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Report to the Chairman, Subcommittee
on Conservation, Credit, and Rural
Development, Committee on
Agriculture, House of Representatives

October 1991

ADP MODERNIZATION

Half-Billion Dollar FmHA Effort Lacks Adequate Planning and Oversight

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Information Management and
Technology Division

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The Honorable Glenn English
Chairman, Subcommittee on
Conservation, Credit, and
Rural Development
Committee on Agriculture
House of Representatives

Dear Mr. Chairman:

This report responds to your request for the results of our review on the approach the Farmers Home Administration (FmHA) is using to manage its \$520-million effort to modernize the automated systems used to make and collect loans. The modernization effort, which started in 1987, is intended to put the agency in a position to minimize loan losses. This effort includes developing new information systems, redesigning major existing systems, making large equipment purchases, and providing the capability to share information among various FmHA, as well as departmental, systems.

This is FmHA's third modernization attempt since the mid-1970s. Inadequate planning, combined with ineffective management and oversight, contributed to the failure of the first two efforts. Our review focused on the agency's effectiveness in performing two critical management functions—planning and oversight—because these functions, if not properly carried out, could once again prevent the modernization from being successfully implemented. Details of our objective, scope, and methodology are discussed in appendix I.

Results in Brief

FmHA has not resolved its longstanding planning and oversight problems. This casts serious doubt on FmHA's ability to achieve its goal of dramatically improving its information systems by 1995, so that these systems can better support the agency's loan programs.

FmHA's modernization is not based on a strategic business plan that clearly articulates how FmHA will operate in the future. In fact, the business plan that FmHA does have does not even reflect current changes being made in FmHA's organizational structure and loan management operations.

Further, FmHA does not have an information systems plan linking specific modernization projects to its business plan. Recognizing the absence of a clear business vision and supporting information systems plan, FmHA plans to purchase information systems that it hopes will be flexible enough to adapt to any major changes in its operations in the future. Such an approach to a half-billion dollar modernization effort introduces an unacceptable level of risk that systems may be purchased that do not meet users' needs.

Effective oversight of the modernization has not occurred. The FmHA executive board responsible for overseeing the modernization has not met for over 3 years. Board members did not provide a consistent explanation as to why the board was inactive. This board was set up to plan and determine appropriate priorities and funding for the many modernization projects FmHA is undertaking.

We are recommending that FmHA perform the requisite, up-front business and information system planning, and assess whether its modernization efforts support these plans, before it begins any new modernization projects. We are also recommending that FmHA strengthen its modernization oversight process.

Background

FmHA, an agency of the U.S. Department of Agriculture, provides credit to rural Americans who cannot obtain credit elsewhere at affordable rates and terms. FmHA's loan programs are large and diverse; its \$58 billion loan portfolio includes loans to farmers, homeowners, communities, and businesses. FmHA administers its loan program through its 2,200 field offices, a finance office in St. Louis, Missouri, and a national office in Washington, D.C.

FmHA loans are among the riskiest in the federal government. For fiscal years 1987 through 1990, the agency has written off about \$7.7 billion in loans that could not be collected. The agency estimated, as of the beginning of fiscal year 1991, that \$12.5 billion, or about one-fifth of its outstanding loans, were delinquent. Because continuing major losses are likely, both the Comptroller General and the Office of Management and Budget are monitoring FmHA's progress in addressing this situation.

FmHA has been trying to modernize its information systems since the mid-1970s. The agency's first modernization program, which began in 1974, was to replace existing information systems. However, because the contractor missed several deadlines and requested additional funds,

FmHA terminated the contract in 1979—after spending \$17 million. Our reviews supported this termination on the basis that user needs would not be met and the system might not be as efficient or effective as planned.¹

FmHA's second modernization attempt began in 1982, and ended in 1986 when FmHA cancelled its planning and design contract for this effort. FmHA officials estimate that the agency spent about \$9 million on the project. The Department's Office of Inspector General reviewed the project and attributed many of its problems to FmHA's acceptance of inadequate design documents from one contractor and to FmHA's inadequate management of a second contractor.²

In 1987 FmHA management initiated the agency's third attempt to modernize its information systems. The agency's goal was to build a modern information technology environment by 1995 to improve such areas as program and administrative management, accounting and financial management, agencywide productivity, and delivery of services to its customers. (See app. II for a list of FmHA's modernization projects and their estimated time frames and costs.)

Modernization Effort Lacks Direction

Federal standards and good management practice state that information system modernization efforts should be based on an agency's long-term business plan.³ This plan addresses the long-term critical issues facing an agency in the future by dealing in terms of strategy, long-term objectives, and integrated programs for accomplishing those objectives. This business plan, in turn, serves as the foundation for the development of an information systems plan that specifies the information and information systems needed to transform the business vision into reality. FmHA's modernization is not based on such a long-term vision and, according to

¹ Farmers Home Administration Needs to Better Plan, Direct, Develop, and Control Its Computer-Based Unified Management Information System (CED-78-88, Feb. 27, 1978); and Farmers Home Administration's ADP Development Project—Current Status and Unresolved Problems (CED-80-67, Feb. 19, 1980).

² Farmers Home Administration: Design of the Automated Program Delivery System (Audit Report No. 04530-18-FM, Mar. 5, 1987); and Farmers Home Administration: Review of the Automated Program Delivery System Development Contract Management (Audit Report No. 04530-28-FM, Mar. 20, 1987).

³ Management of Federal Information Resources (Office of Management and Budget Circular A-130); and Strategic Information Resources Management Planning Handbook (Revised) General Services Administration (Washington, D.C., 1987).

an October 1990 Office of Management and Budget report,⁴ legislative priorities have caused the agency to take a reactive, short-term approach to managing its operations. As a result, FmHA's modernization focuses primarily on upgrading the information technology that supports its existing loan-making and servicing practices.

FmHA issued a business plan in November 1990. The plan identifies activities the agency will take to address weaknesses that hamper FmHA from reaching its long-term goal of delivering services efficiently and effectively. However, this document does not establish a clear vision of how FmHA plans to operate in the future. Moreover, it does not reflect recent and planned changes that are occurring in FmHA's organizational structure and loan programs, such as the recent legislation establishing a new agency—the Rural Development Administration—to administer FmHA's \$4 billion community and business loan program.⁵

Rather than providing an overall, agencywide vision that could help guide modernization planning, the document is merely a collection of 60 projects addressing 10 broadly defined areas, such as improving training and improving information to manage FmHA. Most of the projects are short-term: one involves establishing a system for developing an annual prioritized training plan by October 1991; another involves implementing an executive information system by December 1991.

In the absence of a clearly articulated business plan and vision, FmHA's modernization effort is focusing on technology-related solutions that, according to FmHA's information resources manager, are sufficiently flexible to accommodate any future changes in the way the agency may operate. For example, the official stated that he is upgrading FmHA's computer equipment and planning a long-term equipment contract that will be based on the government's open systems standards.⁶ He said the use of these standards should provide sufficient flexibility to enable the agency to easily merge redesigned systems with existing equipment. While it is true that the government's open systems standards facilitate

⁴Report on the Evaluation of the Five-Year Financial Management Systems Plan and Planning Process, Department of Agriculture, Office of Management and Budget (Washington, D.C., Oct. 23, 1990).

⁵The Food, Agriculture, Conservation, and Trade Act of 1990, referred to as the 1990 Farm Bill (P.L. 101-624), created the Rural Development Administration.

⁶The concept of open systems was developed to enable heterogeneous computer systems to interoperate in a data communications environment. Government Open Systems Interconnection Profile (GOSIP), Federal Information Processing Standards Publication 146-1, National Institute of Standards and Technology.

porting⁷ software and interconnecting systems, they do not address design, procedural, or architectural incompatibilities within an agency's application software or information systems.

Modernizing without a clear, future vision is risky because the agency is gambling on the ability of its information resources management (IRM) staff to develop technology-based solutions that allow the agency to respond to fundamentally new and different ways of doing business that may occur in the next few years. If the equipment and systems cannot effectively serve FmHA's mission or meet borrowers' needs, then it may cost millions to replace or redesign them.

Agencywide Information Systems Plan Not Developed

In addition to developing a visionary business plan to guide modernization efforts, organizations should also identify the information required to accomplish their objectives and how they can use computer technology to provide this information. Identifying information requirements is a process referred to as information systems planning. This process produces a high-level blueprint of the organization's information and technology needs. FmHA is modernizing without an information systems plan. As a result, it has not defined its short- and long-term information needs or how those needs can best be met.

The importance to FmHA of developing an information systems plan is discussed in an October 1990 Office of Management and Budget report on Agriculture's financial systems planning.⁸ The report noted that FmHA needs an effective approach to address existing financial management systems weaknesses. The report also noted that such an approach is contingent upon FmHA developing an information systems plan. This report concluded that the plan would help FmHA articulate its financial management priorities and provide a basis for improving the agency's financial management systems. Because of the importance of developing adequate financial systems, the report recommended that the Administrator of FmHA ensure that an information systems plan be completed by the end of 1991.

In May 1990, FmHA had hired a person, experienced in developing information systems plans, to lead the development of such a plan for the

⁷Port means to transfer a program from one hardware configuration and/or software system environment to another.

⁸Report on the Evaluation of the Five-Year Financial Management Systems Plan and Planning Process: Department of Agriculture, Office of Management and Budget (Washington, D.C., Oct. 23, 1990).

agency. However, work on the plan did not begin until May 1991 because program managers and staff, whose assistance is needed to identify users' information needs, were busy rewriting loan policies and procedures to comply with the 1990 Farm Bill. In the interim, the person hired was performing other duties, such as revising the agency's IRM directives. This individual does not know how long it will take to complete the plan because the agency has yet to commit the necessary staff resources.

Despite not having an information systems plan, FmHA started developing information systems in 1990 because the agency's information resources manager believed he could retrofit these systems to meet the agency's information needs once these needs were identified. This manager acknowledged that the agency should have prepared an information systems plan before starting the modernization.

Purchasing computer equipment and building new information systems without an information systems plan is risky and could result in systems that do not meet users' needs. Further, it may prevent FmHA from accomplishing its goal of improving information sharing among FmHA systems and prevent Agriculture from reaching its goal of improved interagency sharing." In our view, FmHA cannot hope to share information with other Agriculture agencies until the agency not only develops its plan, but integrates it with other Agriculture information systems plans.

In a September 19, 1991, memorandum to us commenting on a draft of this report, the Administrator of FmHA stated that while FmHA's effort to develop an information systems plan was initiated later than initially anticipated, it will be completed this calendar year. This plan is to identify the type of information in the agency's existing system, and the type of additional information managers need to more effectively monitor and evaluate program performance. The Administrator also stated that as part of this effort, FmHA will evaluate the effectiveness of existing information systems, identify where FmHA data bases should reside, and prepare a framework for developing future systems.

The Administrator also identified additional planning initiatives FmHA has undertaken to provide better tools for monitoring modernization efforts and progress. According to the Administrator, the agency is

¹⁰By the year 2000, Agriculture wants to have an information architecture that permits information to be shared electronically on a routine basis within and among Agriculture agencies, as well as with other federal, state, and local government agencies.

developing a global information architectural plan to identify the agency's hardware, software, telecommunication, and information needs. However, the Administrator did not say how long it will take to complete the plan. In addition, \$4 million has been targeted in fiscal year 1992 by FmHA to study the agency's accounting systems requirements, as well as information needs.

Effective Oversight Not Occurring

FmHA has an Executive Review Board whose duties include reviewing and approving major IRM projects at initiation and at major milestones during development and implementation, ensuring that all appropriate IRM guidelines are being followed, and ensuring that systems are tested to see that they meet users' needs and function correctly. However, the Board has been inactive for over 3 years. As a result, FmHA is not using the mechanism it established to oversee the modernization. FmHA's prior modernization attempts failed in part because the agency did not effectively oversee the projects. Poor oversight practices could jeopardize the successful completion of this modernization effort as well.

We asked Executive Review Board members why the Board had been inactive since 1988. FmHA's Associate Administrator speculated that high turnover in FmHA's top management and higher priorities, such as the 1990 Farm Bill and 1987 Agricultural Credit Act, took attention away from the Board and as a result, meetings were not held. He also speculated that many of the decisions normally handled by the Board may be handled by the agency's Technical Review Board, a lower-level body made up of representatives from FmHA loan programs and IRM staff, that supports the Executive Review Board. FmHA's Acting Deputy Administrator for Management stated that higher priorities drew officials' attention away from the Board and led to its inactivity. He stated that some of the Board's duties, such as setting system development priorities, have been assumed by the agency's IRM staff. He also said that other Board duties are not being performed. For example, there is no formal review or approval of modernization projects before these projects are initiated by the agency's IRM staff. In addition, he was uncertain whether reviews of modernization projects occur during development and implementation, as required by FmHA directives. Another member thought the Board had been disbanded. The Board's executive secretary, who is also FmHA's information resources manager, stated that the Board has no reason to meet because he periodically informs the Administrator on the IRM staff's modernization activities at the Administrator's monthly staff meetings.

Relying on the agency's IRM staff to carry out the Executive Review Board's responsibility for ensuring that all appropriate IRM guidelines are followed has not been effective and is contrary to FmHA directives. These directives limit the IRM staff's authority to such activities as developing, acquiring, operating, and maintaining the agency's information systems and developing and implementing IRM plans and policies.¹⁰ We found examples of how this approach allowed modernization decisions to be made without critical analyses of alternatives, test and evaluation plans, and procedures necessary to determine if a system is meeting stated requirements. For example:

- In August 1990, FmHA acquired \$32 million in computers for the agency's field offices without the IRM staff first preparing analyses needed for effective management control. Federal guidelines specify that agencies are to identify automation requirements and the benefits and costs of alternative approaches for meeting those requirements.¹¹ The IRM staff did not prepare its analysis until after the purchase and after we requested it. The analysis, that was prepared after the fact, lacks adequate support for estimated benefits and it does not consider alternatives. As a result, FmHA does not know if the computers purchased will meet its requirements at the lowest overall cost.
- FmHA's IRM staff, contrary to federal guidelines,¹² did not prepare test plans or prepare reports documenting the results of tests they said were performed on the three local area networks the IRM staff has been experimenting with since mid-1990. Testing is crucial to ensure that automated systems meet users' needs, function correctly, and identify system errors before an agency's operations are adversely affected. The purpose of a test plan is to identify the tests to be performed, the results expected, the evaluation criteria to be used, and the procedures to be followed. In March 1991, FmHA officials informed us that the agency had decided on the type of network to be installed nationwide. However, without proper documentation showing the tests that were performed

¹⁰FmHA, Instructions (Part 2003-A), June 1988.

¹¹Guidelines for Documentation of Computer Programs and Automated Data Systems for the Initiation Phase, Federal Information Processing Standards Publication 64; and Guidelines for Documentation of Computer Programs and Automated Data Systems, Publication 38, National Technical Information Service, Department of Commerce.

¹²Guideline for Lifecycle Validation, Verification, and Testing of Computer Software, Federal Information Processing Standards Publication 101, National Technical Information Service, Department of Commerce.

and the results and findings of those tests, it is unknown whether FmHA has selected a network that best meets its needs.

- FmHA's IRM staff, contrary to federal guidelines,¹³ has not developed project plans to guide the modification and redesign of its major financial systems. Project plans identify specific results to be achieved, how and when the results will take place, who will be held accountable, and the resources required to achieve the identified results. FmHA has made numerous changes to its major financial systems in the last few years to comply with federal accounting standards and legislative requirements. These systems are the agency's principal source of loan management information and are critical to establishing a foundation for minimizing loan losses. FmHA expects to spend \$59 million over the next 5 years modifying and redesigning the systems, but has not prepared a project plan to guide its efforts.

The oversight weaknesses discussed above are clear evidence that critical internal controls are not working. The Federal Managers' Financial Integrity Act of 1982 (Public Law 97-255) requires federal agencies to establish internal controls to ensure that obligations and costs comply with applicable law, and assets are safeguarded against waste, loss, or unauthorized use. Federal agencies must report to the Congress material weaknesses in these controls and the status of corrective actions until these weaknesses are corrected.

In addition, the Comptroller General's internal control standards require that internal control techniques be effective, provide the coverage that is intended, and operate when intended.¹⁴ These standards also require that transactions and other significant events be authorized and executed only by persons acting within the scope of their authority. Allowing the agency's IRM staff to assume the oversight duties reserved for the Executive Review Board violates these standards. The Executive Review Board was set up to function as a control mechanism to ensure that the agency's IRM control objectives are being achieved. However, this control technique has not been effective. Additionally, it violates the basic tenets of separation of duties between those developing and acquiring information systems and those responsible for approving and overseeing such activities. Allowing this assumption of duties is also

¹³Guideline for Lifecycle Validation, Verification, and Testing of Computer Software, Federal Information Processing Standards Publication 101, National Technical Information Service, Department of Commerce.

¹⁴Standards for Internal Controls in the Government, U.S. General Accounting Office (Washington, D.C., 1983).

contrary to FmHA directives, which limits the IRM staff's authority to activities such as developing, acquiring, operating, and maintaining the agency's information systems, and developing and implementing IRM plans and policies.

In his September 19, 1991, memorandum to us, the Administrator of FmHA acknowledged that FmHA's Executive Review Board is inactive. He said that in March 1990 he assigned responsibility for overseeing FmHA's modernization program to the agency's Associate Administrator because oversight of the modernization program was required at the highest agency level. However, FmHA officials could not provide documentation showing that the Associate Administrator was responsible for overseeing the agency's modernization program.

The Administrator also stated that the Associate Administrator and Deputy Administrator for Management oversee planning and implementation of the agency's entire automation program. These officials confirmed that they are involved in overseeing the planning and implementation of FmHA's modernization program. However, both officials said they were not performing oversight duties specifically reserved for the agency's Executive Review Board.

Conclusions

FmHA needs to rethink its approach to implementing the modernization of its information systems. FmHA is spending hundreds of millions of dollars to modernize systems that support its loan programs before it has clearly articulated a business vision and supporting information needs. To date, FmHA's progress has primarily been in upgrading the existing technology that supports its current loan-making practices.

FmHA will continue to lack a sound basis for making decisions on modernization until it develops a clear business vision for the agency that defines what information technology will be needed to support its mission and operations in the future. To help define and implement a strategic vision and supporting information systems plan, FmHA should consider forging alliances and cultivating partnerships with experts from government, industry, and academia. Having access to the best available knowledge is critical when establishing a vision and supporting information architecture.

In our view, it is crucial that FmHA develop an overall information systems plan or blueprint showing how its information technology projects

fit together. A guiding architecture is essential to ensure that the modernization effort does not degenerate into a loose collection of independent systems. While FmHA officials believe they can develop a flexible technology base that can adapt to an overall architecture, the approach may be costly and still not meet future needs.

FmHA also lacks an effective process for overseeing the modernization. Strong oversight helps ensure that sound information system development practices are followed—practices that are designed to minimize the risks associated with modernization. The Department's Financial Integrity Act reports need to disclose this lack of effective oversight as a weakness. These shortcomings increase the risk that the current modernization effort will fail, like two others before it, leaving the agency without the information technology it needs to improve its credit management.

Recommendations

In order to minimize the risks inherent in FmHA's modernization effort, we recommend that the Secretary of Agriculture direct the Administrator of FmHA to take the following actions:

- Refrain from starting any new modernization projects until FmHA (1) develops a forward-looking business plan and supporting information systems plan, (2) assesses whether its current modernization efforts are consistent with these plans, (3) modifies its modernization effort, as necessary, to ensure congruence with these plans, and (4) reports to the Secretary the results of its assessment of and modifications to the modernization effort.
- Activate the Executive Review Board, or designate another body to oversee the modernization program and hold it accountable for overseeing the modernization effort. This body should be augmented with experts from banking and credit management, as well as experts in information resources management.
- Report the lack of effective oversight mechanisms as a material internal control weakness under the Federal Managers' Financial Integrity Act.

We conducted our review from September 1990 through August 1991 in accordance with generally accepted government auditing standards. Our work was performed at the FmHA national office, Washington, D.C.; the FmHA finance office, St. Louis, Missouri; the state office in Montgomery, Alabama; and the county office in Edwardsville, Illinois. We requested written comments from the Department of Agriculture, but none were

provided. We discussed the contents of this report with FmHA officials, and have incorporated their views where appropriate.

We are sending copies of this report to the Chairmen, House and Senate Committees on Appropriations, Senate Committee on Governmental Affairs, and House Committee on Government Operations; the Secretary of Agriculture; the Under Secretary for Small Community and Rural Development; the Administrator, Farmers Home Administration; and the Director, Office of Management and Budget. We will make copies available to others upon request.

This report was prepared under the direction of JayEtta Z. Hecker, Director, Resources, Community, and Economic Development Information Systems, who can be reached at (202) 275-9675. Other major contributors to this report are listed in appendix III.

Sincerely yours,



Ralph V. Carlone
Assistant Comptroller General

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Abbreviations

FmHA	Farmers Home Administration
GAO	General Accounting Office
IMTEC	Information Management and Technology Division
IRM	information resources management

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Objective, Scope, and Methodology

Our objective was to determine whether FmHA is effectively managing its modernization to ensure that it meets the agency's business needs. Our work focused on assessing how well FmHA performed two management functions—planning and oversight—because they are critical to the success of modernization and because of past weaknesses we and others have reported in these critical areas.

To assess the effectiveness of FmHA's planning and oversight, we interviewed FmHA and Office of Management and Budget officials and reviewed relevant planning and policy documents. The officials interviewed include: FmHA's IRM and program managers, including the Acting Deputy Administrator for Management, the Assistant Administrator for Information Systems Management, the Deputy Administrator for Program Operations, the three Assistant Administrators for FmHA's loan programs, and the Assistant Administrator of FmHA's Finance Office. We also interviewed the President of FmHA's National Association of County Supervisors and the Association's automated data processing coordinator. In addition, we interviewed the Office of Management and Budget's Agriculture Budget Examiner, and the Branch Chief for Information Technology.

We reviewed federal and Agriculture guidelines for strategic planning and oversight, FmHA's strategic planning documents, an October 1990 Office of Management and Budget report on FmHA's financial systems planning, and FmHA and Office of Inspector General reports discussing FmHA's past modernization problems.

Our work was performed at the FmHA national office, Washington, D.C.; the FmHA finance office, St. Louis, Missouri; the state office in Montgomery, Alabama; and the county office in Edwardsville, Illinois. We conducted this review from September 1990 through August 1991 in accordance with generally accepted government auditing standards. We requested written comments from the Department of Agriculture, but none were provided even after we provided additional time for Agriculture to respond. We discussed the contents of this report with FmHA officials, and have incorporated their views where appropriate.

FmHA's Estimated Time Frames and Cost of Systems Modernization Projects

Dollars in millions		
Project	Estimated time frame (fiscal year)	Cost
1. County office automation	1990 - 1994	\$27.7
2. District office automation	1988 - 1994	8.4
3. State office automation	1990 - 1995	7.3
4. Develop other field office software	1988 - 1995	73.3
5. Acquire hardware for field offices	1989 - 1994	290.9
6. Improve telecommunications	1990 - 1992	24.1
7. Redesign central financial systems	1992 - 1996	40.0
8. Modify central financial systems	1991 - 1995	19.0
9. Other central financial systems work	1990 - 1995	18.5
10. Develop and implement IRM plans and policies	1989 - 1995	10.5
Total Cost		\$519.7

Source: FmHA's 1990 Strategic IRM Plan and FmHA IRM officials

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