

*PDAA 9/6/8*

*100-33542*

**INADEQUATE DESIGN AND MONITORING  
IMPEDE RESULTS IN SAHEL  
FOOD PRODUCTION PROJECTS**

**AUDIT REPORT NO. 84-20**

**January 31, 1984**

Inadequate project design and monitoring contributed to the failure of two food production projects in the Sahel. Five other such projects have yielded little, if any, increased food production; and it is questionable if any tangible results will be achieved in these projects.

This report discusses the need for AID officials to reassess their approach to implementing food production projects in the Sahel.

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## EXECUTIVE SUMMARY

### Background

The Sahel, with approximately 32 million people, is one of the poorest regions in the world. The region is ecologically vulnerable because it is threatened by the spreading Sahara and has low, erratic rainfalls. Despite the climatic conditions, agriculture is the predominate form of economic activity and provides the livelihood for over 85 percent of the population.

Agriculture is also the Agency for International Development's (AID) number one development priority in the Sahel. AID's goal is to establish self-sufficiency in food production by the year 2000. Since 1974, AID has committed \$94 million, of which \$55 million has been expended, to seven food production projects. These projects are intended to increase food production and crop productivity. (See page 1.)

### Purpose and Scope

Within the past three years, the Office of the Inspector General (IG) has performed seven audits on food production projects in the Sahel. This review was undertaken to determine if the causes of the problems identified in the seven audits were common to all projects or unique to only one or two projects.

Our scope was limited to reviewing the seven audit reports identified in Appendix A. The review was performed in accordance with generally accepted auditing procedures. (See page 2.)

### Basic Defects in Technical Package Development and Promotion Need Correction

Projects placed too much emphasis on long-term research efforts-- primarily the development of new seed strains. Some of these long-term efforts had been under way for up to 10 years with no promising break through. The farmers, who were primarily subsistence farmers, were asked to put themselves in debt for a technical package which offered little short-term benefits for them. Although AID officials recognized this problem, no research was performed to correct this problem. Further, we found that even if the technical packages had been adequate, the extension agents were too poorly trained to promote their use. As a result, few aspects of the technical packages had been adopted by the local farmers. (See page 3.)

## Host Countries Incapable of Implementing Projects

The host country organizations did not possess the resources or the capabilities required to implement various project elements. Consequently, the projects encountered serious implementation problems resulting in waste and misuse of funds. Generally, the host country organizations were incapable of absorbing recurring costs, did not have effective procurement programs or accounting controls and did not have effective credit programs. Too often AID overstated host country capabilities and, therefore, did not provide technical assistance or effective project design. (See page 8.)

### Inability to Absorb Recurring Costs

AID food production projects were established on the premise that eventually AID funding would be discontinued and host country financial institutions would assume payment of the recurring costs. However, host country institutions were unable to absorb the recurring costs despite AID assessments to the contrary. In one case, for example, an AID assessment stated that the implementing activity earned a profit whereas they actually operated at a loss. That project is presently overextended financially and has no foreseeable possibility of absorbing the recurring costs. (See page 9.)

### Inability to Contract Effectively

AID authorized host country contracting in all of the projects which we reviewed. However, none of the host countries were capable of executing timely and cost-effective contracts. Consequently, costly delays occurred in each project. (See page 11.)

### Inability to Implement Accounting and Fund Controls

Host country entities simply did not know how to establish and maintain accounting systems. Only one of the projects which we reviewed had an acceptable accounting system. AID had, however, taken substantive action to correct this situation in those countries which had accounting problems. (See page 12.)

### Inadequate Credit Program Capabilities

The credit sales programs were a vital element of the food production projects, and the AID project papers rated every implementing organization as having a sound operating credit program. However, none of the audited projects had an operable credit program and, all such programs were subsequently suspended. In our opinion, no progress will be made in any food production project until this problem is corrected. (See page 13.)

### Projects Are Too Large and Complex

AID had a tendency to overrate host country capabilities. As a result, projects tended to grow in size and complexity. Consequently, unable to implement those elements in the initial plan, the host countries were overwhelmed when more elements were added. (See page 14.)

### Inadequate Attention to Mission Staffing Requirements

AID management did not provide adequate mission staffing so that the missions could effectively monitor the status of projects and provide guidance to host countries when needed. Consequently, the missions were unaware of problems until they reached crisis proportions. (See page 18.)

### Conclusions and Recommendations

Food production projects in the Sahel did not significantly increase food production despite AID efforts over the past nine years. Our audits of these projects disclosed several problems which detract from or preclude the accomplishment of project objectives, and these problems continued to occur in project after project. Despite the frequent occurrence of these problems, AID continues to fail in adequately assessing them before initiating new projects. We believe it is time for AID to fully reassess its project development and design procedures and strategy for achieving increased food production in the Sahel. (See page 20.)

### Management Comments

Bureau for Africa (AFR) officials agreed with the findings, conclusions and recommendations contained in this report. (See page 21.)

# THE SAHEL



## BACKGROUND

The Sahel, with approximately 32 million people, is among the poorest regions in the world. The region forms the transition zone between the Sahara Desert and the more fertile areas to the south. It is an ecologically vulnerable region threatened by the spreading Sahara and low erratic rainfall. With the exception of irrigated stretches along the major rivers, agriculture and livestock depend on rainfall which is low and concentrated in normal years. Below normal rains frequently bring serious crop and pasture losses, causing food shortages, herds to overgraze, and reducing the tree-and-brush vegetation on which Sahelians depend heavily for fuel.

Agriculture, particularly rainfed, is the predominant form of economic activity in the Sahel. The vast majority of farmers follow traditional cropping patterns which include half-shifting cultivation; little use of animal traction, hence no deep tillage; multiple cropping; and little use of selected seed varieties, fertilizers and other off-farm inputs.

Agriculture provides the livelihood for over 85 percent of the population and is the major source of foreign exchange earnings. Thus, with a focus on self-sufficiency in food production by the year 2000, agriculture is AID's number one development priority in the Sahel.

Since 1974, AID has initiated seven food grain production projects to increase food crop production and productivity in the Sahel. The usual method for developing and implementing these types of projects begins with the design by AID officials, with participation from host country officials. After design, AID generally relies on the host country governments or their institutions to implement projects, with AID assuming a monitoring role. In some projects, other contributing countries (donors) provide input for various project elements.

Often, the host country does not possess the organizational capability or technical expertise required to implement the project. In such cases, the project design should provide for developing organizational capability and obtaining technical assistance.

The project design also provides for developing a "technical package" consisting of specific "inputs" such as using animal traction, improved seeds, fertilizers, pesticides, etc. necessary to improve crop production and productivity. Often, research is necessary to develop and improve this package.

To promote the use of the technical package, the projects provide for the training of extension agents to assist farmers

with the application of inputs and agronomic practices. These agents may be used in other project elements as well, such as to gather data for research or to extend credit enabling the farmers to purchase the technical package.

### Purpose and Scope

Within the past three years, the Office of the Inspector General has performed seven audits (three in 1983) on food production projects in the Sahel. Consistently, these audits found little or no increased food production resulting from the projects audited. Consequently, this review was undertaken to analyze and determine why these projects consistently showed few results and to provide our observations and recommendations, in a regional context, so AID could be in a better position to understand and address the serious problems confronting these programs.

Our scope was limited to reviewing the seven audit reports identified in Appendix A. The review was performed in accordance with generally accepted auditing procedures.

## FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

AID project designs for and monitoring of seven food production projects in the Sahel have been ineffective. Too little applied research, inaccurate analyses in the design processes, and inadequate monitoring during the implementation stages resulted in projects with common deficiencies, and these deficiencies precluded effective implementation. Two projects (Action Ble and Mils-Mopti) were, as a result, cancelled. And we question if the other projects will have any demonstrable effect on food crop production and productivity unless the problems described below are corrected.

Generally, we found three major problems which seriously impeded project success. First and foremost, the projects placed too little emphasis on applied research 1/ to improve the technical packages, and too much reliance on untrained extension agents to promote the packages to farmers. Second, project designs were predicated on inaccurate assumptions that host countries possessed the technical and institutional capabilities to implement the project elements. Third, AID management did not ensure that missions were adequately staffed to allow timely identification of implementation problems.

### BASIC DEFECTS IN TECHNICAL PACKAGE DEVELOPMENT AND PROMOTION NEED CORRECTION

The vast majority of farmers in the Sahel follow traditional cropping patterns, the main features of which are half-shifting cultivation, with permanent villages but changing fields; little use of animal traction, hence no deep tillage; multiple cropping; and relatively little use of selected seed varieties, fertilizers, and other off-farm inputs. The consensus among AID and other donors is that advanced farming techniques and practices are needed if the goal of self-sufficiency in food grain production is to be achieved.

The food production projects we audited were designed to increase crop production and productivity through the use of technical packages by the Sahelian farmers. The technical packages consisted of various inputs, such as the use of animal traction, implements, improved seed varieties, fertilizers, and pesticides. Coupled with a need for technical packages were (1) research elements to test and modify the package for the various climatic and soil conditions in the Sahel, and (2) extension service elements to recruit and train extension agents who would promote the technical package and service farmers needs.

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1/ Applied research is that research directed toward solving a defined problem, versus basic research which is not problem solving oriented.

Overall, we found that almost no applied research had taken place to test and modify the technical packages in the short-term. Rather, the projects concentrated on research directed at long-term solutions. Even if the testing had been done, we found that the extension agents were not adequately trained to promote the technical packages use. Consequently, the packages were not widely adopted and little increased production occurred.

#### Inadequate Applied Research

In the projects we audited, the Project Papers recognized that the technical packages needed to be tested and modified. Accordingly, provisions were made in the projects for an applied research element. Under this element the research organizations of the host governments were to work closely with pilot and/or demonstration farms established in the project areas as well as to perform trials and testing at the research stations themselves.

Our audit report identified that little applied research directed at short-term gains had been conducted in any of the projects. To the extent research was conducted on cereal crops, sorghum and millet, it was directed at developing and testing new strains or varieties. Through these efforts, the research organizations placed too much reliance on the hope of increasing production through the development of high-yielding varieties, which is a long-term effort. Consequently, the projects lost sight of the benefits which could have been achieved had applied research been directed at the short-term.

A number of AID evaluations have indicated that too much effort was focused on the development of improved seed varieties. Those evaluations indicated that more attention should be devoted to shorter term applied research. The following conclusions in a recent evaluation of the Operation Mils-Mopti project provide the rationale for this increased focus on short-term applied research.

"Improved seeds under favorable conditions have out-produced local varieties and yield increases of 4-6 times on an average have been recorded. But research focused on development of improved seeds is a long-range effort, and one cannot be sure of development of such varieties in the foreseeable future for Sahelian climates. National and international efforts have been underway in the semi-arid tropics of the world for the last 8-10 years (in the Sahel for the last 6-7 years). But so far there has been no promising breakthrough in the development of seed varieties of millet and sorghum which are markedly superior to local varieties, both in terms of yields and adaptability.

"Discussions with ICRISAT (International Crops Research Inst. for the Semi-arid Tropics) researchers in Mali indicate that certain developments have been taking place which could result in the development of millet hybrids in the next 3-5 years. Given the regular and frequent food scarcity situations occurring in the Sahel, it would not be prudent to wait for the development of new seeds in order to promote food production in the area. Thus, in our view, while continuing to invest in research aimed at the development of better yielding and well-adapted genotypical varieties, efforts must continue to support food production programs using the well-known crop production technologies designed to expand the production base (rotations, intercropping, organic manures, judicious use of fertilizers, tillage practices, etc.)."

Adopting the technical package constitutes a very important decision for the small farmers. Under the traditional system, the farmer produced primarily to meet his own consumption needs. The decision to adopt the animal traction package, however, greatly increases the farmer's indebtedness and forces him to increase the area under cultivation or alter the area planted to each crop in order to produce a larger marketable surplus to pay off this debt. The decision to adopt the technical package is thus not an easy one and needs to be supported by verifiable evidence that the package is economically viable.

Almost no effort was made in any of the audited projects to determine whether the technical package was economically viable for the small farmers. Yet, many of these projects were on-going for five years or more. To promote a package of inputs, on a large scale among small farmers, that had not been fully tested seems highly questionable. This should have been one of the first priorities addressed by the projects.

We found no evidence that the technical packages for the various projects had been modified or adapted to the local conditions. Consequently, we found in Mali's Operation Mils-Mopti Project, for example, an evaluation report that indicated the technical package being offered to farmers in the project area was virtually the same as the one offered when the project was initiated. The evaluation report, in commenting on this, stated:

"Generally it may be stated that the so-called technical package has not been of much value to the peasant farmer."

Conditions were the same in the other projects we audited. Thus, if AID is to increase food production, more effort has to be exerted at reorienting the research priorities to short-term gains.

#### Inadequate Extension Agent Training

Extension agents, in the projects audited, were the people most relied on to promote the technical packages and service farmers' needs. While AID officials recognized the need for the extension agents during the design phase, they failed to provide the necessary training during the implementation stage. In some cases, they also overburdened the agents with added responsibilities for which they were also untrained. Consequently, the agents did not have the expertise nor the time to promote the technical package, and the farmers did not adopt it on a broad basis.

The numbers of extension agents to be recruited and financed under the projects to promote the technical packages were often significant, as the three representative projects below indicate<sup>1/</sup>:

<u>Project Title</u>	<u>Existing Agents</u>	<u>Agents to be Recruited</u>	<u>% Increase</u>
Grain Cereals Project in Senegal	139	168	121
Eastern ORD Project in Upper Volta	88	107	122
Operation Mils-Mopti Project in Mali	130	150	115

These agents were intended to perform a number of vital roles such as to:

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<sup>1/</sup> These figures show the levels originally planned under the projects. Our audit work disclosed that the project papers frequently underestimated the needs of the organizations. In some cases the project areas were subsequently increased requiring a larger extension service. An example of this is the Senegal Grain Cereals Project. Although the project paper envisioned an extension service of 307 agents, the extension service has grown to approximately 1400 agents.

- collect and report data on land under cultivation by crop;
- collect crop production statistics;
- determine amount of fertilizer and other agricultural inputs needed for growing season;
- promote and assist the farmers with the technical package;
- administer various aspects of the credit program; and
- work with other project elements such as adult literacy and development of village councils.

In a very real sense, the effectiveness of project implementation rested on the performance of these agents since the agents were relied on to promote the use of better farming practices, thereby increasing food production. Yet, in virtually every project we audited, these agents were found to be unqualified to undertake those responsibilities. Though every Project Paper emphasized the need for training, little or no substantive training was provided. Further, little or no guidance or supervision was provided to the agents. Consequently, though the extension staffs were substantially increased, the extension agents were totally ineffective in fostering any discernible development changes.

Almost every project evaluation cited the inefficiency and ineffectiveness of the extension agents as a serious problem. An Evaluation Report on the Casamance Regional Development Project, dated July 1981, stated:

"The skills and knowledge of most of the farmer contact agents need to be upgraded and strengthened.

In the past, training programs have not spent enough time in drilling and testing the agents on how to perform the specific tasks involved in transfer of the improved technological package, and in other phases of their work, particularly gathering and compiling yield and production figures. We also conclude that support of the agent by the PIDAC central staff in technical subject matter areas relating to his job should be improved.

The transfer and on-farm use of improved, tested technology is the major SOMIVAC/PIDAC [Societe de Mise en Valeur Agricole de la Casamance/Project Integre de Developement Agricole de la Basse Casamance] activity in direct support of the project goal, Increasing Agricultural Production. The ability of the present PIDAC field staff to adequately carry out this function is in doubt..."

In its Annual Report of 1982, the Consultant for the Operation Haute Vallee Project in Mali stated:

"The value of the system can also be determined by judging the efficiency of its agents. A quote from a recent World Bank publication sums up the situation: at OHV 'The extension work program is usually ad hoc in nature, defined by the sector chief. Little guidance is available on its content, presentation, or means of execution. There is no monitoring of program effectiveness. The extension agent is a "general agricultural agent", with tasks that range from promoting new technology, organizing credit schemes, and supplying inputs, to general administrative duties. The wide-ranging responsibility normally results in little organized work being done. Since working conditions, general support facilities, and supervision of extension agents is poor, salaries low and educational requirements for recruitment minimal, it is not surprising that, in general, extension results are negligible, and morale in the service is low.'"

While there is widespread recognition and concern about this problem, little is being done to address it. In none of our audits did we find any significant training being provided to the agents. Nor did we find that any was planned.

In some projects, the audits also found a tendency to overload the agents with a number of diverse responsibilities. This was particularly true of the projects in Mali and to some extent in Upper Volta where a considerable part of the agents' time was devoted to the operation of the credit programs. The agents were not only responsible for the ordering and warehousing of commodities but also for the accounting and collection of repayments. In addition, the agents were responsible for establishing village councils. Some of these responsibilities should not have been assigned to the agents since they had neither the competence nor training and contributed to adverse program effects. For example, those credit programs which relied heavily on extension agents were those most ineptly administered and subject to misuse and waste of funds.

#### HOST COUNTRIES INCAPABLE OF IMPLEMENTING PROJECTS

In all the projects we audited, AID officials assumed that the host country governments and institutions were capable of implementing the projects. However, little analysis of the host country capabilities was actually done. Based upon assumptions that the host countries were capable, AID officials increased the complexity of the projects. Consequently, as the projects became more complex, new problems overwhelmed the host countries and the projects encountered numerous and costly delays.

## Inability To Absorb Recurring Costs

While audits have consistently identified problems related to accounting, credit programs, procurement, etc., AID's failure to evaluate adequately the financial capabilities of the implementing organizations have had the most far reaching effects.

AID food production projects were established on the premise that eventually AID funding would be discontinued and host government institutions would have to finance the projects' recurring costs. At the inception of the Sahel Development Program, AID and other donors recognized that Sahelian governments were experiencing serious budgetary problems and would be unable to fund the recurring costs in the short-term. Thus, AID and other donors decided to fund a major portion of these costs in the short-term with the host governments shouldering an increasing share of the costs during the latter stages of the projects. We found that AID was overly optimistic about the host governments' capacity to absorb these costs primarily because AID officials performed superficial and inaccurate analyses of the host countries' capabilities.

Recurrent costs are defined as "Those costs that recur, as opposed to capital, or fixed costs, which are concentrated at the beginning of a project's life. Thus, in an agricultural research project, the costs of providing the buildings and equipment, as well as the costs of initial training and expatriate expertise are fixed costs, which occur only in the start-up phase of the project. The annual cost of salaries, utilities, maintenance, materials, and replacement of worn-out capital are recurrent costs which continue as long as agricultural research continues to be carried out."

Virtually every project we audited had become increasingly dependent on AID to finance the recurring costs. In those instances where AID had discontinued funding the recurring costs, the governments had sharply curtailed those costs by reducing operations to the pre-project level.

Niger, more than any other country in the Sahel, had financed a sizable share of the recurring costs. During Phase I of the Niamey Department Development Project, which began in 1978, the Government of Niger (GON) provided a cash contribution of \$2.2 million, \$.7 million above its planned contribution of \$1.5 million. During that time, the nuclear energy industry was optimistic and Niger's uranium was in great demand. However, when the \$21.3 million Phase II was initiated, the uranium picture had changed to one of significantly less demand since there was a uranium glut. Consequently, revenues from uranium dropped off, and the GON is currently delinquent \$1.2 million. With a bleak outlook for the uranium market, it is questionable if the GON will ever be able to pay its share. Had AID officials fully analyzed Niger's financial posture at the time Phase II was implemented,

that situation could have been identified. As it is, the GON will probably be unable to continue the project once AID funding is discontinued.

The budgetary shortfall in Senegal was also serious and donors have had to agree to finance a larger portion of recurring costs than originally planned. In the Casamance Regional Development Project this resulted in AID financing an additional \$179,000 this year, with the amount for next year yet to be determined. The AID Cereal Grains Project was being phased out due, in part, to the Government of Senegal's (GOS) serious financial problems. With the discontinuation of AID's financing for recurring costs, the GOS was reducing the number of extension agents from 1400 to 500.

In Mali, the Government provided little direct financial support to the implementing organizations. What was provided usually took the form of defraying the salaries of a small cadre of civil servants. For the most part, the organizations' revenues were generated from commissions earned on the marketing of cash crops and the projects were to become self-supporting once external funding ended. While AID analyses indicated the project could become self-supporting, our audits found the opposite.

Mali's Operation Haute Vallee derived its income from commissions on the buying and selling of cash crops in its region. Based on the project design, no commissions were to be derived from the cereal crops, millet and sorghum. It was anticipated that the commissions earned from the cash crops, principally cotton, tobacco and peanuts, would eventually be sufficient to defray the operating costs associated with the project. The project was designed in this manner since AID analyses showed that commissions from these cash crops were in an upward trend and the Operation was showing a profit. In evaluating these analyses, however, we found that the commissions from cash crops were declining and the Operation was actually losing money. Obviously, there is a significant difference in a business being profitable or losing money. Since the original analyses, the Operation's financial situation had grown acutely worse. The Operation is presently over-extended financially with no foreseeable possibility of ever absorbing the costs of the AID project.

Mali's other project, Operation Mils-Mopti, was in a similar situation due to superficial financial analyses. Like Operation Haute Vallee, this project also derived its revenues from commissions. Phase II of this project was predicated on discontinuing a forced marketing policy which required farmers to market their production through the Operation at artificially fixed low official prices. Consequently, large numbers of farmers shifted to marketing their products in the free market which created a precipitous decline in the Operation's revenues. Deprived of its revenue base, it is questionable whether the Operation will continue.

Overall, our audits found similar superficial and inaccurate financial analyses in the other food production projects with equally bad results.

### Inability To Contract Effectively

AID officials relied on two procurement modes to obtain services and commodities for food production projects in the Sahel. Either the host country contracted with the supplier or AID contracted with the supplier. If the host country was authorized to do the contracting, using AID funds, the authorization had to be based on a careful assessment of that countries' procurement system, experience in international competitive contracting and its ability to conform to AID procurement rules and regulations. Our audit found that Project Papers often overstated host country capabilities in this regard and this had adverse effects on related projects. Consequently, the host countries' contracts often resulted in costly delays in project implementation and wasteful expenditures.

For example, in Mali's Operation Haute Vallee Project, we found that not only did host country contracts omit many standard AID contractual clauses and provisions, but the contracts did not adhere to project plans. The project plans called for constructing an administration building which was to be a modest single-story structure with a garage, estimated to cost \$190,000. The building eventually constructed, however, was an elaborate two-story structure with no garage which cost over \$600,000. We also found that the contracts for road construction provided for a much higher class road than needed and originally planned.

The Project Paper for the Casamance Regional Development Project in Senegal likewise envisioned that contracting would be accomplished by the host country implementing agency. Subsequently, however, that agency was unable to carry out this function and the AID mission had to do the majority of the contracting. As a result, the project was nearly two years behind in project implementation.

One problem hindering effective host country procurements was the lengthy bureaucratic procedures that implementing agencies often had to follow in obtaining approvals for host country contracting. Those approvals were outside the control of the project implementing agencies and resulted in long delays due to the host country agencies' slowness in processing approvals. This problem was prevalent under the Casamance Regional Development Project in Senegal. For example, the project's construction component was held up at the Government of Senegal (GOS) National Contracts Commission for over one year.

The project experienced similar delays in receiving approvals for large valued purchases. In July 1982, for example, the

Project's implementing agency requested authorization from the GOS Ministry of Finance to purchase gasoline costing \$59,000. The approval was not given until February 1983. As a result, there was insufficient gasoline to implement project activities during the 1982/83 growing season.

#### Inability To Implement Accounting and Fund Controls

On January 29, 1981, the AID Inspector General's Office issued an audit report entitled "Problems In Host Country Accounting For Utilization of AID Funds In The Sahel." That report noted that host country government entities simply did not know how to establish and maintain accounting systems. Subsequent audits of food production projects continue to support that position.

The IG's January 1981 report stated in part that:

"...In reviewing the financial management systems of selected entities in five of the eight Sahelian countries, we found few integrated and effective systems capable of adequately controlling, accounting and reporting on the use of AID funds. Consequently, if the 13 projects included in our review are representative, and we believe they are, then millions of dollars in local currencies are possibly being misused. Contributing to this situation were the following:

- In virtually every project we reviewed, financial reporting was seriously deficient. The absence and/or inadequacy of financial reporting allowed AID-financed local currency funds to be used for non-project purposes, thereby undermining the attainment of project objectives...
- Most of the project accounting systems and practices we reviewed were deficient. Books were often not properly established or maintained and expenditures not recorded or documented. In most cases it appeared that the government entities simply did not know how to establish and maintain an accounting system. It seems to us that AID is taking the accounting capabilities of the Sahelian governments too much for granted, (underscoring added) thereby dealing with the problems as they arise on an ad hoc basis...
- Vital elements of internal control have not been structured into the AID-financed projects. One of the most significant deficiencies is that few government entities have recognized the accounting unit as a necessary or important functional element of management. Indicative of this was the fact that few of the entities had been delegated any substantive authority to carry out their responsibilities nor were those responsibilities clearly defined..."

Since the issuance of that report, we audited four additional food production projects.<sup>1/</sup> Of the four audits, three reflected many of the same deficiencies. The worst conditions were found in Operation Mils-Mopti where the accounting could only be described as chaotic. Only one project had an acceptable accounting system--the Niamey Department Development Project in Niger.

It should not be inferred from these audits that AID has taken no action to address the accounting problems in the Sahel.

Though AID has been slow in responding to the problems, substantive actions were in process. Training courses for the implementing organizations' financial personnel were being held. A handbook for developing accounting systems for the host government organizations had been prepared. In addition, a Management Training Project has been developed and approved. The point remains however that host government entities were still incapable of adequately implementing effective accounting and funds controls even though assessed as capable in the Project Papers.

#### Inadequate Credit Program Capabilities

The in-kind credit sales programs were vital elements of the food production projects since they were the mechanisms through which the inputs of the technical package were to be made available to the farmers. Under these programs, agricultural implements and commodities were to be financed by the projects and sold to farmers on credit. Farmers' repayments were to be used to purchase additional implements and commodities to be sold to other farmers. Because of the complexities and the many issues involved with the credit programs, the AID Inspector General also issued a separate audit report on this subject. This Audit Report was issued on December 21, 1983, and is entitled "Need to Improve the Design and Implementation of Agricultural Credit Programs in the Sahel."

Section 121(d) of the Foreign Assistance Act of 1961, as amended, which applies to the Sahel Development Program, states:

"Funds available to carry out this section (including foreign currencies acquired with funds appropriated to carry out this section) may not be made available to any foreign government for disbursement unless the Administrator of the Agency for International Development determines that the foreign government will maintain a system of accounts with respect to those funds which will provide adequate identification of and control over the receipt and expenditure of those funds."

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<sup>1/</sup> The audits were of Operation Haute Vallee, Operation Mils-Mopti, Niamey Department Development, and Casamance Regional Development.

None of the audited projects had a credit sales program which was able to fulfill the requirements of this certification. Consequently, all such programs reviewed by us are presently suspended. The suspensions were initiated either by the missions independently or in response to our audit recommendations.

Our audits found that almost every Project Paper assessed the implementing organization as having a sound operating credit program. Yet, in reviewing these programs, we did not find a single organization that had the purported capability. Thus, in overstating the capabilities, funds were channeled through organizations not capable of using them properly. The results were wide-spread waste and misuse of AID-financed credit funds.

Several project designs made no provision for technical assistance--even in those that did--it was not provided. Thus, in view of this lack of technical assistance, there was no guidance and supervision of the credit programs. This contributed to the flagrant misuse of the funds and the chaotic manner in which they were administered.

The credit programs were also experiencing serious problems with loan repayments. The default rates on loans were 50 percent or more and seriously undermined the viability of the credit programs. Since money was not collected, other farmers were deprived of the opportunity to purchase inputs thereby expanding the use of better inputs and agronomic practices.

As a result, little progress will be made under any of these food production projects until the credit programs are properly addressed.

#### Projects Are Too Large and Complex

Once AID officials assessed the host country as being capable of implementing a project, there was tendency to add more elements. Consequently, we found that most projects were too large and complex--well beyond the host country capabilities to implement requiring considerable project redesign. Accompanying the tendency to increase the project size by adding elements was another tendency to leave the design of those added elements to a later time. In some cases, AID officials included project elements and never designed their implementation.

The AID missions in the Sahel used an integrated rural development approach in the design of food crop production projects. Under this approach, a number of elements were designed into the projects. These elements often included

applied research, extension and credit, all of which were directly related to the promotion and use of a technical package for increasing food crop production. Other elements often found in the projects included: formation of farmer associations, adult functional literacy, health delivery systems, construction and improvement of rural roads, construction of administrative buildings and warehouses, and the construction of irrigation perimeters. All these elements are rationalized and justified by AID officials in terms of a broad integrated project approach.

Whenever several varied elements are combined under the umbrella of one project, the issue of complexity arises. This is an issue which must be given particular consideration in developing large integrated projects. Yet, our audit found no indication this issue was ever addressed. Project Papers provided little detailed analyses regarding the host governments' capability to coordinate and implement these large projects. Little financial data was provided to demonstrate they were able to provide the required financial resources. Project Papers often lacked details indicating how all the elements were to be implemented, and little or nothing was said in terms of the AID missions capabilities to manage the projects. The consequences were poorly designed and excessively complex projects which the host government organizations were unable to implement and the AID missions unable to manage.

Nowhere were the results of complex projects more strongly evident than in Mali. During the early build-up of the Sahel Development Program, the AID mission in Mali developed and designed a number of food production projects, some of which are among the largest and most complex in the Sahel. Two of the largest such projects were Operation Haute Vallee and Operation Mils-Mopti. Both projects were implemented by Operations, which were semi-autonomous regional agencies in the Ministry of Agriculture responsible for coordinating and promoting integrated development in their respective regions.

In both projects, the Project Papers assessed the Operations as having the requisite capabilities to implement the project, and the mission as having the capability to manage them. The audits of these projects, however, disclosed a thorough lack of capability on the part of the Operations. Further, the project elements were hastily designed, lacking sufficient guidance on how they would be implemented. The result was chaos and improper use of AID funds.

For example, the Operation Haute Vallee consisted of seven different elements. The elements ranged from food production--including applied research, extension, and credit--to the construction of buildings, rural roads and irrigation perimeters, rural health, and adult literacy. The audit found that the AID-financed activities in this project had not

achieved significant results, nor were they likely to do so. The project, moreover, was drifting without any clear focus of where it was headed. The audit report, therefore, recommended the project be redesigned, making it simpler and more manageable by focusing on those aspects related to food production.

Similar observations were made in the audit of the Operation Mils-Mopti project which consisted of eight different elements. The elements ranged from food production, including research, extension and credit, to the construction of buildings and rural roads, village water well development and improvement, adult literacy, formation of village associations, and the establishment of millet mills. The audit report on this project indicated that few good results were achieved. Little was done in food production; the road construction program was poorly designed and implemented; the construction of buildings and warehouses was marred by ineptness; the well development, grinding mills operation and adult literacy programs were failures and abandoned; and the village association program was not initiated. In this case, the Assistant Administrator, Bureau for Africa terminated the project.

The Niamey Department Development Project in Niger is another large project with a number of elements. The approach used in this project was to test nine different elements and then to move into a second phase with those that tested out successfully. The audit found that the project was much too ambitious in scope and too complex to be done adequately. Thus, few of the elements tested-out successfully. Rather than go into Phase II with the successful elements, the project was redesigned to introduce a new set of elements. Consequently, for all practical purposes, the project was in a second testing phase. Though this second phase also appeared to be over-ambitious in scope, the mission had exercised some restraint by deferring the implementation of some elements until the training concept was demonstrated as viable.

--The Niamey Department Development Project, during the initial three years of Phase I, consisted of nine different components, including production, on-farm fattening of cattle, village land use and soil conservation, irrigation and a special studies program. Phase II differs from Phase I in that the food production component of the project was based on the use of farmer couple training centers (CPT). Success of this component rests primarily on the farmer's learning the new agricultural techniques at the CPT and using these techniques on his own farm. The project anticipated that the farmer will serve as a model for replication of the techniques. At the time of our audit, few farmers trained at the CPTs were utilizing the new techniques, thereby casting some doubt on whether the replication of the technical package will occur to any appreciable

extent. Other project elements, reinforcing CPT training and cooperative development, had not started nor had implementation plans been developed for those elements.

The Eastern ORD Project in Upper Volta was a less complex project which achieved few tangible results. Yet, in conjunction with other donor funding, this project was considerably expanded, making it one of the more complex undertakings in the Sahel. AID's role in this much expanded and complex project was limited to training, technical assistance for monitoring, evaluation, and special studies. We question why AID chose to remain in this large and overly complex project. There is no evidence to indicate other donors could have any more success.

--In the Eastern ORD Rural Development Project in Upper Volta the audit disclosed that nothing of significance had evolved in terms of increasing agricultural production and found an inefficient and untrained extension staff implementing the activities. Diversion of AID funds was also a serious problem in this project. This project was subsequently incorporated in a new, larger and more complex program led by the International Fund for Agricultural Development (IFAD). Through the financing of IFAD and the French Caisse Central, and the technical expertise of the United Nations Development Program, the program will provide applied research, credit, village development, improvement of agricultural inputs, training, management assistance, roads, land development, and monitoring and evaluation. In this much expanded program AID will provide \$3 million for higher level training, technical assistance for monitoring and evaluation and special studies. This AID program, as of July 1983, was still not implemented.

Food production projects are not easy to implement. Overloading the projects with too many varied elements makes them overly complex for the host government agencies to implement. The consequence is that these projects often achieve few results.

AID is not the only donor experiencing problems with project complexity. The comments of the World Bank in a report entitled "Seventh Annual Review of Project Performance Audit Results", dated October 9, 1981, are instructive:

"The concept of integrated development and the issue of excessive project complexity are probably most germane in agriculture...Complex projects with a number of diverse elements have important institutional implications for the Bank and borrowers. For the Bank, the alternatives may be the high cost of full supervision of the various components or simply not being able to adequately supervise them all...."

For the borrower - and if experience is any guide, occasionally also for the Bank - coordination becomes a major problem. Overextended and weak institutions suffer additional strain with which they are often unable to deal effectively... The same project components implemented in stages, or in parallel by different agencies in the country and supervised by different units in the Bank, may offer better results at less overall cost.

This is not to discount the synergistic value of putting together of complementary elements in the same project. What is suggested is that the possible benefits be determined in the light of institutional capabilities and implementation costs, and the project realistically designed... The matter is under study in the Bank..."

#### INADEQUATE ATTENTION TO MISSION STAFFING REQUIREMENTS

AID management has given inadequate attention to the personnel resources required by missions to enable effective project monitoring and guidance. As a result, the missions are unaware of problems until they reach crisis proportions.

Project management has been described as the process whereby AID oversees and monitors all aspects of an AID-financed project from its conception through its design, approval, funding, implementation and evaluation. Project management is a continuum encompassing the roles and interactions of AID assistance recipients and intermediaries such as contractors and grantees. Varying with project scope and complexity, effective project management generally relies upon a number of managerially accepted oversight methods and mechanisms. These include approval of prescribed activities of the assistance recipient, liaison with the intermediaries, progress reporting, problem identification, site visits, and approval of disbursements. In all our audits, we found little evidence that these responsibilities were performed as required.

Under the Operation Mils Mopti Project in Mali, the Operation contracted for the construction of 18 warehouses entirely without USAID oversight. As a result, five were not built, three were not finished, three collapsed, and two had their roofs blown off. Of the other five, we inspected three and found there were serious structural weaknesses and the buildings were beginning to crumble. Similarly, the Operation expended approximately \$5 million in local currencies for procurement of materials, equipment, and services. The audit disclosed that unreasonable prices were paid for much of this procurement and many of the transactions were of a questionable nature, involving mismanagement and possible fraud. For example,

1,750 watering cans were purchased for \$58,075 which was double their worth. It was intended that the water cans would be resold to farmers but, because of the high price, the farmers were unwilling to purchase them and most remain unsold.

A major factor contributing to the situation at Operation Mils Mopti was that AID management was nearly non-existent for the first four years of the project (1976 to mid-1980). By the time AID officials did attempt to monitor and provide guidance, they found the project in such a disastrous state of affairs that the project was terminated.

Under the Operation Haute Vallee Project in Mali, a host country contract was executed for technical assistance with an estimated cost of \$3 million. USAID officials did not review or approve this contract. In addition to omissions of many AID required clauses, the method used to determine contract costs was questionable, resulting in a windfall for the contractor. This contract also provided for an advance of \$180,000 to the contractor which was not payable until the last year of the contract. The contractor was a large profit making concern and this type of advance was contrary to AID procurement regulations.

Host country contracts were awarded under the Action Ble Project in Mali without USAID approval as required by the Project Agreement. One of these contracts resulted in excessive payments of \$57,761 for transportation costs.

Other projects we audited also showed examples where inadequate AID monitoring allowed waste to occur.

Contributing to these situations was the little attention given to management when the projects were developed. There was little or no analyses to determine whether AID missions had the staff to monitor the proliferating portfolio of projects. Thus, no provisions were made to provide adequate staffing.

What eventually happened was that the missions' growing portfolio of projects outpaced their management capabilities. This was particularly true in Mali which had large and complex food production projects. That mission's project officers, as well as technical support offices, such as the controller's office, had too many demands placed on them. This in part explains why serious problems such as accounting were left unattended for long periods of time.

Closely related to the little attention given to AID staffing requirements was the project designers' tendency to overstate the implementing organizations' institutional capabilities. This resulted in inadequate technical assistance being provided. In some cases, though provision was made for technical assistance, the mission failed to provide it.

Moreover, when the assistance was provided, it was provided under the host government mode, which often resulted in the technical assistance contractors being placed in an inferior position and unable to exert control over the direction of the project. These factors not only resulted in little control or oversight over implementation but also accounted for the lack of information flowing back to the missions. A good example of this was accounting. Not one project made adequate provision for financial technical assistance. The consequence was that no financial information on implementation flowed from the projects to the missions. The missions were left in the vulnerable position of having to rely on its over-extended staff to obtain this data through field visits. Yet, as indicated above, the missions were not in a position to visit the sites frequently enough to obtain this information. The result often was deficient and ineffective implementation, with problems being unattended until they reached crisis proportions.

#### CONCLUSIONS AND RECOMMENDATIONS

Food production projects in the Sahel have accomplished little, if any, desired results. Failure to develop and promote a viable technical package contributed substantially to poor project achievements. In this regard, AID devoted too much attention to long-term research efforts at the expense of short-term applied research, which could have resulted in immediate improvements to the technical packages. Even if viable technical packages had been developed, it is highly questionable whether the projects could have obtained any wide-spread use of them since the extension agents were so poorly trained.

In project after project, we also found that AID project designers overstated the capabilities of the host governments to implement the projects. Despite nine years experience this continued to occur. Consequently, the host governments, unable to implement, were overwhelmed and the projects were ineffective. Similarly, AID management, inadequately staffed to monitor project implementation, allowed many of the problems to continue and did not become aware of them until they reached crisis proportions.

Overall, our audit found an unsatisfactory state of affairs in the Sahel food production projects. Based on the consistency with which the problems discussed in the report were prevalent throughout all the projects, we believe it brings into question AID's approach to implementing food production projects. In this regard, we believe that AID should totally reassess its approach to implementing food production projects in the Sahel.

We believe AID should reconsider its emphasis on long-term research efforts and recognize the benefits that can be derived

through shorter termed, applied research. Unless the technical packages are broadly adopted by Sahelian farmers, we do not believe that significant increases in crop production or productivity will occur. In this regard, we believe that short-term research directed at quickly adapting the technical package to local conditions can have a positive impact on the local farmers' acceptance of the package. The farmers, able to see more immediate results, would be more inclined to adopt the package and still be in the program when the long-term research was completed and the package further improved. This combined with better extension agent training, we believe, would go a long way toward achieving increased food production in both the long- and short-terms.

We also believe AID should give attention to the manner in which it assesses host country capabilities and its policy of relying on host governments for implementation. Similarly, AID must address the lack of staffing provided missions to manage and monitor the projects. If AID is serious about implementing such projects, then priority attention should be given to ensuring that adequate mission staffing is available. Accordingly, we are making the following recommendation.

#### Recommendation No. 1

We recommend the Assistant Administrator, Bureau for Africa (AA/AFR), undertake a comprehensive study to reassess its approach to implementing food production projects in the Sahel with particular attention devoted to (1) the emphasis on short-term research efforts; (2) the reliance on host country institutions for implementation; (3) the use of local extension agents; and, (4) mission staffing requirements necessary to adequately monitor projects to ensure early problem identification and resolution.

#### MANAGEMENT COMMENTS

Copies of the draft of this report were provided to and comments were requested from AFR. AFR officials decided not to provide written comments on the report since they agreed with the findings, conclusions and recommendations. The responsible AFR management official told us that the consensus of the AFR officials and mission officials who reviewed this report was that the findings and conclusions were accurate, and he stated that AFR officials would undertake a comprehensive study to reassess AID's approach to implementing food production projects in the Sahel.

APPENDIX A

FOOD PRODUCTION PROJECTS AUDITED

Eastern ORD Intergrated Rural Development Project in Upper Volta  
(No. 686-0201)

Audit Report No. 81-44

Dated 2/13/81

Senegal Cereals Production Project (No. 685-0235)

Audit Report No. 0-685-81-50

Dated 3/6/81

Action Ble Project in Mali (No. 688-0213)

Audit Report No. 0-688-81-139

Dated 9/24/81

Operation Haute Vallee Project in Mali (No. 688-0210)

Audit Report No. 7-688-82-1

Dated 9/20/82

Niamey Department Development Project in Niger (No. 683-0204)

Audit Report No. 7-683-83-2

Dated 2/10/83

Operation Mils-Mopti Project in Mali (No. 688-0202)

Audit Report No. 7-688-83-3

Dated 5/3/83

Casamance Regional Development Project in Senegal (No. 685-0205)

Audit Report No. 7-685-84-1

Dated 11/17/83

INADEQUATE DESIGN AND MONITORING  
IMPEDE RESULTS IN SAHEL  
FOOD PRODUCTION PROJECTS

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Assistant to the Administrator, Bureau for External Affairs, AA/XA	1
Sahel Regional Desk, AFR/SWA/SRD	1
Audit Liaison Office, AFR/PMR/EMS	1
Office of General Counsel, GC	1
Office of Financial Management, M/FM/ASD	2
Office of Public Affairs, OPA	2
Office of Legislative Affairs, LEG	1
Bureau for Program and Policy Coordination, Office of Evaluation, PPC/E	1
PPC/E-DIU	2
Office of Inspector General, IG	1
RIG/A/Dakar	1
RIG/A/Manila	1
RIG/A/Cairo	1
RIG/A/Karachi	1
RIG/A/Nairobi	1
AAP/New Delhi	1
RIG/A/LA/W	1
IIC/II/Dakar	1
IG/II	1
IG/PPP	1
IG/EMS/C&R	16
USAID/Senegal	1
USAID/Upper Volta	1
USAID/Mali	1
USAID/Niger	1