



General Register Office for Scotland
information about Scotland's people

**2006 CENSUS TEST
EVALUATION REPORT**

APRIL 2007

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1. Introduction

1.1 This report reviews the 2006 Census Test operation in Scotland and includes a number of recommendations that will be taken forward into strategies and procedures for the Census Rehearsal in 2009 and the full Census in 2011.

1.2 There are 4 components to the report: an introduction, background to the Test, a summary of main findings and recommendations. More detailed information on the key operational areas is provided in separate annexes covering:

- Fieldwork;
- Data Capture;
- Statistical Analysis; and
- Project Governance

1.3 The 2006 Census Test represents phase 1 of a 7 phase programme to deliver the 2011 Census in Scotland. However, GROS also has a key role to play in the UK 2011 Census programme and the [Registrar's General Harmonisation Agreement](#) sets out the key areas in which all 3 UK Authorities work closely together.

1.4 Our partners in the Office for National Statistics (ONS) and the Northern Ireland Statistics and Research Agency (NISRA) will hold in May 2007 a joint Test in parts of England & Wales and Northern Ireland. The first evaluation results from this Test are expected around Autumn 2007.

2. Background information

2.1 Five areas in Scotland, covering about 50,000 households, were purposively chosen for the Test because each presented particular enumeration challenges.

2.2 Breadalbane and Locharaber were selected because of the large number of holiday homes and the presence of a number of gypsy/traveller sites; part of South Glasgow was chosen because of its high ethnic diversity; part of North Glasgow was chosen because of the high numbers of asylum seekers and the test area of West Dunbartonshire had poor housing stock, deprivation and large numbers of young males – one of the hardest groups to enumerate.

2.3 Census Test day was Sunday 23 April 2006. Censuses, and hence Census Tests, are often held in late April in the UK because research has shown that this time represents the most propitious combination of important enumeration advantages. More people are likely to be at home (as opposed to being on holiday), students are at their term time address, the weather is clement enough, and the daylight hours long enough to conduct the enumeration in relatively benign circumstances.

2.4 Two strategies for delivery of the Census form to households were tested. Half of the households within each Enumeration District (ED) had forms hand delivered by an Enumerator and the other half had the forms posted out to them by

Royal Mail. Forms were to be posted back but, in hand delivery areas, the option to have the completed form collected by the Enumerator was also offered.

2.5 Half of the households within each ED received a form with the income question whilst the other half received a form without this question. Some questions from the 2001 Census such as ethnicity were re-structured, so we also tested what impact this might have. We also asked for information on second residencies and visitors on Census night.

2.6 To manage the operation in the field, 3 Census Regional Managers (CRMs) were recruited to cover Breadalbane/Lochaber, Glasgow and West Dunbartonshire. These areas were subdivided into 5 Census Districts (CDs), Breadalbane, Lochaber, North Glasgow, South Glasgow and West Dunbartonshire, each managed by a Census District Manager (CDM). In addition, 14 Census Team leaders (CTLs) and 114 Enumerators were recruited.

2.7 The public forms, enumeration documents and other materials, (bags, pens, personal alarms etc) were all provided under contract by Astron – the Scottish Executive call-off contractor. The contract for capturing the data from the completed census forms was awarded, after competition, to Advanced Data Systems (ADS).

2.8 Within GROS, Fieldwork and Community Involvement (FCI) Branch led the field work aspects of the Test. Census and Statistical IT (CaSIT) Branch, as well as managing the data capture contract, developed IT solutions for field staff pay, the Field Management Information System (FMIS) and equipped remote offices in field managers homes. In addition, the Geography IT function within CaSIT Branch supplied the address lists and maps which supported the enumeration. The whole process was overseen by the Census Management (CM) Branch.

2.9 Once the Test was completed, Statistical Methodology and Geography (SMAG) Branch carried out a statistical analysis of the data returned by the data capture contractor.

3. Summary of main findings

3.1 46% of the 52,000 questionnaires were returned. The return rate varied across the 5 Census Districts and returns were lower in the areas with a higher deprivation indicator. Glasgow North returned 31.8%, Glasgow South returned 39.9%, West Dunbartonshire returned 53.7%, Breadalbane returned 58.4% and Lochaber returned 61.5%.

3.2 Surprisingly, the return rate for questionnaires with the income question (47.9%) was higher than that where an income question was not asked (44.1%). This was the case across all 5 Census Districts. There is no clear explanation why this was the case.

3.3 Of the questionnaires returned with the income question, 87.6% had the income question completed. This is the lowest completion percentage of any household-level question on the form but is still relatively respectable. Householders were given an opportunity to express an opinion on the questions and 16.9%

expressed unhappiness with the income question, the most unpopular question by far. A follow up survey of 400 households showed that at least 60% would answer an income question in 2011. It is difficult therefore to draw clear conclusions about the income question for 2011, but there is no compelling evidence that including such a question would reduce return rates.

3.4 Overall 49.5% of hand delivered forms were returned while 42.6% of forms posted out were returned. This confirms our thoughts that enumerator hand delivery achieves a higher response rate, although it is possible that hand delivery may have a negative effect on response to some individual questions; more work needs to be done on this before a firm conclusion could be reached. In 2011 we expect to deliver the majority of our forms by hand, however postout may still be used in exceptional circumstances such as:

- residential properties in remote, scattered areas, where sending an enumerator is relatively expensive and where the postperson's local knowledge is a key factor in locating addresses in the correct order of travel round the area. GROS should introduce a programme of work to identify these areas;
- it is deemed that a particular area is too dangerous to send enumerators out, even in pairs or teams. These will be predominantly urban areas. FCI Branch should work with local authorities and other appropriate Government agencies, and use such up-to-date information about small-area deprivation as exists, to identify such areas; or
- an emergency has occurred, similar to the 2001 outbreak of foot and mouth disease, which prevents access to residential properties.

3.5 In relation to forms design, most problems with individual questions were due to the layout of the form and ordering of the questions.

3.6 Delays were experienced in the throughput of forms posted back to Royal Mail's local sorting offices. This can have a detrimental effect on the timetable for the follow-up of non-responses, so we need to work with the postal service provider for the 2011 Census to seek ways of improving this service.

3.7 The in-house payroll system for paying field staff worked well and is a feasible option for the 2011 Census. However, more work is required to investigate how it could cope with the ramp up from 120 staff for a Test to around 7,500 staff for a full Census.

4. Summary of recommendations

4.1 The following summary of recommendations is aimed at our external stakeholders. The full set of recommendations, including those which affect internal operations within GROS, are contained in the body of the 4 Annexed reports covering Fieldwork, Data Capture, Statistical Analysis and Project Governance.

4.2 Fieldwork - Address Check

4.2.1 A national Address Check, on the lines of that tested in the 2006 Test (i.e. carried out 5 months in advance) should not be carried out for 2011. It is costly, and, on the evidence of the 2006 Test, does not deliver sufficient Address List improvement which could not be delivered by Enumerators much nearer the Census. FCI Branch should continue to monitor Address List improvements with a view to using the most up-to-date and comprehensive list of residential addresses to aid 2011 Enumeration.

4.3 Fieldwork – Enumeration District (ED) Planning

4.3.1 If the principle of equalising enumerator workloads, in terms of estimated hours to be worked, is to be the basis for ED Planning for 2011 then something more akin to the 2001 model should be repeated.

4.3.2 The 2001 model differentiated between urban 'easy' and urban 'difficult' areas and adjusted the Estimated Household Value (EHV) of planned EDs by allocating fewer households to difficult areas. For rural EDs, distance to be travelled was taken into account – the greater the distance to be covered, the fewer properties were assigned. This should help alleviate the considerable disparity in hours worked, especially in rural EDs, and is more in tune with the concept of equal time worked for equal pay.

4.4 Fieldwork - Delivery/Postout

4.4.1 Delivery of Census forms to households in 2011 should normally be by hand by an Enumerator. Postout should only be considered in circumstances such as:

- residential properties in remote, scattered areas, where sending an enumerator is relatively expensive and where the postperson's local knowledge is a key factor in locating addresses in the correct order of travel round the area. GROS should introduce a programme of work to identify these areas;
- it is deemed that a particular area is too dangerous to send enumerators out, even in pairs or teams. These will be predominantly urban areas. FCI Branch should work with local authorities and other appropriate Government agencies, and use such up-to-date information about small-area deprivation as exists, to identify such areas; and
- an emergency has occurred, similar to the 2001 outbreak of foot and mouth disease, which prevents access to residential properties.

4.4.2 The period allowed for delivery should be re-visited so that field staff momentum is maintained and householders clearly associate delivery of the Census form with an important and imminent event (Census Day). The actual period allowed will depend on the numbers of households allocated to enumerators. The guiding principle should be that the forms have to be delivered before Census Day but as near as possible to it.

4.5 Fieldwork - Postback

4.5.1 Postback to local sorting offices should be used in 2011. Discussions with the postal service provider should be ongoing to continually improve the service. It would be desirable if the liaison arrangements involve all 3 Census Offices and, certainly, the aim should be to obtain appropriate service level assurances from the postal service provider. In particular, the Census Offices must insist on reviewing instructions given to postal service provider staff for the handling of Census mail. This can be put to the test again in the 2009 Rehearsal.

4.6 Fieldwork - Follow-up

4.6.1 Unless methods and guarantees of improved throughput can be negotiated with the postal service provider, consideration should be given to starting follow-up later to allow more forms to be returned, to reduce the frustration of field staff having to re-visit addresses with the form 'in the post' and to reduce public anger at being visited when the form has already been posted back.

4.7 Fieldwork - Forms Design and Printing

4.7.1 An integrated mechanism should be set up within GROS to ensure that the questionnaire design, fieldwork, data capture and data processing interests are represented at all stages of the process of questionnaire production and are all aware of key milestone dates and timelines.

4.8 Fieldwork - Field Staff Recruitment

4.8.1 2011 Field Staff recruitment should continue to be done in-house. Census Division staff, with FCI Branch taking the lead, should be directly responsible for the recruitment of Regional Managers. Responsibility should then be cascaded to Census Regional Managers to recruit Census District Managers and to Census District Managers to recruit Census Team Leaders and Enumerators.

4.8.2 Local Authorities (LA's) have always provided a fruitful source for recruitment of field staff, including in this Test, and liaison with LA's for this purpose should feature in future recruitment strategies.

4.9 Fieldwork - Pay Forms

4.9.1 The design of expenses claim forms needs to be revisited. FCI Branch should seek to achieve further simplification of the expenses claim and payment system. By 2011, it is inconceivable that online claiming of expenses will not be possible and early discussion should be held with auditors to determine how best this might be done to achieve both system simplicity and a proper checking and

authorisation regime. Consideration should be given to paying enumerator expenses fortnightly to reduce the authorisation and throughput burdens on field managers and HQ staff.

4.9.2 Instructions to field staff for the completion and checking of expenses claims are clearly inadequate and should be revisited with a view to making them comprehensive but simple to follow. Examples should be provided where possible and greater emphasis should be placed on this matter in field staff training.

4.10 Fieldwork - The Pay System

4.10.1 FCI Branch should lead further research into options for an in-house operation in 2011, identifying the costs, benefits and risks involved with each option and, in particular, identifying the roles and responsibilities required of key stakeholders. This work should consider any further simplifications which might be possible within the system, for example, online, or less frequent, expenses claims.

4.11 Fieldwork - Field Logistics

4.11.1 FCI Branch should conduct a research project into the feasibility of a network of field offices being set up throughout Scotland to which supplies can be delivered, stored and picked up from. The research should further consider whether, if such premises were available, they could also be used for other functions, for example, interviewing field staff, holding field training sessions, acting as a remote office etc. Local Authorities, as a prime customer for Census information, may be a useful first stop as potential suppliers of such premises but there will be others.

4.12 Fieldwork - Field Communications

4.12.1 Field staff requirements for IT and other electronic or technical equipment should be re-visited by FCI Branch (the customer). The passage of time between now and the 2009 Rehearsal, especially given the rapid advances in communications equipment generally, would probably mean that the 2006 equipment supplied will be out-of-date. A key point is that the final decision on the equipment to be supplied should rest with the customer (FCI Branch), with technical advice from CaSIT Branch.

4.13 Fieldwork - Field Management Information System

4.13.1 If mobile devices are to be used to a greater extent in the 2011 Census, these devices should be purchased with car re-charger cables.

4.14 Fieldwork - Publicity

4.14.1 Before Regional Managers are in post for the Rehearsal, FCI Branch need to initiate discussions with any contractor being used for the Rehearsal to clearly delineate the boundaries in the responsibilities for the various initiatives. In particular there is a need to be clear about where responsibility lies for implementing local publicity initiatives, particularly in local newspapers and local radio.

4.15 Fieldwork - Community Liaison

4.15.1 The programme of Community Liaison should be continued and should be widened and deepened in the run-up to 2011. Although no hard evidence from the Test can be brought forward to prove the success of the programme, it must be right that the Census is seen as inclusive and positive in the eyes of those we seek to reach if we are to secure maximum response.

4.16 Data Capture

4.16.1 There needs to be an earlier definition and understanding of the requirements, which could only be achieved by better communication and information sharing between all branches involved.

4.16.2 A clear and early steer must be given by those who will be undertaking analysis of the data as to the standard of data required from the capture process. In particular, it is important that the output specification is agreed and finalised at an early stage in the process.

4.17 Statistical Analysis - Multiple responses

4.17.1 The data capture system needs to be able to recognise corrections and deletions made by the respondent, and not capture them as multiple responses.

4.18 Statistical Analysis - Income Question

4.18.1 It is unclear how useful the data obtained from this question is. Work is needed to identify suitable alternative sources of income data and compare them with responses to the Test to determine whether they accurately reflect the income pattern of the areas covered.

4.19 Statistical Analysis - Past Work Question

4.19.1 The question "have you ever worked?" caused problems in the Test. Further analysis is needed into why this was the case, with particular reference to differing response by age, and what lessons can be learned for 2011.

4.20 Statistical Analysis - Ethnic Group

4.20.1 More in-depth analysis of the responses to this question is needed.

4.21 Statistical Analysis - Respondents' Views on Questions

4.21.1 More investigation is needed of these: the written comments need to be analysed, and an analysis also needs to be carried out of individual responses to questions that respondents objected to.

5. Glossary of terms

ADS	Advanced Data Systems Ltd (Data Capture Contractor)
ANC	ANC Ltd (Logistics Contractor)
BACS	Banks Automated Clearing System
BST	Business Services Team (GROS)
CASIT	Census and Statistics IT Branch (GROS)
CD	Census District
CDM	Census District Manager
CE	Communal Establishment
CLO	Census Liaison Officer (from Local Authority or Council)
CM	Census Management Branch (GROS)
CRM	Census Regional Manager
CSD	Corporate Services Division (GROS)
CTL	Census Team Leader
EA	Enumeration Area
ED	Enumeration District
EHV	Estimated Household Value
ERB	Enumeration Record Book
FAQ	Frequently Asked Question
FCI	Field and Community Involvement Branch (GROS)
FMIS	Field Management Information System
FRD	Forms Reconciliation Document
GROS	General Register Office for Scotland
GROSnet	General Register Office for Scotland's internal web portal
H Form	Household Questionnaire
HMG	Her Majesty's Government
HMRC	Her Majesty's Revenue & Customs
HQ	Headquarters (in this case Ladywell House)
HTML	Hypertext Markup Language (Web Format)
I Form	Individual Questionnaire
IBM	IBM (UK) Ltd.
LA	Local Authority
LOGICA	Logica CMG Ltd.
MoD	Ministry of Defence
NA	Not Applicable (e.g. derelict)
NR	Non Residential
NISRA	Northern Ireland Statistics & Research Agency
OCS	Office of the Chief Statistician
OJEU	Official Journal of the European Union
ONS	Office of National Statistics
OS	Ordnance Survey
PAF	Royal Mail Postal Address File
PDA	Personal Digital Assistant (Handheld Device)
PID	Project Initiation Document
PR	Public Relations
PSO	Project Support Office
RD1	GROS Internal Requisition Document
RM	Royal Mail
QA	Quality Assurance

Glossary of Terms (Continued)

SAGE	Off the Shelf Payroll System (used for Field Staff Pay)
SAS	SAS Ltd. (Supplier of software for Tabular Output)
SCOTS	Scottish Office Technical Strategy
SE	Scottish Executive
SEAS	Scottish Executive Accounting System
SEGIS	Scottish Executive Geography
SIMD	Scottish Index of Multiple Deprivation 2006
SMAG	Statistical Methodology and Geography Branch (GROS)
SOR	Specification of Requirements