1991 CENSUS:
COLLECTION SPECIAL STUDIES.

Canada. Indian and Northern Affairs

1991 Census
Collection Special Studies

Special Questionnaire for canvasser areas

Introduction:

Evaluation of the 1986 Census determined that response rates on Indian reserves were consistently lower than in other areas where canvasser methodology is also used. It was also ascertained that response rates in canvasser EAs were lower than in self-enumeration areas.

Investigation uncovered that lower response rates were not correlated to certain characteristics of the respondents, namely age, language, level of education or disability. It was concluded that the main determinant of response rates on reserve was the ability of the interviewers to elicit appropriate responses from respondents. (Johanis, 1988).

The factors which influence the outcome of interviewer performance are:

- selection
- training
- supervision and quality control
- the survey instrument

In the 1986 Census, on reserves and other canvasser areas, questionnaires designed for self-enumeration were used for personal interviews. Therefore, question texts were not always phrased in such a way as to be asked verbatim in an interview situation. This lack could result in questions being skipped, if they were considered too difficult by the interviewer, or asked in an ambiguous and inconsistent manner, thereby eliciting incomplete or no response from respondents.

It was therefore decided to test whether a census questionnaire designed specifically for use by interviewers would produce better response rates than the self-enumeration questionnaire in personal interview situations. In such a special questionnaire, the language would be simplified, verbatim question texts would be provided and the question flow would be adapted to a face to face interview situation.

Another weakness of the national questionnaire in application to these areas is the use of examples which do not represent realistic answer choices for the respondents. When respondents do not recognize themselves in the answer categories provided, they are more likely not to respond or to provide inaccurate responses. For example, it has long been suspected that the

census is not getting a complete measure of the number of individuals engaged in traditional occupations such as trapping and native arts.

The design of the special questionnaire would therefore incorporate more pertinent examples and provide explanatory notes with respect to certain content areas, most notably work.

Implementation:

A working group was formed under the leadership of Special Surveys, with representation from HFSSD, SOD, SSMD and COD. Using draft versions of the National Census Test questionnaire as a starting point, a census questionnaire was designed with remote Indian reserves in mind. Cooperation was sought from a number of potential test sites in northern Ontario and northern Manitoba. Criteria for selection as test sites were that the location be remote, without road access, and be between 80 and 120 households in size. A budget of $30,000 had been provided for this activity by the Employment Equity Project.

The Northern Reserve Test was conducted in 350 households on three reserves, one of which was a refusal reserve in the 1986 Census, in northern Ontario and Manitoba in October 1988. Following what was considered a very successful field operation, interest was expressed by interdepartmental sponsors to expand the test and to diversify the test sites. As a result, the special questionnaire was modified based on the preliminary findings of the Northern Reserve Test and made usable in canvasser areas generally, not just Indian Reserves.

The Canvasser Questionnaire Test was conducted in approximately 400 households in a northern Manitoba reserve (1986 refusal), an urban reserve in Nova Scotia and an Inuit community in Labrador, in March 1989.

Following the tests, statistical profiles were prepared and sent to each participating community.

Methodology:

The objective of the tests was to determine if the data obtained from the special questionnaires were superior to those obtained from the standard (NCT) questionnaire. Specific areas of evaluation and expectation from the special questionnaire were:

Response rates:

- higher response rates for questions which were modified

Characteristics:

- a higher proportion of persons reporting that they work
- a higher proportion of persons reporting traditional native occupations
- a higher proportion of persons reporting higher educational achievement
- more complete income reporting

It was considered desirable to carry out the test as much as possible in the format of an experimental design to minimize factors other than the differences between the two questionnaires that might have an impact on the results.

A split panel design was used whereby dwellings in each site were to be prelisted and assigned randomly to interviewers. It was not possible to do this consistently on all test sites, and as a result, most of the assignments were clustered rather than randomly distributed.

Ideally, in order to control for interviewer effect, both types of questionnaires should have been assigned to all interviewers. However, this would have required retraining for the second part of the assignment and would only have been warranted if the reserves were large. Because the training and interviewing was to be conducted within a one week period, each group of interviewers used one questionnaire type only.

Sample sizes needed to measure an increase in the proportions mentioned above were generally achieved in both tests, on the assumption of simple random sampling.

The sample size in either panel of both tests was approximately 180 households or 900 persons. Based on 1986 Census data, about half this population was over 15 years of age and 30% to 50% were in the labour force.

As an example, for evaluation of the labour force participation question, based on the assumption of a simple random sample of individuals, with 30% of the adult population being in the labour force, we require a sample size of 130 cases for each questionnaire version to detect a 15% difference in proportions (when the lower proportion is 30 %, with a significance level at 5% and a power of 80%), with a one-tailed test (Cochran and Cox, 1957, p24)).

However, in the tests, persons were divided into two groups by using various cluster configurations. As there may be a intra-cluster correlation in labour force status, this would reduce the effective sample size. The size of this design effect is unknown on Indian reserves. Nevertheless, with the expectation of about 900 adults in each test site, an improvement in the

labour force questions, as specified by the test objectives, should be detectable.

It should be kept in mind that statistically, the results apply only to the test sites and inferences should not be made to the whole population of canvasser areas. However, it may be reasonable to conclude that if the special questionnaires have proved to be a superior tools where tested, they will also be effective in areas with similar characteristics.

For evaluation of the attainment of the response rate objective, the sample size required to detect an improvement in the response rate from 70% to 80% is 230 cases in each test group (with simple random sampling and test parameters as specified above). An increase from 70% to 75% requires 980 cases in each test group to be detected, whereas 710 cases are necessary to detect an increase from 80% to 85%. Thus for questions which have a large target population and which permit a major improvement, it may be possible to conclude there is a statistically significant improvement (with the assumption of simple random sampling).

Because statistical tests would require important assumptions that were not completely met in this test, other methods of evaluation such as interviewers' debriefing questionnaires will also need to be examined.

Decision factors:

There are four factors to be considered in deciding whether or not to use a special questionnaire for canvasser areas in the 1991 Census. They are:

- data quality
- operational impact
- public relations/ political factors
- legal implications

Data quality:

The detailed results of the tests and their evaluation from the standpoint of response rates and respondent characteristics can be found in the report "Results of the Northern Reserve Test and Canvasser Questionnaire Test". The principal conclusions of the tests are the following.

- In general, the canvasser questionnaire provided better results in terms of response rates in the more remote test sites. The national questionnaire was better suited to the more urbanized test sites.

- In general, questions which were not modified provided equal response rates in both test and control panels. Questions in

which the language and examples were modified performed better than the control questions. However, questions where only the skip instructions or the order were modified resulted in poorer response rates.

- In terms of respondent characteristics, test objectives were achieved: a higher proportion of persons in the test panels reported that they worked, a higher proportion of traditional occupations was reported as was higher educational achievement, and there was more comprehensive income reporting.

- It would appear that "go to" is better understood than "skip to". The "go to" formulation was used consistently in the test questionnaire and resulted in lower over-response in the test panels.

- The words "this person" appears more effective than the "..." provided in the test questionnaires to substitute the respondent's name.

Public relations/political factors:

The adoption of a special questionnaire for canvasser areas may be perceived as a special measure intended for the aboriginal population. In 1986, roughly 1249 of the 2231 canvasser EAs were in Indian reserves, with the remaining EAs containing a significant percentage of aboriginal persons. The objective of providing a questionnaire which is more adapted to oral delivery than the self-enumeration questionnaire, could be overshadowed by the notion that this is an "Indian" issue. This perception has two sides.

First, this initiative might be viewed as an attempt on the part of Statistics Canada to improve the quality of census data on aboriginal persons. It is a sensitive adaptation of standard methods to the realities of another culture, another way of life. In general, this perception seems prevalent in user departments. Territorial and provincial officials have also expressed support for this initiative. In the aboriginal community, there has been some positive response at a grass roots level, as expressed by interviewers and local authorities in the test sites.

Political organizations have not provided any specific feedback. However, another perception could prove damaging. Even though there is a desire in the aboriginal community to be recognized as a special entity, there is, at the same time, an abhorrence of being treated as a special case. The introduction of a special questionnaire which is used primarily on Indian reserves could awaken this perception within native political organizations which could adversely affect the level of participation in the census. The rationale for the design and use of such a questionnaire would need to be carefully explained to Indian

political leaders in such a way as to defuse this potential consequence.

Operational impact:

The adoption of a special questionnaire will impact collection operations and processing operations.

Collection:

In the case of collection, the use of a special questionnaire for canvasser areas adds a logistical complication to the operation in the sense of having to store an additional questionnaire type and ensuring that the proper type is shipped to each EA. The distribution problem is somewhat lessened by the fact that the logistics system already must differentiate canvasser and Indian Reserve EAs from other types for the distribution of special CR manuals for those EA types. Similarly, as special training programs and procedures already exist for such EAs, the introductions of a new questionnaire does not result in major changes in these areas.

Another complication arises if the methodology is changed from canvasser to mailback as a result of pre-enumeration negotiations with reserve authorities. In such cases, the change in methodology would also require a change in questionnaire type.

The impact in terms of collection operations is difficult to quantify. The logistics of questionnaire distribution are made more complicated and the potential for error thus increases but there is not necessarily a quantifiable dollar cost attached.

A potential positive impact of using the canvasser questionnaire is an increase in interviewer productivity. If the questionnaire is in fact easier to administer, it should reduce the time required to conduct an interview.

Processing:

In the case of processing operations, the use of a special questionnaire would introduce a whole new sorting and keying operation which could be located in regions or centralized in Headquarters. There is also the additional cost for the development and printing of the new questionnaire.

The major impact is caused by the different question order and the different presentation of answer categories, for example where one question on the national questionnaire has been broken down into sub-questions in the special questionnaire for ease of

asking. There are two data capture strategies available: transcribing special questionnaires to standard questionnaires for keying: or, developing new capture screens for the special questionnaire and developing a program which would automate the transcription to the standard format.

There were 2231 canvasser and Indian Reserve EAs in the 1986 Census. It has been estimated that the additional cost for transcription would be 57 person-years. The disadvantage to this approach, in addition to high cost, is the high potential for error during transcription. This is tedious clerical work, difficult to supervise and prone to error, even with quality control measures. The advantage however is that the transcribed questionnaires can be captured and treated in every way as original national questionnaires.

The other approach, developing a new capture system, would require a front-end development cost. If it is developed as part of the Direct Data Entry operation at RCT, the additional cost would be approximately $130,000. If, on the other hand, the development and capture is carried out in HOP, the additional cost is approximately 1.5 person-years for system development.

Legal implications:

The questions which are considered essential to a census, the short form questions, must be prescribed by order of the Governor in Council under section 21 of the Statistics Act. This section also requires that these questions be published in the Canada Gazette. The other questions, which are asked under ministerial authority, are also published in the Canada Gazette, as a safeguard and guarantee of their legitimacy. The introduction of a canvasser questionnaire raises a number of questions with respect to the application of these authorities.

At the heart of the issue is whether the Governor in Council can, under the terms of the Act, prescribe two sets of census questions which, while identical in substance, are different in form. If so, are both set of questions to be gazetted? What of the questions which are asked under ministerial authority? These issues were raised with the departmental legal counsel, who sought the opinion of officials of the Privy Council Office Section of the Department of Justice. We have been advised that authority exists to ask questions which are different in form so long as they are identical in substance. It would be advisable to have both sets of questions gazetted.

Recommendations:

It is recommended that a canvasser questionnaire form be adopted for the 1991 Census.

Some of the questions should be taken directly from the national questionnaire and some from the two tested special questionnaires, as shown in the attached schedule.

The question order should also be as shown in the attached schedule.

Step 1: NCT
Step 2: NCT
Step 3: NCT
Step 4: CQT
Step 5: NRT
Step 6: NCT
Step 7: NCT
Step 8: NCT

Name: NRT

Birth Date: CQT, NCT examp
Sex: CQT (no instruct. B)
Marital Status: NRT
Common-Law Status: CQT
Nuptiality: NRT
Fertility: CQT
Relationship: NRT

Lang. Official: NCT
Lang. Ability: NCT w. "Native"
Lang. Home: NCT w. "Native"
Lang. Mother: NCT w. "Native"

Place of Birth: NCT w. NRT skip
Citizenship: NCT
Landed Immigrant: NCT
Year of Immigration: NCT

Parents' Birth Place: CQT
Cultural Origins: NRT
Registered Indian: NCT
Band Membership: CQT
Race: NCT w. CQT answers
Religion: NCT w."Native"

Health: NCT
Disabilities or Handicaps: NCT

Step 7: NRT

1-Year Mobility: NCT
5-Year Mobility: CQT
5-Year Residence: CQT

Highest Grade: CQT part a)
University: CQT parts a), b)
Other School: CQT parts a), b)
Recent Attendence: NCT
Degrees: CQT
Field of Study: CQT

Hours Worked: NCT
Temp. Lay-Off: NCT
4-Week Job Start: NCT
4-Week Job Search: NCT
Able To Start: NCT
Last Worked: NCT

Kind of Work: CQT
Duties: CQT
Place of Work: CQT
Industry: CQT
Class of Worker: CQT
Incorporation: NCT
Employer: CQT

Weeks Worked: NCT
Full or Part-Time: CQT

Wages: CQT

Unemployment: CQT
Other Govt.(1): CQT Welfare
Old Age: CQT
Canada Pension: NCT
Other Govt.(2): NCT
Dividends: NCT
Retirement Pensions: NCT
Other: CQT (drop examples)
Farm Employment Income: NCT
Self-Employment Income: CQT

Total Income: CQT

Number of Rooms: CQT
Construction Date: CQT
Length of Occupancy: CQT
Need of Repairs: CQT

Yearly Payments: CQT
Household Maintainer: CQT
Tenure: CQT

Monthly Rent: CQT
Monthly Mortgage: CQT
Property Taxes Included: CQT
Property Tax Amount: CQT
Market Value: CQT
Condominium Registration: NCT
Condominium Fees: NCT