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GENERAL GOVERNMENT
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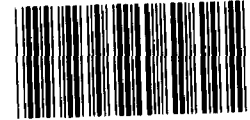
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RELEASED

The Honorable Robert Garcia
Chairman, Subcommittee on
Census and Population
Committee on Post Office
and Civil Service
House of Representatives



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Dear Mr. Chairman:

Subject: Opportunities for Reducing the Cost
of the 1982 Agricultural and Economic
Censuses (GGD-82-43)

This report is in partial response to your letter of June 22, 1981, and subsequent discussions with your office on September 28, requesting reviews of the agricultural and economic censuses. As requested, we examined costs already incurred and the Bureau's estimated future costs to aid the subcommittee in the fiscal year 1983 budget reconciliation process. Our review included an analysis of the Census Bureau's budget submissions and cost statements for the censuses. In examining the costs we (1) compared the 1982 censuses to the previous censuses to identify changes and their expected benefits, and (2) determined the usefulness of work already performed if portions of the censuses were reduced or eliminated and the effect of the changes on estimated costs.

Our work was performed in accordance with GAO's current "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions." This report should be used with two important considerations. We did not verify the budget and cost data obtained from the Census Bureau. Also, we neither evaluated the need for the censuses nor discussed the problems that could result from reducing the coverage of the censuses with data users.

If budget cuts arise, the Bureau is considering reducing the size and scope of the agricultural and economic censuses. For the agricultural census the Bureau could save \$13 million by eliminating an area sample, raising the threshold for defining a farm, and eliminating the censuses of areas outside the United States. For the economic censuses the Bureau is considering eliminating the data that are collected on a sample basis, which include data on transportation, minority owned businesses, and major retail and central business districts. With these actions

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the Bureau could save about \$6.7 million and would not affect the data gathered from establishments included in the censuses for retail and wholesale trade, selected service industries, mining and manufactures, and construction. If the budget cuts are made within the next few months, the Bureau could save in total about \$19.7 million.

COVERAGE OF THE CENSUSES
AND ESTIMATED COSTS

The agricultural and economic censuses, required by law (13 U.S.C. 131, 142, 191), are a major statistical effort. They provide data for many government and private users and would require about \$123 million, if taken as planned. These estimated costs, absent inflation, are generally in line with costs of the prior censuses. Because most of the costs will be incurred in fiscal year 1983 and beyond, decisions on cost reductions are needed prior to that year.

The law requires the Secretary of Commerce to take every 5 years a census of agriculture and censuses (collectively called economic censuses) of manufactures, mineral industries, and other businesses, including the distributive trades, service establishments, and transportation. The Secretary has delegated this authority to the Bureau of the Census. Each of the censuses includes each State, the District of Columbia, and outlying areas, including the Virgin Islands, Guam, and the Commonwealths of the Northern Mariana Islands and Puerto Rico. For the agricultural census and the six economic censuses for retail and wholesale trade, selected service industries, mining and manufactures, and construction, the Bureau collects data on each farm or establishment included in a predefined universe. For the transportation part of the economic censuses, data are collected only on a sample basis.

The censuses provide statistical information on the agricultural, business, and industrial sectors at the national, State, local, and outlying area levels to government and private users. Federal uses include the Department of Agriculture establishing reference points from the agriculture data for its recurring and special agricultural surveys. The Department of Commerce uses agricultural and economic data in estimating the nation's gross national product. The Census Bureau uses the economic data to construct sampling lists for other economic statistical series. The private sector uses the data for marketing and research purposes.

The Census Bureau estimates that the 1982 censuses will cost about \$123 million, \$60 million for the agricultural census and \$63 million for the economic censuses, and take 6 years to complete. The table below shows the cost by fiscal year.

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>Total</u>
	(note a)						
	------(millions)-----						
Census of agriculture	<u>\$.8</u>	<u>\$2.8</u>	<u>\$15.0</u>	<u>\$30.5</u>	<u>\$ 7.8</u>	<u>\$3.3</u>	<u>\$60.2</u>
Economic censuses:							
Business (notes b and c)	.1	3.4	4.8	14.1	8.8	5.4	36.6
Mining & manu- factures (note c)	.2	1.1	2.3	3.7	4.3	2.9	14.5
Construction (note c)	-	.8	.9	1.7	1.5	.8	5.7
Transportation surveys	<u>.1</u>	<u>.3</u>	<u>1.6</u>	<u>2.4</u>	<u>1.2</u>	<u>.6</u>	<u>6.2</u>
Total	<u>\$.4</u>	<u>\$5.6</u>	<u>\$9.6</u>	<u>\$21.9</u>	<u>\$15.8</u>	<u>\$9.7</u>	<u>\$63.0</u>

a/Actual costs.

b/Includes censuses of retail trade, wholesale trade, selected service industries, and data on major retail and central business districts.

c/Includes cost for developing data on minority owned businesses.

Because of the current emphasis on budgetcutting, the Bureau has identified possible cost reductions in the censuses. Decisions on cost reductions should be made prior to fiscal year 1983 because in that year data collection will begin and a large part of the total costs will be incurred.

The Bureau planned to conduct the 1982 censuses similarly to the previous censuses, except for the introduction of a changed method of data entry using computer technology. Bureau data show that aside from inflation there will be no increase in the cost of taking the 1982 censuses. The Bureau believes the cost of the new technology, including the use of a newly acquired computer, will be offset by reduced personnel costs.

The principal processes the Bureau uses to conduct the agricultural and economic censuses are similar. Both require list development, collection and refinement of the data, tabulation, and publication. Data collection activities will reach a peak in fiscal year 1983. The Bureau will mail the questionnaires in December 1982 and request responses in early 1983. Data processing, tabulation, and publication will occur during fiscal years 1983 through 1985.

There are some distinct differences between the agricultural and economic censuses. For example, the Bureau develops a new list of potential data providers for each agricultural census but uses an ongoing list of businesses, the Standard Statistical Establishment List, to provide an industrial directory for the economic censuses.

Both the agricultural and economic censuses use questionnaires to collect data. Questionnaires are specific about the type of farming operation or business being surveyed. The agricultural census uses about 34 types of questionnaires in the United States and the economic censuses use about 425 types of questionnaires. Field canvassing is also used in the agricultural census to take the count in some areas.

The United States part of the agricultural census is principally taken by mailing questionnaires to about 4 million potential farm operators believed to have sales of \$1,000 or more. The Bureau also plans to have enumerators physically canvass a sample of localities with fewer than 2,500 persons (area sample) to identify any farms missed in the mail list. The Bureau expects to identify about 2.5 million farms through the two processes. The basic information provided by the census consists of: the number of farms; acres in farms; value of farmland; cropland harvested; production statistics for major crops; inventory of livestock and equipment; and data on farm practices, such as the use of pesticides, fertilizers, and the type of farm ownership.

In taking the six economic censuses, the Bureau starts with a universe of about 12 million establishments from the Standard Statistical Establishment List. The Bureau, using criteria that vary by census, 1/ selects subuniverses for the six censuses totalling 6 to 7 million establishments. For these establishments the Bureau obtains administrative records which provide data on payroll, number of employees, and level of activity. In addition, the Bureau will mail questionnaires to about 2.5 million establishments generally including the larger and a sample of smaller establishments to obtain detailed information which it combines with administrative data.

The census of transportation actually is a combination of three sample surveys on commodity transportation, truck inventory and use, and national travel. Households are interviewed to collect data for the national travel survey, and questionnaires are used for the other surveys.

1/Two examples are: (1) the census of wholesale trade excludes wholesalers with no paid employees and (2) the census of retail trade excludes retailers with annual sales less than \$2,500.

POSSIBLE REDUCTIONS IN
CENSUS OF AGRICULTURE
TO ABSORB BUDGET CUTS

The Bureau has identified some reductions in the agricultural census to consider if budget cuts are required. The reductions identified would eliminate the area sample, raise the threshold for defining a farm, and eliminate the census for the outlying areas. Although the reductions would affect the completeness of the census, the specific effect on the utility of the data has not been determined.

Eliminate the area sample?

The area sample is a major element of cost for the agricultural census. The Bureau estimates the area sample will cost about \$6 million, or about 10 percent of the total census cost. Most of the costs--about \$5 million--will be incurred in fiscal year 1983, primarily for collecting, processing, and evaluating the sample data. About \$1 million will be incurred in fiscal year 1982 for preparatory work including the preparation of maps and development of quality control procedures. The Bureau believes the \$1 million would be wasted if the area sample is not completed because the preparatory work would not have other benefits.

The use of an area sample significantly increases the total number of farms identified in the census, but it neither improves the completeness of census data at the county level (one of the main reasons for the census) nor significantly increases the economic data of the census. In the 1978 census, the first time the Bureau used the sample, the projected results added about 221,000 farms (about 9 percent of all farms) to the Bureau's State and national totals. The farms added represented only about 1 percent of all farming activity. The results of the area sample cannot be reliably projected to the county level because cost considerations restrict the sample size below the level required for the projection.

The 1980 decennial census information might be used to offset some of the data loss if the area sample is not conducted. The area sample is a random selection of geographic segments in localities with fewer than 2,500 persons. In the 1980 decennial census, the Bureau sent questionnaires to 50 percent of all households residing in localities with populations of fewer than 2,500 asking for demographic information that included much of the same type of information asked for in the area sample. However, the decennial census does not provide specific crop information that would be available from the area sample.

Raise the threshold for defining a farm?

The Bureau estimates show a possible \$4.8 million savings by raising the threshold for defining a farm to \$2,500 gross sales. In increasing the threshold from the current \$1,000 amount, 1/ the Bureau could reduce the initial mailout by about 1.2 million questionnaires and therefore reduce the associated variable costs. Other costs such as planning would not materially change unless the Bureau eliminates other census components. Actual savings realized depends on when the change in defining a farm is made.

If the change is made within the next few months, the Bureau could realize the maximum savings of \$4.8 million. However, if the Bureau does not change the threshold to \$2,500 within the next few months, the potential savings will decrease to \$3.5 million because by then the Bureau, to remain on schedule, must contract--in quantities sufficient to satisfy census needs at the \$1,000 threshold level--for form and envelope printing and inserting documents into envelopes. The \$3.5 million possible savings remains available until the Bureau commences the labeling process in early fall, 1982. After this, because of the nature of the Bureau's process there is no practical opportunity to realize a savings until after mailed questionnaires are returned and checked-in.

Changing the threshold after the initial mailout in late December 1982 would not seem acceptable. Although up to \$1 million could be saved on processing and editing costs after check-in, about 600,000 completed questionnaires (on the basis of the 1978 census results) would not be used. This could be viewed as imposing an unnecessary burden on those respondents.

Although raising the threshold would reduce costs, some data loss will occur. On the basis of the 1978 census results, data on nearly one quarter of all farms (612,000 of 2,479,000 farms) would be lost. The data loss can have adverse economic consequences as well as distort demographic data.

Some Federal fund allocations for such programs as rural development and agricultural research and extension services are based on the number of farms in a geographic area. Because small farms are disproportionately located in certain States, they would suffer a loss of funds. Moreover, a threshold change could disproportionately affect some groups. For example, a Bureau study showed that the change would eliminate data on 50 percent of the 80,000 farms operated by minorities and 38 percent of 49,000 farms operated by women.

1/ The threshold was increased from \$250 to \$1,000 during the 1974 census.

The change would eliminate information on very small farmers. Some of this type of information is available from the 1980 decennial census. In that census, detailed information was asked of one half of the households in rural areas about farm acreage, gross sales of agricultural products, income from farming, and various demographic data.

Eliminate the census in the outlying areas?

The Bureau takes an agricultural census in Puerto Rico, Guam, and the Virgin Islands in conjunction with the U.S. agricultural census. Eliminating the censuses in the outlying areas could reduce costs by \$2.2 million, but it would cut back on almost all agriculture data from these areas. The only other source of possible data is a U.S. Department of Agriculture soil conservation program in Puerto Rico.

The Bureau planned to spend less than \$100,000 through fiscal year 1982 on census preparation for the outlying areas. During fiscal year 1983, the Bureau would spend about \$1.9 million on data collection, initial processing, editing, and some tabulation. The remaining \$150,000 will be expended in fiscal year 1984 to complete tabulations and publish. Almost all of the \$2.2 million total cost will be spent to take the census in Puerto Rico.

The Bureau expects to identify about 21,000 farms in Puerto Rico, a substantial reduction from the 31,837 farms counted in the 1978 census. This reduction reflects definitional changes increasing the thresholds for land farmed and agricultural products sold.

The Bureau uses two methods to take the census--mailing questionnaires and physical canvassing. It mails questionnaires to three types of farms--those selling at least \$20,000 of agriculture products, those operating at least 200 cuerdas (a cuerda equals about an acre), and those operating in urban areas. The Bureau will ask respondents to retain completed questionnaires until census takers pick them up while conducting the canvass to count the remaining farms.

LARGE BUDGET CUTS COULD CANCEL
SOME ECONOMIC CENSUSES

Although the Bureau will incur most costs of the economic censuses after fiscal year 1982, the Bureau's Associate Director for Economic Fields stated that the only feasible way to reduce costs and preserve the six censuses is to cancel the other related activities. Reducing various aspects of the six censuses would not be economical.

Cost reductions not realistic in the censuses

One way the Bureau can cut the cost of the six censuses is to reduce questionnaire mailings in fiscal year 1983 by reducing the sample sizes. This change would severely affect preparations completed prior to fiscal year 1983. The Bureau's preparations require a determination on the level of detail desired about product lines, sample size, questionnaire design, computer programming routines to edit and refine the questionnaire response data, printing questionnaires, and addressing them. Bureau officials believe reducing the sample size at this time would require many changes to the preparations scheduled to be completed by fiscal year 1983. The officials believe eliminating an entire census would be more economical than reducing sample sizes. However, even under that option, the total costs associated with the eliminated census could not be saved. Both the preparation costs and proportionate amounts of costs common to all the six censuses would be spent. For example, on the census of construction the Bureau has budgeted, up to the mailout, about \$1.7 million in preparation costs (including common costs). Of the remaining census costs (\$4 million) about \$1 million cannot be saved because that amount represents common costs such as computer charges and permanent staff shared by all six censuses.

Two other possible reductions include eliminating the mailing of questionnaires or mailing questionnaires and accepting the data as received from the respondents with no followup or editing. According to the Bureau's Associate Director for Economic Fields, both of these options would affect the quality and completeness of the data and are unacceptable. By eliminating the mailings the Bureau would have to rely only on administrative records. Up to \$16 million could be saved on computer costs, postage, and follow-up activities, but only basic data concerning number of employees, amount of payroll, and level of activity would be obtained. Funds already spent (about \$2.8 million) in prior years on questionnaires and computer programming would be wasted. The Bureau believes accepting data as received would result in many omissions and inaccurate data. Further, if the Bureau did not followup, many questionnaires would not be returned.

Eliminate sample surveys?

If budget cuts arise, the Bureau is considering dropping several sample surveys planned as part of the economic censuses rather than reduce the six censuses. The estimated cost of the sample surveys exclusive of common costs is about \$6.7 million. The table below shows the costs by fiscal year.

	1980 and <u>1981</u> (note a)	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>Total</u>
----- (thousands) -----						
Census of Transportation:						
Commodity transportation	\$148	\$179	\$700	\$550	\$450	\$2,027
National travel	29	400	950	-	-	1,379
Truck inventory and use	95	156	600	250	100	1,201
Survey of minority owned businesses	115	-	250	1,000	350	1,715
Data on major retail and central business districts	<u>-</u>	<u>-</u>	<u>90</u>	<u>175</u>	<u>155</u>	<u>420</u>
Total	<u>\$387</u>	<u>\$735</u>	<u>\$2,590</u>	<u>\$1,975</u>	<u>\$1,055</u>	<u>\$6,742</u>

a/Actual costs

Census of transportation

The census of transportation is a composite of three separate surveys on commodity transportation, national travel, and truck inventory and use.

The commodity transportation survey is taken to measure the distribution and characteristics of shipments made by manufacturing establishments, including such data as the origin of the shipments, weight, and mode of transportation. The Bureau estimates the survey will cost about \$2 million. Governmental agencies--Federal, State, and local--and the private sector use the commodity transportation data for market studies, distribution analysis, transportation policy and planning, and other economic research. The Federal Government also uses such data to calculate the national income and product accounts.

The Bureau will mail questionnaires in the early part of fiscal year 1983 to a sample of manufacturing establishments requested to provide data from a sample of their shipping documents. The Bureau provides the sample design, but each manufacturer must select the appropriate documents and transcribe the information onto the Bureau's questionnaire. The sample size varies with establishment size. On the average the Bureau believes a manufacturer will need 8 hours to complete the questionnaire.

The national travel survey is taken to estimate the volume and characteristics of long distance travel by the civilian population at an estimated cost to the Bureau of \$1.4 million. The Department of Transportation, a major data user, is expected to contribute an additional \$500,000. The Department uses the data to study the movement of people and to project future travel movements. Other major data users are State and private travel industries. States use the data in plans to attract travelers and private travel industries use it to profile the nonlocal traveler.

In the travel survey 6,000 households will be interviewed either in person or by phone at four different intervals. The sample size has been drastically reduced from the previous 25,000 households in the 1977 survey because of reduced funding and cost increases. The Department of Transportation plans to reduce its 1977 contribution by about \$1 million, and the U.S. Travel Service, which provided about \$600,000 for the 1977 survey, has decided not to contribute for the 1982 survey. The U.S. Travel Service has decided that there are other surveys providing adequate data at the State level. For the 1982 survey the Bureau will only be able to provide data results at the regional and national levels. For the 1977 survey the Bureau provided results at the local levels.

The third and final part of the census of transportation is the truck inventory and use survey estimated to cost about \$1.2 million. The purpose of this survey is to provide data on the characteristics of the Nation's trucks through a sample of trucks registered in each State. This survey will be taken by sending questionnaires to 120,000 truck owners starting in October 1982. The Department of Transportation uses the survey data for safety and general highway purposes.

Survey of minority owned businesses

As part of the economic censuses, the Bureau plans to take a survey of minority owned business enterprises, including a survey of women owned businesses, at an estimated cost of \$1.7 million. Most of the information for the surveys is obtained from Federal administrative records and personal contacts with knowledgeable community and government representatives. In connection with the surveys, a two-item questionnaire is sent to businesses believed to be owned by minorities exclusive of blacks to verify the minority ownership classification. Questionnaires are also sent to a very small sample of all firms to improve coverage of minority owned businesses. The results are reported by number of firms, gross receipts, number of paid

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employees, and annual payroll. Federal, State, and local governments use data from these surveys in federally mandated contract allocations and other policy decisions on funds and benefits distribution. The data also have been used in court to justify such allocations and funding.

Data on major retail centers and central
business districts

As part of the economic censuses, the Bureau will prepare special tabulations costing about \$420,000 on retail business activity located within geographic areas identified as major retail centers and central business districts. This tabulation provides data to help identify the flow of retail trade from downtown business districts to the suburbs. For the 1982 census, under general Bureau guidelines, local volunteer committees will list the businesses located within the designated geographic boundaries. The special tabulations provide data on receipts, payroll, employment, and kind of business. According to the Bureau, this data is useful for local planners and marketers.

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At the request of your office, we did not obtain agency comments on this report. Also, we plan no further distribution until 30 days from the date of this report unless you publicly announce the contents earlier. At that time we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,



William J. Anderson
Director