented would be largely unchanged providing a degree of geographical stability to enable closer comparability with 2001 Census outputs. Where there are areas with significant local population change or housing development, it may be necessary to create revised boundaries – primarily by splitting or merging existing OAs - to ensure that the key criteria of size and homogeneity are followed. However, ONS does not anticipate changing more than 5 per cent of current OA boundaries in order to meet these requirements. Where there are such major changes to local populations there will also be a similar need to split or merge a small number of SOAs. However, all revisions will be organised to meet users' requirements to compare data between 2001 and 2011 Census geographies, with revised OAs nesting into a stable hierarchy of Lower and Middle SOAs.

34. Administrative geographies – regions (NUTS 1), counties (NUTS 2), local and unitary, authorities (NUTS 3), wards and civil parishes/communities in Wales (LAU 1 and 2) – and areas built from them, such as Parliamentary constituencies, and Urban and Rural Areas, will relate to boundaries in existence at the time of the Census. Where boundaries subsequently change ONS will consider providing outputs for the newly-defined areas, though these may necessarily be on the basis of a best fit of whole OAs in order to protect statistical confidentiality.

## **VII. CONCLUSION**

35. Early planning, testing and evaluation, but particularly consultation with users, are essential processes for the success of the 2011 Census. The purpose of conducting user consultation is to assess the demand for new and continuing statistical information.

36. In its scope, user consultation has supported a census design that generally adopts the CES recommendations and has extended these to cover those additional elements which are particularly relevant to the United Kingdom situation.

37. Following its extensive programme of consultation the 2011 United Kingdom Census aims to adopt the following changes throughout most, or all, of the United Kingdom to meet the developing requirements of census users:

- (a) a new questionnaire design with new questions on: citizenship, national identity, date of entry into United Kingdom and length of intended stay, language, second residence, civil partnership status, and number of bedrooms;
- (b) a revised statistical disclosure control methodology to ensure that small area data is protected yet not unduly modified;
- (c) a revision of the small area output geography in a small number of areas either where the 2001 boundaries were not fit for purposes or where there are significant inter-censal population changes;
- (d) new delivery and collection methods, including post-out and online response;
- (e) stronger working partnerships with local authorities and communities;
- (f) new outsourced technologies and operational targeting methodologies including address checking;
- (g) more flexible deployment of follow-up resources to improve response rates in difficult areas; and
- (h) an improved methodology to assess, and adjust for, undercount/overcount at the local area level.