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INTEGRATED RURAL DEVELOPMENT PROGRAM

PROJECT NO. 532-0046

LOAN NO. 532-T-010

USAID/JAMAICA

AUDIT REPORT NO. 1-532-82-9

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The Integrated Rural Development Program will cost about \$26.2 million, \$15.0 million to be financed by AID and \$11.2 million by GOH counterpart funds. The broad goal of this five-year program is to improve the standard of living of small hillside farmers and to establish an agricultural model in two watersheds which would be replicated throughout the country.

The program design was very ambitious, complex, and fraught with flaws and erroneous assumptions. Several evaluation reports have reached this conclusion, but recommendations included in these studies have not been implemented. There is discernible progress in most activities and the program is reaching small farmers, but the program has many serious implementation, operational, and administrative problems which cannot be overcome. We believe the original goals cannot be achieved, and that the program should be redesigned. We include 21 recommendations in this report.

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INTEGRATED RURAL DEVELOPMENT PROGRAM
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EXECUTIVE SUMMARY

Introduction

The Integrated Rural Development Program (Project No. 532-0046, Grant No. 77-4 and Loan No. 532-T-010) is a five-year program involving a series of activities geared to implement and move forward a very complex integrated rural development project. The program is being implemented in two non-contiguous watersheds, Pindar River and Two Meetings both of which have near vertical hillside slopes. Program Implementation activities started on September 30, 1977, with the signing of grant agreement #77-4, and were subsequently supported with the signing of loan agreement #532-T-010 on February 28, 1978.

The overall goal of the program is to improve the standard of living of small hillside farmers in rural Jamaica. The subgoal is to establish an agricultural production model that can be replicated on small farms throughout Jamaica. The specific purposes are:

- to increase agricultural production on small hillside farms in the Pindars River and Two Meetings Watersheds;
- to control soil erosion in the watersheds; and
- to strengthen the capability of the human resources in the Ministry of Agriculture to carry out the program.

To achieve these objectives, the program budget called for \$26.2 million, of which AID shares \$15 million in grant (\$2 million) and loan (\$13 million) funds and the Government of Jamaica \$11.2 million as counterpart contribution. As of August 31, 1981, USAID/Jamaica had disbursed \$5.7 million of grant/loan funds, leaving an available grant/loan balance of \$9.3 million. Also, during the same period, the Ministry of Agriculture had expended \$5.6 of the \$11.2 million budgeted for the program.

Purpose and Scope

The purpose of our audit was to evaluate reported deficiencies in the concept, design, implementation, management, supervision and monitoring of the program and to determine how USAID/Jamaica and the Government of Jamaica have dealt with these reported shortcomings. In addition, the purpose of our review was to determine if the program is being carried out in an effective, efficient and economical manner.

Conclusions

The design of this project was very ambitious, unusually complex and fraught with flaws and erroneous assumptions. As a result, the program is having many implementation problems. Several evaluations have been made in

the past repeating the conclusion that there were serious problems with the project design and also making a series of recommendations, which, if implemented, might have resulted in some improvements of the program; however, neither USAID/Jamaica nor the Government of Jamaica have fully used these studies to their advantage. Similar conclusions were drawn from our review and our findings present very persuasive evidence that there were too many flaws and erroneous assumptions in the original program design which cannot be overcome in the program implementation phase. In addition, the program has serious implementation and administration problems. It is our opinion that the original goals cannot be achieved and that the program will require design and structure modification, including revised goals and objectives, to correct design weaknesses and to address the operational and administrative problems.

However, the above summary conclusion does not mean that the program has been a total failure. We did find some positive achievements. For instance, we found that the program was reaching the small farmers in the hillside areas of the Two Meetings and Pindars River watersheds in Jamaica. Progress was being made towards achieving planned goals and objectives in most components of the program. Some examples of accomplishments:

- Around 2,442 of 17,700 acres of hillside land had been treated for soil conservation;
- Approximately 1,769 of 5,500 acres of hillside land had been reforested;
- About 9.5 miles of the planned 22 miles of roadlinks were being constructed;
- Fifty-three farmer organizations (27 Jamaican Agricultural Societies and 26 Development Committees) were in place and servicing or working with the small farmers.

Although results were being achieved, we found that actual accomplishments had not kept pace with established schedules due to the design deficiencies, implementation complications, and administration problems. These problems are summarized below:

- The program has not achieved an acceptable level of progress due to design flaws and operation and administrative problems (page 7);
- The program goals and objectives were established based on weak assumptions and not supported with solid facts. Consequently, some goals and objectives cannot be achieved (page 7);
- The program cannot be cloned or replicated in other critical watersheds as originally contemplated for numerous reasons; but lessons and experiences learned will be most useful in extending the project in other critical areas requiring land treatment (page 12);

- The program called for the establishment of a soil conservation fund. The concept of this fund was based on an erroneous assumption, therefore, this was an impractical loan requirement and should be deleted (page 15);
- The program financed the construction of 9.5 miles of rural roads whose design exceeded project needs. This resulted in needless financial outlays of scarce project resources (page 17);
- The program has not clearly defined construction costs to be financed, thus resulting in the reimbursement of questionable and unreasonable costs (page 17);
- The program had not had a full-time project director since June 1981. The newly appointed project director has been assigned other management responsibilities at the Ministry of Agriculture, thus neglecting required management attention to the project (page 18);
- The program has not benefited from numerous evaluations and special studies. The USAID/Jamaica and the Government of Jamaica were lax in collating results, conclusions and recommendations included in such documents and preparing an action paper for discussion and decision. This resulted in duplicate efforts in evaluating program activities by other consultants (page 20);
- The program was affected by the unexpected termination of a technical assistance contract with Pacific Consultants, Inc. The abrupt termination of this contract disrupted project activities for about five months and the replacement contract will probably result in added projects costs (page 19);
- The program has not maintained effective control of project equipment costing \$1.4 million to ensure their full use in project activities (page 25);
- The GOJ has not provided adequate maintenance to project equipment because spare parts are not readily available in-country. In addition, maintenance records have not been kept and inventory control records for spare parts need improvement (page 26);
- The program financed the procurement of agricultural tractors and vehicles which exceeded the basic needs of the project. The use of this equipment resulted in needless added costs to the project (page 27);
- The program has been used to reimburse costs which included improper, questionable and unreasonable items totalling at least \$50,000. These costs should not have been paid by AID (page 28);
- The Ministry of Agriculture has not maintained a current and complete accounting system, thus total cost of the project was unknown (page 29);

- The program has not been effective in meeting the training demands of project personnel and participating farmers. The late arrival of the technical assistance team and the Government of Jamaica's restrictions on the selection of participants for training abroad were the overriding reasons for this shortcoming (page 30);
- The program was not effectively supervised by the Government of Jamaica to ensure sound technical and promotional services to participating farmers. The lax supervision resulted in questionable farmer performance in soil conservation treatments and farming practices (page 31);
- The program has not been monitored forcefully enough by USAID/Jamaica. Mission administrators procrastinated in resolving operational issues, thus hindering implementation activities (page 33).

Recommendation

We have made 21 recommendations addressing the problem areas which have been affecting program activities. These are included in the body of the report and in Appendix A. The findings and recommendations in this report were discussed with USAID/Jamaica officials and a draft report was submitted to the Mission for review and comments. These comments, both written and verbal, were considered in preparing the final version of this report.

REVIEW OF THE INTEGRATED RURAL DEVELOPMENT PROGRAM
PROJECT NO. 532-0046
LOAN NO. 532-T-010
USAID/JAMAICA

BACKGROUND AND SCOPE

Background

The Integrated Rural Development Program started with the signing of grant agreement #77-4 (Project No. 532-0046) on September 30, 1977. The grant agreement, as amended, provided \$2 million for technical assistance and training. A companion loan agreement, No. 532-T-010 for \$13 million, was signed on February 28, 1978, to assist in the implementation of the program. Also, the Government of Jamaica (GOJ) agreed to provide \$11.2 million as its contribution to the program. Thus, the total cost of the program was estimated to be \$26.2 million.

The overall goal of the program was to improve the standard of living for small farmers residing in rural hillside areas of Jamaica. The subgoal was to establish an agricultural production model that could be replicated on small farms throughout Jamaica. The model was to be based on continuous, multiple-cropping techniques suitable for land that had been terraced and treated with appropriate soil conservation measures. The specific purposes were (a) to increase agricultural production on small hillside farms in the two watershed areas of Pindars River and Two Meetings in Middlesex County; (b) to control soil erosion in these watersheds, thereby establishing an agricultural base for the future and increasing the supply of water for both household and agricultural purposes; and (c) to strengthen the capability of the human resources in the Ministry of Agriculture. Therefore, the Integrated Rural Development Program, best known by its acronym, IRDP, was a multi-faceted activity that encompassed several components, such as:

- soil conservation and erosion control;
- demonstration and training centers;
- farmer's organizations and services;
- agricultural credit and extension services;
- evaluation and replication;
- rural infrastructure (roads, housing, electricity, and potable water);
- agricultural commodities and transportation equipment, (tractors, maintenance equipment, motorbikes, and supplies);
- technical assistance and training; and
- salaries of Ministry of Agriculture personnel and other project operating expenses.

The program resources and efforts then, were to be directed towards strengthening the institutional capability of the Ministry of Agriculture to implement the integrated rural development project so as to provide a strong base for future replication of the project. This would result in an increase to agricultural production on small farms in the Pindars River and Two Meetings watershed areas, and to control soil erosion in these areas. The target population, or ultimate beneficiary of the program, in these watershed areas was primarily the small farmer with an average farm size, according to the loan paper, of about three acres. According to USAID/Jamaica, the average farm size is now determined to be 1.8 acres.

As of August 31, 1981, a total of \$15 million had been obligated and \$6.9 million had been expended in program activities:

<u>Grant/Loan</u> <u>Component Activity</u>	<u>Grant/Loan Funds (000 omitted)</u>		
	<u>Obligated</u>	<u>Expended</u>	<u>Balance</u>
<u>Grant #77-4</u>			
Technical Assistance	\$1,888	\$1,593	\$295
Training	112	107	5
Commodities	-0-	1	(1)
Total	<u>\$2,000</u>	<u>\$1,701</u>	<u>\$299</u>
	=====	=====	=====
<u>Loan No. 532-T-010</u>			
Erosion Control	\$10,009	\$4,387	\$5,622
Training	1,324	527	797
Farmer's Organizations and Services	767	268	499
Technical Assistance	568	-0-	568
Evaluation and Replication	320	-0-	320
Contingency	12	-0-	12
Total	<u>\$13,000</u>	<u>\$5,182</u>	<u>\$7,818</u>
Grand Total	<u>\$15,000</u>	<u>\$6,883</u>	<u>\$8,117</u>
	=====	=====	=====

See Exhibit A for further funding details.

The contribution by the Government of Jamaica for program activities as of August 31, 1981, reportedly, totalled \$5.6 million of the \$11.2 million committed for project purposes. Financial reports indicated that the Government's contribution was used to cover portions of such items as direct project costs, administrative and operating expenses, logistic support, and office space. Progress reports prepared by the Ministry of Agriculture indicated that the GOJ was fulfilling its contribution commitments. However, the exact amount contributed was unknown for reasons discussed in the subsequent sections of this report.

Scope of Audit

This is the first audit of this program. This review was requested by USAID/Jamaica to the Latin America and Caribbean Office of Development Resources (LAC/DR), AID/Washington, who asked for an Evaluation Team and

members of the Inspector General's Office to conduct an independent but coordinated evaluation of the Integrated Rural Development Program. The main reason for this request was because the project was facing serious problems coupled with design weaknesses. Consequently, we directed our efforts towards reviewing reported implementation problems and design weaknesses that were hindering progress of the project. We focused our attention on reported deficiencies in the concept, design, implementation, management, supervision and monitoring of the program in order to determine how the USAID/Jamaica and the GOJ have dealt with these deficiencies. In addition, the purpose of our review was to determine if the program is being carried out in an effective, efficient and economical manner.

The audit covered the period from inception of the program, September 30, 1977, to August 31, 1981. The review was made in accordance with generally accepted auditing standards and used the agreements as the terms of reference. We reviewed files and records maintained by the Latin America and Caribbean Office of Development Resources (LAC/DR), AID/Washington, USAID/Jamaica and the GOJ implementing agencies. We test checked costs claimed on reimbursement requests prepared by the GOJ Ministry of Agriculture and we discussed project progress, implementation problems and design weaknesses with officials of the above organizations.

We visited the project headquarters in Christiana, Jamaica, the project field office in Kellits, Jamaica, and several sub-offices to review project records, inspect project equipment, and discuss program activities with field managers, senior soil conservation officers, extension agents, field officers and field assistants. We also visited three demonstration centers to see how well soil conservation techniques and practices were being applied and to observe new farming patterns and new crop development. Additionally, we visited 18 small farms selected at random to see how well the program was reaching the intended recipients and to see how well these individuals were supporting the program in establishing land treatments, maintaining farm improvements and applying new techniques and practices in soil conservation and farming activities.

During the audit, our observations were discussed with members of the Evaluation Team and other members of the IG office. After the completion of our fieldwork, the conclusions were discussed at an exit conference with USAID/Jamaica officials and we also briefed officials of the Latin America and Caribbean Bureau. A cable containing the most significant audit findings and a draft audit report were submitted for review and comment by USAID/Jamaica. All Mission comments were considered in finalizing this report.

AUDIT FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

An Overall Assessment of Program Goals and Accomplishments

Implementation of the Integrated Rural Development Program started early in calendar year 1978 with a core staff of about 50 employees working mainly on three operational areas, i.e., agronomy, soil conservation and extension services. The actual field activities started in May 1979 and project staffing has grown. As of August 31, 1981, the project staff had increased to over 270 employees working on 11 revised program components: soil conservation, forestation, engineering works, training, farmer organizations and services, agricultural production credit, commodities, ministry operating expenses, rural infrastructure, evaluation and replication, and technical assistance.

As of August 31, 1981, we found that the program was reaching the small farmers in the hillside areas of the Two Meetings and Pindars River watersheds as shown in Exhibit B of this report. Progress, as reported by the Ministry, was being made towards achieving planned goals and objectives in all components.

- Around 2,442 of 17,700 acres of hillside land had been treated for soil conservation by constructing terraces, ditches, basins, waterways, and check dams and planting pastureland;
- Approximately 1,769 of 5,500 acres of hillside land had been reforested by planting caribbean pine trees;
- About 9.5 miles of the planned 22 miles of roadlinks were being constructed. Also, 3.3 miles of the planned 365 miles of waterways and 142 check dams had been completed and 8 of 20 springs had been developed;
- Around 20 of 56 participants had been trained overseas. Over 5,000 man-day of in-service training had also been provided. Additionally 372 farmers received some agricultural training. The latter was achieved through short training courses, seminars, field days at demonstration centers/subcenters and observation of techniques applied by successful farmers and contacts with project officers;
- Fifty-three farmer organizations (27 Jamaican Agricultural Societies and 26 Development Committees) were in place and servicing or working with the small farmers;
- Agriculture production loans, valued at \$574,200 have been approved out of the \$1.3 million programmed for this activity;
- Around \$2 million of the \$2.3 million planned for commodity procurements had been used to purchase a mobile maintenance unit, 7 tractors, 29 vehicles, 40 motorbikes, radio equipment, hand tool sets, and other minor agricultural items;

- Around \$5.6 of the \$11.2 million planned for the Government's counterpart contribution to the program, reportedly, had been expended;
- Rural infrastructure activities were being directed to the construction and improvement of housing units (67 of 235); to assist in the entombing of 8 springs for domestic water supply (8 of 20 subsequently planned); and to the construction and installation of electricity power lines (64 of 95 miles);
- Many evaluations and studies had been conducted on program activities and resulted in numerous recommendations addressing implementation problems and program design flaws; and
- About 13 person-years (of 30 programmed) technical assistance had been provided in such areas as: soil conservation, agricultural extension, horticulture, marketing/agro-industry, agricultural credit, and home economics.

Notwithstanding the progress that has been made in achieving program goals and objectives, we found that actual accomplishments were behind the established schedules due to design weaknesses, implementation complications, and administrative problems. We concluded that the program will require design and structure modifications to correct the weaknesses and address the problems noted. Revised goals and objectives must be established.

Our conclusion was drawn independently. However, it generally follows the overall position taken by the other Evaluation Team who were in Jamaica at the same time. Their Evaluation Report, issued on October 10, 1981, in part stated the following:

"The project should be continued, modified, and as such, made suitable for extension in other critical watersheds of Jamaica. We could dwell long on project design weaknesses and implementation problems. We prefer to take the opposite tack and dwell on needed changes in both design and operations to bring about the originally stated basic goals of improving farm production, farmer income and soil conservation. This is possible because most of the necessary elements are in place and with adjustment and support can do the job."

Our findings on implementation and administration problems, which are discussed and developed in the subsequent sections of this report, are:

- Loan disbursements have not kept pace with elapsed time because of implementation delays due to design weaknesses and operational problems;
- The project design was a problem and needs to be modified;
- The project replicability is impractical in its present form, but benefits can be derived from past experiences and a modified version of the project could be extended to other watersheds;

- The establishment and operation of the soil conservation fund proved to be impractical. The requirement for the fund which was included in the loan agreement should be eliminated;
- The type of rural roads constructed were too costly (overly designed) and seemed to exceed the needs of the project;
- The project director was not in place on a full-time basis as required by the loan agreement;
- The premature departure of the technical assistance team delayed, to a certain degree, the implementation of the program;
- The project's heavy equipment, vehicles and supplies were not adequately controlled to ensure that they were properly used for project purposes;
- Reimbursement requests have not been properly reviewed, resulting in duplicate payroll payments and some unreasonable cost charges; and
- The accounting system was not current and did not properly account for project cost.

We have made 21 recommendations addressing problem areas affecting implementation of the program.

Technical Part of Program

Implementation Delays

From the beginning, the Integrated Rural Development Program has been plagued with multiple implementation problems which have prevented it from gaining momentum. Provision of technical assistance services was not timely because of the difficulties in negotiating the contract. The procurement of tractors, vehicles, motorbikes, tools, and other materials and supplies was delayed reportedly for a variety of reasons. The recruitment and assignment of qualified administrative and technical personnel was a difficult task. These shortcomings, coupled with design flaws and recent events, such as, the abrupt termination of the technical assistance contract and the dismissal of the project director, have significantly impeded the progress of the program.

This is a 5-year program which was initiated with the signing of grant agreement #77-4 on September 30, 1977. As amended, the grant agreement provided \$2 million for short and long-term technical assistance and training. This agreement was the initial contribution for the \$26.2 million Integrated Rural Development Program and was followed by a companion AID loan (532-T-010 dated February 28, 1978) of \$13 million and a GOJ contribution of \$11.2 million. However, actual field activities did not start until May 1979, some 19 months after the grant was signed and almost 14 months after the loan was executed. Because of the problems discussed in this report, the project has not reached an acceptable level of progress.

While most of the grant funds had been expended, loan disbursements were far behind schedule when compared to the elapsed time. As of August 31, 1981, loan disbursements totalled \$5.2 million, or 40 percent of the \$13 million made available, while more than 3-1/2 years, or 72 percent of the planned 5-year program had elapsed.

Like other evaluators, experts, and consultants, we believe that implementation of this program is not an easy task. This is a very complex, multi-faceted program which created very complicated challenges and which requires a coordinated and concerted effort to achieve an acceptable level of progress. The program, with its multiple components, was being carried out in the countryside of Jamaica. It was serving small farmers living on the hillsides of two non-contiguous watersheds, i.e., Two Meetings in the area surrounding Christiana and Pindars River on the outskirts of Kellits. Management activities were being carried out from the project headquarters office in Christiana while supervision and implementation tasks were being performed from field offices in Christiana and Kellits and from twenty field sub-offices in the two watershed areas (Two Meetings is divided into eight sub-watersheds and Pindars River into twelve).

As discussed in subsequent sections of this report, many factors contributed to the slower implementation of the program than was anticipated. We have made recommendations to address the causes that were hindering program progress and operations. These recommendations, when reviewed collectively and implemented, should result in more rapid and effective implementation of the IRDP.

Project Design

The Integrated Rural Development Program cannot achieve its stated goals and objectives as originally contemplated because of design flaws and multiple implementation problems. We found that some goals and objectives of the program design were based on weak assumptions and not supported with solid facts. As a result, some of the goals and objectives were too ambitious and very difficult to achieve.

The overall goal of the program was to improve the standard of living of small farmers in rural Jamaica. The subgoal was to establish an agricultural production model that could be replicated on small farms throughout Jamaica. The specific purposes were (a) to increase agricultural production on small farms in the Pindars River and Two Meetings watersheds; (b) to control soil erosion in the watersheds, thereby establishing an agricultural base for the future and increasing their supply of water for both household and agricultural purposes; and (c) to strengthen the capability of the human resources in the Ministry of Agriculture.

As noted previously, progress had been made toward achieving these goals and objectives. However, design weaknesses have precluded the program from attaining the anticipated level of performance. Some examples of the design flaws are:

- The project was aimed at developing an agricultural production model that could be replicated on small hillside farms in Jamaica's other

watershed areas. This goal cannot be achieved in the exact manner as it was originally contemplated because of implementation complexities and the high cost of replicating the project in its present form in other watershed areas. The "closing" of the project, which replication implies, would require large sums of external and internal financial resources which are not available. However, the lessons learned on the project would be most useful in planning, designing and implementing projects in other watershed areas. Our conclusion was drawn independently, but it is generally in line with the overall position taken in a recent evaluation. The evaluation report of October 10, 1981, concluded that the project could not be replicated as an Integrated Rural Development Program clone, but could be implemented as organic self-help growth units spreading from one sub-watershed to another via the formation of development committees within the Jamaica Agricultural Society.

- The project was aimed at enlisting 100 percent participation of an estimated 4,000 small farmers living in the project area. This was an unattainable objective because of land tenure and land titling problems. Some farmers were not willing to improve and develop farms which did not belong to them. Others could not participate in the program, although willing, as they could not obtain permission from absentee landlords. Absentee landlords have been a serious problem affecting small farmers in Jamaica for years. On the other hand, there were farmers who were willing to support the project; they owned the land but had no land title and, therefore, could not participate since production loans had to be secured by land mortgages. Land-titling has always been an expensive proposition for small farmers, costing from \$50 to \$100 per title. On land tenure, the Evaluation Report of October 10, 1981, stated that: "The land-holding patterns reveal numerous parcels and tracts of unutilized land apparently being held for speculation/investment purposes by absentee land-holders in Jamaica or far-off New York, Miami or London. This has been reported to be a major constraint on implementation of coherent land drainage systems and waterways from cooperating farms to and through neglected lands. It has also been a major constraint on afforestation on steep hillsides. Sufficient legal authority does exist in the Land Authority Law of 1951 and the Watershed Protection Act of 1953 to require proper use of lands in the public interest". Therefore, the mechanism already exists to address the longstanding land tenure issue. However, USAID/Jamaica informed us that existing legal mechanism to deal with the land tenure problems is adequate to resolve problems related to maintenance, production, and self-help which must be resolved. The Mission further indicated that the land tenure, titling, and farm size problems are more complicated than a mere problem of absentee ownership.
- It was expected that the project would carry out erosion control activities on 23,200 acres during a 5-year period in the two watershed areas. This was to include treatment of 17,700 acres of farm and pasture lands by constructing terraces, ditches, and waterways and the reforestation of 5,500 acres. This is no longer a realistic

objective with the resources available and the time frame established. Reportedly, a revised goal of 8,486 acres for soil conservation treatment had been established. Although the Ministry's Progress Report of August 31, 1981 indicated that 11,364 acres had been approved for soil erosion activities, only 4,313 acres had received soil conservation treatments, including reforestation, during the first 3-1/2 years of implementation. Based on original estimates, this leaves 18,887 acres to be treated or reforested during the remaining 1-1/2 years of the project. Accomplishment of this objective within that time frame is unlikely. The evaluation report of October 10, 1981, stated that the high cost of land treatment was a serious problem and the magnitudes of the treatment were unrealistic:

"Soil conservation land treatments were conceived as the central activity in the Project Paper. 17,700 acres (all cultivated land) were to be treated. Of this, 4,600 acres were to be bench terraced (and of this 87% was to be machine terraced) with most of the remainder to be hillside ditched. As the project got underway, it became apparent that these magnitudes of treatment were unrealistic for several reasons: (a) Bench terraces were costing three times as much as the Project Paper had estimated. For example, hand built bench terraces are costing J\$3,880 (US\$2,181) as compared to J\$1,249 (US\$702) estimated in the project paper (b) More costly hand construction of bench terraces had to be used in most cases because of the slope of the land, the size of areas terraced, and inaccessibility by machine (c) A number of farmers were not willing to participate, whereas the Project Paper assumed 100% participation (d) A much greater amount of staff time was required for each farm than had been anticipated in the Project Paper." (US dollar figures were added to the quote.)

The design problem of the Integrated Rural Development Program has been the subject of discussions of various consultants, experts, technicians, project managers, and others. Evaluations conducted and conclusions drawn are discussed below.

The first project evaluation report dated January 10, 1980, prepared by an AID/Washington team discussed several flaws in the program design. For instance, the report indicated:

- That the current estimate of the amount of land requiring treatment was much less than originally contemplated (10,600 acres for both forestry development and land treatment versus 23,200 acres originally estimated);
- That the expectation of using machine-intensive practices and having machines and crews work 12-hour days, six days a week to speed up soil treatment and to lower costs proved to be unfounded because much of the land treatment was done by hand labor and the work schedule was unacceptable to work crews. Regarding this issue, the report stated that "The cost of land treatments and reforestation has increased over estimates in the Project Paper with the costs of

machine built terraces increasing more than hand built terraces. This is partially due to the fact that farmers are choosing to establish terraces by hand. Taking the construction contract themselves, they have been able, it is reported, to cover the required 25 percent contribution through a combination of their own labour and negotiation of lower payments for the labour contracted. The farmer, in effect is earning a contractor's fee for managing the construction of terraces on his property."

- That the established inflation factor of 2.9 percent over the life of the project was totally unrealistic thus affecting project resources. This was especially true with technical assistance costs which were seriously under-estimated.

A management study conducted during July 1981 by the Data Bank and Evaluation Division, Ministry of Agriculture, questioned the capacity of the project to reach some objectives within the current time frame and the validity of the data of the project paper.

" . . . the project plans to prepare farm plans for every farmer in the project, now estimated at 4,525. A total of 3,176 farm plans have already been approved of which 362 had completed the soil conservation treatments as of June 30, 1981. This leaves 2,814 plans which have been approved but for which soil conservation has not been completed. Out of this number, soil conservation treatments have been started on 1,718 leaving 1,096 approved plans for which work has not yet started.

"Assuming that the 1,718 plans under implementation can be completed this year, the project will still have a minimum of 2,545 plans to complete during the last eleven months of the project.

"This would simply result in soil conservation treatment being made for over half the farmers with little or no time left for improved crop production. These figures are based on a total farmer population of 4,525 which could easily change if an accurate count were made.

"The other problem which these figures pose, relates to how many acres will be treated under the project. The original estimate of 17,700 to be given soil conservation treatment was reduced to 8,486. This reduction was based in part on the number of absentee owners and other non-participants and partly on the cost factors. This acre figure was not translated into the number of farmers to be involved, although it suggests that a reduction of acres by over half would result in a reduction of farmers by a comparable percentage. In spite of this, the project is going ahead, preparing farm plans for all farmers.

"The sample of 400 contracts and farm plans used in this study shows that the average size of farm is 3.7 acres of which 3.0 are given soil conservation treatment. Using the 3 acre figure, the estimated

number of acres covered by farm plans being implemented is $2,080 \times 3 = 6,240$. To this must be added 3,288 acres for the 1,096 farm plans approved, but not yet being implemented. Farm plans to be submitted in 1981-82 would cover 3,942 acres and the balance 135 plans for 1982-83 would be 405 acres. The total acreage to be treated would thus come to 13,635, which is 5,149 over the current 8,486 target.

"It is fully realized that mapping the sub-watersheds and collecting this information is a large, time consuming job. It is recommended as an essential step because it is the only way to know in detail what is happening and what is left to be done on the project. It became apparent during the study that the number of farmers in the project is unknown. The project paper states that there are 4,000 farmers in the area. At the same time, this document states that some 24,000 acres are involved excluding land for non-agricultural purposes. If this is the case, and the average size of farm is 2.9 as stated in the project paper, then there should be 8,000 farmers. If only the 17,000 acres for soil conservation are considered then there should be around 6,000 farmers. The baseline study counted only 3,590 farmers as stated above, the project's incomplete count shows 4,525 farmers.

"This situation is sufficiently confusing that the time and effort required to clarify how many farmers and acres will be involved are clearly demanded. Without this, the project could well end up with many farm plans started with insufficient time or money to complete them. Once these steps are taken, new targets for soil conservation need to be established which specify both the number of acres and the number of farmers to be included. If all farmers are not to be included, the criteria for inclusion and exclusion need to be stated."

An engineering review of the rural roads component also suggested some design problems:

- The construction standards described in the project paper were based on the Government of Jamaica's standards for secondary road construction, i.e., a 12 foot roadway with 4 foot wide shoulders and 1 inch bituminous surface treatment. These standards, which resulted in frill road designs and expensive construction, were not in response to the real needs of the project. A more modest rural access road would have served the project better;
- The project paper envisioned the construction or reconstruction of 22 miles of roads to meet the needs of the project. However, it was subsequently established that an additional 7.2 miles of road would be needed to meet project demand; and
- The project paper did not allocate funds for the upgrading about 5 miles of access roads between existing roads and new roads. These roadlinks were in poor condition. Some sections were almost impassable;

A recent evaluation dated October 10, 1981, conducted by two U.S. consultants under an AID contract also discussed design weaknesses. In dealing with the future of the project, the consultants concluded, among other things, that:

"The project should be continued, modified, and as such, made suitable for extension in other critical watersheds of Jamaica. We could dwell long on project design weaknesses and implementation problems. We prefer to take the opposite tack and dwell on needed changes in both design and operations to bring about the originally stated basic goals of improving farm production, farmer income and soil conservation."

All evaluations and reviews suggest that replicability of the project in its present form is impractical due to its high cost; the land treatment of 17,700 acres of hillside farms is an unattainable objective for many reasons; and the number of small farmers to be reached is uncertain due to project funding limitations. In view of the fact that the consensus of opinion among evaluators support our independent assessments, we believe the project should be redesigned and restructured in a more realistic and modest manner so that needed assistance can be continued.

In responding to our draft audit report, USAID/Jamaica indicated that the Mission does not agree that the PACD should be extended but the issue will be discussed further with the Government of Jamaica. The position of USAID/Jamaica was based on the belief that major constraints in area of production technology, marketing, soil conservation technology, subsidy/incentive systems, and land tenure, titling, and farm size cannot be overcome or alleviated to permit significant progress toward the project purpose or sub-goal within any reasonable time period.

We believe, however, that the Mission should establish realistic goals and objectives to be achieved within the remaining life of the project. A reprogramming of available funds should be made to accomplish these revised goals and objectives. Funding exceeding revised project requirements should be deobligated.

Recommendation No. 1

USAID/Jamaica, in consultation with the Government of Jamaica, should (a) establish realistic goals and objectives to be achieved within the remaining life of the project; (b) reprogram available financial resource in line with these revised goals and objectives; and (c) deobligate any funding exceeding revised project funding requirements.

Program Replicability

The project cannot be replicated in other watersheds in Jamaica in the form and scope envisioned in the project paper and underlying loan agreement for various reasons. For example, the project is too costly and its implementation is too complex to be replicated in its present form. Many

consultants and experts concluded that design weaknesses were the overriding reasons for lack of replicability. However, lessons and experiences learned can be applied in other critical watersheds requiring soil conservation measures.

In addressing this issue, the evaluation report of October 10, 1981, concluded:

"Replicate the activity not as an IRDP clone, but as an organic self-help growth spreading from sub-watershed to sub-watershed via formation of Development Committees within the JAS."

"Replicability (not to be confused with the cloning of IRDP as an agency, but the replicability of extending a system of land treatments and farming practices that will assist the small hillside farmers throughout Jamaica to achieve a significant improvement in the quality of their lives) is possible and necessary. More and better food, more income, greater access to market and conserving soil -- these are all essential to Jamaica's welfare at costs which it can bear. It is our conclusion that only through the mechanism of assisting the farmers in the creation and development of their own small organizations can this program be spread in a cost effective manner. It cannot be spread in a wholesale manner."

The subgoal of the project was to establish an agricultural production model that could be replicated on small hillside farms throughout Jamaica. The model was to be based on continuous, multiple cropping techniques suitable for land that had been terraced with appropriate soil conservation measures. This goal was unrealistic because of design weaknesses resulting from unreliable data and weak assumptions, such as:

- Financial costs were underestimated. Thus, the project cannot cover the land area planned and cannot reach the number of farmers contemplated.
- Land treatment measures could not be designed and implemented on a continuous, integrated, and micro-watershed basis. It was recognized in the project design that full participation by all farmers was a major prerequisite for successful soil conservation. However, full participation by all farmers could not be obtained because, in addition to the financial cost factors, widespread absentee land-ownership, lack of interest on the part of a significant number of farmers, and unwillingness of some farmers to accept necessary cropping changes (e.g., elimination of sugar cane).
- Subsidy cost arrangements of the program were having a negative effect on replicability of the project. The evaluation report of October 10, 1981, in discussing replicability stated, ". . . there is little possibility that any government could carry on the present IRDP subsidy cost arrangements throughout all its critical and sub-critical watersheds."

In sum, the project paper underestimated financial costs, ignored the constraints that required 100 percent participation by farmers, oversimplified long standing land tenure (wide spread absentee land ownership) as well as the land area to be serviced and the number of farmers to be reached.

Thus, replicability as originally envisioned was unrealistic from the start of the project. However, we believe that based on the lessons learned, the project can be extended to other critical watersheds on a more realistic and modified version, as the needs for soil conservation measures in other critical watersheds are studied and established. In fact, our conclusion, which was reached independently, is supported by the evaluation report of October 10, 1981, which concluded that:

"This demonstration or pilot project is providing valuable lessons on how to go about the task of helping to uplift the hillside farmers while preserving his (and Jamaica's) land resources. It is easy now, after several years experience to point out weaknesses in project design. This is precisely why 'demonstration' projects are carried out. We should learn how things can be done, how they might be done better but differently, and how they should not be done at all.

"One semantic weakness of the design was in the use of the word 'replicability', implying the potential for 'cloning' IRDPs throughout the rest of the country, each organization, management and technical staff and so on, just like the other. Not at all, 'replication' in the development business might better be served by the word 'adaptability', carrying forward the intent that what works well in the demonstration on watershed areas will be adopted, adapted and applied in other watersheds as individual needs suggest and as available resources of personnel, funds and local farmers dictate.

"Jamaica cannot afford to let its hillside wash or blow into the sea. Limited resources of finance, skilled manpower, and time, are available to the country. Unskilled manpower on the land is available, the farmer. Early work, 1953 and on, has identified and classified the watersheds in terms of the criticality of soil loss.

"The Second IRDP is an excellent on-farm, operational test-bed to find and demonstrate improved and new cropping practices and effective soil conserving techniques. Experience in the Two Meetings and Pindars River watersheds with mobilizing and involving farmers through the Development Committees points the way to a possible, practical and fundable means for dealing with the soil erosion and hillside farm production problems."

We believe, therefore, that USAID/Jamaica and the Government of Jamaica should benefit from the experience and lessons learned by planning, designing and implementing projects in other critical watersheds in Jamaica, as a modified version of this program.

Recommendation No. 2

USAID/Jamaica, in conjunction with the Government of Jamaica, when establishing new program goals and objectives, should modify in a more realistic manner the replicability or "adaptability" feature so that farmers from other watersheds can be reached with similar programs.

Soil Conservation Fund

The loan agreement required the establishment of a soil conservation fund as a condition precedent. The fund had not been put into operation. However, the required 25 percent farmers' contributions to the fund were being made in kind with no actual monies being generated for deposit into the fund. Therefore, the loan requirement for the creation and operation of a soil conservation fund was impractical from the start.

Section 5.2(a) of the loan agreement, required the establishment of this fund. The monies deposited into the fund were to be earmarked for carrying out soil conservation activities on small private farms outside the project areas. The fund was to be initially capitalized by requiring farmers participating in the project to pay into the fund an amount equal to 25 percent of the cost of soil conservation activities undertaken on their land, exclusive of the cost of waterway construction. However, participating farmers have made in kind payment (namely labor), and, consequently, no monies flowed into the fund. Thus, the fund as operated served no purpose.

The AID/Washington project evaluation report of January 10, 1980, questioned the rationale, and we agree, for establishing the fund and recommended the loan provision be amended as cash payments were not being made and in kind contributions were the common payment arrangements. The evaluation report conclusion and recommendation follows:

"The Loan Agreement requires a Soil Conservation Fund to be established and capitalized by the 25 percent contribution coming from participating farmers. (Section 5.2(a)). These funds are to be used for soil conservation activities in watersheds other than Two Meetings and Pindars, presumably when the lessons learned from the IRDP are ready for replication. It is not clear that these required deposits are being made. Moreover, it is not clear that it is in the best interest of the Project or Jamaica to make such deposits.

"Where farmers elect to take a loan for their 25 percent share, repayments could naturally flow to the Fund. They would be flowing in about the same time that work in other watersheds began.

"This is what appears to have been intended. However, the more common case is where a farmer elects to contribute his 25 percent by his own labour and takes a construction contract, covering his share by discounting the contract 25 percent. The share exists only as a bookkeeping entry. Strict interpretation of the Loan Agreement would require that the 25 percent be deducted from Project funds at the time of the transaction and deposited in the Fund. Such monies would sit idle until a companion project were mounted in another

watershed. These funds are better used now rather than waiting for another opportunity.

"Recommendation. The Loan Agreement should be amended to stipulate that the Soil Conservation Fund should be capitalized only with repayments of loans made to cover the twenty-five per cent share. When a farmer covers his required share in the labor contributions, no capitalization of the Fund is expected."

At the time of our audit field work in September 1981, the loan agreement had not been amended to implement the evaluation's recommendation.

Our field visit to farmers participating in project confirmed that the farmers were meeting their share with inkind contributions. However, this was not to suggest that only inkind contributions have been made but to indicate that the most common payment arrangement used by the farmers was inkind contributions. We believe the loan agreement should be amended when redesigning and restructuring the program to eliminate the requirement for the Soil Conservation Fund and any funds raised as farmer's contribution should be accounted for and used for project purposes.

Recommendation No. 3

USAID/Jamaica, in conjunction with the Government of Jamaica, should delete the soil conservation fund as a loan agreement requirement as the fund is not operational and any funds generated and capitalized should be accounted for and used for project purposes.

Rural Road Design and Construction Standards

The engineering design and construction standards used for the construction of rural roads exceed basic requirement and thus resulted in needless financial outlays of program resources. As of August 31, 1981, project reports showed that \$924,087 had been expended in the construction of 9.5 miles of roads. The construction of these roads was not complete at the time of our field work, but thus far, an average of more than \$97,000 per mile had been incurred.

The project paper provided that AID's contribution for road construction would be limited to \$40,284 per mile, subject to adjustments for inflation. The planned cost-sharing ratio was 75 percent for AID and 25 percent for the Government of Jamaica and reimbursement was to be made by the fixed amount reimbursement (FAR) method. For unknown reasons, the FAR method never materialized as construction was done by force account by the Ministry of Construction on a cost reimbursement basis.

The construction design requirement established in the project paper was based on the Government of Jamaica secondary road standards which called for 12 foot wide roadway with 4 foot wide shoulders and 1 inch bituminous surface treatment. This design requirement, which was implemented, exceeded basic requirements of the project and thus resulting in added and needless costs. In addition, original engineering analysis and underlying cost figures were

underestimated. These design flaws have prevented the project from reaching originally established construction objective of 22 miles of roads. Subsequently, project needs were increased to 29.2 miles of roads.

In December 1980, an AID engineer reviewed the rural roads component of the project. This engineer concluded the roads were overly designed for the project needs as gravel surface or soil stabilization rather than asphalt surface would have served the project better. The engineer's conclusion and recommendation were:

"Since the ADT (Average Daily Traffic) on the project road links in the near future will not be high (maybe not even medium), I recommended that these links "NOT" be built to standards described in the PP. An average total width of 16 ft. vs. the presently proposed total width of 20 ft. would be adequate - a 25 percent reduction in width and a proportional reduction in cost.

"At the same time, I suggest that the MOA and the MOC jointly review the need for asphaltting the total length of the project roads links. While good engineering practice would prescribe DBST or SBST (double of single bituminous surface treatment) for steep road sections with delicate soil or drainage conditions, the average section could be built without asphalt surface (e.g. gravel surface or soil stabilization.)"

At the time of our field audit work in September 1981, we saw no evidence that engineering designs and construction standards had been lowered to reflect the needs of the project. In fact, during our field visit to the project site we learned that construction work on the Alston-Santa's Hill road link, (including a ford over Bullocks river) was suspended early in calendar year 1981, by the Ministry of Construction. The work was suspended, reportedly, because of financial problems as construction work was too costly. This work stoppage further suggests that some modification of the road design and construction standards were in order so that less expensive roads meeting basic requirements of the project are constructed in the project area.

Recommendation No. 4

USAID/Jamaica, in conjunction with the Government of Jamaica, should fully analyze the road construction aspect while restructuring the program so that roads constructed are more in line with the basic needs of the project.

Rural Road Construction Costs

Road construction costs to be reimbursed under the loans had not been clearly defined. As a result, questionable and unreasonable costs were being reimbursed by USAID/Jamaica (see Reimbursement Requests section of this report for further details).

In reviewing reimbursements requests, we noted that questionable and unreasonable costs were being claimed by the GOJ and reimbursed by AID.

Some examples of these costs were damages to crops during road construction, excessive fuel costs (\$6.18 vs. \$2.50 going rate), subsistence allowances paid to personnel working in the project, and mileage compensation. Since construction work was done by force account by the Ministry of Construction, costs to be financed under the loan should be clearly defined to minimize the possibility of questionable or unreasonable costs being reimbursed. We believe most of these costs should have been absorbed by the Government of Jamaica as they were not valid project costs in our opinion.

Recommendation No. 5

USAID/Jamaica, in conjunction with the Government of Jamaica, should clearly define rural roads construction costs that will be reimbursed from AID funds.

Project Director

A full-time project director had not been in place since June 1981, when the former project director was replaced. The newly appointed project director had been working on a part-time basis as he had other management responsibilities at the Ministry of Agriculture, and could not devote all his time and efforts to project activities. The new project director was operating out of Kingston, Jamaica. He commuted once or twice per week and spent 2 to 4 days per week at Christiana and returned to Kingston.

Section 5.1(c) of the loan agreement required, as a condition precedent to disbursement, the appointment of a full-time project director. This requirement was satisfied until June 1981, when the then project director was replaced. A new project director was designated in July 1981. However, the newly appointed director was not working full-time on the project and was not residing at the project site. Project records indicate that the new director was performing other duties, such as, Deputy Director of the Forestry and Soil Conservation Division of the Ministry of Agriculture, and Executive Officer of the Falmouth Land Authority. Ministry officials advised us that a full-time project director would be appointed but they could not guarantee that such a person would reside in the project area because moving to the project area was the person's own decision and prerogative.

The need for a resident full-time project director (at the project site) is evident when the complexities of this program are considered. In addition, the multiple implementation problems experienced thus far clearly suggest that the position should be filled as required. We believe that the presence of a full-time project director at the project site is necessary for conducting business in a more effective and efficient manner. Moreover, we believe that this was the intent of Section 5.1(c) of the loan agreement.

In the draft audit report, we included the following recommendation:

"USAID/Jamaica should request the Government of Jamaica to appoint a full-time qualified project director who will reside in the project area."

In responding to our draft audit report, USAID/Jamaica indicated that the project now has a full-time project director who resides near the project area. However, the Mission indicated that the Loan Agreement does not require that the project director reside in the project area and that the GOJ does not agree that this was the intent. In view of the action taken, we are not making a recommendation.

Technical Assistance

The unexpected termination of a contract with Pacific Consultants, Inc. for technical assistance disrupted project activities for about five months. This action, coupled with unexplained delays by the Small Business Administration in replacing this contract and the GOJ personnel and policy changes during the past 12 months - have aggravated this situation further. The main reason for the premature termination of the contract was because the contractor was facing cash flow problems coupled with tax litigation problems.

Technical assistance for the project started under Contract No. AID/532-8-12 of July 30, 1978, with Pacific Consultants, Inc. The contract, with an estimated completion date of July 30, 1982, called for technical assistance in the agricultural field by providing short and long-term technical advisors, as needed, to work in project-related activities. Specifically, the advisors were to develop and support extension activities in the project area and were to upgrade the technical agricultural skills of the extension staff. The long-term advisors were contracted for another three and four-year periods.

The original contract amount was \$499,297, but subsequent contract modifications increased that amount to \$2,129,063. At the time payments to Pacific Consultants, Inc. were suspended on May 5, 1981, USAID/Jamaica reported that \$1,637,746 had been disbursed to the contractor including procurement commission for another project (Radio Central).

The contractor's financial problems were brought to light by a series of events. Audit Report No. 0-000-81-58 of March 20, 1981, issued by the Regional Inspector General for Audit, AID/Washington, indicated that Pacific Consultants, Inc. was experiencing cash flow problems which were becoming more serious with the passage of time. The report also cited improper management of operating funds through irregular lending practices. In addition, the report indicated that the contractor's accounting practices were not acceptable as they violated contracting standards. These problems had been brought to the contractor's attention previously. The audit report concluded that the contractor had not demonstrated prudent management in controlling or eliminating these shortcomings.

A Congressional inquiry was initiated in April 1981 to investigate Pacific Consultants, Inc. for non-payment of employees' salaries and moving costs. Also, at that time, the U.S. Internal Revenue Service (IRS) demanded payment of taxes which Pacific Consultants, Inc. had withheld from employees' salaries but had not forwarded to the IRS.

All of the financial problems prompted the termination of the contract effective on May 30, 1981. A new technical assistance contract was negotiated and signed on October 2, 1981. We were advised by USAID/Jamaica that the new team was in place by mid-October 1981.

During the five months period, when there was no technical services team in Jamaica, project activities at both the management and field operations levels were disrupted. Instead of implementing activities, USAID/Jamaica and the Government of Jamaica officials devoted most of their efforts to locating and contracting with a replacement contractor. Field operations provided less than the expected level of training and technical assistance to staff and farmers.

We received conflicting information regarding the contractor's performance. Some reports indicated the contractor's advisory personnel were doing satisfactory work in moving the project forward. Other reports indicated that certain advisors were not effective in their areas of expertise.

We concluded that the withdrawal of Pacific Consultants, Inc. hindered the effective implementation of activities. The cancellation of this contract and subsequent replacement by another will probably result in some additional costs to the project. Since there is a new U.S. technical assistance team, reportedly in place, we are making no recommendations.

Program Evaluation

Many evaluations and special studies have been made of this project, yet, results, conclusions, and recommendations of evaluations and special studies have not been effectively utilized by either USAID/Jamaica or the Government of Jamaica in addressing reported problem areas and constraints affecting the implementation of the project. We believe the overriding reason for not utilizing these evaluations and studies has been the laxity on the part of USAID/Jamaica and the Government of Jamaica in collating such results, conclusions and recommendations and preparing an action paper for discussions and decisions. According to the Mission and GOJ, staff limitations precluded their carrying out these functions.

Establishment of an evaluation program was a requirement of Section 6.1 of the loan agreement. The purpose of the evaluation program was to evaluate progress toward achieving project objectives; to identify and evaluate problem areas or constraints which might inhibit attainment of stated objectives; to assess how information gathered might be used to help overcome such problems; and to evaluate, to the degree feasible, the overall development impact of the project. Because the project was designed to act as a model for the rest of hillside agriculture in Jamaica, project evaluation was a major and integral component. In pursuing this objective, many evaluations and special studies have been conducted. A synopsis of materials contained in these documents is presented below:

- Review of the Integrated Rural Development Project of October 10, 1981, conducted by two U.S. consultants. The main purpose of this study was to evaluate at a macro-level, the advisability of the continuance, modification, or termination of USAID/Jamaica's Integrated

Rural Development Project; and to study project implementation problems and design weaknesses and review alternative solutions to these problems as well as critically examine project management. The consultants concluded that the project was sound and should be continued, modified, and as such, made suitable for extension in the other critical watersheds of Jamaica;

- Management study of the Integrated Rural Development Project of July 1981, prepared by the Data Bank and Evaluation Division, Ministry of Agriculture. The major foci of the study centered on the organization, planning, implementation, budgeting and reporting function of the management system. The study concluded that to implement the recommendations made in the report would require extensive restructuring of the day-to-day operation of the project;
- An assessment in June 1981, of the Integrated Rural Development Project on the impact of the project upon farmers, conducted by Cornell University and the Ministry of Agriculture. The purpose of the study was to determine how far the project had reached in attaining its goals of reducing the rate of soil erosion and promoting increased agricultural production. To that end, the study focused on the maintenance of soil conservation treatments and on the adoption of the cultural practices associated with increased agricultural production. The study concluded that the project was still a long way from meeting the goals established in the project paper. After two years of participation in the project, many farmers were not showing signs of progress which should have been achieved; treatments were generally not being maintained; and improved cropping practices had not been adopted;
- An assessment in June 1981, of the Integrated Rural Development Project on the assumptions and goals of the project paper, conducted by Cornell University. The study focused on five fundamental project goals: (a) to control soil erosion in the Pindars River and Two Meetings Watersheds; (b) to increase agricultural production by 250 percent, thereby raising the income and standard of living of farmers; (c) to generate long-term employment opportunities; (d) to stem the flow of rural to urban migration; and (e) to enlist 100 percent farmer participation in the project. The study concluded that ". . . lack of progress is due not to bad management, poorly trained field officers, or insufficient resources, but rather to a Project Paper which a) set unrealistic, undesirable, or contradictory goals, b) proposed inappropriate technology, and c) made assumptions about the agricultural sector which are not valid. In other words, the IRDP is a programme with basic intrinsic flaws in its concept and design. The management of the project has made significant progress in trying to overcome the deficiencies of the Project Paper. Components such as marketing and credit have been added; timetables have been adjusted; more realistic goals have been set; and administrative procedures have been established. Yet while advances have been made, the project is still suffering from the faulty assumptions and unrealistic goals established in the Project Paper."

- A Monitoring System for Evaluating the Benefits and Costs of the Integrated Rural Development Project conducted by the University of Michigan, School of Natural Resources in July 1981. The study concluded that the type of evaluation foreseen in the original project document could not be implemented. The project objectives were unrealistic from the start, as a result, the type of project evaluation designed was inappropriate. Further, baseline survey data was found to be inaccurate partly because the project area could not cover 100 percent thus, any comparison probably would not produce useful results at the end of the project. Therefore, a different type of evaluation was needed and recommended. The study also concluded, "Given the need to develop rational cost effective development policies for the close to 200,000 hillside farms in the country, an in-depth and accurate evaluation of the IRDP should have highest priority. If such an evaluation is not undertaken, massive mis-application of funds may result."
- A Proposal for Evaluating the Integrated Rural Development Project conducted by Cornell University in July 1981. The proposal document recommended that the evaluation be divided into four components to measure: (a) the regional socio-economic impact of the project; (b) the cost-effectiveness of social overhead capital components of the program; (c) the reduction of soil erosion in the two watersheds; and (d) the increases in gross agricultural production resulting from the installation of different soil conservation treatments, changes in cropping patterns, and credits provided to participating farms. To accomplish this objective, the consultant concluded that "The proposed evaluation may require as many as 10 person/years. As such it might be looked upon as a training exercise if the MOA is going to evaluate other projects in a similar form. (Remember that a similar final evaluation of II IRDP, two years after completion of the project, is also called for in the grant and loan agreements.) But it is obviously costly, and the design should reflect a past commitment, but little else. If this evaluation is to serve as a basis for introducing changes in II IRDP, it obviously should be undertaken immediately by identifying the personnel and assigning them to the necessary work in the project area. The proposed evaluation cannot be carried out on the basis of occasional visits of personnel based in Kingston, and certainly not by occasional consultants, occasional visiting Kingston (and Christiana/Kellits)."
- A review of the Rural Roads Component of the Integrated Rural Development Project, conducted by an engineer of USAID/Haiti, on December 4, 1980. The overall conclusion of this review was that the roads were overly designed for the needs of the project, resulting in expensive construction. Also, the consultant concluded that the project paper underestimated the road needs for the project, and failed to allocate resources for the upgrading of deteriorated access roadlinks between the existing roads and the new roads.
- An Assessment of Selected Integrated Rural Development Project Management Issues made on March 8, 1981, conducted by a management consultant team. The purpose of this review was to discuss selected

project management issues affecting program operations. The team concluded, among other things, that the distinction in responsibilities between the project's line management team on the one hand and persons in the staff and technical roles on the other was not sufficiently clear. Also, the report was critical of the lack of action on recommendations included in an evaluation report of January 10, 1980, because identified issues had become recurring themes in evaluation reports. The consultant team reported there was no evidence that a strategy had been developed to address the evaluation recommendations, so the problems remained. The consultant team cited three other documents which included management recommendations and had been available to project staff over the last 18 months which had not been used adequately.

- An Evaluation on January 10, 1980, of the Pindars River and Two Meetings Integrated Rural Development Project, conducted by AID/Washington. This evaluation was made as a requirement of the loan agreement. The report concluded, among other things, that the project was making notable progress toward achieving the soil conservation goals, despite implementation delays and some operational problems. To address these problems, the evaluation report included 10 recommendations.

USAID/Jamaica and GOJ have not fully used these studies to their advantage. The absence of an action paper summarizing results, conclusions and recommendations included in evaluation reports and special studies resulted in duplicate efforts by consultants. A management study of July 1981 addressed this issue as follows:

"A major problem facing consultants and project monitors for the IRDP is the lack of a simple list of project document and reports which pertain to the project. Such a list should be drawn up in conjunction with US/AID and the Evaluation Branch of the MOA. Copies of all items on this list should also be available at these three locations.

"Because this list is lacking, much of the same work is being done by different consultants. This was reflected in the March 1981 report of the Management Consultant Team, which apparently was not seen by the Director of the Data Bank and Evaluation Division before requesting yet another management study in April, just one month after the AID management team issued its report. Many of the recommendations of the present report are similar to those made by this team and thus its report is attached. The section on management follow-up on pp VII-3, is of particular interest in terms of how many observers have made the same or similar recommendations and how little has been done to implement them."

Also, the evaluation report of October 10, 1981, among other things, concluded:

"The attached report deals in more depth with some of the foregoing and additional specific suggestions for changes in project design

and implementation improvements. 'Most all, we hasten to add, have been previously noted and commented upon by our evaluating brethren."

Furthermore, in discussing the evaluation aspect of the project, the evaluation report of October 10, 1981 concluded that:

"The project has enjoyed evaluation and special studies as its demonstration character warrants. They have been most useful. The present project manager is collating previous recommendations and is undertaking the initiation of some of the more pressing. It is urged that evaluation of a continuing nature be operationally useful and as little intrusive in the farmer's life as possible. Ways of developing farm record systems with illiterate and semi-illiterate farmers should be explored. Only with farm records can useful results be derived relating to changes in practices and income. Concentrating on the farmers operating sub-demonstration centers would be a practical way to initiate realistic changes."

Although some benefits resulted from these evaluations and special studies because some of the recommendations were implemented, much remained to be accomplished. For instance, the AID evaluation dated January 10, 1980 included 10 recommendations for USAID/Jamaica and Government of Jamaica's implementation. As of October 2, 1981, we found no written evidence that effective action had been taken to implement any of these recommendations. The absence of an effective and organized action plan has had an adverse effect on the program. Action had not been taken to resolve many of the implementation problems, thus, the issues have been discussed in subsequent evaluations. To illustrate, the evaluation report of January 10, 1980, recommended to "Give local organizations a more active implementation role," to "Conduct a management audit," and to "Add a Deputy Director to project implementation staff to ease administrative burdens". The issue of adding a Deputy Director has been discussed in at least three subsequent evaluation reports. We found that local organizations were not effective in reaching the farmers and the project was facing serious management and administrative problems. We believe that had these recommendations been effectively implemented, many of the implementation problems discussed elsewhere in this report would have been avoided or minimized.

In addressing these same issues, the evaluation report of October 10, 1981, concluded:

". . . that concentrated effort to foster and support the Development Committees, encourage the Board of Management and the new Director (when selected) to carry out earlier recommendations for strengthening staff with an operational Deputy, clarifying and using strong lines of authority from Director through watershed Assistant Director to designated managers in each sub-watershed team, will do much to make the project more effectively manageable. Management training in record keeping, control of equipment and personnel is necessary and is being initiated."

As pointed out by the evaluation report of October 10, 1981, all the evaluations and special studies should be most useful and excellent tools

for improving program operations, thus full utilization of their results, conclusions and recommendations should be encouraged. We believe therefore, that an organized response to all the issues discussed in the evaluations and studies should be formulated for final discussion and action.

Recommendation No. 6

USAID/Jamaica, in consultation with the Government of Jamaica, should develop an action paper collating results, conclusions and recommendations included in the evaluation reports and special studies for corresponding action to improve program operations.

Procurement and Use of Equipment

Control of Equipment

Project equipment costing around \$1.4 million (7 tractors, 2 maintenance units, 5 scouts, 24 pick-ups, and 40 motorbikes) were not effectively controlled to ensure that they were used only for project purposes. Adequate use records were not maintained and physical control of vehicles after working hours was not exercised, especially in the Pindars River watershed area. The overriding reason for this shortcoming was the lack of effective procedures to ensure proper use and control of equipment.

While procedures had been established for ensuring proper use and physical control of equipment, they have not been implemented properly. We observed examples of loose control while visiting the project area.

The use records for tractors showed only the hours worked and omitted information, such as, name of farmer serviced and location where work was performed. We were informed by the head of the Equipment Maintenance Department of the project that tractors had been used for non-project purposes. However, this employee did not elaborate on the issue. In fact, a senior soil conservation officer told us that tractors had been used to build a football field in Pindars River watershed area.

Vehicle use records were not maintained to show individual trips during the day. Thus, information, such as, name of traveller, point of travel, time, mileage and purpose of trip was not available for evaluation purposes. About 80 percent of the vehicles that we inspected had odometers that were not in working order. We also found that physical control of vehicles after working hours was very lax in both watershed areas. At the Pindars River watershed area, we learned that vehicles were seldom stored at the designated storage place. During our field visit to the Pindars River, we saw a vehicle parked in front of a store at around 8:00 p.m. The absence of vehicle use and control records precluded a determination that the vehicles were used solely for project related activities.

We believe that lax controls encourage the misuse of available resources. We also believe that the possible misuse of equipment represents a serious problem and should be addressed promptly to ensure control of the equipment.

Recommendation No. 7

USAID/Jamaica should obtain, within a given time frame, from the Ministry of Agriculture an established and implemented set of procedures that will ensure proper use and control of project equipment.

Maintenance of Equipment

Project equipment was not adequately maintained because spare parts were not in place to meet the growing demand for maintenance services. In addition, equipment maintenance records were not kept to show cost and frequency of services provided; and inventory control records were inadequate to ensure proper storage, issuance, use and control of spare parts.

Equipment maintenance appeared to be a growing problem due to deficiencies in spare parts procurement. Some units (two pick-ups and a tractor/loader) had been down for a month or more and the majority of these units (17 pick-ups) needed minor repair work for which spare parts were not available. In fact, we learned that the tractor/loader has been down for around a year. We believe that the maintenance issue is a growing problem. For instance, motorbikes were assigned to field officers and field assistants under a special sales agreement scheme. They were being used for project purposes as needed. However, users were very concerned about future maintenance problems because spare parts were not available in country. We found that 11 of the 40 motorbikes were in need of repair and one was unusable at the time of our visit.

The equipment maintenance records were not kept apparently due to lax enforcement of procedures on the part of the project personnel. These records, in addition to providing a maintenance history of the unit, also serve as a basis for establishing cost-benefit of the units serviced for disposal purposes and for establishing future needs of spare parts.

Inventory control records for spare parts were not properly maintained to ensure that the parts were effectively used for project purposes. Spare parts were stored in disarray serving as a temptation for improper use.

The maintenance situation was a serious problem and because of the lack of spare parts in-country has the potential for worsening and should be addressed promptly.

Recommendation No. 8

USAID/Jamaica should require the Ministry of Agriculture to establish and implement effective procedures to ensure proper maintenance of project equipment.

Recommendation No. 9

USAID/Jamaica should require the Ministry of Agriculture to procure an adequate supply of spare parts to meet the growing demand for equipment maintenance.

Recommendation No. 10

USAID/Jamaica should require the Ministry of Agriculture to establish and implement effective inventory controls over spare parts.

Project Requirements for Equipment

Project equipment (7 tractors and 29 vehicles) costing around \$1 million had not been effectively utilized, according to soil conservation officers. Tractors and vehicles purchased with loan funds were not designed to meet the requirements of the project. Thus, the use of this equipment resulted in needless added costs to the project.

The tractors were used for constructing bench terraces and hillside ditches on small hillside farms. However, the size of the farms and the steep slopes of the terrain prevented the tractors from performing effectively in some instances and not at all in other instances. These factors, compounded with the non-participation of many small farmers, have aggravated the equipment utilization problem. The non-effective utilization of tractors can be measured by analyzing the time utilization gauge. For instance, the gauge of one tractor showed that it had been utilized a total of 752 hours since its arrival in December 1979. This represents an average utilization of 1.6 hours per workday (5-day week). We believe this is not a good yield for the investment and efforts involved.

The vehicles have been used mainly for visiting farmers, and to a lesser degree for delivering agricultural inputs to the project. The majority of the vehicles are two-wheel drive and large pick-up units. The terrain and road conditions in the project area, especially in the Pindars River watershed area, call for four-wheel drive vehicles to reach and provide service to the small farmers. We believe that smaller units would have provided better maneuverability in the narrow dirt roads servicing the project and at far lower operating and maintenance costs.

Our conclusions are also supported by an AID/Washington evaluation report which concluded that a mobile machine shop had to be made immobile because the roads in the project area did not allow for efficient transport of the mobile machine shop; and pulling the shop around the project area would have resulted in an immediate loss of the most complete set of tools to be found in Jamaica.

In sum, we believe that the tractors and vehicles have been underutilized and not used effectively in the project because they exceeded the basic requirements of the project. In view of this situation, we believe the Mission should review the equipment needs of the project at this time and take steps to initiate action to ensure that the project is supplied with proper equipment.

Recommendation No. 11

USAID/Jamaica should review the equipment requirement for the project and initiate action to provide the project with proper equipment if time permits.

Reimbursement Requests

Reimbursement requests prepared by the Ministry of Agriculture and submitted to USAID/Jamaica for processing included improper, questionable and unreasonable costs which AID should not pay. Adequate review of reimbursement requests by the Ministry of Agriculture and USAID/Jamaica personnel were not being made. According to both offices, reviews were not made because of staff limitations. Consequently, unauthorized and inappropriate costs were being reimbursed by AID.

USAID/Jamaica has the responsibility for maintaining the financial validity and integrity of its projects. The Mission Director has two individuals assigned to assist him in this effort - the project manager and the controller. The project manager is charged with administratively approving reimbursement vouchers - that is an individual assigned to this position is responsible for determining that the costs claimed on a voucher are in fact appropriate and in accordance with the underlying agreement. The controller or one of his staff members is charged with certifying reimbursement vouchers before they are paid. The certification that is made reads, in part, "I certify that the items listed herein are correct and proper for payment." To effectively discharge the responsibilities of these two positions, we believe that supporting documentation must be reviewed.

Reimbursement requests are prepared by the Ministry of Agriculture and submitted to USAID/Jamaica for review and processing for payment. We were advised that at USAID/Jamaica, the project manager reviews the request to detect if any non-project related charges are included. Then the request is submitted to the Controller for final certification and forwarding to AID/Washington for payment. According to the Mission, the Controller reviews the request to check for mathematical errors, to determine eligibility, and possible duplications, etc.

We were also advised that none of the officials at USAID/Jamaica makes periodic reviews of supporting documentation available in the Government of Jamaica's files.

We selectively reviewed Reimbursement Request numbers 28 and 30, and found duplicate payments and questionable or unreasonable costs charged to AID funds. For instance, we found duplicate payroll payments (\$37,000), unallowable housing costs (\$343), questionable gasoline charges (\$6 vs. \$2.50 going rate per gallon). Employee payroll deduction payments which had been previously charged to project (\$6,400), home to work allowances (\$5 to \$8 per day), compensation for damages to crop during road construction (exceeding \$50 per farmer), and mileage compensation of \$0.31 per mile for using personal vehicles while project vehicles were available. Also, on Reimbursement Request No. 16 we noted that AID had reimbursed \$9,276 for a second hand Toyota station wagon.

An in-depth financial review of costs claimed is necessary to determine the total amount improperly charged to the project. Procedures should be established to ensure the validity and integrity of future claims. To address these issues and to minimize future problems, we are making two recommendations.

Recommendation No. 12

USAID/Jamaica should conduct an in-depth financial review of project costs claimed by the Government of Jamaica and reimbursed by AID to ensure that the costs are proper, valid and reasonable and to adjust for any improper reimbursements.

Recommendation No. 13

USAID/Jamaica should request the Ministry of Agriculture to establish and implement procedures to ensure that all future reimbursement requests are reviewed and certified as proper by the MOA internal audit group and/or other approved international accounting firm.

Project Accounting System

Condition of Accounting Records

The Ministry of Agriculture's project accounting system was not current and did not show the total incurred cost of the project.

Expenditures paid from Government of Jamaica contributions made prior to April 1, 1980, and payments made by AID/Washington for equipment procured since inception of the project were not properly recorded in the records. Documentation supporting project expenditures made prior to April 1, 1980, were filed with other Ministry documents and could not be located readily. We were told by project officials that staff limitations and personnel turnover were responsible for the condition of the accounting system. However, we believe that laxity on the part of project officials was the overriding reason for the project accounting system not being properly maintained.

We were advised that the Jamaican Auditor General initiated an audit of the project in calendar year 1980 but suspended the audit because of the condition of the records. The audit was suspended until such time as the project could present complete records and financial statements. At the time of our field work, the audit had not been performed. Project accounting records were being brought up-to-date and supporting documentation was being segregated. The chief accountant of the internationally funded project department of the Ministry advised us that the accounting system should be current by October 1981.

Recommendation No. 14

USAID/Jamaica should advise the Ministry of Agriculture that the project accounting system must be brought up-to-date, maintained on a current basis and project supporting documentation separated from the Ministry's general files within an established time frame, otherwise project reimbursement must be suspended.

Training Activities

The training of project personnel and participating farmers had not been effective in meeting the demands of the program. We believe the main reason for not having had an effective training program in place for field officers and field assistants as well as for small farmers was the project had failed to produce trained personnel, especially at an early implementation stage. The late arrival of the U.S. technical assistance team and the Government of Jamaica's restrictions on the selection of participants sent for training abroad prevented the project from meeting its training needs in our opinion.

The lack of technical expertise by project personnel and the absence of technical assistance by the Jamaican extension services for participating farmers were evident in some of the 22 farm plans we reviewed and in some of the 18 small farms we visited. We found farm plans that were not technically sound (as discussed elsewhere in this report) because land treatment designs did not meet the farmers' needs or were in conflict with the soil conservation and land erosion objectives. We also noted that small farmers were not receiving the technical guidance and training needed to improve their cropping patterns and techniques, land use, and maintenance.

Project Grant Agreement #77-4 of September 30, 1977, as amended, provided \$381,000 for approximately 41 person-years of out-of-country training and for additional in-country training. Subsequently, of Loan Agreement No. 532-T-010 of February 28, 1978, Implementation Letter No. 16 provided an additional \$730,000 to support and expand this training effort. It was planned that 56 employees would be trained under this project. The in-country training program was to be implemented by the Government of Jamaica's Ministry of Agriculture and various specialists assigned to the project, such as, the U.S. technical assistance team and short-term contractors.

The effectiveness of the project's training program can be measured by the following facts. As of August 31, 1981, only 30 project employees had been selected for training. Of this number, 22 were sent for short-term training of about 4 months, 2 for a year's training each, and 6 for 2-year programs. Twenty (20) participants had completed training and returned to Jamaica. The remaining 10 will complete training during calendar year 1982. These statistics indicate that around 18 person-years, or 44 percent of the programmed training needs will be fulfilled when these participants complete training.

Although we found that 19 of the 20 returned participants were working in positions for which they were trained (soil conservation and extension services), project progress reports stated that shortages of trained personnel (soil conservation and extension advisors) were hindering program operations. In-country training sessions (over 200) for project staff and participating small farmers, apparently, were not effective as operational and technical deficiencies (discussed elsewhere in this report) were commonplace in the implementation process of the project.

The main reason for the ineffectiveness of training activities was the Government of Jamaica's restriction that employees classified as temporary or secondary staff could not study abroad. Thus only permanent employees,

which were few in number, could be selected for overseas training. Because of this limitation, only \$112,000 of \$381,000 grant funds were used for training (the remaining \$269,000 was reprogrammed for technical assistance) and only \$289,000 of the \$730,000 loan funds programmed have been obligated.

We believe the shortage of trained personnel contributed to the lack of an effective in-country training program for field officers, field assistants and participating farmers.

Recommendation No. 15

USAID/Jamaica and the Government of Jamaica, in conjunction with the U.S. technical assistance team should develop and implement an effective training program in line with the revised project objectives addressing training needs and requirements of field officers, field assistants, and participating farmers.

Supervision and Monitoring

Program Supervision

Program supervision needed improvement in order to provide better technical and promotional services to participating farmers. The absence of effective supervision resulted in questionable farmer performance in soil conservation treatments and farming practices.

We noted that constant field supervision was being provided to soil treatment activities. However, the effectiveness of the supervision could be improved to obtain better performance from participating farmers. Our visits to randomly selected farms indicated that some of the land treatments were neither technically sound and some were not adequately maintained. Senior soil conservation officers who accompanied us witnessed and confirmed our observations during these visits. Among the deficiencies observed were:

- hillside ditches were constructed to drain into the same farm or into a neighboring farm. (Noted at Two Meetings Sub-Watershed 1, Farm Plan 1);
- bench terraces and hillside ditches were built without following any logical pattern. The land appears to have less protection after the treatment. (Noted at Two Meetings Sub-Watershed 2, Farm Plan 27);
- hillside ditches have been constructed on land not requiring such treatment. The land was planned for forestry because of steep slopes but the farmer planted pigeon peas. (Noted at Pindars River Sub- Watershed 6, Farm Plan 87);
- many farmers were not following the farm plans approved for implementation. This was a common practice in both watershed areas. (A good example of this condition was noted at Two Meetings Sub-Watershed 7,

Farm Plan 13, where forestry and hillside ditches/individual basin treatment was planned but not implemented. The forest was to serve as a wind breaker to protect planned banana/ coffee crops to be developed in the treated land):

- Land treatment designed for a farm was found to be inadequate at Pindars River Sub-Watershed 2, Farm Plan 23. The treatment provided (hillside ditches/individual basis) resulted in soil erosion on the farm improved. A needed waterway was not contemplated in the farm plan. The senior soil conservation officer accompanying the audit team confirmed this technical deficiency;
- some farmers have lost interest in the program and have not started or have not completed the land treatment envisioned in approved farm plans. A farmer in Two Meetings Sub-Watershed 6, Farm Plan 85, did not implement the farm plan because the project officers failed to maintain contact with the farmer. Another farmer in Pindars River Sub-Watershed 10, Farm Plan 77, started land treatment but discontinued it because of a heavy workload. The work was to be started in February 1981 and should have been completed by March 1981. This farm appeared to be unattended; and
- Scheduled follow-up visits were not made to participating farmers after land treatment was completed. The absence of a systematic contact with the small farmer has had a negative impact on the program as treated land had not been used or maintained properly. Our field inspection confirms this statement.

We saw evidence of soil erosion due to the practice of some farmers cropping too close to the edge of hillside ditches instead of planting grass as intended. Sound farming practices call for farming no closer than 30 inches to the edge of ditches according to a senior soil conservation officer. The practice of farming too close to the edge of ditches defeats the purpose of soil conservation because it causes soil erosion. Also, we found that a majority of the soil conservation treatments on the farms we visited needed maintenance. Grass was not planted in designated areas to prevent soil erosion, and bench terraces, hillside ditches, waterways and check dams had not been cleared of weeds, debris and sediment to permit an orderly drainage of water.

The reasons for inadequate maintenance varied among the farmers we visited. Some farmers claimed they did not have enough money to pay for the maintenance work and expressed the belief that the project should pay for it. However, maintenance is the responsibility of the farmer as agreed to in the farm plans. Other farmers appeared to have lost interest in the program and were not maintaining the land treatments provided. In fact, we found one farm where the farmer left for the U.S. after the land treatment was completed. (Pindars River Sub-Watershed 7, Farm Plan 100). We were advised by a senior soil conservation officer that the loss of interest was one of the main reasons for implementation delays. Some farmers admitted laxity on their part for not providing the required maintenance.

During our visit to demonstration centers, we noted that approved practices were not always followed. For instance, at the Word Hill Demonstration Center, the requirement that crops not be planted within 30 inches of the edge of hillside ditches was not being followed. Consequently, farmers visiting the centers for instruction were misled by observing improper land use.

We believe the need for increased technical assistance and promotional services are required in order to attract more participation by small farmers. Also, we believe that project officers should fully recognize that additional personal contacts are required in order to motivate farmers to use, start, complete and maintain soil conservation treatments. To that end, frequent visits to the small farmers appear to be the best solution. We therefore conclude that the majority, if not all, of the deficiencies discussed above could have been prevented or resolved at an early stage had effective supervision been provided.

Furthermore, the deficiencies discussed above suggest that in addition to improved field supervision, there is a need to establish and impose some sort of penalty for farmers not complying with approved farm plans.

Recommendation No. 16

USAID/Jamaica should ensure that the Ministry of Agriculture, in conjunction with the technical assistance team, develop and implement an effective supervision program designed to improve land treatment activities and farming practices at the demonstration centers.

Recommendation No. 17

USAID/Jamaica should obtain from the Ministry of Agriculture its plan for visiting farmers on a systematic basis after completion of treatments.

Recommendation No. 18

USAID/Jamaica should explore the possibilities of including a "penalty clause" within individual farm plans that would encourage farmers to comply with approved farm plans.

Program Monitoring

Program monitoring needs improvement. USAID/Jamaica's monitoring activities have not been forceful enough to attain an acceptable level of performance. The program is behind schedule as loan disbursements have not kept pace with elapsed time. As of August 31, 1981, only \$5.2 million had been disbursed while around 3-1/2 years had elapsed.

In addition to the problems discussed in other sections of this report, we noted that USAID/Jamaica had made repeated requests to the Ministry of Agriculture for implementation actions which did not result in prompt responses. An example of this situation was the request for the first

annual audit. The initial request was made on March 26, 1979. Follow-ups were made on January 24, 1980, and July 27, 1981. On September 14, 1981, the Permanent Secretary of the Ministry of Agriculture responded. Indications in the response were that the project accounting records were not in a condition for audit. Thus, no annual audit had been performed at the time of our review.

Staff limitations prevented the Mission from providing a more systematic overview of program activities. Mission personnel assigned to overseeing this project have many other duties to perform. For example, the project manager was responsible for monitoring another project, performing the duties of Deputy and Division Chief as needed, as well as the development of project papers and documents for new projects. It was estimated that 50 percent of the Project Manager's time was spent on monitoring this project, primarily overseeing contractor and procurement problems.

Some of the deficiencies noted which, in our opinion, should have been addressed by USAID/Jamaica's staff were:

- Many studies and evaluations have been conducted. However, actions have not been taken to implement the recommendations and no position papers have been prepared to provide the basis for discussing the recommendations or determining what courses of action should be taken;
- Field visits to project sites were infrequent and when made, were not documented. Systematic visits to the project sites are important to detect actual and potential problem areas. During our field visits, discussions with selected farmers indicated that there was a need for additional technical assistance by the agricultural extension agents. Also, we learned that a potential problem in equipment maintenance existed because spare parts were not in place.
- Individual claims for reimbursement were not being traced to supporting documents by USAID/Jamaica personnel to ensure that expenditures claimed were legitimate project costs and to verify the fiscal integrity of the claim. We found some reimbursement requests contained duplicate payroll payments and other questionable charges (see Reimbursement Requests section of this report).

We believe that the multiple implementation problems and complexity of this project require forceful action by USAID/Jamaica in dealing with the Ministry of Agriculture and the need to assign a full-time qualified individual to overseeing project activities.

Recommendation No. 19

USAID/Jamaica should assign a full-time qualified individual to monitor this project.

Recommendation No. 20

USAID/Jamaica should establish and implement procedures for field visits to project sites on a systematic basis and require field inspection reports be prepared for each visit.

Recommendation No. 21

USAID/Jamaica should establish and implement effective procedures for reviewing reimbursement requests, including but not limited to, supporting documents on a test check basis. Such reviews should be documented.

FINANCIAL PLAN, TOTAL PROGRAM COSTS, AND GRANT/LOAN DISBURSEMENTS
THE INTEGRATED RURAL DEVELOPMENT PROGRAM OF USAID/JAMAICA
PROJECT NO. 532-0046, GRANT NO. 77-4, AND LOAN NO. 532-T-010
FOR THE PERIOD FROM SEPTEMBER 30, 1977, TO AUGUST 31, 1981
(000 Omitted)

Component Sub-Component	FINANCIAL PLAN			TOTAL PROGRAM COSTS			AID DISBURSEMENTS		
	Grant/Loan Funds	Contribution	Total	AID	Govt. of Jamaica	Total	Grant	Loan	Total
Soil Conservation	\$5,864	\$1,466	\$7,330	\$2,082(b)	\$520(b)	\$2,602(b)	\$ -0-	\$1,543(b)	\$1,543(b)
Bench Terraces	2,064	517	2,581						
Orchard Terraces	319	80	399						
Hillside Ditches/Basins	2,901	724	3,625						
Pasture With Ditches	239	59	298						
Water Catchments	48	13	61						
Agronomic practices	293	73	366						
Forestation	749	648	1,397	495	428	923	-0-	312	312
Engineering Works	1,096	736	1,832	1,463	890	2,353	-0-	557	557
Road Construction/ Rehabilitation	1,022	714	1,736	1,232	825	2,057	-0-	557	557
Power and Stream Control	74	22	96	231	65	296	-0-	-0-	-0-
Training	842	19	861	463	1	464	107	273	380
Overseas	778	-0-	778	463	-0-	463	107	273	380
In-Country	64	19	83	-0-	1	1	-0-	-0-	-0-
Demonstration and Training Centers	594	119	713	343	4	347	-0-	254	254
Farmers Organization/Services	767	915	1,682	290	20	310	-0-	268	268
Agricultural Production Credit	-0-	1,280	1,280	-0-	346	346	-0-	-0-	-0-
Commodities	2,300	-0-	2,300	2,052	-0-	2,052	1	1,975	1,976
Heavy Equipment	1,300	-0-	1,300	850	-0-	850	-0-	850	850
Vehicles	500	-0-	500	527	-0-	527	-0-	527	527
Light Equip. and Supplies	500	-0-	500	675	-0-	675	1	598	599

FINANCIAL PLAN, TOTAL PROGRAM COSTS, AND GRANT/LOAN DISBURSEMENTS
THE INTEGRATED RURAL DEVELOPMENT PROGRAM OF USAID/JAMAICA
PROJECT NO. 532-0046, GRANT NO. 77-4, AND LOAN NO. 532-T-010
FOR THE PERIOD FROM SEPTEMBER 30, 1977, TO AUGUST 31, 1981
(000 Omitted)

Component Sub-Component	FINANCIAL PLAN			TOTAL PROGRAM COSTS			AID DISBURSEMENTS		
	Grant/Loan Funds	Gov't. of Jamaica	Total	AID	Gov't. of Jamaica	Total	Grant	Loan	Total
Salaries of Ministry of Agriculture	<u>-0-</u>	<u>\$4,000</u>	<u>\$4,000</u>	<u>\$-0-</u>	<u>\$2,155(c)</u>	<u>\$2,155(c)</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Operating Expenses of Ministry of Agriculture	<u>-0-</u>	<u>400</u>	<u>400</u>	<u>-0-</u>	<u>1,052(c)</u>	<u>1,052(c)</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Water Systems	<u>-0-</u>	<u>288</u>	<u>288</u>	<u>-0-</u>	<u>85</u>	<u>85</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Rural Electrification	<u>-0-</u>	<u>960</u>	<u>960</u>	<u>-0-</u>	<u>(d)</u>	<u>(d)</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Rural Housing	<u>-0-</u>	<u>253</u>	<u>253</u>	<u>-0-</u>	<u>98</u>	<u>98</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Evaluation and Replication	<u>320</u>	<u>-0-</u>	<u>320</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Technical Assistance	<u>2,456</u>	<u>-0-</u>	<u>2,456</u>	<u>1,792</u>	<u>-0-</u>	<u>1,792</u>	<u>1,593</u>	<u>-0-</u>	<u>1,593</u>
Contingency	<u>12</u>	<u>116</u>	<u>128</u>	<u>-0-</u>	<u>20</u>	<u>20</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
	<u>\$15,000(a)</u> =====	<u>\$11,200</u> =====	<u>\$26,200</u> =====	<u>\$8,980</u> =====	<u>\$5,619</u> =====	<u>\$14,599</u> =====	<u>\$1,701</u> =====	<u>\$5,182</u> =====	<u>\$6,883</u> =====

Explanatory Footnotes

- (a) includes \$2 million of grant/funds for technical assistance, (\$1,888,000) and training (\$112,000), and \$13 million of loan monies for program operations.
- (b) breakdown of component costs not readily available.
- (c) reported estimated costs by the Government of Jamaica.
- (d) cost data not readily available.

COMPARISON OF GOALS AND OBJECTIVES TO ACHIEVEMENTS
THE INTEGRATED RURAL DEVELOPMENT PROGRAM OF USAID/JAMAICA
PROJECT NO. 532-0046, GRANT NO. 77-4 AND LOAN NO. 532-T-010
FOR THE PERIOD FROM SEPTEMBER 30, 1977, TO AUGUST 31, 1981

<u>Component/ Sub-component</u>	<u>Goals & Objectives</u>		<u>Unit of Measure</u>	<u>Accomplishments</u>	
	<u>Project Paper</u>	<u>Revisions</u>		<u>Quantity or Amount</u>	<u>Percentage of Completion</u>
1. Soil Conservation	17,718	8,500	acre (a)	2,442	14
a. Bench terraces	4,600	N/S	acre	195	4
b. Hillside Ditches & basins	10,763	N/S	acre	1,926	18
c. Orchard terraces	1,005	N/S	acre	260	26
d. Pastureland	1,350	2,000	acre	61	3
e. Waterways	N/S	31,875	chain (b)	3,242	10
f. Workforce employed	1.1	N/S	(c)	.184	17
g. Farm plans approved	5,000	4,000	Number	3,364	84
1. grass acreage	17,718	17,718	acre	11,364	64
h. farm plans under construction	5,000	4,000	Number	2,300	58
i. Farm plans completed	5,000	4,000	Number	464	12
1. Gross Acreage	17,718	17,718	acre	933	5
j. Intensified cropping	10,000	4,630	acre	266	6
k. Additional land under cultivation	N/S	500	acre	526	105
1. Land out of cultivation	N/S	400	acre	102	26
2. Forestation	5,000	2,780	acre	1,769	25
a. Land Acquired	N/S	2,400	acre	309	13
3. Road Construction and rehabilitation	22	22	mile	9.5	43
4. Demonstration & Training Centers	55	55	Number	25	45
a. Training centers	5	5	Number	5	100
b. Training Sub-centers	50	50	Number	20	40
5. Farmers Organizations and Services	58	58	Number	53	91
a. Jamaica agricultural Societies	33	33	Number	27	82
b. Development Committees	25	25	Number	26	104
6. Agricultural Credit					
a. Value of Credit:	1.6	1.3	Million \$	0.6	46
b. Credit Extended	N/S	N/S	Number	455	N/S

COMPARISON OF GOALS AND OBJECTIVES TO ACHIEVEMENTS
THE INTEGRATED RURAL DEVELOPMENT PROGRAM OF USAID/JAMAICA
PROJECT NO. 532-0046, GRANT NO. 77-4 AND LOAN NO. 532-T-010
FOR THE PERIOD FROM SEPTEMBER 30, 1977, TO AUGUST 31, 1981

<u>Component/ Sub-component</u>	<u>Goals & Objectives</u>		<u>Unit of Measure</u>	<u>Accomplishments</u>	
	<u>Project Paper</u>	<u>Revisions</u>		<u>Quantity or Amount</u>	<u>Percentage of Completion</u>
7. Marketing Collection Station	-0-	12	Number	5	42
8. Commodities	1.8	2.3	Million \$	2.0	87
a. Heavy equipment	N/S	N/S	Million \$.9	N/S
b. Vehicles	N/S	N/S	Million \$.5	N/S
c. Light equip. & supplies	N/S	N/S	Million \$.6	N/S
9. Government of Jamaica's Counterpart Contribution	11.2	11.2	Million \$	5.6	5.0
10. Water Systems					
a. Beneficiaries	25	25	(d)	N/S	N/S
b. Spring Developed	N/S	20	Number	8	40
11. Rural Electrification					
a. Beneficiaries	15	15	(c)	9	60
b. Lines extended	95	95	Miles	64.5	68
12. Rural Housing	235	235	Number	67	29
a. Constructed	N/S	200	Number	67	34
b. Improved	N/S	35	Number	-0-	-0-
13. Evaluation & Replication	400	320	Thousand US\$	-0-(e)	-0-
14. Training Out-of-Country	41	N/S	Person year	18	44
a. Complete Training			Person year	14	N/S
b. In-Training Status			Person year	4	N/S
15. Training Out-of-Country	30	56	Number	30	54
a. Complete Training	N/S	N/S		20	N/S
b. In-Training Status	N/S	N/S		10	N/S
16. Training In-Country	N/S	N/S	Man day	5,103	N/S
17. Technical Assistance	30	30	Person year	13	43

Explanatory Footnotes:

- (a) An acre equals to 43,560 square feet.
 - (b) A chain equals to 66 feet.
 - (c) Million person days.
 - (d) Thousand persons.
 - (e) Many evaluation and studies have been conducted as discussed in the Evaluation Section of this report.
- N/S Represents information not available, data could not be obtained, or figures could not be established for various reasons.

LIST OF RECOMMENDATIONS

Recommendation No. 1

USAID/Jamaica, in consultation with the Government of Jamaica, should (a) establish realistic goals and objectives to be achieved within the remaining life of the project; (b) reprogram available financial resource in line with these revised goals and objectives; and (c) deobligate any funding exceeding revised project funding requirements. (Page 12)

Recommendation No. 2

USAID/Jamaica, in conjunction with the Government of Jamaica, when establishing new program goals and objectives, should modify in a more realistic manner the replicability or "adaptability" feature so that farmers from other watersheds can be reached with similar programs. (Page 15)

Recommendation No. 3

USAID/Jamaica, in conjunction with the Government of Jamaica, should delete the soil conservation fund as a loan agreement requirement as the fund is not operational and any funds generated and capitalized should be accounted for and used for project purposes. (Page 16)

Recommendation No. 4

USAID/Jamaica, in conjunction with the Government of Jamaica, should fully analyze the road construction aspect while restructuring the program so that roads constructed are more in line with the basic needs of the project. (Page 17)

Recommendation No. 5

USAID/Jamaica, in conjunction with the Government of Jamaica, should clearly define rural roads construction costs that will be reimbursed from AID funds. (Page 18)

Recommendation No. 6

USAID/Jamaica, in consultation with the Government of Jamaica, should develop an action paper collating results, conclusions and recommendations included in the evaluation reports and special studies for corresponding action to improve program operations. (Page 25)

Recommendation No. 7

USAID/Jamaica should obtain, within a given time frame, from the Ministry of Agriculture an established and implemented set of procedures that will ensure proper use and control of project equipment. (Page 26)

Recommendation No. 8

USAID/Jamaica should require the Ministry of Agriculture to establish and implement effective procedures to ensure proper maintenance of project equipment. (Page 26)

Recommendation No. 9

USAID/Jamaica should require the Ministry of Agriculture to procure an adequate supply of spare parts to meet the growing demand for equipment maintenance. (Page 26)

Recommendation No. 10

USAID/Jamaica should require the Ministry of Agriculture to establish and implement effective inventory controls over spare parts. (Page 27)

Recommendation No. 11

USAID/Jamaica should review the equipment requirement for the project and initiate action to provide the project with proper equipment if time permits. (Page 27)

Recommendation No. 12

USAID/Jamaica should conduct an in-depth financial review of project costs claimed by the Government of Jamaica and reimbursed by AID to ensure that the costs are proper, valid and reasonable and to adjust for any improper reimbursements. (Page 29)

Recommendation No. 13

USAID/Jamaica should request the Ministry of Agriculture to establish and implement procedures to ensure that all future reimbursement requests are reviewed and certified as proper by the MOA internal audit group and/or other approved international accounting firm. (Page 29)

Recommendation No. 14

USAID/Jamaica should advise the Ministry of Agriculture that the project accounting system must be brought up-to-date, maintained on a current basis and project supporting documentation separated from the Ministry's general files within an established time frame, otherwise project reimbursement must be suspended. (Page 29)

Recommendation No. 15

USAID/Jamaica and the Government of Jamaica, in conjunction with the U.S. technical assistance team should develop and implement an effective training program in line with the revised project objectives addressing training needs and requirements of field officers, field assistants, and participating farmers. (Page 31)

Recommendation No. 16

USAID/Jamaica should ensure that the Ministry of Agriculture, in conjunction with the technical assistance team, develop and implement an effective supervision program designed to improve land treatment activities and farming practices at the demonstration centers. (Page 33)

Recommendation No. 17

USAID/Jamaica should obtain from the Ministry of Agriculture its plan for visiting farmers on a systematic basis after completion of treatments. (Page 33)

Recommendation No. 18

USAID/Jamaica should explore the possibilities of including a "penalty clause" within individual farm plans that would encourage farmers to comply with approved farm plans. (Page 33)

Recommendation No. 19

USAID/Jamaica should assign a full-time qualified individual to monitor this project. (Page 34)

Recommendation No. 20

USAID/Jamaica should establish and implement procedures for field visits to project sites on a systematic basis and require field inspection reports be prepared for each visit. (Page 35)

Recommendation No. 21

USAID/Jamaica should establish and implement effective procedures for reviewing reimbursement requests, including but not limited to, supporting documents on a test check basis. Such reviews should be documented. (Page 35)

APPENDIX B

LIST OF RECIPIENTS

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