



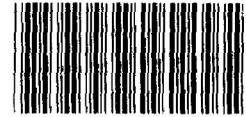
UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

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COMMUNITY AND ECONOMIC  
DEVELOPMENT DIVISION

January 29, 1982

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Mr. Norman A. Berg  
Chief, Soil Conservation Service  
U.S. Department of Agriculture

Dear Mr. Berg:

Subject: Comments on the U.S. Department of Agriculture's  
1981 Program Report and Environmental Impact  
Statement (revised draft)--Soil and Water  
Resources Conservation Act--Issued November 1981  
(CED-82-41)

In response to the Secretary of Agriculture's request for comments, we have reviewed the revised draft report outlining Agriculture's proposed preferred national soil and water conservation program. The Secretary proposed the preferred program to comply with requirements of the Soil and Water Resources Conservation Act of 1977 (Public Law 95-192). The 1977 act required the Secretary to develop a national program to further the conservation of soil and water resources because individual and governmental decisions concerning soil and water resources often transcend administrative boundaries and affect other programs and decisions.

We believe that although Agriculture has spent considerable effort reviewing the adequacy of our soil and water resources, improved analysis, program evaluation, and coordination are needed to achieve an effective appraisal and program framework. As explained in the accompanying enclosures, Agriculture will not have the basis for the effective program intended by the 1977 act until it:

- Conducts a thorough assessment of soil and water resource conditions to better define the problems. (See enc. I.)
- Evaluates the overall effectiveness and progress of ongoing soil and water programs. (See enc. II.)
- Evaluates sufficient alternatives for conserving U.S. soil and water resources. (See enc. III.)
- Analyzes the impact of other Government programs on soil and water resources to ensure the best use of limited resources and avoid duplication of effort among Federal agencies. (See enc. IV.)

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We believe that Agriculture has not compiled sufficient evidence to justify implementing the proposed preferred program. The proposed program could be an ineffective and costly solution to the Nation's soil and water resources problem. A better analytical framework is needed to meet the requirements of the 1977 act.

We have developed a methodology that could be used in gathering and analyzing the basic data needed. Our report "A Framework and Checklist for Evaluating Soil and Water Conservation Programs" (PAD-80-15, Mar. 31, 1980) (copy enclosed) sets forth guidelines that could assist Agriculture in obtaining information needed to develop an effective program to improve resource conditions within limited budget resources.

We hope our comments and suggestions will be helpful to you in finalizing Agriculture's recommended conservation program. If you have any questions regarding our comments, please call Mr. William E. Gahr, Associate Director, (202) 275-5525.

Sincerely yours,



Henry Eschwege  
Director

Enclosures - 5

DEFINE SOIL AND WATER RESOURCE PROBLEMS

The Soil and Water Conservation Act of 1977 required an appraisal and "analysis of the Nation's soil, water, and related resource problems." The act further specifies that the appraisal include the following data:

- The quality and quantity of soil, water, and related resources.
- The capability and limitations of those resources.
- The changes that have occurred in the status of those resources resulting from past uses, including the impact of farming technologies, techniques, and practices.
- The current programs and their trends, relating to the use, development, and conservation of soil, water, and related resources.
- The other types of specific data on soil and water conservation.

While Agriculture has obtained considerable data on U.S. soil and water resources, this data is not explicit enough to define the extent, causal factors, and implication of the problem. Consequently, the problem has not been adequately assessed as the Congress had intended when the data base was requested.

Extent of soil and water conditions

National resource inventories conducted in 1934, 1958, and 1967 lacked sufficient data to gage conservation progress and erosion severity over time. 1977 data collected pursuant to the act and used in the draft report--the extent of erosion problems at the national and State level--can serve only as a limited measure of resource conditions and only for the 1977 collection period. Even though the 1977 national resource inventory was designed to overcome the methodological deficiencies of the previous inventories, it did not document the erosion problem at the local level. This documentation is needed to provide a base set of criteria for targeting scarce conservation resources to specific areas where erosion can effectively be controlled. Agriculture is now collecting data to update the status of the 1977 resource inventory which will document local conditions. Hopefully, the 1982 data can serve as a basis for gaging conservation progress and trends in local erosion severity.

Causes underlying soil and water erosion

Agriculture has not done a thorough analysis of the causes underlying soil erosion and the related water resource problem, in part because much of the data gathered is too general to analyze

specific causes. (The data is gathered by large geographical regions of the country.) Agriculture recognizes that farm owners and operators may face conservation constraints because they receive low short-term returns from high long-term conservation investments. Also, the competitive agriculture market inhibits pass through of many developmental expenditures, including conservation. However, Agriculture does not offer any explanation or analysis of why farmers use farming methods that cause erosion and what program strategies would encourage farmers to change their methods.

Agriculture attributes the erosion problems to the intensive production of large acres of land in certain geographical regions. Such gross generalization can be highly misleading. For instance, according to the American Farmland Trust, erosion rates in some selected metropolitan areas are twice the rates of more rural counties in the same regions.

The underlying causes of erosion in different parts of the country may be very different, but the draft report has not analyzed this. Unless a more complete analysis of the causal factors which encourage soil and water erosion is done, Agriculture will have little assurance that the proposed preferred program--matching block grants and technical assistance--will attack the root cause of erosion and be effective in solving the resource problems.

Additional data is needed to assess the adequacy of targeting and the block grant approach

Block grants to States may be an effective means of targeting funds; however, the draft report does not describe how the proposed program will be administered. Specifically, the following questions need to be addressed.

- What level of government should administer the program?
- How will the program affect existing Federal programs?
- What will be the cost to Federal, State, and local governments?
- Who should provide technical assistance?

We agree that funds for erosion control should be targeted, but before Agriculture attempts to do this, it should:

- Develop better data on erosion problems, particularly data on the depth of soil and its ability to sustain erosion. For example, shallower soils experiencing erosion rates of less than the standard 5 tons per acre

may be more of a concern than deeper soils experiencing higher rates.

- Analyze the factors which contribute to high erosion rates. Erosion may be caused directly or indirectly by many factors, including physical soil condition, farm operating conditions, economic conditions, and Government programs. For example, Government price supports targeted to a few commodities coupled with the new crop insurance programs may encourage the expansion of row crops, such as corn and soybeans, on marginal lands. Row crops are highly susceptible to erosion and there is no way to prevent farmers from intensively farming marginal lands. Providing price supports and targeting conservation funds to such areas could encourage increased use of this land base, continue its use in row crop production, and encourage erosion.
- Consider the efforts State and local jurisdictions are making to conserve farmland and to promote diversified regional production or improved farming techniques.
- Consider that water conservation may be more critical than soil erosion in some targeted areas.
- Consider the differences in farmer motivation in each region. Conservation efforts are generally voluntary, and not all farmers and landowners may be willing to undertake projects to conserve soil and water resources even when the Government provides funding for such projects. Funds may be more successful in reducing erosion if they are targeted to farmers who are motivated to conserve.

Suggested methodology for  
obtaining needed data

Our report entitled "Framework and Checklist for Evaluating Soil and Water Conservation Programs" (PAD-80-15, Mar. 31, 1980) pointed out some of the data needed to define the soil erosion problem. The report called for specific information, such as:

- How much soil is being eroded by water on cropland, pastureland, forestland, and rangeland?
- What is the effect of this erosion on productivity?
- What is the amount of sediment damage?
- What is the amount of shore and streambank erosion?

- What is the impact of this erosion on water quality?
- What indicators must be used to describe each problem?
- Do the indicators describe the important aspects of each conservation problem?
- What procedures (direct measurement, statistical sampling, descriptive models, or predictive and planning models) are used to assess the extent of each problem?
- To what degree has each predictive and planning model been validated?
- What procedures are used to ensure the accuracy and reliability of the measurements and estimates used by Agriculture?

Although these are only a few of the detailed questions to be answered, they describe the type of information Agriculture needs to define where the need exists and where its limited resources may be most effectively directed.

REPORT DID NOT ADDRESS THE EFFECTIVENESS  
OF EXISTING CONSERVATION PROGRAMS

The 1977 act authorized and directed the Secretary to develop a national soil and water conservation program to preserve and better use existing resources. As part of the national program, the Secretary was required to evaluate the effectiveness of existing soil and water conservation programs and the overall progress Federal, State, and local programs and landowners and land users are achieving in meeting the soil and water conservation objectives. Thus, the Congress expected Agriculture to evaluate existing programs' effectiveness before developing new programs or making modifications to existing ones.

Agriculture, however, did not evaluate its current ongoing programs. (One exception is the Agriculture Conservation Program (ACP)). Instead, its report relied on a series of technical reports that it defined as outdated. While its conclusion that there appears to be a broad consensus that soil conservation programs and practices have reduced and continue to reduce erosion from agricultural land may be valid, more can be done. As discussed below, five of our reports and Agriculture's own ACP evaluation conclude that the programs could be improved.

- "To Protect Tomorrow's Food Supply, Soil Conservation Needs Priority Attention" (CED-77-30, Feb. 14, 1977). In our review, we evaluated soil conservation programs and found that the money and technical assistance Agriculture provided to help control soil erosion fell short of achieving its objective and resources could have been used better. We observed that conservation problems were not assigned priorities and available resources were not directed toward solving the most pressing problems.
- "National Water Quality Goals Cannot Be Attained Without More Attention to Pollution From Diffused or Nonpoint Sources" (CED-78-6, Dec. 20, 1977). In this report, we concluded that overall effort to control nonpoint sources of pollution (over 50 percent coming from cropland) had been minimal.
- "Water Quality Management Planning Is Not Comprehensive and May Not Be Effective for Many Years" (CED-78-167, Dec. 11, 1978). In this report, we concluded that water quality data--describing how pollution occurs and to what degree water quality would be improved after one or more causes of pollution are eliminated, particularly for nonpoint sources--is needed to support effective 208 area-wide water quality management planning efforts under the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500)

(33 U.S.C. 1251 et seq.) and to pursue the most cost-effective control programs.

- Agriculture's evaluation of the Agriculture Conservation Program. This study concluded that soil loss is being prevented and water is being conserved by using most of ACP's practices. However, practice costs and results by region and within regions varied considerably. ACP practices were also being applied on land where the soil loss was already very low.
- "Improvements Are Needed in USDA's Soil and Water Resources Conservation Act Reports" (CED-80-132, Sept. 3, 1980). In this report, we concluded that Agriculture had not fully complied with the 1977 act's intent because it had not evaluated each of its 34 soil and water conservation programs. Agriculture did not address this report when it developed its proposed preferred program.
- "A Framework and Checklist for Evaluating Soil and Water Conservation Programs" (PAD-80-15, Mar. 31, 1980). In this report we concluded, based on prior reports and evaluations, that the information Agriculture used in its decisionmaking processes was not adequate to ensure that program objectives were being met in an effective manner. To assist the Congress in its oversight function and to provide Agriculture with additional tools to effectively manage these programs, we designed an evaluation framework. While we recognized that adopting this framework and obtaining needed information would be a complicated process, we believed the results would be worth the extra effort. Agriculture agreed and said that it had already begun using these concepts. It appears, however, that the Soil Conservation Service did not use our framework in its response to the Congress.

We believe that before Agriculture implements a new program, particularly one using the same methods as the existing program (cost sharing and technical assistance), it needs to make a thorough evaluation of the extent to which these methods have been successful in reducing erosion. In conducting such an evaluation, it should build upon the prior studies already made of the programs.

REPORT DID NOT DISCUSS ALTERNATIVE METHODS TO  
CONSERVE SOIL AND WATER RESOURCES

The 1977 act required Agriculture to identify and evaluate alternative methods to conserve, protect, improve, and enhance soil and water resources, in the context of alternative time frames, and to recommend preferred alternatives and the extent to which the alternatives are to be implemented.

The report did not contain an evaluation of alternative methods or policy options that could be used to address our Nation's soil erosion and water pollution problems. Without evaluating its alternatives, Agriculture cannot demonstrate that its resources are effectively used. It will not have an appropriate basis for providing guidance for future program development.

The report assumes that some form of technical assistance and cost sharing is a preferred policy mechanism for achieving soil and water conservation and does not address the benefits and disadvantages of other options. The three alternatives considered in the report are a variation of Agriculture's basic technical assistance and cost-sharing policy option. Alternative one assumes continuation of current program efforts; alternative two assumes priority targeting of current programs; and alternative three--the preferred program--assumes an administrative shift in current program efforts to include--through matching block grants--more State and local effort.

Several alternative policy options exist that could be substituted or used with the technical assistance/cost-sharing mechanism now used to conserve soil and water resources. In fact, Agriculture has identified and discussed most of these alternative policy options in other publications. 1/

The draft report, instead of evaluating alternatives, provides for pilot projects that could be designed to test new ideas or approaches and explore incentives and delivery systems to improve soil and water resources. The idea of pilot testing alternatives is a good one, but the preferred program should provide more specifics such as evaluation criteria, proposed funding levels, and criteria for channeling limited funds into potential projects. Currently, Agriculture does not have any firm plans regarding which alternatives will be funded and tested through pilot projects.

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1/"A Time to Choose" (1981), "Program Report and Environment Impact Statement-Review Draft" (1980), and "National Agricultural Land Use Study" (1981).

Agriculture's draft report contains a good list of alternatives that could be used in a pilot test. We suggest that other alternatives also be examined, such as:

- Export levies to recover conservation costs and practices.
- Alteration of existing farm programs to encourage conservation by integrating commodity support programs with conservation efforts. For example, changing existing price support programs to limit price supports for those soil-depleting crops such as corn, wheat, and soybeans when they are grown on marginal land that should not be intensively cropped.

REPORT DID NOT CONSIDER IMPACT  
OF OTHER FEDERAL PROGRAMS

The 1977 act requires the Secretary to obtain data on current Federal and State laws; policies, programs, rights, regulations, ownerships and their trends; and other considerations relating to using, developing, and conserving soil, water, and related resources. In addition, the act requires the Secretary to (1) use information and data available from other Federal, State, and local government and private organizations and (2) coordinate his actions with the resource appraisal and planning efforts of other Federal agencies to avoid unnecessary duplications and overlap of planning and program efforts.

The report did not provide, as required by the act, for an analysis of how other Government programs affect soil and water resources or how the proposed preferred program would be coordinated with other existing efforts. Without adequate evaluation and coordination with existing Federal efforts, Agriculture will have little assurance that its program is in harmony with other Government programs and that Federal funds to conserve soil and water resources are being effectively used.

Currently, the Federal Government has about 80 programs administered by about 10 different Federal entities that deal with soil and water resources. For example, the Environmental Protection Agency has provided about \$33 million a year to States to assist in planning for water pollution control. Of this amount, \$6 million is used for planning nonpoint pollution control (most nonpoint pollution comes from farmland erosion). The Army Corps of Engineers spends about \$500 million removing sediment from U.S. waterways and harbors.

In a prior report, "National Water Quality Goals Cannot Be Attained Without More Attention to Pollution From Diffused or Nonpoint Sources," we stressed the importance of adequate data and planning on nonpoint pollution sources to control water pollution. In a more recent report entitled "Water Quality Management Is Not Comprehensive and May Not Be Effective for Many Years," we stressed the need to improve planning for nonpoint water pollution control. Priorities must be established to assure the best use of our limited funds by the selection of control projects that will most benefit U.S. soil and water resources. Without adequate data and planning, the Federal Government could be encouraging practices or projects that may be less cost effective in controlling pollution than farm practices to control soil erosion.

Encouraging farm soil conservation practices could affect the U.S. budget in other areas. For instance, with less erosion, the Corps could spend less for removing sediment from waterways.

Although the preferred program calls for increased and more efficient budget coordination among Agriculture agencies with conservation program responsibilities, it does not provide for coordination with other Federal agencies. As we stated in 1977, we believe these coordination efforts should begin immediately with all involved parties. Since soil and water conservation is a nationwide problem, involving many Federal, State, and local agencies, we believe that all pertinent Agriculture agencies, as well as other Federal agencies, should be given an opportunity, through representation on Agriculture's task force, to assist in developing the preferred program. Currently, the task force is composed of Agriculture staff primarily from the Soil Conservation Service.