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DECENNIAL CENSUS

Fundamental Reform
Jeopardized by Lack of
Progress



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**DECENNIAL CENSUS: FUNDAMENTAL REFORM
JEOPARDIZED BY LACK OF PROGRESS**

**SUMMARY STATEMENT
WILLIAM M. HUNT
DIRECTOR, FEDERAL MANAGEMENT ISSUES**

The Subcommittee asked GAO to monitor the status of Census Bureau planning for the 2000 Decennial Census and its implementation of plans for the 1992 Economic and Agriculture censuses. GAO believes progress in redesigning the 2000 Census has slowed, jeopardizing the prospect of fundamental census reform. GAO's preliminary work shows that the Bureau is successfully managing the implementation of the Economic and Agriculture censuses.

The Bureau needs to quickly set priorities by sorting out what changes are feasible for 2000 and what changes, even if not viable for this next census, hold promise for the future. The time available for fundamental census reform is slipping away. Important decisions are needed by September 1993 to guide planning for 1995 field tests, shape budget and operational planning for the rest of the census cycle, and guide future discussions with interested parties. The Bureau also must make an early decision whether to test a "one-number" census in 1995 that combines the features of both the head count and some additional statistical methods and still produce a single count before the statutory deadlines.

The Bureau's strategy for identifying promising census designs and features is proving to be cumbersome and time consuming, and the Bureau has progressed slowly in reducing the design alternatives down to a manageable number. With the exception of its field tests of methods to improve response rates, the Bureau has made limited progress on researching and developing the more promising major innovations for the next census. It will be difficult for the Bureau to follow its "winnowing" process and reduce the design alternatives to a small number by its September 1993 deadline. Unless the Bureau accelerates its research and decision-making, which will be difficult considering the organizational and budget uncertainties facing the Bureau over the next 6 months, the lack of time and the pressures to reduce spending may drive the 2000 census design. As time available for census reform slips away, GAO is less optimistic that such reform will occur.

The 1992 Economic and Agriculture censuses are going according to plan. While the Agriculture Census was changed little, the Economic censuses were expanded to include various service sector industries, increasing their coverage from 76 percent to 98 percent of the nation's economic activity. Neither of the censuses was greatly affected by the congressional reductions to the Bureau's fiscal year 1993 budget. Mail response to these censuses either approximately equaled or exceeded the 1987 experience.



Mr. Chairman and Mr. Petri and Members of the Subcommittee:

I am pleased to be here today to report on some of the major Bureau of the Census programs: planning for the 2000 Decennial Census and the Economic and Agriculture censuses. Overall, we believe the progress in redesigning the 2000 Census has slowed to the point of jeopardizing the prospect of fundamental census reform. Both the Economic and Agriculture censuses are going according to plan. My comments are based on our continuing effort, as requested by the Subcommittee, to monitor census operations.

TIME AVAILABLE FOR FUNDAMENTAL CENSUS REFORM IS SLIPPING AWAY

As you know, Mr. Chairman, we have strongly advocated the need for fundamental reform of the decennial census. Our recommendation is based on a large body of oversight work related to the 1990 census.¹ The Bureau's ambitious start on preparing for the 2000 Census planning gave reason for optimism that major improvements could occur. However, we are less optimistic now that such reform will occur.

As we pointed out in our transition series, important decisions based on wide consultation and staff analysis are needed by the fall of 1993. These decisions are needed to guide planning for field tests of census methods and procedures scheduled for 1995, to shape budget and operational planning for the rest of the census cycle, and to guide future discussions with state and local governments and other interested groups.² Unfortunately, the Bureau's strategy for identifying promising census designs and features is proving to be both time consuming and cumbersome, and may impair the Bureau's ability to institute major innovations. With the exception of its field tests of methods to improve response rates, the Bureau has made limited progress on researching and developing the more promising major innovations for the next census.

Decisions Needed by September 1993

The Bureau has set for itself a deadline of September 1993 to identify what it will test in 1995. We agree that this deadline is critical so that the Bureau has time to prepare operational procedures, design evaluations, and set up automated systems. Without adequate preparations, the value of the 1995 test will be

¹Decennial Census: 1990 Results Show Need for Fundamental Reform (GAO/GGD-92-94, June 9, 1992); Decennial Census: Opportunities for Fundamental Reform (GAO/T-GGD-92-51, June 10, 1992).

²Transition Series: Commerce Issues (GAO/OCG-92-12TR, Dec. 1992).

diminished. The 1995 test is particularly critical because the Bureau is unlikely to incorporate features in the 2000 Census that are not included in this 1995 test.

The process of planning and conducting such tests is complex and difficult. The Bureau experienced problems in the 1980s leading up to the 1990 census in preparing for its tests. The Bureau failed to provide sufficient time to prepare for 1985 test censuses designed to evaluate a two-stage census and automation. For example, as a result of insufficient preparation, the 1985 tests did not properly prepare for evaluations of the two-stage census and used off-the-shelf automated equipment that did not meet census requirements. In addition, the Bureau's 1986 test, which included an examination of alternative field and processing office structures, was done too late to influence 1990 census decisions.³

Early Decision Needed to Determine If the Bureau Can Develop a "One-Number" Census

One particularly crucial decision that needs to be made soon is whether the Bureau will take a "one-number" census. The "one-number" census combines the features of both the head count and some additional statistical methods and still produces a single count before the mandated deadlines. A "one-number" census could help avoid the controversy that recently surrounded the issue of adjusting the census count by resolving issues of statistical procedure before the actual census is conducted. With a one-number census, there will be no alternative sets of numbers and no changing set of "winners and losers" under different options.

In 1990, the Bureau developed two sets of numbers. The first set was the traditional head count produced by the statutory deadlines of December 31, 1990, for state level counts and April 1, 1991, for more geographically detailed data. The second set of adjusted numbers attempted to compensate for the undercount and were reported in July 1991. The 1990 strategy of producing two sets of numbers consumed considerable resources and planning effort, affected the overall operation of the census, and provoked considerable controversy and litigation. The adjusted set of numbers could not be completed by the statutory deadlines, and the adjustment-related activities delayed several important evaluations of the 1990 census planned for use in 2000 Census planning. These activities did not result in any changes in the 1990 census counts, although the work done for a possible set of adjusted numbers provided a rich body of research data on coverage problems for future census planning.

³Decennial Census: Pretests Could Be Used More Effectively in Census Planning (GAO/GGD-87-24BR, Jan. 8, 1987).

The Bureau has proposed assessing various alternative census designs by the likelihood each design could produce a single set of counts and characteristics by the statutory deadlines. A final decision on whether to adopt that criteria and judgments on what design alternatives are compatible with a one-number census are necessary by September 1993. Testing of the procedures required to produce a "one-number" census should be an integral part of the 1995 test.

Slow Progress Widdowing Design Alternatives

The Bureau has set up a cumbersome process that is taking too much time trying to justify the elimination of design alternatives. As a consequence, little time remains to focus on the selection and development of more promising ones.

The Bureau's March 1991 plan identified various design features for the 2000 Census. These features included such innovations as various new uses of sampling; simplified questionnaires and content; and the use of administrative records, modeling and estimation. In September 1991, the Bureau grouped these features and others into 14 design alternatives. The Bureau has been considering these 14 design alternatives for taking a census with the objective of eliminating or "widdowing" those designs that are not viable for implementation in 2000.

We testified before the Subcommittee in June 1992 that a key measure of continued progress would be the rate at which the Bureau rejects design alternatives for use in the next census. We said that to make progress on fundamental reform, the Bureau must concentrate its time and efforts on the early identification of the most promising design alternatives for 2000. Specifically, we testified that if the full spectrum of 14 possible alternatives were still being considered 1 year later, the possibility for meaningful change for 2000 would be severely diminished.⁴ Eight months later, none of those proposed 14 design alternatives has been formally eliminated.

These alternatives are to be "widdowed" by preparing design alternative recommendations (DAR) to justify the elimination of various designs. Before these DARs are finalized, they must undergo a rigorous review process by a Commerce Department task force consisting of three committees. At the urging of the Office of Management and Budget (OMB), the Bureau announced a public review and comment process for these DARs in the fall of 1992. The Bureau has prepared a draft notice for the Federal Register asking for public comment on the criteria used to evaluate the DARs and the process to be used to evaluate the

⁴Census Reform: Major Expansion in Use of Administrative Records for 2000 is Doubtful (GAO/T-GGD-92-54, June 26, 1992).

design alternatives. The process would have each DAR made available to the public through publication in the Federal Register and presentation to the two panels of the National Academy of Sciences looking at 2000 Census issues, the Bureau's standing advisory committees, the congressional oversight and appropriations committees, and meetings and conferences of public and professional organizations.

As of February 24, this draft notice had not yet been placed in the Federal Register. Whatever public review process is adopted, we believe the plans for outside review and comment and the administration's internal decision-making processes need to be designed and conducted with the September 1993 milestone in mind. It is a real deadline that, if missed, will cause the Bureau severe problems from which it may not recover.

Organizational and Budget Uncertainties Jeopardize the Bureau's Ability to Make Decisions

The next 6 months present the Bureau with numerous organizational and budget uncertainties. These uncertainties will make it difficult for the Bureau to follow its "winnowing" process and reduce the design alternatives for testing in 1995 to two by September 1993.

The Bureau's relationship with the Department of Commerce and OMB and the future of the task force structure created by the previous administration will be affected by changes in personnel at all three organizations. The new teams in these three organizations must be assembled and begin working with each other and decide how to manage preparations for the next census. The future of the Bureau's various standing advisory committees, including the one seeking outside advice on decennial census issues, is an open issue given the new administration's announced intention to reduce the total number of advisory committees. Within the Bureau, additional organizational uncertainty exists as it awaits the appointment of a new Director and the development of the organizational arrangements for managing the next census.

Also, the Bureau's fiscal year 1994 budget request faces considerable uncertainty considering the strong pressures to reduce spending. The fiscal year 1994 budget will be crucial to 2000 Census planning because 1994 will be a key year for preparing for the 1995 tests.

The Bureau Must Accelerate Research and Decision-making

Unless the Bureau accelerates its research and decision-making, the lack of time to test and consider fundamental changes, as well as future pressures to reduce spending, may drive the 2000 Census design. Without significant progress this year, time

constraints may force the Bureau to design a 2000 Census with only modest refinements. Future budget reductions may force it to make drastic changes in its census design without adequate time for preparation. To best resist budget reductions that cause last minute design changes, the Bureau should have in place census reforms that demonstrate to those who control the federal purse strings that census costs are under control while meeting other important census goals.

The 1990 census cost \$2.6 billion over 10 years. Costs per housing unit were 25-percent higher than the unit costs of the 1980 census--even adjusting for inflation and workload growth. Bureau planning staff estimated that if the current approach to taking the census is retained for 2000, the costs could rise to about \$4.8 billion in current dollars. Investments made now to research and test census innovations and reforms could yield relatively large savings in the future.

While the actual 2000 Decennial Census seems far in the future, little time remains in this decade for developing design options and implementing procedures. The Bureau needs to quickly set priorities by sorting out what changes are feasible for 2000 and what changes, although not viable for this next census, hold promise for the future. Historically, it has taken the Bureau more than 1 decade to incorporate fundamental changes, such as the evolution to the mailout/mailback method over three decennial censuses. Those desirable features that may not be viable until 2010 should be developed sufficiently for experimentation in 2000 as a transition to the 2010 census.

Research and Development of Promising Opportunities Is Lagging

We believe several opportunities for providing an accurate and cost-effective census need to be aggressively pursued. We have previously identified these opportunities as (1) responding to declining public cooperation; (2) reducing reliance on costly, lengthy, and error-prone follow-up efforts; and (3) improving address list development efforts.⁵ The Bureau's design alternatives acknowledge the importance of these opportunities. We believe that limited progress in some of these key areas, however, indicates that research for redesigning the 2000 Census has slowed, and important opportunities for reform may be lost.

Progress Made in Research to Improve Public Response Cooperation

To its credit, the Bureau has appropriately conducted research on improving public response rates through changes to questionnaire

⁵Decennial Census: 1990 Results Show Need for Fundamental Reform (GAO/GGD-92-94, June 9, 1992) and Transition Series: Commerce Issues (GAO/OCG-93-12TR, Dec. 1992).

design, content, and presentation. Public cooperation is essential to obtaining accurate results at a reasonable cost. Field test results from making the questionnaire more user-friendly and asking fewer questions showed improved response rates. The Bureau has also determined what potential benefits can be gained from increasing the number of mail contacts with respondents, particularly sending replacement questionnaires. The Bureau now must determine the feasibility of implementing these findings for the 2000 Census.

If the Bureau decides to reduce the number of census questions in order to increase response rates, it may face considerable opposition, from other federal agencies, state and local governments, and other data users from the private sector. In fiscal year 1993, the Bureau initiated exploration of ways to meet these data needs through alternative sources. One possible alternative is new or expanded surveys conducted through the decade between censuses. We do not expect, however, that by September 1993 the Bureau will be able to have developed this alternative sufficiently to satisfy data users or itself. The lead times for changes in the current population survey or to develop other similar large-scale surveys require several years. Another possible alternative was administrative records. But we testified last June that a major expansion in the use of administrative records for 2000 is doubtful.⁶ Furthermore, the Bureau has significantly reduced its funding for administrative records research in fiscal year 1993 in reaction to reductions to its budget. For these reasons, we believe the Bureau will face a difficult choice between satisfying data users and attempting to improve public cooperation by reducing the number of questions.

Late Start in Evaluating Sampling for Nonresponse

Although the Bureau has investigated using sampling as a substitute for the traditional head count, it only recently initiated research on the more practical option of sampling those households that do not respond to the census questionnaires. We have reported that the Bureau could reduce the cost of the census and possibly improve the quality of data by substituting sampling for costly, time-consuming, and error-prone follow-up efforts.⁷

From the outset, sampling for the count did not appear to be a viable option because of estimated high rates of error at lower geographic levels. The Bureau's research validated this. Also, it is thought by some not to meet the constitutional requirement that an "enumeration" be conducted every 10 years. Nevertheless,

⁶Census Reform: Major Expansion in Use of Administrative Records for 2000 Is Doubtful (GAO/T-GGD-92-54, June 26, 1992).

⁷GAO/GGD-92-94, June 9, 1992.

the Bureau's decision to focus on this use of sampling was in keeping with the Bureau's strategy of eliminating those designs having least promise.

Because staffing, time, and other resources were directed toward the use of sampling for the count, the Bureau lacked resources to address the use of sampling for nonresponse. As a consequence, Bureau technical staff will have to overcome time constraints to produce valid research results on sampling for nonresponse by September 1993 if this approach to sampling is to be included in the 1995 test census. The Bureau should be prepared to demonstrate the value of sampling to Congress if it desires legislation mandating or explicitly permitting this design.

Reduced Scope of Cooperative Effort With the Postal Service May Limit Opportunities to Improve the Census Address List

After the 1990 census, the Bureau and the Postal Service agreed to cooperate in pursuing potential enhancements to automated address lists and geographic systems. The Bureau needs to update its address list from 1990 and its automated geographic information system (GIS). The Postal Service had plans to automate its system for planning mail delivery routes by using an automated GIS. Under the Bureau's proposal, the Bureau was to share with the Postal Service its GIS data, enhanced to meet special Postal Service needs in return for Postal Service assistance in updating the Bureau's GIS and automated address list.

Now it appears that the initial cooperative strategy as envisioned by the Bureau will be reduced in scope, which may lead to missed opportunities for the Bureau to build upon investments in these automated systems made for the 1990 census. Recently, the Postal Service decided that the cooperative arrangement with the Bureau would be costly and that the Bureau's GIS or any other would not add enough value to their current methods for planning mail delivery routes. The Bureau still remains hopeful that the Postal Service will be able to provide it with continuously updated automated address files. Under this alternative arrangement, however, the Bureau will not have updated geographic information to physically locate addresses the Postal Service provides for new streets and developments.

An added advantage of using the Postal Service's address lists is that they identify vacant and invalid housing units. We have estimated that several hundred million dollars could have been saved in the 1990 census if vacant and nonexistent units had not been included in the original mailings.⁶ The 1995 test would provide an excellent opportunity to evaluate the feasibility and

⁶GAO/GGD-92-94, June 9, 1992.

usefulness of the Postal Service's information on vacant and invalid units. Also, the Bureau has yet to conduct field tests on how to reconcile the differences between the Postal Service's address list and its own automated address and geographic files.

Legal questions remain about the Bureau and the Postal Service sharing address lists with each other. The Postal Service has raised concerns regarding its legal authority to provide name and address information to the Bureau. The Postal Service has suggested that legislation may be required to allow the free exchange of files between it and the Bureau.

Left to themselves, the Bureau and the Postal Service may each lack sufficient incentives to cooperate to the fullest extent possible for public benefits that may transcend the interests of either agency. We believe that both agencies should continue to explore ways to cooperate in the development, maintenance, and updating of Bureau address and geographic files.

1992 ECONOMIC AND AGRICULTURE CENSUSES GOING ACCORDING TO PLAN

As you requested, I will now discuss our preliminary work on two other major Bureau programs, the 1992 Economic and Agriculture censuses, with a focus on the extent of innovations and changes, the effects of the 1993 budget reductions, and the level of the response to the Bureau's mailings.

Status of the 1992 Economic Censuses

The Economic censuses are conducted every 5 years and provide a detailed portrait of the nation's economy from the national to the local level. The eight major components of these censuses are (1) retail trade; (2) wholesale trade; (3) service industries; (4) financial, insurance, and real estate industries; (5) transportation, communications, and utilities; (6) manufacturers; (7) mineral industries; and (8) construction industries. For the 1992 Economic censuses, the Bureau will send questionnaires to about 4 million business establishments and plans to obtain information on the other estimated 11 million by using administrative records and sampling.

The estimated cost of 1992 Economic censuses over 6 years is \$162 million in current dollars or about \$11 per establishment. This full cycle cost over 60 percent higher than the cost of the 1987 census. The increase in the cost is primarily attributable to expanded coverage of the service sector and inflation. The 1992 Economic censuses will include for the first time establishments in the finance, insurance, real estate, communications, and utilities industries. These censuses will now provide coverage of about 98 percent of all the nation's economic activity--up from about 78 percent in 1987. Several changes also were incorporated to try to improve mail response. For example, the

Bureau surveyed how companies maintain their data to make filling out the questionnaire easier, made personal contacts with 11,000 of the largest companies, and established a more elaborate data collection operation that stressed the mandatory nature of the census and increased telephone follow-up operations (including the use of a toll-free number).

The Economic censuses were relatively unaffected by the congressional action on the Bureau's fiscal year 1993 budget request. The Bureau plans to reduce the number of follow-up efforts and spread processing over a longer period of time with fewer staff. These changes will accommodate in part a 3-percent across-the-board reduction in funds allocated to this project by the Bureau as a result of congressional action.

As of February 19, 1993, response rates were better than in 1987.

Status of the Agriculture Census

The Agriculture Census also is conducted every 5 years and is the major source of data about the structure and activities of all the nation's farms that, for statistical purposes, consist of any place from which at least \$1,000 of agricultural products were produced and sold, or normally would have been, during the census year. For the 1992 Census, the Bureau mailed 3.55 million forms to possible farming operations and eventually it expects to count about 2 million farms that meet its statistical definition.

The estimated cost of the 1992 Agricultural Census is about \$80 million or about \$40 per farm counted. The unit costs of the Agricultural Census are about three times higher than the Economic censuses because the Bureau seeks responses from 100 percent of all farms with sales over \$1,000⁹ and does not use administrative records or sampling.

The Agriculture Census has remained virtually the same over the past several censuses, with the exception of minor changes in questions and processing. For the first time, the Bureau plans to follow up using computer assisted telephone interviewing for a projected 120,000 large farms. The Bureau is testing on a very limited basis the use of film optical sensing device for input to computer (FOSDIC) data capture technology developed for the decennial census.

The Bureau made only minor changes to Agriculture Census plans to accommodate congressional reductions to the Bureau's fiscal year

⁹ In 1987 almost 25 percent of these farms sell less than \$2,500 in agricultural products, and almost 50 percent sold less than \$10,000.

1993 request. The Bureau did not raise the \$1,000 threshold as was discussed as a possibility at this Subcommittee's hearing in Lancaster, Pennsylvania, last August. Budget reductions resulted in some changes such as a reduced mail-out from 4 million to 3.55 million questionnaires, eliminated one series of advance reports, reduced the number of mail-out follow-ups from five to four, and delayed some census processing.

The 1992 agricultural census is proceeding on schedule. As of February 20, 1993, the response rate was comparable to that of the 1987 census.

Although the Economic and Agriculture censuses appear to be going according to plan, the Bureau has much more to do to complete them. We will continue to review the progress of each.

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This concludes my prepared statement. My colleagues and I would be pleased to answer any questions.

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