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AUDIT OF ZAMBIA
AGRICULTURAL DEVELOPMENT RESEARCH
AND EXTENSION PROJECT
PROJECT NO. 611-0201

AUDIT REPORT NO. 3-611-86-1
October 25, 1985

MEMORANDUM

DATE: October 25, 1985

FROM: Richard C. Thabet, RIG/A/Nairobi

SUBJ: Audit Report on Zambia Agricultural Development Research and Extension Project

To: John Patterson, Representative, AID/Zambia

This report presents the results of Zambia Agricultural Development Research and Extension Project. This review included the elements of both program results and economy and efficiency audits. Review objectives were to (a) determine if the project addressed the development strategy of Zambia; (b) evaluate how well the project was progressing towards meeting stated goals and objectives; (c) determine whether AID-provided resources were being used as planned and in conformance with applicable laws, agency regulations and the project agreement; (d) ensure that the project resources were used in the most economical and effective manner; and (e) determine compliance with the Foreign Assistance Act of 1961 as amended.

RIG/A/N concluded that project objectives were in line with Zambia's agricultural policy. Since independence, Zambia's strategy has focused Government efforts on the needs of small farmers and away from the large colonial commercial farmers. The purpose of the project was directed to the needs of small farmer. At the time of our review, the project was progressing satisfactorily towards meeting both the research and participant training objectives. However, failure to provide sufficient funds hampered the Government of Zambia from improving research-extension linkages and from paying their portion of project support costs. Also, the Government's failure to provide an agricultural economist to the Adaptive Research Planning Team reduced the intended benefits of a team approach to identify small farmer needs.

Please provide your comments on the action planned or taken to implement the recommendations within 30 days. The assistance provided by your staff during the audit is sincerely appreciated.

EXECUTIVE SUMMARY

The Zambia Agricultural Development, Research and Extension project agreement (No. 611-0201) was signed on September 26, 1980. The overall project purpose was to assist the Government of Zambia through the Ministry of Agriculture and Water Development in focusing agricultural research and extension on small farmers. Assistance to the Ministry of Agriculture and Water Development consisted of technical assistance, training, commodities and support costs. Life of project funding was \$16.7 million of which AID agreed to provide a \$12.5 million grant. The Government of Zambia agreed to contribute \$4.2 million. As of May 29, 1985, AID obligations and disbursements were \$12.5 million and \$5.3 million respectively. The project completion date is December 31, 1986.

The Office of the Regional Inspector General for Audit reviewed the project for program results and economy and efficiency. Audit objectives were to (a) determine if the project addressed the development strategy of Zambia; (b) evaluate how well the project was progressing towards meeting stated goals and objectives; (c) determine whether AID-provided resources were being used as planned and in conformance with applicable laws, agency regulations and the project agreement; (d) ensure that the project resources were used in the most economical and effective manner; and (e) determine compliance with the Foreign Assistance Act of 1961 as amended.

We concluded that project objectives agreed with Zambia's agricultural policy. Zambia's strategy has focused Government efforts on the needs of small farmers and away from the large colonial commercial farmers. The purpose of the project was also directed to the needs of small farmers.

Also, at the time of our audit, the project was progressing satisfactorily towards meeting both the research and participant training objectives. Under the research objective, the project was actively seeking varieties of various cereal grains that could be effectively grown by small farmers. The participant training objective was to upgrade professional and technical skills of selected Ministry officials, and these efforts appeared to be successfully proceeding towards completion by project end.

The project's major weakness was its failure to effectively disseminate research results to small farmers. The Government of Zambia did not provide sufficient funds to support an effective extension service and to contribute their portion of project support costs. Funds were not provided to pay the cost of extension workers and local currency was not contributed to pay project operating expenses. The Government had programmed the equivalent of \$370,000 in local currency generated funds

from PL 480 for extension needs, however, none of the funds had been disbursed. RIG/A/N recommended that AID/Zambia insure the disbursement of PL 480 funds to the extension service and assist the Government in assuming project costs once AID funding ends. AID/Zambia responded that the Government was in the process of developing new procedures directed at more effective programming, disbursement and accounting for counterpart funds. AID/Zambia officials believed that Zambia's poor economic condition demanded that AID continue funding operating costs until the Government of Zambia was able to pay these costs itself.

The Government did not provide any candidates to work as a counterpart to the contract extension technician from 1982 to 1985. Once a counterpart was assigned, the Government did not furnish staff housing and this prevented the counterpart from relocating to the project site and working with the AID technician. Without a Government counterpart working with the extension technician, the Government was not able to receive the training and expertise necessary to continue the project once AID ceases to support the project. We recommended that AID/Zambia ensure that the Government relocate the counterpart to the project site. AID/Zambia responded that the assigned counterpart would reside in housing in the closest town until housing could be made available at the research station.

The project lacked quantified outputs or benchmarks to measure progress towards project objectives. Therefore, project progress and the impact on small farmers could not be measured. RIG/A/N recommended that AID/Zambia quantify project outputs and establish benchmarks. According to AID/Zambia officials efforts to quantify outputs and benchmarks had already been initiated.

Project officials ordered some farm equipment that was not needed and failed to order other equipment that was needed for project implementation. Most of the farm equipment was for production rather than for research use. Further, project officials had not taken any inventory of these and other AID purchased equipment since 1983. We recommended that AID/Zambia either sell the equipment or offer it to other AID missions and establish an annual inventory procedure.

Office of the Inspector General
Office of the Inspector General

**AUDIT OF
ZAMBIA AGRICULTURAL DEVELOPMENT RESEARCH
AND EXTENSION PROJECT**

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AUDIT OF ZAMBIA
AGRICULTURAL DEVELOPMENT RESEARCH
AND EXTENSION PROJECT

PART I - INTRODUCTION

A. Background

On September 26, 1980, AID/Zambia and the Government of Zambia signed a \$12.5 million Grant Agreement to assist the Government, acting through the Ministry of Agriculture and Water Development, in focusing agricultural research and extension on the Zambian small farmer. AID agreed to fund technical assistance, training, commodities and support costs.

AID contracted for technical assistance and training with the University of Illinois in December, 1981 for approximately \$9.9 million. The contract provided funds for seven technical experts in the disciplines of soybean and maize breeding, sunflower and general agronomy, extension and farming systems economy for a period of five years. The project also funded long-term academic training for 34 Zambians as well as short-term and in-service training. The project assistance completion date is December 31, 1985 with an anticipated one year extension.

The project was planned to assist in four project areas. First, cereal and oilseeds contract technicians were to strengthen national research programs. The technicians worked as team members with Zambian counterparts and technicians from other donor agencies. The University's oilseed team technicians consisted of a soybean breeder and sunflower agronomist who assisted in the operation of major oilseeds breeding programs. The cereal grain team member was a maize breeder. His responsibility was to strengthen the capacity of the Zambian Research establishment to develop genetic breeding lines and refine and adapt varieties of maize.

Second, the University's farming systems economist, extension expert, and general agronomist comprised an Adaptive Research Planning Team (ARPT) at the provincial level to identify the needs of farmers and the opportunities that existed for improving existing farming systems in Zambia's Central Province. Third, the ARPT extension technician was to improve the research-extension linkages and communications by serving as an extension liaison officer for the province. Fourth, the project upgraded professional and technical skills of selected Ministry employees by funding academic and practical training in Zambia, the United States, or at other international institutions.

Other AID inputs included a small special studies program; research equipment; farm implements; project vehicles; and operational and housing construction costs for U.S. team members. As of May 31, 1985 the date of the latest available financial information AID/Zambia had committed \$7,305,981, and expended \$5,361,351. The project assistance completion date is December 31, 1986 with an anticipated one year extension.

The Government of Zambia agreed to contribute the equivalent of \$4,256,000 (25.38 percent of total project costs) in the form of professional staff, training support expenses, land, offices and operating expenses. Sales of PL 480 commodities had generated more than \$12 million in local currency generations funds, and therefore funds were available to the Government to make their contribution to this project.

B. Audit Objectives and Scope

This first audit of the project covered the period from September 26, 1980 to June 25, 1985. Field work was done in Lusaka, Zambia and project areas during the month of June 1985. The objectives of this review were to (a) determine if the project addressed the development strategy of Zambia; (b) evaluate how well the project was progressing towards meeting stated goals and objectives; (c) determine whether AID-provided resources were being used as planned and in conformance with applicable laws, agency regulations and the project agreement; (d) ensure that the project resources were implemented in the most economical and effective manner; and (e) determine compliance with the Foreign Assistance Act of 1961, as amended.

Our audit included a review of files at the Nairobi based Regional Economic Development Support Office and Regional Financial Management Center. We interviewed cognizant Government, contract and AID/Zambia officials. We examined progress reports, evaluation reports, related workpapers, and correspondence. AID/Zambia made one mid-term evaluation of the project. The results of this evaluation were used to reduce that part of our fieldwork related to historical matters and past problems. During the period from inception to May 28, 1985 a total of \$5.4 million had been disbursed for this project. Our sample of costs included 82 vouchers which totaled \$1.1 million.

Our audit was made in accordance with generally accepted government auditing standards. Accordingly it included such tests of the program, records and internal control procedures as we considered necessary in the circumstances.

AUDIT OF ZAMBIA
AGRICULTURAL DEVELOPMENT RESEARCH
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PART II - RESULTS OF AUDIT

A. Findings and Recommendations

RIG/A/N concluded that project objectives were in line with Zambia's agricultural policy. Since independence, Zambia's strategy has focused Government efforts on the needs of small farmers and away from the large colonial commercial farmers. The purpose of this project was directed to the needs of small farmers. At the time of our review, the project was progressing satisfactorily towards meeting both the research and participant training objectives. However, failure to provide sufficient funds hampered the Government of Zambia from improving research-extension linkages and from paying their portion of project support costs. Failure to provide an agricultural economist to the Adaptive Research Planning Team (ARPT) reduced the intended benefits of a team approach to identify small farmer needs.

The research component of the project was meeting its objective. The national cereal teams were actively pursuing varieties of various cereal grains that could be effectively grown by small farmers. The participant training objective of upgrading professional and technical skills of selected Ministry officials would be accomplished before the end of the project. The project's major weakness was its failure to effectively disseminate research results to small farmers. Insufficient funds also prevented the Government from contributing its agreed-to portion of project costs. Also the Government failed to assign a counterpart to the extension technician which further weakened the extension component. Project officials did not quantify expected outputs and benchmarks. Several pieces of project farm equipment were considered inappropriate and were not used. Therefore, the purchase had been neither economical nor effective in meeting project objectives. Other findings concerned the replacement of contract technicians, failure to reconcile financial records and lack of participant followup procedures.

RIG/A/N recommended that AID/Zambia take various actions to correct the cited deficiencies. We recommended that the Government use local currency generated from other AID programs such as PL 480 to support project costs and extension needs. We also recommended the assignment and transfer of extension counterparts, quantifying expected outputs and benchmarks and establishing a procurement plan. Other recommendations are set forth in the body of the report.

AID/Zambia responded that project officials had begun to correct those problems. As a result of their actions, we have closed one recommendation upon the issuance of this report.

1. The Government Failed To Provide Sufficient Funds To Support Contacts With Small Farmers Or To Pay The Operating Costs of The Project.

The Government of Zambia did not provide sufficient funds to support an effective extension service. Also, they did not contribute their portion of project support costs. As a result, (1) funds were not available to pay the operational cost of extension workers whose job it was to convey the research results to the small farmers and (2) local currency was not available to support the operating expenses of the project.

Disseminating research results to small farmers was a vital part of the project and the failure to achieve this objective was a major deterrent to its success. The Foreign Assistance Act emphasizes the importance of disseminating research results to assure that small farmers are given access to improved technology. But because of economic conditions prevailing in Zambia, the Government was unable to fulfill its commitment. The Government had programmed the equivalent of \$370,000 in local currency generated funds from PL 480 funds for extension needs; however, none of the funds had been disbursed because of bureaucratic complexities involved in releasing funds. AID/Zambia had frequently attempted to obtain release of these funds, but without success.

The Government also was financially unable to provide local currency for fuel and maintenance of project vehicles as agreed to in the project agreement. This problem, if not resolved, indicates that in the long run the project will fail if the Government is not able to support it after AID support stops. The project agreement requires the Government to provide funds for project vehicle fuel and maintenance. The lack of funds further illustrates the Government's inability to absorb research operational costs now and in the future when AID ceases to provide these costs. AID was funding \$612,000 in operational costs for the research component which the Government will have to assume once AID assistance ends.

RECOMMENDATION NO. 1

We recommend that AID/Zambia:

- a. Insure that PL 480 funds earmarked for Agriculture Extension Service are disbursed in the project area.
- b. assist the Government through constructive dialogue and agreements to assume project costs before the project ends as prescribed in AID's policy on recurrent costs.

Discussion

Extension workers could not disseminate research results to small farmers because the Government was unable to provide operational funds. The project paper noted that a problem before this project was started was that contact between extension workers and small farmers was selective and sporadic. The project had not corrected this problem. Lack of funds also prevented the Government from providing local currency for vehicle fuel and maintenance as agreed to in the project agreement. The Foreign Assistance Act requires that a country furnish at least 25 percent of the total project costs. At the time of our review, the Government had not done so.

Dissemination of Information - Lack of funding reduced contacts with small farmers. Extension workers did not have sufficient funds for fuel, transport, subsistence allowance, housing or training. Approximately 85 percent of the Ministry's budget was allocated to salaries and related benefits leaving about 15 percent for operational expenses. Consequently the Government's inability to pay operating costs extended to all Government programs as well as AID projects.

One result of this problem was that most village extension agents had no means of transport, except to walk, to reach the more than 300 farmers within each of their jurisdictions. Although the Government had established a credit plan for extension agents to purchase bicycles, no funds were available to loan to them. As a result extension agents were unable to reach the farmers as planned. Further, the block supervisors who are responsible for overseeing three to five village extension agents, were similarly handicapped. AID purchased 21 motorbikes for the block supervisors, but the Government could not provide funds to purchase fuel or spare parts. After 16 months of operation only 8 bikes were operational. Therefore, most of the block supervisors were restricted to contacts they could reach on foot. The problem was so severe that one agent had worked for two years and had never met his supervisor. The Government's failure to provide funds for fuel and maintenance of motorbikes impeded the block supervisors from effectively supervising the extension agents.

Budget shortages also delayed the Government from providing a subsistence allowance to extension workers. Extension workers were required to fund their own travel expenses and then request reimbursement from the Government. Reimbursement often took as much as a year. Consequently, extension workers were unable to travel to the more remote regions because they could not afford to wait for reimbursement.

In addition, the Ministry's shortage of funds limited training. The Ministry was to provide funds for periodic inservice training of extension workers to receive information to pass on to farmers. Training also included transporting farmers in surrounding areas to demonstration sites. Many of these training activities did not take place. For example, one district training officer had planned to hold monthly training sessions, but training was cancelled for six months because there were no funds.

Insufficient housing for all levels of district extension workers also handicapped extension activities. Extension workers complained to us that the Government either could not furnish housing or the housing that was furnished was substandard. The basic cause again was lack of funds.

As a result of the Government's inability to fund the operational needs of the extension service, agents were not reaching the small farmer. Thus the results of the project's research efforts were not being disseminated and the objective of strengthening extension services to the small farmer was not being met.

For example, research results such as maize hybrids and open-pollinated varieties that had been developed for the different agro-climatic areas were not reaching a wide audience of farmers. Planting these varieties would have boosted maize production country-wide. Without an effective extension service, information concerning the newly released open-pollinated maize variety, MM 600, could not reach remote small farmers in the northern and central agro-ecological zone. MM 600 is a longer season, virus resistant variety developed for the northern high rainfall areas and the central agro-ecological zone.

In addition, there was limited linkage between sunflower research and extension. Block supervisors and village agents were not well informed about sunflower production practices. Small farmers did not receive information regarding the benefits of row versus broadcast seeding; planting methods and spacings; fertilizer treatments; and weeding methods and timing.

Research had developed another variety of soybean specifically adapted to small farmers who seldom had access to seed inoculant.^{1/} Small farmers had only recently begun to grow soybeans. One parastatal organization had the responsibility of administering the national soybean program. Without sufficient training, extension agents could not inform farmers of recent research results which would aid in the acceptance and increase production of soybeans by small farmers.

^{1/} Procedure used to inoculate seed against parasites.

The Foreign Assistance Act of 1961, as amended, requires that agricultural research take into account the special needs of small farmers when determining research priorities. The Act requires that special emphasis be placed on disseminating research results to the farms to assure that small farmers have access to both new and existing improved technology. However, Zambia's current economic condition hindered its ability to meet its commitment.

Contribution of Support Costs

As of June 13, 1985, the Government had contributed ZK 216,027 (Zambia Kwacha) or the equivalent of \$93,924 (ZK 2.3 = \$1). According to the project agreement their contribution should have been ZK 329,091 (\$143,083) by the end of May 1985. Thus the Government was delinquent in their project support contribution by the equivalent of \$49,159.

In addition, the project agreement requires that the Government contribute not less than the equivalent of U.S. \$4.3 million including costs borne on an "in-kind" basis. Most of the Government contribution consisted of employees' salaries and housing. Vehicle fuel and maintenance were the only two components which required an additional Government local currency contribution.

Because of the Government's inability to pay support costs, AID/Zambia officials informally waived the requirement to provide fuel and maintenance support costs in June 1984. In turn, AID funds were used to pay these two support components. Again, the Government's failure to pay these support costs indicates problems in the long term prospects of the project as well as failure to comply with the Foreign Assistance Act of 1961 as amended. Section 110(a) of the Foreign Assistance Act under "Cost-Sharing and Funding Limits states that no assistance shall be furnished unless the beneficiary country provides at least 25 per centum of the costs of the entire program, project, or activity. Such costs borne by such country may be provided on an "in-kind" basis.

The Government's inability to provide operational funds will also adversely impact on its ability to fund future research activities. The project budgets \$612,000 of AID funds over its life for operational research needs. These needs include office supplies, chemicals, seed bags, journal subscriptions and other items important to the success of the project.

AID's recurrent cost policy of May 1982 outlines the procedures to be followed when recipient governments are unable to fund recurrent costs. The policy allows AID missions to fund a portion of recurrent costs if it is a serious problem in lesser developed countries. The AID mission can provide funds for up

to ten years providing the host country agrees to shoulder an increasing share of total costs over the period.

Based on its current financial capability the Government will be unable to assume costs necessary to sustain research efforts. The Government's lack of funds begs the question whether they can support the project once bilateral assistance ends.

Management Comments

AID/Zambia responded to our draft report that Phase I of the project was not designed to place major emphasis on extension as it was recognized that extendable technology had to be developed before major extension activities could take place. However, support provided to the extension sub-sector had been less than optimal. They were in the process of developing new procedures for discussion with the Government that were directed at more effective programming, disbursement, expenditure and accounting for counterpart funds. The benefits would be an improved, more rigorous management of the resource. AID/Zambia expected that the end result would be an enhanced program of support to the agricultural sector. The new procedures were expected to be in place by October or November, 1985. In the meantime, AID/Zambia officials had met with the Director of Agriculture to discuss reprogramming of previously generated PL 480 counterpart funds. The Director supported this reprogramming and if the Ministry of Finance approves, the funds will be used to support research, extension, and the subject project.

AID/Zambia also stated that the economic situation was so bad that there is little leeway in addressing the problem. AID/Zambia's whole program was meant to support restructuring efforts, which, if successful, would see recurrent costs problems diminish. AID/Zambia believed that there was no choice but to help keep those long term activities going by supporting the operating costs until the Government of Zambia was able to pay these costs itself.

AID/Zambia further stated that they had already held discussions with the new permanent secretary of the Ministry who was also concerned about the slow release of funds to cover recurrent costs. The Government had experienced difficulties in meeting cost sharing obligations because of the overall economic crisis, and because of restructuring measures agreed to with World Bank, the International Monetary Fund, AID and other donors. The equivalent of \$870,000 million of PL 480 generated counterpart funds was available to the Ministry of which about 696,000 had been spent. The funds were expended in support of the Ministry Planning Division and Department of Agriculture.

In the meantime, the new procedures for the PL 480 and Commodity Import Program would result in more effective programming, disbursements and accounting for counterpart funds. As these new procedures were fully developed and implemented, counterpart funds would be more readily available to support joint AID/Government project activities including extension. AID/Zambia had just reprogrammed the existing counterpart fund portfolio which would see that research and extension activities received a proportionate share of local currency presently available.

Office of Inspector General Comments

In our opinion, project officials early focus on research rather than a concerted emphasis on extension and research contributed to the weak link found in the Ministry's extension service today. Project officials must place more importance on the extension component to be able to assist small farmers. Our office believes that these initial reprogramming efforts are a good start toward correcting the noted problem. Part "a" of the recommendation will remain open until AID/Zambia reports that the stated procedures are in effect. Part b of the recommendation will remain open until AID/Zambia notifies our office that the Government has contributed their agreed to support costs. The office of the Inspector General has noted time and again the recurrent cost problems developing countries have encountered in supporting donor projects. However, AID has an established recurrent cost policy that, if followed, would help obtain the best possible use of the American assistance dollar.

2. The Government Was Unable To Relocate A Counterpart In A Timely Manner

Government of Zambia employees assigned to work directly with the AID technicians, so that they can gain expertise, are known as counterparts. The project agreement requires the Government to assign counterparts to the projects on a timely basis because counterparts replace the technician once the project ends. The Government, however, did not provide any candidates to work with the contract extension technician from 1982 until 1985 three years after the project began. When the counterpart was assigned, the Government did not furnish staff housing which prevented the counterpart from relocating and working with the AID technician in the field. Consequently, the Government was not able to receive benefit of the training and expertise necessary to continue the project once AID support ends.

RECOMMENDATION NO. 2

We recommend that AID/Zambia ensure that the Government take action to relocate the counterpart to the project site.

Discussion

The Government was unable to assign a counterpart because there were no qualified candidates. Counterparts should have a suitable education be of appropriate rank with the technician and have an agricultural background. The Ministry was unable to supply candidates with all these qualifications not only for the AID/Zambia project but also for other international donors. After three years the Government located an individual in early 1985 for this position but, the Government could not provide housing. Thus, the appointed individual still has not worked with the extension technician. The project agreement stipulates that the grantee will provide counterparts for the project on a timely basis. Without a counterpart, the Government will be unable to continue with the extension work started by the University technician.

The University of Illinois contract sought to develop greater capacity within the Ministry's extension service for transferring improved technologies and interpreting research findings to small farmers. Extension would play a critical role in bringing the production problems of small farmers to the attention of researchers.

A counterpart works closely with the extension technician assuming all of his duties once the contract ends. From daily contact with the technician over an extended period of time, the counterpart would learn from his expertise. The knowledge

gained from intensive on the job training constitutes the intent of technology transfer. Technology transfer is a key element in establishing a solid project foundation to help insure its continuation. Therefore, assigning the counterparts should be given high priority so this transfer can take place. Failure to have a counterpart hampers the project objective to strengthen extension services because the Ministry will not have the expertise to continue the activities of the extension technician.

Thus, knowledge and experience to be gained by a counterpart jeopardizes the linkage between research and extension. AID/Zambia must ensure that the appointed counterpart is in place and has the opportunity to learn from the extension technician.

Management Comments

AID/Zambia responded by saying that the Government had appointed a recent graduate from the University of Zambia. Housing at the station was still a problem; therefore, the newly appointed counterpart would be placed in government housing in the nearby town of Kabwe until such time as housing could be made available on the station.

AID/Zambia also stated that project officials for the past several months had been in the process of obtaining information necessary to decide whether to provide prefabricated mobile homes, or to build permanently constructed housing in order to help relieve some of the housing constraints. A decision has been made to build permanently constructed housing. Housing plans have been obtained from the Ministry of Works and Supply and an AID Engineer has approved the house plans to be constructed under the project. Counterpart funds will be used to cover local costs and project funds would be used for materials and supplies that have to be imported.

Office of Inspector General Comments

Based on AID/Zambia's response, Recommendation No. 2 is closed upon report issuance.

3. The Project Lacked Quantified Outputs or Benchmarks to Measure Progress Towards Project Objectives.

In order to measure the progress of a project, the designers must establish quantifiable interim benchmarks and goals against which progress can be measured. This was not done for this project. Project officials neglected to establish benchmarks to measure the project's impact on small farmers. Also, the contact team leader's reports did not address the progress made towards achieving project objectives. As a result project progress and the impact on small farmers could not be measured.

RECOMMENDATION NO. 3

We recommend that AID/Zambia, in conjunction with the Government and the University of Illinois, quantify expected project outputs and establish benchmarks to measure project progress towards outputs.

Discussion

Agency regulations require that an operational implementation plan specify all actions to be taken to implement projects, indicate the times when actions are to begin and be completed, and identify the resources needed to complete the tasks and the responsible parties. These required actions should be identifiable, measurable and manageable so that project managers can exercise control. The host country and AID project managers need this level of detail to predict slippages and take corrective actions. If the steps necessary to complete given actions are not scheduled separately and identifiable in reporting systems, delays are often discovered too late to be corrected.

In this project, the agreement states that the overall objective "will consist of the provision of technical assistance, training and commodities to assist the Grantee in its efforts to redirect agricultural research and strengthen extension towards the small farmers by supporting the national commodity research teams in oilseeds and cereals/grains and an ARPT in the Central Region." However, project designers did not quantify three of the four planned outputs in order to measure project impact on small farmers nor did they establish necessary benchmarks.

The three outputs of the project which require benchmarks and quantified results are:

1. The strengthening of the Ministry Commodity Research Teams (CRT) on Oilseeds and on Cereal Grains. . . . Research programs are needed to develop varieties tailored to

Zambian small farmer conditions. A major concern of the Cereals Team is the necessity to breed and introduce varieties of maize tailored to small farmer conditions which in many respects are different from those of commercial farmers."

2. The effective operation of an Adaptive Research Planning Team (ARPT). In contrast to the CRT's, this team of researchers will not work on a specific range of commodities on a nationwide basis. . . . Rather it will work in specific geographical regions to identify, with the help of farmers, problems peculiar to local farming systems. Some of these problems will be directed to CRT's for research and some will be handled internally by the ARPT. In either case the findings will be fed back through the extension service to the small farmer."
3. The enhancement of the capacity of the extension service to diffuse usable agricultural technology to small farmers through improved research-extension linkages and communication."

Contributing to project designers' failure to quantify expected outputs or establish benchmarks was the University's failure to establish benchmarks in their annual work plan. The audit team suggested several examples of measuring project impact on farmers. Impact within the three outputs could be measured by establishing adoption of new cereal varieties, increases in crop yield, increases in registration of small farmers to grow various cereals, number of new farmers visited by extension workers, or the adoption rate of messages disseminated.

Project officials responded that our suggestions were too cumbersome to be undertaken within the scope of the project. However, they countered with proposals which we found adequate as a first attempt to quantify benchmarks and project outputs. For example, some of their proposals were:

1. describing how the research program has been restructured to address small farmer constraints.
2. documenting that new varieties/practices are gaining increased yields over current practices in research trials incorporating small farmer constraints.
3. identifying new varieties released for use by small farmers.
4. listing new varieties/practices put forward by CRT's that have been incorporated into extension recommendations.

Each of these proposals relate to the three objectives. Small farmer constraints form the basis of each proposal. The first

proposal would probably describe how research has changed focus from the large commercial farmer to the small farmer. The second proposal would address the research and ARPT objectives by documenting how new varieties of cereals developed by the research teams or new practices developed jointly by research and ARPTs demonstrated superior yields over old varieties and farming methods. The third proposal would relate directly to the research objective. The fourth would show which new varieties, developed by research and practices, were found worthy.

We believe that project officials should also take their proposals one step further by incorporating a means to measure small farmer acceptance of each proposal.

Another problem was that project achievements were not reported to the AID project officer. Each University of Illinois technician should report accomplishments to the team leader quarterly. In turn, he was required to submit a report to AID/Zambia. We found, however, that the reports discussed what the team leader did rather than summarizing the technicians' accomplishments.

Without quantifying benchmarks and outputs and progress reports, it was impossible to measure the impact on small farmers. AID/Zambia plans a Phase II of the project. Project officials should quantify expected results now for the remainder of the first phase. An end of project assessment of results in comparison to quantified results will provide a basis for monitoring Phase II of the project.

Management Comments

AID/Zambia officials responded to our draft finding that initial efforts to quantify outputs and benchmarks have already been initiated. Discussions had been held with the contract team to identify the type of benchmark data and information needed and how it can be obtained and the reporting and records that are required to quantify or measure progress. The contract team has established training goals for the Ministry's extension service employees. They have also established rhizobia production levels used for inoculating soybeans.

AID/Zambia believes that this illustrates that benchmarks and quantitative data had been established and was available including quantifying data for maize and sunflower (although data had not been consolidated). Consolidation will be done in cooperation with the contract team and the Ministry. However, quantifying extension activities and results such as adoption rates will be more difficult due to transportation and communication difficulties. Results of extension activities will be quantified to the extent possible as the contract team and the Ministry continue to increase the momentum of

activities, i.e. training of extension officers, farmers, farmer field days, and crop demonstrations. A concerted effort will be put forth immediately to collect what data was presently available and establish a system that would continue to bring in data that was necessary to measure results of project inputs.

Office of Inspector General Comments

Our office considers AID/Zambia's efforts responsive to our recommendation that progress and end results be measured. The recommendation will remain open until all project components have been quantified, consolidated and can show an impact on the small farmer.

4. Commodity Procurement Planning and Inventory Control Needs Improvement.

Project officials mistakenly ordered some equipment that was not needed and failed to order other equipment that was needed for project implementation. We found that most of the farm equipment ordered was for production use. Project officials should have purchased smaller equipment which would be more for research use. The effect was that the purchase proved to be uneconomical and ineffective. Agency policy emphasizes the importance of careful procurement planning.

Further, project officials had not taken an inventory of these and other AID purchased equipment since 1983. The inventory records did not include equipment purchased within the two years preceding our audit. AID regulations require annual inventories. Failure to do so increased the risk of loss.

RECOMMENDATION NO. 4

We recommend that AID/Zambia in conjunction with Government and other concerned project personnel:

- a. sell those pieces of equipment considered inappropriate for project use in accordance with current regulations.
- b. establish a procurement plan for the remainder of the project to ensure maximum use of project commodities;
- c. establish a procedure to record equipment when it is received to include the taking of annual inventories.

Discussion

Project technicians stationed at Mt. Makulu Research Station had not used some of the farm equipment although it arrived more than two years ago. The technicians found the equipment inappropriate because the station had no tractor large enough to pull the equipment. The original procurement plan included sharing a 90 horsepower tractor located at Magoye Research Station. However, transporting the tractor approximately 100 kilometers between the two stations proved impractical and expensive.

University of Illinois officials purchased a John Deere tractor in early 1984 with AID funds at the request of the prior sunflower agronomist. However, it was too small to pull any of the larger pieces of farm equipment.

The audit included a review of 9 pieces of heavy farm equipment costing \$35,260. Of the nine pieces reviewed four pieces were regularly used and five pieces had not been used. The purchase

price of these 5 unused pieces amounted to \$18,008. They included:

<u>Item</u>	<u>Cost</u>
a. Crop Cultivator	\$ 3,214
b. Rotary Hoe	2,867
c. Four Furrow Two Way Plow	7,321
d. Sprayer	4,056
e. Spin Spreader (used once)	<u>550</u>
Total	<u>\$18,008</u>

The purchase of this equipment proved to be a waste of project funds and contributed little to the implementation of the project.

Although the March 1985 evaluation noted the need to design a procurement plan this had not been accomplished. We believe that project officials should plan for the procurement needs of the remainder of the project.

Another area requiring management attention was the need for annual physical inventories. AID/Zambia's Project Support Unit last took an inventory of project equipment in 1983. Inventory records available did not include equipment purchased within the two years prior to our review. Good accounting practices require annual physical inventories. For example, Handbook 19 requires an annual physical inventory of all categories of AID owned and controlled equipment. Inventories may be scheduled over the year, but a total physical inventory must have been completed by June 30 each year and reconciled with the accounting records by the end of the fiscal year.

AID/Zambia officials stated that the University administrative staff took an inventory in early 1985 but could not find a copy of the results. Failure to take annual inventories of AID equipment weakens accountability controls and increases the risk of loss.

Management Comments

AID/Zambia responded that most of the commodities, equipment and vehicles that were originally planned have already been procured. They also stated that they had already requested the University to provide an analysis of funds managed under the contract to assure that there were funds available for such procurement.

AID/Zambia recently added an accountant to its staff. His duties were to analyze AID/Zambia's project budget. Upon completion of these two budget exercises, if it is determined that there are funds available then the mission would determine

the most advantageous use of the funds. If this use of funds involved additional procurement of commodities and/or equipment, a procurement plan will be prepared for the remainder of the project.

An inventory of project commodities was completed by the Project Support Unit in May 1983. Another inventory was completed by the contract staff in March 1985. Copies of these inventories were on file in AID/Zambia and copies were to be pouched to RIG/A/N. The inventory was being revised so that it more adequately met AID's requirements; it was to be reconciled with the accounting records by September 30, 1985. In the future when commodities are received, the standard receiving and inspection report, Form 127 will be completed for the record, and the commodities and/or equipment would be added to the project inventory.

Office of Inspector General Comments

Parts a and b of the recommendation will remain open until AID/Zambia officials notify us of the disposal of the equipment and their decision to purchase equipment. In a conversation with the newly assigned project officer, he stated he was sending a copy of the 1985 inventory that University officials took. He also stated that he initiated taking another, more complete inventory. When we are formally advised of the results of this inventory and the procedure used to record new equipment, we will consider closing the recommendation.

B. Compliance and Internal Control

Compliance

This report highlights areas which need management attention so that the objective and expected outputs set forth in the project grant agreement are complied with. The Government was not (a) funding the operational needs of extension workers in the project's target area which weakened the project's goal of reaching small farmers; (b) contributing their portion of funding as agreed to in the project agreement; and (c) assigning in a timely manner the counterpart for the UIUC extension technician. Also, AID/Zambia officials had neither used the RFMC reports to monitor the project's financial transactions, nor had they informed RFMC of needed corrections (Exhibit 1). Nothing else came to our attention that would indicate that untested items were not in compliance with applicable laws, regulations, and agreements.

Internal Control

Generally, the internal controls tested were found to be appropriate and operating in a satisfactory manner. We did note that project officials had not quantified expected project outputs in order to evaluate progress towards the objective discussed in Finding 3, page 14. We also noted that project officials had not developed a commodity procurement plan that would guarantee the economical use of agency funds nor had they taken annual equipment inventories. This is discussed in Finding 4, page 18.

C. Other Pertinent Matters

One area requiring management attention concerned the timely replacement of contract technicians. Contract technicians were not replaced in a timely manner which reduced the effectiveness of the Adaptive Research Planning Team (ARPT) component. The University of Illinois had not filled ARPT's Farming Systems Economist position for almost a year and had not selected a replacement for the extension technician who was leaving in November 1985. However, the University had not expeditiously recruited candidates to ensure coverage in these two disciplines, although the contract requires them to furnish long term technicians in specified disciplines. Absence of an economist prevented data collection and analysis. Without a timely replacement the extension program in the Central Province was further jeopardized. In our draft report we recommended that AID/Zambia require the University to expedite the selection and placement of the Farming Systems Economist and follow up to insure that the extension technician arrives on time. AID/Zambia responded that the University had nominated two individuals to fill the farming systems economist

position on the project contract team. One of these individuals was accepted and he was scheduled to begin work on September 15, 1985. The University was to send the resume of the nominee(s) for replacement of the extension technician. It was expected that Ministry officials would act promptly in selecting an individual who would arrive by the time extension technician's departs or very shortly thereafter.

Another area requiring further attention was the participant followup program. AID/Zambia had not established a procedure to followup on returned participants although Agency policy requires AID missions to do so. The project agreement requires participants to work on project activities when they complete their training. Without a followup procedure in place, AID/Zambia could not determine whether AID funded participants were using their training to carry out and sustain project objectives. We recommended in our draft report that AID/Zambia develop a procedure to comply with Agency guidelines for participant followup. AID/Zambia responded that they intended to establish several procedures specified in Appendix 1. that would meet the intent of our draft recommendation.

AUDIT OF ZAMBIA
AGRICULTURAL DEVELOPMENT RESEARCH
AND EXTENSION PROJECT

PART III - EXHIBITS AND APPENDICES

EXHIBIT 1COMPARISON BETWEEN RFMC AND PROJECT RECORDS
AS OF MAY 31, 1985

<u>Line Item</u>	<u>RFMC Records</u>	<u>Proj. Records</u>	<u>Differences</u>
Technical Assistance	\$6,213,705	\$5,223,000	\$990,705
Training	2,699,000	2,662,000	37,000
Commodities	1,813,500	834,000	979,500
Construction	866,000	405,000	461,000
Operational Recurrent Cost	472,795	612,000	139,205
Inflation	450,000	1,852,000	1,402,000
Contingency	-0-	927,000	<u>927,000</u>
Total			<u>\$4,936,410</u>

"1. Mission appreciates extension of time until September 18, 1985 to provide our comments. We also find the report helpful as a management tool and plan to use it extensively.

2. The following are mission's comments for each of the recommendations contained in the draft report.

A. Recommendation No. 1: We recommend that AID/Zambia determine whether sufficient project funds are available to fund operational costs for extension services in the project area; if funds are not available insure that PL 480 funds earmarked FOP agriculture extension service ARF disbursed in the project area^{1/}.

B. Comment: Zamare Phase I was not designed to place major emphasis on extension as it was recognized that extendable technology had to be developed before major extension activities could take place. Since research is unpredictable, it was anticipated during design of the project that it would take most of phase I for significant new varieties and technologies to be developed.

However, since some new varieties of maize and soybeans have been released, and two new Rhizobium for soybean inoculation have been identified and production initiated since the arrival of the Zamare team, the team has initiated a training program for extension officers, subject matter specialists, and research officers that reaches from the national level down to the field level (Extension Camps). While initial efforts to develop and implement a training program began in December, 1982, the training program gained most of its momentum in 1984/85. Training for extension officers has included, but not been limited to, such subjects as effective communication and teaching skills; program planning; extension methods and techniques; crop husbandry; research station management; technology and management of field plots (field trials) etc. Project funds have been used to cover the costs of these workshops and training sessions. To date, approximately, 4,133 to 4,153 agricultural officers have received this in-country training, for a total of approximately 9,047 Man days of training. All members of the Zamare team have participated in providing this training. So far, approximately \$30,433.00 of project funds have been used for this purpose.

^{1/} Recommendation revised based on AID/Zambia comments. See page 6.

Insofar as local currencies, including PL 480 counterpart funds, and their role and utilization in the above context are concerned,

admittedly, support provided to the extension sub-sector has been less than optimal. USAID/Zambia has recently completed a rigorous review of its counterpart funds portfolios, and we are in the process of developing new procedures for discussion with the GRZ that will result in more effective programming, disbursement, expenditure and accounting for counterpart funds. The benefits of this exercise will be an improved, more rigorous management of the resource: It is expected that the end result will be an enhanced program of support to the agricultural sector, using counterpart funds as an effective program implementation tool. We expect the new procedures to be in place by October/November, 1985, at which point we will be in a position to address the issue of counterpart funds and support to the research sub-sector effectively, and concretely. In the meantime, as an interim measure, on September 11, 1985, we met the director of agriculture and discussed reprogramming K4,300,000 of previously generated PL 480 counterpart funds. The director of agriculture is in full support of this reprogramming of funds for the MAWD, and if the Ministry of Finance approves, the funds will be used to support research, extension, and the Zamare and Zatpid projects.

C. Recommendation No. 2: We recommend that AID/Zambia ensure that the GRZ take immediate action to relocate the counterpart (extension) to the project site.

D. Comment: GRZ has now appointed a recent graduate from Unza who is presently posted to Kabwe, the capital of central province. This extension officer will serve as the counterpart to the RELO on the Zamare team who himself resides at the Kabwe research station. Housing at the station is still a problem; therefore, the newly appointed extension officer will reside in government housing in the town of Kabwe until such time as housing can be made available on the station which is approximately eleven kilometers north of Kabwe. USAID/Zambia and GRZ/MAWD have been in the process for the past several months of obtaining information necessary to decide whether to provide prefabricated mobile homes, or to build permanently constructed housing in order to help relieve some of the housing constraints affecting project implementation. A decision has been made to build permanently constructed housing after the UIUC COP met with the MAWD director of Agriculture on September 11, 1985. The GRZ will not put together a proposal for our consideration. Housing plans have been obtained from the Ministry of Works and Supply, and an AID engineer has approved the house plans to be constructed under the project.

Counterpart funds will be used to cover local costs, and project funds will be used for materials and supplies that have to be imported.

E. Recommendation No. 3: We recommend that AID/Zambia require the University of Illinois to: (a) expedite the selection and placement of the farming systems economist; and (b) follow up to insure that the extension technician arrives on time^{1/}.

F. Comment: UI has nominated two individuals to fill the farming systems economist position on the Zamare team, Dr. Mesein Rezuneh was accepted, and he is scheduled to arrive at post to begin work in that position on September 15, 1985.

The Zamare extension specialist (RELO) will finish his contract on November 15, 1985. UI is sending the CV of the nominee(s) for a replacement to be selected. Upon receipt, the CVs will be immediately reviewed by USAID/Zambia and the Zamare COP. If acceptable by USAID/Zambia and the COP, the CV's will be promptly submitted to the MAWD for their review and, we hope selection. Since MAWD is anxious for the project to move ahead on a timely basis, it is expected that MAWD will act promptly in selecting one individual who will arrive by the time of the RELO's departure, or very shortly thereafter.

The Zamare agronomist presently working with the Adaptive Research Planning Team (ARPT) will finish his contract on December 15, 1985, and his replacement has already been identified. In fact, his replacement has already been serving as the ARPT agronomist on campus for technical backstop matters. He has made two field visits to Zambia since project implementation began and he is presently in country for about 2-3 weeks beginning September 7, 1985. It is expected that he will arrive at post to begin his long term assignment between mid-December 1985, and early January, 1986.

Mission believes that, while there have been some delays on the part of UI in filling some positions in the past, the above indicates that UI will be filling project positions on a more timely basis. We have discussed this problem several times in the last few weeks with the Zamare COP, and will be discussing it with a visiting University official now scheduled to arrive in Zambia the latter part of October 1985. We will again emphasize the urgency that the mission places on timely recruitment and the filling of positions.

^{1/} Deleted from final report. Refer to page 21, " Other pertinent matters".

G. Recommendation No. 4: We recommend that AID/Zambia in conjunction with the GRZ and UI quantify expected project outputs and establish benchmarks to measure project progress towards planned outputs.

H. Discussion: This will be done, in fact, initial efforts to do so have already been initiated. Discussions have been held with the Zamare COP and most members of the Zamare team to identify the type of benchmark data and information needed and how it can be obtained, and the type of reporting and records that are required to quantify or measure project progress. We have begun to identify quantifying data that measure project progress. In addition to the data regarding in-country training contained in our comments on audit Recommendation No. 1, additional quantifying data which measures project progress has been obtained, for instance, when the main body of the Zamare team arrived in August 1982, Rhizobia for inoculating soybeans was being produced by a Government parastatal organization; however the production target was 5,000, 100 gram bags of inoculum, but only about 2,500 - 3,000 bags were being produced, and since it was contaminated, farmers had lost confidence in it. The balance of inoculum needed by the Zambian farmers was being imported. Before the technical team arrived, using project funds, USAID/Zambia procured new equipment for the soil microbiology laboratory so that when the team's soil microbiologist arrived he could begin work immediately to improve the quality of the inoculum being produced. The soil microbiologist purified existing Rhizobium being used, identified a domestically available source of peat to be used as a carrier which proved much better than the finely ground soil and charcoal that was being used. This increased shelf life of the Rhizobium from about one month to three months under proper storage conditions. Equipment to produce, package, and store Rhizobium was installed adjacent to the laboratory. The soil microbiologist identified two local strains of Rhizobium, SS-2 and SS-3, which are more effective than the US-110 used as a standard for efficiency comparison. In 1983, the production unit at the laboratory was requested to produce 5,000 bags of inoculum for the 1983/84 crop season. 5,000 bags were produced and sold to farmers who bought reluctantly because of their previous bad experience with domestically produced Rhizobium. However, results were good, and for the 1984/85 crop season, the production unit was asked to produce 10,000 bags. This production target was achieved, and results were again good; therefore the production unit was asked to reproduce 27,000 100 gram bags of Rhizobium for the 1985/86 crop season. Production is in progress and the target of 27,000 bags is expected to be achieved.

One bag of Rhizobium is enough to inoculate soybean seeds for planting one hectare. The use of Rhizobium to inoculate seeds for planting increases formation of nodules containing Nitrogen on the plant roots; however, not all strains of Rhizobium increase the yield of Nitrogen. By using various types of field trials on various varieties of soybeans it was found and is reported that use of SS-2 strain of Rhizobium resulted in the production of 200 Kg of Nitrogen per hectare. It has also been found that 200 kg of Nitrogen per hectare on most soybean varieties is the optimum level for best economic yields. Since the present price of Nitrogen fertilizer (Urea with 46 percent Nitrogen) is K0.54/Kg, the use of SS-2 strain Rhizobium to inoculate seed could result in the production of Nitrogen worth up to K234.90 per hectare. The use of SS-2 strain of Rhizobium not only increases nodulation, but also increases soybean yield. On some varieties yield is increased by as much as 1000 kg/ha. The current farmgate price for soybean is K0.68 per kilogram. Therefore, the farmer can increase his per hectare gross income by as much as K680.00 by inoculating his seed with SS-2 Rhizobium before planting. Rhizobium SS-2 cost K1.00 per bag, or K1.00 per hectare.

The mission believes that the above illustrates that benchmark and quantitative data has been established, and is available, including quantifying data for maize and sunflower, but has not been consolidated. Consolidation of this data will be done in cooperation with the Zamare team and MAWD. However, quantifying extension activities and results, such as adoption rate, will be more difficult due to transport and communication difficulties. Results of extension activities will be quantified to the extent possible as the Zamare team and MAWD continue to increase the momentum of activities, i.e. training of extension officers, farmers, farmer field days, and crop demonstrations. Already there are indications from MAWD officials that as a result of this in-country training, extension field officers have gained more confidence in their professional ability, are beginning to make more contact with farmers, and the farmers in turn have gained more confidence in the extension field officers. The mission is very anxious to begin obtaining data that will quantify adoption rate of new varieties, technology, and new farming methods. A concerted effort will be put forth immediately to collect what data is presently available, and establish a system that will continue to bring in data that is necessary to measure results of project inputs.

I. Recommendation No. 5: We recommend that AID/Zambia in conjunction with other GRZ and project officials; (a) establish a procurement plan for the remainder of the project to ensure maximum use of project commodities; (b) establish a procedure

to record equipment when it is received and to take annual inventories^{1/}.

J. Discussion: Most of the commodities, equipment and vehicles that were originally planned have already been procured, with the exception of replacement vehicles, and some laboratory supplies such as flasks, test tubes, filters, etc. The mission has already requested the University of Illinois to provide us with a budget analysis of funds managed by UI under the contract to assure that there are funds available for such procurement.

The mission has very recently added an accountant to its staff. The accountant working with project support unit personnel, and the ADO will soon do a budget analysis of project funds managed by the mission. Upon completion of these two budget exercises, and upon the determination of total funds remaining under the project, and if it is determined that there are funds in excess of what is needed to implement the project as presently planned, then the mission will, in cooperation with the Zamare team and MAWD, determine the most advantageous use of the funds. If this use of funds involves additional procurement of commodities and/or equipment, a procurement plan will be prepared for the remainder of the project. An inventory of project commodities was completed by the staff of the project support unit in May, 1983. Another inventory was completed by the Zamare project staff in March 1985. Copies of those inventories are on file in the USAID/Zambia office, and copies are being pouched to A/RIG/A/N. The inventory is presently in the process of being revised so that it more adequately meets AID's requirements; it will be reconciled with the accounting records by September 30, 1985. In the future when commodities are received, the Standard Receiving and Inspection Report, Form 127 will be completed for the record, and the commodities and/or equipment will be added to the project inventory.

M. Recommendation No. 6: We recommend that AID/Zambia:
(a) ensure that GRZ meet its agreed to support of project costs before the PACD and before considering Phase II of the project;

^{1/} Recommendation revised based on AID/Zambia comments. See page 18.

(b) address the recurrent cost issue as prescribed in AID's policy on recurrent costs.^{1/}

L. Discussion: AID/Zambia has already held discussions with the new Permanent Secretary of MAWD who is also concerned about the slow release of funds to cover re-current costs. The GRZ and MAWD have experienced difficulties in meeting cost sharing obligations because of the overall economic crisis, and in part because of restructuring measures agreed to with IMF, IBRD, AID and other donors. K2.0 million of PL 480 prior-year generated counterpart funds have been made available to MAWD to date, of which K1,554,519.91 have been spent. The funds were expended in support of the MAWD planning division and department of agriculture.

Recurrent cost concerns bedevil us they do most development programs here and elsewhere in Africa. In Zambia's case the economic situation is so bad that there is little leeway in addressing the problem. Our whole program, indeed the programs of the largest donors (IBRD, EEC, IMF), are meant to support restructuring efforts which, if successful, will see a dynamic situation emerge and by definition the recurrent costs problems diminish, in the meantime, there is no choice but to help keep those long term activities (like this project) going until times are better. The only alternative is to pack up and go home--not, in our view, a viable alternative. So in the meantime, as mentioned in the mission's response to draft audit recommendation No. 1, above, new procedures will result in more effective programing, disbursements, expenditure and accounting for counterpart funds generated under PL 480 and commodity import programs. As these new procedures are fully developed, and implemented, counterpart funds will be more readily available on a more timely basis in support of joint AID/GRZ project activities, including extension. We have just reprogrammed the existing counterpart fund portfolio which will see that research and extension activities receive a proportionate share of local currency presently available.

M. Recommendation No. 7: We recommend that AID/Zambia reconcile their records with the Regional Finance Management Center (RFMC) to ensure that the project's line item budget allocation is correct and all

^{1/} Recommendation and finding incorporated into finding No. 1. See page 6.

disbursements have been correctly recorded^{1/}.

N. Discussion: As mentioned in mission comments above, an accountant has recently been added to our staff. A ledger spread sheet is being prepared reflecting the project budget for each line item, each earmarking/obligating document and amount will be entered, and the remaining balance which will be routinely and regularly computed. This will be compared with the monthly computer printout received from RFMC, and any discrepancies will be brought to the attention of RFMC, and will be reconciled.

O. Recommendation No. 8: We recommend that AID/Zambia: (a) develop a procedure to comply with agency guidelines for participant follow-up; and (b) ensure that participants remain with the subject project as agreed to in the PROAG^{2/}.

P. Discussion: USAID is keenly aware of the need to fully develop a procedure to follow-up on returned participants from the Zamare project.

As a matter of procedure, we have already instituted the following measures:

1. The mission has in the past, and continues to request participants in both short and long-term programs to provide their own assessment of the training completed. This evaluation includes comments on the quality and relevance of the training, and the duration of the training. Feedback on the handling of their training from the logistical standpoint is also requested.

2. A number of returned participants continue to take part, as in the past, on a regular basis, in pre-departure orientations for new candidates. This keeps these returnees informed on the progress of the project; brings them in contact with other colleagues in similar or connected responsibilities; and provides them an opportunity to contribute to the success of the training component through their own experience. It is a valuable way to provide continuity and maintain contact with returnees.

^{1/} Deleted from final report. Refer to Page 21 "Compliance".

^{2/} Deleted from final report. Refer to Page 22, "Other Pertinent Matters."

3. Some returnees are assessed and nominated for further training if their sometimes new or increased responsibilities require some technical knowledge which was not received in the previous training and if in the absence of such training, project goals are compromised. This is especially true in those instances where participants received training at the BSC level, which normally offers limited opportunity for specialization.

4. A roster on returnees is maintained and updated regularly.

In order to further follow the policy guidance as it relates to returned participants as set forth in Handbook 10 and to satisfy the aim of the training component as stated in the PROAG, we intend to take the following steps:

- Analyze data collected on participants' evaluations and compile it in a manner that will be useful in determining deficiencies in training programs and problems in logistics for future planning.
- Develop and send out twice-yearly newsletters, informing returnees of progress of project and other USAID training activities; announce names and locations of returnees and those newly departing, training location and field of study, research activities of returnees, etc. We intend to get the first issue out in the fall of 1985.
- Do follow-up interviews of returnees on a regular basis: immediately upon return and again in six to twelve months. Interview questionnaires will be developed to gather information on success and impact of training. We will begin this process immediately.
- Continue work already begun on forming an alumni association for all participants. So far as an initial effort in preparation to bring this about, a list of all returned participants has been compiled. AID/Zambia will also solicit cooperation from USIS.
- Organize an awards ceremony for all returned participants to take place in February 1986. A formal ceremony with the Ambassador or mission director officiating, awarding of certificates and a reception will be planned.

Once the above measures are taken, and those already being done, continued, we will have a strong program for our returned participants.

So far, fourteen long term participants trained under the project have returned from training. All are currently filling the positions for which they received training. AID/Zambia is confident the GRZ will continue to honor the terms of the PROAG. Upon return, the Zamare COP has been holding a de-briefing session with each participant. Each participant believes that the training received will be beneficial to him in performance of his professional duties, and whether he would recommend that same training for someone else in the same professional field. The returning participant is also requested to fill out an evaluation form which is kept on file in the Zamare project office. Finally, it should be noted that the technical advisors on the Zamare team are in frequent professional contact with most of the returned participants."

List of Report Recommendations

	<u>Page</u>
<u>RECOMENDATION NO. 1</u>	6
We recommend that AID/Zambia:	
a. ensure that PL 480 funds earmarked for Agriculture Extension Service are disbursed in the project area.	
b. assist the Government through constructive dialogue and agreements to assume project costs before the project ends as prescribed in AID's policy on recurrent costs.	
<u>RECOMMENDATION NO. 2</u>	12
We recommend that AID/Zambia ensure that the Government take action to relocate the counterpart to the project site.	
<u>RECOMMENDATION NO. 3</u>	14
We recommend that AID/Zambia, in conjunction with the Government and the University of Illinois, quantify expected project outputs and establish benchmarks to measure project progress towards outputs.	
<u>RECOMMENDATION NO. 4</u>	18
We recommend that AID/Zambia in conjunction with Government and other concerned project personnel:	
a. sell those pieces of equipment considered inappropriate for project use in accordance with current regulations.	
b. establish a procurement plan for the remainder of the project to ensure maximum use of project commodities;	
c. establish a procedure to record equipment when it is received to include the taking of annual inventories.	

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