PD-AAW-593
52203

INTERIM REPORT

IQC WORK ORDER FOR REDESIGN OF INTEGRATED RURAL DEVELOPMENT PROJECT II

Submitted to:

USAID MISSION/JAMAICA

and

MINISTRY OF AGRICULTURE

GOVERNMENT OF JAMAICA

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October 25, 1982
Mandeville, Jamaica

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1. INTRODUCTION

SCOPE OF WORK

The Scope of Work specifies a progress report to be submitted six weeks after the redesign effort begins. The progess report "shall contain the teams's findings as to whether or not viable strategies exist for making significant progress toward the project's goals and purposes, an outline/summary description of such strategies, and discussion of significant constraints and/or policy questions which affect the strategies." The Scope of Work further describes the criteria by which "significant progress" was to be measured. Immediately upon undertaking the study, the Redesign Team determined that no viable strategies exist to make "significant progress" under the established criteria. Given the obviously unrealistic goals, the inappropriate project design and the present financial limitations, the conclusions of the study were predetermined. At this point an agreement was reached with USAID Jamaica to undertake an assessment of the project and present options and recommendations for a course of action to be taken.

This report contains the evaluation, conclusions and recommendations of the DAI Redesign Team. The remainder of the team's work will be carried out in accordance with the decisions which are made on the options presented in the report, and in response to specific instructions from USAID Jamaica in that regard.

METHODOLOGY

The DAI team reviewed all the available reports on IRDP and many other reports and studies of hillside agriculture in Jamaica. The team has travelled throughout the Pindars and Two Meetings watersheds to inspect the on-farm work of the project. Interviews and discussions have been held with AID officials, MOA officials in Kingston and on the project, members of the RONCO technical assistance team, Peace Corps volunteers assigned to the project, and farmers.

ACKNOWLEDGEMENTS

The DAI Redesign Team wishes to acknowledge the strong support and cooperation received from USAID/J, the Ministry of Agriculture, the IRDP II staff, RONCO advisors, and the farmers who have helped to facilitate our work and make our stay enjoyable.

2. BACKGROUND

IRDP II can trace its heritage rather directly to work done by UNDP/FAO between 1967 and 1975. Briefly, that program called for a ten year project to rehabilitate both watersheds (Pindars and Two Meetings) based upon pilot project research done at Smithfield. The watershed development activities were linked to the construction of a dam on the Pindars River. The primary objective was the development of a water supply, hydroelectric power and irrigated agriculture on the Clarendon plains; hence the concern for clean water and the need for watershed management above the dam. A secondary objective of the UNDP/FAO program was improved production on the hillsides. Taken altogether, this ten year proposed program was economically viable in the view of UNDP/FAO.

Another piece of the historical background is that of the Christiana Area Land Authority (CALA), going back to April of 1954. There was no mention of this previous project in the IRDP II Project Paper even though its activities were very similar. The following quotation comes from work completed in the late 1950's by G.J. Kruijer of UNESCO "...a decision of high importance was taken [regarding CALA], viz, that there was to be introduced a farming system for the improved lands, and that all soil conservation work was to be directed to this end. Another basic principle was that side by side with improvement of the land there should be instituted measures for the well-being of the people." (Sociological Report on the Christiana Area, by G.J. Kruijer, Ministry of Agriculture and Fisheries, 1969, p. vii). If, for whatever reason, the experience of CALA was not directly influential in the design of IRDP II it must have been in the minds of the local farmers.

Again quoting from Kruijer, in his report on soil conservation, W.T. Hebel (FAO Report No. 163, 1953) states that there should be substantial financial rewards for conservation farming but this does not mean that the reward has to be subsidy. The danger of a subsidy is that it may seem more important than the job for which the money is paid. ...thus the soil conservation subsidies are encouraging the farmer in his wage-earning mentality and in his belief that it is the duty of the government to deal out money to those it (the government) loves." (ibid pp. 64-65).

3. CONCLUSIONS

The IRDP II is nearing its termination date. It has made limited progress in meeting its stated purpose, objectives and goals. Performance has been well documented in the numerous evaluations, studies and audits conducted over the life of the project. The Government of Jamaica and the U.S. Agency for International Development each recognize that the project has not been a success. Decisions about what to do with the project have to be made very soon. With all good intentions the GOJ and USAID five years ago committed $26 million dollars to what everyone at the time thought were important and achievable objectives. It hasn't worked. What went wrong?

A thorough examination of the record and current operations reveals two sets of problems:

1. Project design--including basic assumptions, rationale, premises, policies and strategy.

2. Implementation--including operating plans and procedures, management systems, organizational structure, personnel systems and day-to-day management discipline.

In the process of studying a complex project like IRDP II it is not often readily apparent whether a problem is caused by faulty design or faulty implementation. Sometimes it is a combination of factors in both categories. This report deals with both sets of problems throughout and in addition includes a separate section on "management." There are important conclusions in both categories and they are treated in separate subsections below. The design issues are of overwhelming importance and have a causal relationship to most of the implementation problems. This report emphasizes the design issues because the future of hillside agricultural development in Jamaica, with or without IRDP II, depends on the ability of the Government of Jamaica, USAID and other donors to deal with them effectively.

DESIGN

The IRDP was justified for the following reasons:

1. There are 150,000 small farmers in Jamaica with an average holding of 2.9 acres on slopes of 5 to 30 degrees, an average annual per capita income of $J265.

2. These small hillside farmers are the producers of most of the domestic food supply; nevertheless a significant portion of Jamaica's food is imported, causing a drain on foreign

exchange.

3. Soil erosion on hillside farms is high, destroying this basic agricultural resource and silting the rivers and urban water supply.

4. Government has given inadequate attention to small farmers.

5. Employment opportunities and quality of life in the rural hillside areas are low causing excessive migration to cities. (P.P., IRDP II, Jamaica, September, 1977, pg. 18).

There is no question that these descriptive statements are true, as much now as when the project was designed. This set of conditions constituted the rationale for an A.I.D. supported Government project. All of the evidence then and now supports a decision by Government and A.I.D. to do something about these problems.

The project paper describes a set of purposes:

1. Reduce soil erosion.
2. Increase agricultural production.
3. Increase farmer income.
4. Increase employment opportunity.

The reasoning in the Project Paper is that since there is a demand for food crops which is not being fully met by domestic supply, there is a need to increase production. By increasing production farmers will increase farm income and simutaneously hire more workers to do the jobs required by more intensive or extensive production practices. The Project Paper argues for an erosion control program which would include various terracing, ditching and water control practices. The assertion is made that "intensive production" will be made possible by the new terraces.

In addition, a number of public works and social welfare components were included to improve the quality of life, including housing, water supply, electricity, roads, etc. Other components have also been added as part of the "integrated" approach: home economics, kitchen gardens, handicrafts, etc.

All of this constitutes the basic rationale and justification for a project which on first reading sounds logical if not appealing. It deals with the food supply problem, it deals with the income and quality of life problems and it deals with the soil erosion and river siltation problems.

The Project Paper even anticipates that this strategy will eventually be applied to all of the hillsides of Jamaica and provides for the training of MOA staff for that purpose.

On careful analysis, however, important questions arise

about the soundness of the strategy. A number of assumptions and premises are stated or implied in the Project Paper which do not stand up under close scrutiny.

The most fundamental assumption which goes unquestioned in the project paper is that intensive cultivation of food crops ought to be increased on hillside farms. From an agronomic perspective there is no justification for this land use decision: these are the poorest soils. The better soils in Jamaica are used for sugar cane or other export crops. However, with depressed world prices of sugar, it may well be that Jamaica could improve its net foreign exchange earnings by shifting some sugar acreage to crops which are now imported, and do so without losing jobs. There is also some evidence in the literature that significant areas of good quality agricultural land are being neglected altogether or underutilized. An examination of IRDP II strategies cannot escape the policy question: should intensive cultivation of food crops be promoted in the hillsides?

Intensive cultivation of annual crops on hillsides is the least desirable agricultural practice for shallow soils on steep slopes. It should be the last resort for individual farmers and for national policy-makers. Thus, it is surprising to find no discussion or analysis in the Project Paper of alternative courses of action. The rationale leaps from the need for more intensive production to the installation of bench terraces without considering other possibilities.

One option would be to shift production to perennial crops and permanent pastures with perhaps some agroforestry in a farming system that causes far less erosion. If economic analysis showed that farmers could make just as much or more return on their capital and labor investment as they could on annual food crops there would be no need for them to do extensive terracing. Beyond his consumption requirements he has no economic interest in growing more food. A better economic solution for Jamaica might well be to encourage small farmers in the mountains to produce perennial export crops and livestock--coffee, cacao,. citrus, mango, avocado, etc.--and grow the annual crops on the flat soils or import them. Income to farmers might increase, and export earnings might increase to more than offset the increase in imports. If sufficient flat lands could be converted to intensive food crop production, Jamaica could conceivably become self-sufficient in basic foods without having to invest in expensive terracing of hillsides.

There are a wide range of options open for various farming systems which could be utilized in the various hillside agroecological zones. They would include various combinations of annual and perennial crops, livestock and agroforestry. Soil conserving practices could be integrated with multiple crop, permanent pasture, livestock, siviculture systems. The optimum system for a given farmer would depend on his farm size, location, climate, soil types, slope, etc. In the absence of a comprehensive farming systems research program the Extension

Service is poorly equipped to provide assistance to the farmer with technical production information or economic analysis.

The essential point is that the design of the project does not provide for the research and development of alternative systems which could provide increased farm production, reduced erosion and higher incomes. Nor does it consider the broader policy issues which could reduce the dilemma which Jamaica now experiences--promoting annual crop production on the poorest, most erodable soils.

From an erosion control perspective the strategy is equally deficient. Irrespective of the very high cost of the program being implemented in IRDP II, its soundness as a soil conservation program is seriously defective. Soil conservation is the application of a wide range of practices which in various ways control erosion. It starts with proper land use for existing conditions--forestry, perennials, pastures, cultivated crops, etc.--and proper practices for each one. It includes contouring, stripping, cover crops, rotations, mulching and other practices. As a program it is based on the recognition that the individual farmer must be the primary actor in a conservation scheme to be effective, he must perceive his soil as a productive resource and soil conservation as an investment in that resource. Major structural works--terracing, ditching, etc.--must be part of an overall program of "best land use" planning and management. Terraces are done as a last resort, not only because of high cost of construction, but because of high maintenance requirements. It takes considerable skill to build and maintain terraces and if not done properly can cause even worse erosion than existed before they were built.

The IRDP II Project Paper treated most aspects of soil conservation very superficially and focussed the strategy on terracing, ditching and waterways. Neither farmers nor soil conservation staff were prepared to undertake this project. Farmers are not committed, extension is not educating them, and the soil conservation agents are not able to do their jobs properly. As a result, there is a high percentage of poorly constructed and maintained terraces and other structures, and very little soil conservation work of other types.

One of the most serious design deficiencies is the assumption that crop production would dramatically increase in the absence of major efforts to overcome serious constraints in the system. Constraints which, in fact, were recognized in the Project Paper annexes but ignored in the design strategy. One rationale for the project is represented by the following statement, "Through innovative yet modest approaches in agricultural extension, marketing, and input supply systems, the small farmer should be able to more than double his average yearly income" (pg. 19). A doubling of income <u>never</u> occurs through modest approaches to extension, marketing and inputs, no matter how 'innovative.' Even with the introduction of the "green revolution," high-yielding rice and wheat technologies in

Asia, average yields and incomes have grown slowly and then only with extensive and aggressive research, extension and training efforts--and with adequate marketing, input supply and credit systems in operation. The erroneous assumption that modest measures can dramatically increase production and income runs throughout the entire project design and has seriously affected implementation. Improved cropping technologies have not been developed and therefore, could not be extended even if the extension effort were more than modest. The Project Paper ignored the necessity for an agricultural research base for hillside agricultural development even though none exists in Jamaica. Problems of input supply, credit and marketing are acknowledged in the Project Paper but the strategy or implementation plan was manifestly weak in its guidance as to how to deal with these constraints.

The project is called integrated rural development when in fact it is not. Integrated rural development is a term which describes an approach which includes all of the essential factors which affect development in rural areas in a reasonably balanced or sequentially ordered program. It includes effective farmer participation in planning and management of development activities and assures sustainability through a high level of commitment by farmers. It is a process which moves only as fast as the participants can learn to manage it for their own benefit and has at least as much "bottom-up" as "top-down" emphasis. The success of a small-farmer development project is directly correlated to the level of commitment of the farmers which in turn is determined by the degree of direct participation they have in planning and management. Participation is not often achieved by trying to organize farmer organizations after the project is designed and underway when their cooperation is needed for implementation.

Unfortunately, donor agency procedures rarely allow for the design process to involve the farmers in a constructive manner. The need to get a detailed project paper written, approved and the money obligated is too constraining. The requirement to "blueprint" a project with quantifiable goals and specific time schedules precludes building in a process by which the systematic development of production technologies can occur or the commitment of farmers assured. The IRDP design suffered from these institutional constraints which have contributed to its lack of implementation success.

The geographic scope of the project must also be considered a serious design flaw. The project strategy chose two watershed areas where one would have been more than enough for an initial pilot effort. The separation of the two areas has created management control, communications and logistic problems which have never been overcome in implementation. The successful implementation of a project of this type requires a tight organizational structure and management system in order to train staff, test the program components, make adjustments and develop an efficient operation.

In the absence of farmer commitment to sound soil conservation practices, the project design chose a direct cash subsidy program to obtain farmer acceptance. This may be the most damaging aspect of the project. As a strategy it has two very negative effects. First, it pushes the cost of soil conservation to a level which the Government of Jamaica cannot afford on an island-wide basis, even if it were a technically sound program. Second, it precludes the implementation of a farmer education effort which would promote soil conservation as an integral component of a productive farming systems program. The farmers are in it for the cash payments and have acquired an unhealthy dependency attitude toward the Ministry of Agriculture. Even if the subsidy strategy were successful in controlling erosion and increasing production, it is still too expensive and psychologically disfunctional.

IMPLEMENTATION AND MANAGEMENT

The subsection on Design above describes a number of serious deficiencies in the original rationale and strategy for IRDP II. Many of the design deficiencies created serious problems in implementation and management over the life of the project, However, all of the problems of the project cannot be attributed to design. The manner in which the project has been implemented and managed has contributed to the lack of success.

There are a number of factors which have contributed to implementation or "management" problems which are discussed throughout this report in the context of the various project components. At this point only the most important problems are addressed.

They are:

1. The high turnover rate of senior MOA managers and technical assistance team advisors.

2. The apparent inability to adjust operations in response to evaluations.

3. The inadequacies of M.O.A. and A.I.D. in providing leadership direction and support.

4. The absence of technical assistance at the project management level to deal with the complex problems of doing integrated rural development.

5. The subsidy and temporary employment components changed the focus of the project in implementation.

The technical assistance team has changed completely, and

most of the advisors have not spent more than a year on the project. There was a delay in getting the team in place and a long gap when the teams changed. Several of the positions called for in the project paper have never been filled and others were not assigned appropriate indiduals for the specified scope of work.

The senior positions in the project have had an inordinate turnover rate, as many as six times in four years. The lack of continuity of direction has had a serious negative effect on implementation. In a complex pilot project which is attempting to develop a general strategy or "model" as well as achieve major development results, management consistency and continuity is essential.

This project may have set a world record in the number of evaluations, studies and audits of its activities which have been conducted. A review of those reports reveals an astonishing body of analysis and recommendations on the full range of design, implementation and management issues. Nearly everything covered in this report has been said before by someone else in one form or another. There are voluminous recommendations for correcting all of the identified project inadequacies or management problems. While some changes, adjustments and corrections have been made, the large body of recommendations have been ignored.

The MOA and AID both have followed a practice of letting the project staff work out their own solutions to problems rather than providing strong direction and support. Had more attention been paid to evaluations and solving problems the project would have been able to make the necessary changes to improve the implementation.

Integrated Rural Development is difficult to do even for experienced project managers. IRDP II was a new venture with an extremely complex design and built-in management problems. The MOA did not have experience with this type of project. Implementation would have been much more successful had there been an appropriate counterpart advisor to the project director throughout the life of the project.

The use of direct subsidies to farmers and the extensive employment of temporary workers changed the focus of project activities from development to resource transfer. Many people in the area, farmers and others, view the project as a source of immediate income, not as an activity for improving their own ability to earn higher incomes in agriculture. To a large extent this was predetermined in the design but more judicious policy guidance related to subsidies and temporary hiring could have helped to alleviate the negative effects. Outside influence, political and otherwise, has contributed to this unfortunate situation.

4. RECOMMENDATIONS

The three options for what to do with the project are described in more detail in section 6. What follows here are the general recommendations for the project.

1. The serious design inadequacies of IRDP leave no alternative but a recommendation that the project not be continued, as it is now constituted, beyond its present termination date (Option One). A brief extension of the project, not to exceed six months, should be considered for a more orderly phase out of the project if the recommendation below is not adopted (Option Two).

2. The Government of Jamaica with the technical assistance of A.I.D. should undertake a long-term exercise to develop a rational agricultural development strategy for small hillside farmers of Jamaica. In that context the IRDP II should be totally redesigned to become a more modest pilot research and testing project which over the next three years would begin to develop the farming systems, integrated with sound soil conservation practices, which would form the basis for the hillside strategy. All aspects of a comprehensive strategy--production research, extension, credit, marketing, input supply, farmer participation and organization, economic analysis, farm management, training, organizational structure, management systems, data collection, evaluation--would be advanced as far as possible. A three-year program could not hope to advance the farming systems research far enough to have fully developed alternative technology packages but it should have a strong foundation of information and a trained staff with which to move ahead in a subsequent phase. The other aspects should be sufficiently well advanced that Jamaica will be able to begin moving ahead with a strategy in which it can have confidence. An outline for a redesigned project is included below in section 6 (Option Three).

5. ASSESSMENT OF PROJECT ACTIVITIES

A. SOIL CONSERVATION

B. AGRICULTURAL RESEARCH

C. EXTENSION

D. MARKETING

E. CREDIT

F. FARMER GROUP DEVELOPMENT

G. HOME ECONOMICS

H. TRAINING

I. FORESTATION

J. MONITORING AND EVALUATION

K. MANAGEMENT

L. RADIO CENTRAL

A. SOIL CONSERVATION

Dr. Hugh H. Bennett, the founder and father of Soil Conservation in the United States defines Soil Conservation as "the scientific use and protection of the land." Dr. Robert M. Salter gave a further definition: "Soil conservation is the proper use of land, protecting the land against all forms of soil deterioration, rebuilding eroded and depleted soils, conserving moisture for crop use, proper agricultural drainage, and irrigation where needed and increasing yields and farm income--all at the same time."

PROJECT OBJECTIVES

The Project Paper put Soil Conservation as the central activity envisioning "17,718 acres of terracing, ditching, waterways and pastureland treatment", "7,042 acres of reforestration", and 100% participation by all 4,000 farmers (P-23).

In March, 1981, USAID and the Ministry of Agriculture agreed to lower the goals for land treatment:

Practice	Goal	Revised Goal
Bench Terraces	4600 ac.	764 ac.
Orchard Terraces	1005 ac.	674 ac.
Hillside Ditches	10,763 ac.	4936 ac.
Pasture Ditches	1350 ac.	2000 ac.
Reforestation	5000 ac.	2780 ac.

They added in a new practice - Agronomic Methods with a goal of 1500 acres, and the revised goal for soil conservation treatments was put at 8,480 acres.

The soil of Two Meeting Watershed falls into two basic types. Soils that are on uplands of shale, conglomerates and igneous rocks. These soils are easily eroded unless suitable conservation measures are applied. They make up 70% of the area and are: 32 Wirefence Clay Loam; 36- Donnington Gravelly Loam; 95- Wait-A-Bit Clay; and 96- Wild Cane Sandy Loam. The remaining

30% of the soils are of limestone on uplands. These tend to be very stony, limiting their agricultural ability.

In the Pindars River watershed 87% of the soils are shallow, on steep slopes, highly erodable and low in fertility. They bear a close relationship of the parent materials which are shales, conglomerates, tuffs and sandstone. Erosion is a serious problem on all areas of poor land use. The 87% consists of: 32- Wire Fence Clay Loam; 34- Diamonds Gravelly Clay Loam; 36- Donnington Gravelly loam; 94- Carron Hall Clay; 95- Wait-a-bit Clay; and 96- Wild Cane Sandy Loam.

PERFORMANCE

The Smithfield Station has developed mechanical specifications tables, "Specification Tables for Soil Conservation Treatments," (1973).

In addition, Mr. T. C. Sheng and H. R. Stennett, Chief Soil Conservation Officer, Ministry of Agriculture, Jamaica, developed "Lecture Notes, Watershed Management and Soil Conservation Training Course." This document was developed for "Forestry Development & Watershed Management in the Upland Regions." Published by the "United Nations Development Programme, Food and Agriculture Organization of the United Nations," Kingston, 1975. These documents represented the basic soil conservation technical quidance for MOA staff and have "provided basic training with the emphasis on field practice in the elements of watershed management, with special reference to land use and soil conservation in watersheds where small hill farmers form the predominant pattern."

IRDP II developed a "Handbook of Agricultural Information." It was published in June, 1981. There are 14 sections listed, but only two have been completed--Agronomy and Soil Conservation. The data used to develop the two sections were taken from the soil survey conducted by the University of West Indies, as well as the Technical Guide Sheets prepared by the Ministry of Agriculture and published in 1964.

The Soil Conservation section is more a handbook for calculating subsidies than guiding conservation treatments. Most of the data provided, except the soil suitability for raising certain crops, are old and need updating. Considerable research is needed to improve the guides. These are guides with much left to the discretion of the field technician--many of whom are untrained. The guides may or may not be in all sub-watershed offices. When inquiring about the guides, only one out of four offices could produce them.

The three documents listed above could be helpful for a soil conservation program in the Two Meetings and Pindars River watersheds when they are updated and based on good sound research.

Harvey S. Blustain and Norest A. Powell filed a report on

"The Impact of the Project upon Farmers" June 1981. Their findings on construction, maintenance and waterways made the following suggestions: "Construction - In general the quality was good. Taking all of the treatments together, there were 18 cases of excellent construction, 63 cases of average construction and 20 cases of poor construction. Maintenance - Findings show that it is a few farmers that treatments are being properly maintained. Combining all treatments together, 11 had excellent maintenance, 49 had average maintenance and 39 had poor maintenance. Waterways - Of the 53 farms surveyed where waterways were needed 37 of them were not built at all. Two were unfinished, two had been excavated more than two years but not finished."

While their overall assessment that "quality was good" is questionable, it is instructive to compare observations. During field trips by the DAI soil conservationis 16 farms were visited. Farms were selected to be in a rather close group and better farms were visited. The poorer farms were not visited because, as stated, they were not being properly maintained and not worth seeing. However, observations confirm Blustain and Powell. Combining all practices, there were 3 cases of excellent construction, 15 cases of average construction, and 5 cases of poor construction. The five cases of poor construction observed may be partially caused by age and poor maintenance. There were two cases of excellent maintencance, 10 cases of average maintenance, and 8 cases of poor maintenance.

One particular case was observed by the DAI soil conservationist which is illustrative of what is happening with a significant percentage of the terraced farms. Three acres of terraces were installed on the farm. The farmer is farming only one half acre because that is all he is physically able to handle. The remainder of the terraces, risers and ditches are returning to natural vegetation. It is clear this farmer installed the terraces because the cash subsidy made it profitable to do so. The Extension Service apparently is unable to assist the farmer in adopting a farm management program which could put those terraces into productive use.

The waterways don't seem very important in the eyes of the farmers or technician. Only one waterway was properly placed, well designed and well constructed. Four that were planned, were not started, others were started but not finished, drop boxes were missing at turns, grass was not planted, etc. The waterways are the poorest part of the operation. Two sets (3 each) of large gully drops were reviewed. The drops were constructed of rock and mortar. They were massive but only dropped the water a short distance, 3 feet at the most. In a properly designed drop the outlet of one drop should back the water to the toe of the upstream drop. All drops of those observed had approximately a 10 foot fall in grade rather than being level. In this situation ballasted waterways will be needed to slow or stop erosion, where

in a proper design, waterways alone would have solved the problem.

The farm plans contain minimal information. They contain one map showing the present land use, one map showing the proposed land use, with acreages, and one map showing the soil classification, and usually the degree of slope, but no soil description or crop adaptability. One table shows the construction items, by acres or lineal feet. There is space for the subsidy payments, and it is always well recorded. There is space in the plans for recording field visits, accomplishments, and all kinds of useful data, but nothing is ever recorded. A lot of important data is lost.

At one location the only records kept were the subsidy payments, and they were well kept in a separate notebook- not recorded in the farm plan. No other records of any kind were kept. When the soil conservation agent was asked where the records were, he responded that he didn't know he needed to keep any.

Another field office had a columnar book for field visits, work done, remarks, etc. The entries were vague, and gave little information. The lack of field office records makes supervision impossible.

Planning farms and installing conservation practices took considerably more time than anticipated. According to the project paper there are 4000 farms in the area however, more than 4000 farms have already been planned with more to be done. With the emphasis on farm plans, and bringing more farmers into the program, the construction supervision and maintenance segments of the project were neglected. Of the new reduced goals, 88% of the branch terraces, orchard terraces, and hillside ditches have been installed plus 80% of the hillside ditches on pasture land.

EVALUATION AND ANALYSIS

Applying Soil Conservation to the land is a very slow, tedious process. It requires patience on the part of the technician, a learning and believing process on the part of the farmer, and lots of research of the various problems--economic, agronomic, engineering, etc.

Conservation on the land comes and goes at the whim of the farmer--after all he owns and manages the land. Therefore, it is not a program that can vary in intensity without affecting the amount of conservation applied to the land. The conservation program must work with the farmers consistently and continuously, year after year. They can be made into conservation farmers, or they will farm according to custom. Where soil conservation is not practiced, the yields normally go down, the soil becomes more shallow and less fertile. The farmers' livelihood continues

to deteriorate. Can Jamaica afford soil erosion?

The cash subsidy component is the motivating force in the IRDP II soil conservation program. The cost of soil conservation under this system is much too expensive to be affordable by the GOJ (or donors) on very much land. Project managers do not know the precise cost of the various practices but it is generally estimated that the cost of terraces is in excess of $4000 per acre at current prices. An inexpensive program must be developed and this can only be done in the context of a more productive agricultural system which will return significant increased income to the farmers, making soil conservation practices economically sound from the farmers perspective. If increased public financing of an accelerated erosion control program is considered justifiable for downstream benefits (dams, water supplies, etc.) then some form of subsidy could be justified, but only in the context of a comprehensive watershed management plan that directly involves the farmers as the principle managers of the soil resource. Public financing is more economically applied to promoting proper land use and appropriate soil conserving farming practices.

CONCLUSION

This assessment is quite critical of the soil conservation component of IRDP II. There are many short comings; goals not being met, poor quality work, poor maintenance, etc. But there are some productive accomplishments. Staff have been trained, experience has been gained and both positive and negative lessons learned. The MOA should do everything possible to benefit from this experience for the future. The following factors seem worthy of emphasis:

1. The soil erosion control component is excessively focused on treatments, installing terraces, ditches, etc. It is weak in the other aspects of soil conservation: farmer education, soil conserving agronomic practices, protective crops, etc.

2. The goals for the five year project were set unrealistically high, causing the staff to attempt much more than their training and experience would justify. Much work was pushed too fast.

3. Training of staff has been inadequate for the level of work they are asked to perform.

4. The percentage of poorly constructed and maintained terraces is excessively high.

5. Soil management aspects of the program are weak.

6. The cash subsidy approach is too expensive to be a viable strategy for soil conservation in Jamaica. It also has deliterious affects on promoting sound farming practices and on developing a commitment to soil conservation among farmers.

RECOMMENDATIONS

A. Complete, revise and/or update the Agricultural Information Handbook issued by the project in June, 1981. It is needed for good field work.

B. Put all extension officers and soil conservation officers through an intensive training program. This could include farm planning, record keeping, working with groups and individuals; and both agronomic, horticultural and other appropriate conservation practices.

C. Stop all new conservation construction activities.

D. Send both Extension and Soil Conservation staff into the field on maintenance of existing conservation practices and also work toward bringing poorly executed practices into line with acceptable standards and specifications.

E. Move toward the minor conservation practices, such as contour furrows, contour planting, mulching, buffer strips, and the like.

F. When maintenance is well underway, and the land adequately treated is extensive, some construction practices may be reintroduced, with limited staffing. Say, one installation crew for each watershed, located at headquarters, and on demand from the sub-watersheds.

G. Reduced staffing. Eliminate the rotational laborers as they won't be needed. Reduce the rest of the staff to an efficiently operating crew. Afterall, the project is aimed at helping the small hillsice farmer.

H. Stop all subsidy until it is determined to be absolutely necessary.

I. Land treated. It is nice to report acres of Bench Terraces, miles of Hillside ditches, etc., but the real good is to report "Land Adequately Treated." This would be an annual report, based on a field survey. This report will give full information on the amount and quality of maintainance.

B. AGRICULTURAL RESEARCH AND EXTENSION

PROJECTIVE OBJECTIVES

It was assumed in the Project Paper that agricultural research at the MOA's research, training and demonstration station at Allsides would be relevant in the IRDP II area of operations and it was predicted that close cooperation would exist between the station and project activities.

Allsides was to help develop the multiple cropping systems that were to be refined and further tested and eventually tried by project farmers.

Five demonstration and training centers were to be activated by the project to test the Allsides cropping models and new, innovative farming systems were to be developed at the centers themselves. The centers were to be proving grounds for new crops and varieties which would be tested by the horticulturist and the farming systems specialist. The production economist was to analyze the cost/benefit ratio of the various technological packages that were to be tested and develop recommendations for the farmers to maximize their returns. Also, it was expected that the centers would be a nucleus for practical farmer and technician training; they were to provide planting materials to the surrounding farmers, collect basic meterological data and do the initial testing of hand-operated tractors. (Project Paper, pg. 41).

Fifty subcenters were to be established within six months after the five demonstration centers were operating to test and apply on farmers' fields the improved systems. To encourage farmer participation all inputs for a two-year period were to be provided by the project. The hope was that farmers operating these subcenters throughout the project area would promote and demonstrate to their neighbors the benefits of the improved conservation and cropping practices. The goal was to introduce improved practices on 10,000 acres of productive land by the end of the project. In 1980 this figure was reduced to 5,630 acres.

The hope was to have 100 percent farmer participation in the project. The project was to provide improved extension services and at least twenty extension workers were to be assigned to the area. These officers, working closely with specialists in

horticulture, farming systems, marketing and credit, were to play a vital role in developing improved technology packages. Information on new crops, better-adapted varieties and improved cultural practices was to become available from the demonstration centers and subcenters, from subject-matter specialists and from demonstrations and trials on farmers' fields. Special attention was to be given to development of simple cost accounting systems and farm records in order to provide accurate information on yields and returns.

The extension officers were to receive in-service training and strong technical and administrative support. It was expected that they would work closely with farmers' groups including units of the JSA and local cooperatives, to assist in program planning and provision of agricultural inputs and that they would serve as a means to obtain more effective credit and marketing services. The Project Paper was explicit as to the importance of local participation by farmers and predicted that at the project's conclusion "The concept of program planning with local participation will have been clearly demonstrated and accepted as the normal approaach for extension throughout the country" (PP, pg.33).

The Project Paper stated the need for research information on all the crops in the target area. Information was needed on fertilizer trials, pest control, improved varieties, and seed sources. It stressed the importance of good management and cultural awareness in regard to perennial crops. The scope of work for the horticulturist indicated the need for a person with a background in research and experience in developing and evaluating research projects with a minimum of assistance and technical backstopping.

Thus sound technical production packages based on work done at Allsides and tested and refined at the demonstration centers and subcenters was to be extended by means of an active, fully-supported extension system in complete cooperation with local farmers' groups.

PERFORMANCE

There is no "typical" farm production system in the project area. Farmers engage in a large number of enterprises (including off-farm work for wages when available) apparently as a natural reaction to the high risks involved in farming their relatively infertile, steep lands and because of the market uncertainties. Diverse, multi-crop (and to a lesser extent, livestock) systems of production have evolved. Thus on any given farm there may be a number of mature fruit or shade trees, some bananas or plantains and possibly coffee and cacao. Beneath this upper and middle canopy of trees and bushes various perennial and annual crops are grown. In addition, a farmer might have a beef or draft animal or a couple of goats.

Yams are the most frequently grown food crop on the hill farms. Planted on raised beds alone or in combination with another crop, yams are the traditional staple food of the area. Because of nematode problems and the minimal use of fertilizer on local, unimproved varieties, average yields on hill farms are low.

At present it is not possible to determine whether 5,630 acres of land have received improved farming systems. Nor is it possible to know whether an improved farming system has, in fact, been developed because there is no adaptive research with cost-benefit analysis to demonstrate that one farming system is better than another. The work done at the demonstration centers has been primarily observation trials.

Because of the inadequate research and the large number of intercropping combinations in use on the small hill farms, reliable yield data are not available. But despite the absence of firm data it is clear that current yield levels can be increased substantially by the development and introduction on the farms of of improved production technology. Farm output is low and in many cases does not exceed subsistance needs. Apparently this situation exists because of the continued use of unimproved crop varieties, inadequate and often improper use of fertilizers, and poor pest control. In addition, there are well known, uncomplicated practices that could be introduced to improve productivity at relatively small costs. For example, very little use is made of on-farm organic materials for mulching or as soil additives to protect the soil from heavy rains, help conserve soil moisture and maintain stable soil temperatures. Application of composts and animal manures that will improve the fertility and tilth of the heavy, infertile soils in the area is not a general practice. Rotational cropping and use of green-manure crops are not general practices. These and similar practices would seem obviously appropriate as additions to the local farmers' crop husbandry methods.

The IRDP II has failed to develop and extend to farmers an improved package of productive technology adapted to the hilly terrain of the area. Despite plans to improve production levels and increase farmers' incomes, soil conservation treatments--made possible by hefty subsidies paid to farmers--have received the bulk of project resources and attention.

Although five demonstration centers are now established, little adaptive research has been conducted at three of them: Butler's Run, Rhoden Hall and Coleyville. During the 1980-81 season, intercropping systems for yams, plant population studies on cowpeas and variety trials on beans and rice were carried out by the project. This was the first adaptive research supported by the project. The results published in 1981 are inconclusive and can only be considered the earliest step in the process of developing improved production technology packages.

The demonstration centers are being used primarily for

observation trials and seed distribution points. Nursery plants also are being sold from some of the centers. Meaningful demonstrations for the farmers are not possible since adaptive research in most areas has not been conducted to determine what practices should be demonstrated. Nor is it possible to determine whether the seed of the varieties being distributed is the best for the farmers since few replicated variety trials have been conducted.

Aside from the recent and modest research effort little has been done to encourage the high-return agriculture envisioned in the Project Paper. Overall research planning was absent and key staff were not available for long periods of time. Even so basic a step as the completion of soil analyses on the demonstration centers or subcenters was delayed. As a result adaptive research stalled, extension workers had nothing new to offer farmers, and the traditional production practices used before the project was started were continued .

EVALUATION AND ANALYSIS

IRDP II has not provided for experimental confirmation of the benefits of conservation practices and improved technology to compare with previously existing practices. Area farmers had developed a farming system based on trial and error over a period of many decades. They have had to consider the cost of inputs, storage and transportation, and the availability of credit and markets in their decisions as to what type of farming system is best for them. They have taken precautions against a variety of perceived risks.

Most farmers do not change their farming system readily unless they can be convinced that another system is better and will provide more profit. If a set of experiments had been started in 1977 when the project began there might be sufficient information at this time to prove to the farmers that improved practices and soil conservation can be profitable.

No economic analysis is available to determine the length of time required to pay off the cost of building the terraces from the profit made on the crops. And it must be noted that although the project has been in operation for 14 years, the farmers in the area are not using terraces for their crops. Small farmers are inevitably concerned with net profit and for them the quantity of soil loss is not as critical a variable as short-term profitability. This is especially true for farmers who are tenants. Thus it might be desirable to terminate the further expansion of terracing and undertake instead an expanded research program to guide future decisions. It seems likely that work on low-cost soil erosion techniques such as contour planting would be beneficial in order to develop a system the farmers can afford.

There are a number of reasons for the problems in evidence:

1. Ambiguous national policies regarding food imports and exports and domestic food production goals. Because of the large number of crops that can be grown in the area, some method to establish priorities for the agricultural research work was essential.

2. Because project-area farmers had been exposed to various soil conservation programs since the 1950s, they have come to expect Government subsidies for their participation in development programs. This perception has subverted the concept of self-help based on the adoption of improved, more profitable farm practices. Most farmers have been willing to cooperate with the project only because of the subsidies provided by the soil conservation component.

3. Failure to recognize that agricultural reasearch, even the adaptive type needed, requires substantial investments in staff, facilities, equipment and operating budgets, as well as a rational and fully coordinated research plan. The project did not make the investments needed to conduct meaningful research. Even now, three of the five demonstration centers produce little or no research-derived information. A trained agronomist has only recently been assigned to the agricultural research component; and a staff farm-management economist position, needed to ensure the economic viability of research findings, has not been filled.

4. Research conducted at Allsides or Smithfield is not directly applicable in the project area. This has resulted largely from the lack of meaningful economic analysis and from unrealistic estimates of labor and fertilizer input normally assumed in research conducted at those stations. Little emphasis was given to the development of intensive farming systems using high-value crops in combination and/or sequential plantings and to practices that would provide the highest returns to land and labor.

5. Weak or non-existent linkages between the project and researchers of the Ministry of Agriculture, the Caribbean Agricultural Research and Development Institute (CARDI), the Commodity Boards (Alcan Jamaica, Ltd.), and other agencies or companies doing agricultural research.

6. Failure to appreciate that adaptive research and carefully documented technical and socio-economic analyses of soil conservation methods and mixed livestock and cropping systems is a prerequisite to actual developmental activities such as those undertaken by the project.

7. Failure of the agricultural research programs (in both the Ministry of Agriculture and the project) to address the farmers' two most important concerns: the extremely high cost of labor (made worse by the high daily wages paid to a large number of project employees) and pest control management. The project

has done nothing to test and introduce appropriate, small-scale farm mechanization. Pest control, if practiced at all, places excessive reliance on chemical methods.

8. A conservative client farmer population quite reasonably anxious to avoid risks inherent in innovative practices.

9. Uncertainities regarding future output prices and the availability of transport in the face of rising input prices.

10. Inexperienced, inadequately trained and poorly supported extension field officers without a clearly defined program and with little to communicate that is of interest to farmers except where project-provided subsidies are involved.

11. Failure to initiate an integrated agricultural research and extension-education program with adequate physical facilities, vehicles, and visual aids, and with incentives and professional improvement opportunities for farmers, rural youth and women's groups. Of the fifty demonstration subcenters planned in the Project Paper, only about twenty have been established. At these subcenters there is little testing or demonstrating of improved production technologies. Instead traditional crops are being grown in the more-or-less the traditional manner.

12. Failure to mobilize farmers into effective self-help groups to assist in delivery and monitoring of project support and services and to help relate the needs of the farmers back to research technicians and managers. Only about ten farmers' Development Committees are now functioning; few of these in any meaningful sense.

13. The present land tenure situation is a serious constraint to long-term investments by farmers in land protection and improved production practices. For example, tree crops which may optimize the long run productivity of hill farms may be of no interest to a tenant farmer or squatter.

14. Shortages of key staff such as a principal agronomist and a farm management economist prevented continuity of leadership and development of a sense of direction.

CONCLUSION

The project has not been successful in developing a body of technical information upon which to base recommendations for productive, profitable agriculture. Unless accompanied by fully integrated and well managed adaptive research and extension programs, the type of soil conservation program attempted by the IRDP II seems doomed to failure. The goal must be not merely the accumulation of conservation treatment results but rather the assurance that valuable farm products are efficiently produced on and marketed from treated farmland. Only internal profitability will generate continuous concern for the land and guarantee the

long-run economic and social improvement of the farm household. This, perhaps, is the most crucial lesson taught by the experiences of IRDP II.

OPTIONS FOR THE FUTURE

a. Termination

If Jamaica is to experience meaningful, long-term social and economic development, ways must be found to integrate the hill farmers into the country's economic life. Termination of the project will bring an end to the studies of crops and farming systems recently organized by the project and invested resources will be wasted if the present activities are abandoned. Infrastructure and organization have been established and can now be used to conduct problem-solving research. Adaptive research on the various, complex crop and intercropping hill farming systems is vitally needed.

b. Phased Close-Down

This option is similar to the first, but additional time and funds are provided for the selective phase-out of the project's various components. This option would permit the agricultural research work to be continued to a point where some additional technical information could be accumulated. An apppropriate research plan could be developed with the assistance of an experienced agricultural research specialist which could be carried on by the MOA after project termination.

Under this option, a shifting of responsibility for local research to the MOA's agricultural research department should be agreed upon in advance to allow for smooth transition. This will make participating farmers at least marginally better off by the date of project termination.

c. Project Extension

Assuming a minimum extension of the agricultural component for two years, it will be possible to make a significant start on creating a body of sound, improved technical information for use by area farmers. Some adjustments in the present research approach will be necessary, however, to take full advantage of the additional time and funding provided. For example, research should be closely focused on a set of crops and cropping systems that have the highest potential to provide good returns to the farmers.

Additional adaptive researchers including, perhaps a horticulturalist, tuber crops agronomist, farm management economist farm mechanization specialist and an extension

specialist would need to be considered for the research component. One or more of the existing demonstration centers should be provided the staff and other resources needed to become effective adaptive research center.

Carefully planned and well managed research should be conducted at the centers, including detailed economic and social analysis of the work undertaken. Studies of appropriate farm mechanization including consideration of hand tractors, animal-drawn equipment and improved tools should be included to determine culturally appropriate methods to reduce farm drudgery and labor requirements.

Improved practices, already known to exist, should be incorporated into crop or farm system fact sheets for the use of the extension officers. Research should then be planned to fill gaps in the knowledge of high priority crops or systems. Particular emphasis should be on mixed crop and livestock farming systems. Research should be aimed to generate data about more balanced, stable organic production systems for the hilly areas.

This option can capitalize on project investments made to date to establish the present research facilities. This approach can, within a two year period establish the basis for an effective agricultural research (and extension) system with general applicability to the hill farming regions of Jamaica.

C. EXTENSION

PROJECT OBJECTIVES

Agricultural Extension is a major component of the program. The Project Paper states that extension officers will assist participating farmers individually or in groups to develop farm plans, select appropriate crops and cultural techniques and optimize the use of imputs. The Extension Service is expected to promote the services of the J.A.S., P.C. banks, A.M.C. and other institutions of potential benefit to the farmer. The Extension Service was to promote the total program rather than only certain elements and the success of the project was seen to depend largely on the effectiveness of the extension program (p.31).

PERFORMANCE

As stipulated in the project paper the Ministry of Agriculture assigned 20 extension officers to work in the project area (8 in Two Meetings and 12 in Pindars) under the direct control of the Project Director. The ratio of extension officers to farmers is approximately 1:200.

The training of project personnel and participating farmers was not effective in meeting the demands of the program especially at the early stages of project implementation. The late arrival of the U.S. technical assistance team and restrictions imposed by the GOJ in the selection of participants prevented the project from meeting the early training needs of project personnel. Employees classified as temporary or secondary could not be selected to study abroad, thus only permanent employees, who were few in number, could be selected for overseas training. The withdrawal of such experienced officers further reduced the effectiveness of in-service training to young extension officers, field assistants and farmers.

Another significant reason for the ineffectiveness of training and technology was the lack of parity in the basic training and experience of the incumbents at various levels of line staff. The minimum educational qualifications of an extension officer is graduation from the Jamaica School of Agriculture. Of the 20 extension officers assigned to the project, 11 were graduates of the JAS and 9 were field assistants with varied educational background. The recent closure of the Jamaica School of Agriculture poses future recruitment problems for IRDP II and similar projects in the Ministry of Agriculture. The lack of consistency in educational background creates problems in the design and conduct of in-service training programs.

The Brooklyn Training Centre, though not as well equipped as the National Training Centre at Twickenham Park, provides reasonable facilities for in-service training of staff and

residential training for farmers. This Centre trains staff from the entire Central Region including IRDP II staff. Apparently priority is given to in-service training for IRDP staff and the 1982-83 training schedule includes plans for three five-day residential courses for extension officers. The content of the courses is to be appropriate to the needs of project staff.

The high rate of turnover of staff occasioned by transfers, resignations and leaves of absence for overseas training affects the continuity of the program and the quality of services offered to participating farmers. The incumbent in the post of Assistant Director (a vital managerial and supervisory position) was changed six times within the four-year period of the project. This high turnover rate is also evident at the Project Director's position which has had four incumbents, each with a different professional specialization within four years. The frequency of such changes has had adverse implications for management and the transfer of technology.

Farmer participation in the project is mainly an individual activity and involves little group action. The farmer becomes involved in the project when the extension officer or field assistant draws up a farm plan. Thereafter he or she makes individual production decisions sometimes with the guidance of the extension officer who is under pressure to prepare as many farm plans as possible. Farm visits are especially useful since problems of the farm family can best be discussed on the spot. Much time has been devoted to the training of extension officers in soil conservation techniques and farm planning. Because of the emphasis on the preparation of individual farm plans, extension activities involved much individual contact. The extension clientele for each sub-watershed numbers approximately 200 (with farm lots scattered over rugged terrain). There is a high percentage of illiterates. Under such circumstances the project target of enlisting 100 percent participation of farmers in both watersheds was over optimistic.

EVALUATION AND ANALYSIS

To increase farmer participation, the extension service must employ more group methods. Extension work depends upon demonstration. People have more confidence in what extension workers teach if they are assured that the recommendations are practical and involve local demonstrations by farmers of information which has resulted from adequate research. Demonstrations persuade farmers of the advantage in adopting tested techniques (method demonstration) or show how to get maximum results from a given set of materials or resources (result demonstrations). They should be conducted by the farmer under the supervision of the extension officer.

Result demonstrations require careful planning, adequate record keeping and careful comparison of results. To be effective the result demonstration must be carried out

systematically to prove that the recommended practice is superior to the one it is to replace. They do not discover new truths, they show to what extent research findings apply to local conditions.

The extension officer must attempt to influence the behavior of a large number of people in a variety of changing situations. This demands a wide range of approaches and a great variety of methods to achieve the goals of increased knowledge, improved skills and the introduction of new attitudes in farm people. These aims are implicit in the overall objectives of the project. "The goal of the program is to improve the standard of living of small hillside farmers in rural Jamaica" (PP, p.20).

CONCLUSIONS

Limited progress has been made towards the achievement of the sub-goal of establishing an agricultural model that can be replicated on small hillside farms throughout Jamaica. Despite efforts by extension officers and the innovations of farmers, a suitable technological package has not yet been developed.

The message carried by the extension workers is predominantly concerned with soil conservation while the information disseminated on production techniques is deficient in respect to economic returns.

Research results regarding improved cropping systems and optimum fertilizer treatments for the major crops on the major soil types of the area is noticeably lacking. The expected research linkage with Allsides Research and Demonstration Centre established by the Ministry of Agriculture and IICA has provided little reliable data on crop combinations. IICA's activities were terminated in 1981 and the operations on the plot have been drastically scaled down.

Market uncertainties for local farm products, rather than the adoption of new technology, is determining cropping patterns in the project area. On the rich alluvial lands at Hencon Town good banana is being bulldozed for the establishment of tobacco. One farmer operating a sub-centre in T.8 reports that his only means of disposing of his banana crop is through the local higglers who pay only $1 per stem irrespective of the size of the stems.

There is a gradual increase in the rearing of livestock. This trend to include livestock in the farming systems of hillside farms should be encouraged by extension workers, not only for improved family nutrition but for the production of organic manure to be utilized on bench terraces.

D. MARKETING

PROJECT OBJECTIVES

The Project Paper identified "the performance of the marketing system" as a constraint to farm income in the project area and suggested that project activities would improve the performance of the system (1977, p.38).

In respect to marketing two major concerns were identified. One was the "scattered production pattern" of Jamaica's farm outputs which made it costly to assemble a surplus for sale (P-6). Because of this pattern an increased geographical concentration of crops was advocated (p. 38).

The second problem was identified as the markets' "fragmentation." A large number of buyers served the area and others could enter with ease. This multiplicity prevented the establishment of standard weights, measures, etc., and made it difficult to maintain contractual routines (P-6,7). Moreover, innovations did not seem to be forthcoming in marketing practices and the Project Paper hypothecized that this was due to the fact that individual marketers were not large enough to reap the benefits of innovation (P-7). Moreover, despite the large number of potential buyers, a farmer might have very few actual buyers ready to deal with him on a given day for a specific product and thus monopsony power might be exercised aginst the farmers.

The remedy for this second set of problems was seen to lie in "group action" by the farmers in such areas as cleaning, sorting and packing (p.39). This would enable the farmers to reap the profits from those activities and would make possible effective forward contracting. A Review of the Project in 1981 reiterated as imperative, the need to "institutionalize in the D.C.s the facilities and capacity to serve as the marketing link between farmer members and wholesale or other large lot buyers" (Bernhart and Mann, 1981, pp.19-20).

PERFORMANCE

By 1980 it became apparent that project-assisted farmers were sometimes unable to sell their expanded outputs at acceptable prices. This fact was said to have dampened their enthusiasm for soil conservation practices and improved technologies (Bernhart and Mann, 1981, p.19). Widespread complaints were raised against the marketing system because of unsold surpluses and the unavailability of intermediary services.

Project advisors took a keen interest in the availability and suitability of marketing facilities and much attention was given to the potential of the Coleyville facilities of the CPGCA. Eleven project-sponsored produce collection points were

established, but new farmer organizations were not visibly effective in changing or amplifying market routines.

EVALUATION AND ANALYSIS

The activities of IRDP II have encouraged an expanded role of government-linked intermediary facilities in the project area (such as those at Coleyville) while attempting to stimulate the expansion of voluntary farmer organizations toward supplying marketing and other intermediary services.

These activities have taken place in an area served by a large number of produce buyers with every evidence of keen competition between buyers and sellers in respect to the sales of farm output. Under circumstances of intense competition the theoretical predictions are that (1) farmers will receive accurate signals as to what to produce and what not to produce; (2) farmers will feel effective pressures to perform efficiently in terms of investment level, input allocation, and technology; (3) the profits of middlemen will not be excessive, i.e., they will be enough only to cover costs of their operations in the long run; (4) middlemen or farmers will be encouraged to take advantage of new remunerative opportunities as they arise.

An example: The only way to determine whether a farmer's input of, say, fertilizer is applied in the proper amount is to compare the cost of its application with the value of the increased output which results from its use. If the values of fertilizer and increased output are determined in competitive markets, they will over time reflect the real costs and benefits of that process to the society. However, if the values of fertilizer and increased output are determined by administrative decisions reflecting the special circumstances of their own institutional history and "political" pressures, they will reflect that historical process and those pressures; but there is no inherent reason to assume that the resulting prices optimize the well being of the people of the country or give appropriate guidance for present or future resource use.

The IRDP II marketing problem was identified as the situation in which (1) buyers were not always available to receive farm outputs (i.e., there were unsold surpluses), (2) buyers did not always pay prices perceived as appropriately high by the sellers, and (3) buyers did not undertake to provide services such as grading and storage which the farmers or project managers deemed advantageous to their own success.

The solution to these problems was said to lie in group action by the farmers to provide marketing services under terms advantageous to the farmers themselves and which would garner the profits from such activities to the farmers.

But if private entrerpreneurs who are familiar with the circumstances do not choose to undertake such activities, a

plausible explanation is that they do not view the opportunities as potentially profitable--that they see anticipated costs in excess of anticipated benefits.

If some new operation--a farmers' cooperative or a new government sponsored agency--elected to enter the field, a careful analysis of anticipated costs or benefits is appropriate to discover whether the potential private investors were acting prudently when they chose not to enter. Such an analysis does not seem to have been undertaken with respect to the expansion of marketing functions suggested for farmer organizations under IRDP.

It was advocated that farmers served by the project expand into areas of operation previously occupied by independent higglers. But it was not explained how these farmers were to benefit from this extension since higgler margins were known to be minimal and since the farmers would be taking time away from their primary activites, i.e., the growing of crops. Moreover, if the farmers established an organization sufficiently powerful to control selling prices for their outputs, might not such monopoly power be disadvantageous to Jamaica's consumers in general? The project records do not reveal that these issues were fully investigated.

The higgler system has been described as fragmented and "chaotic," and higglers are seen in project documents as somehow separate from the area's farmers, as operating in opposition to the farmers, as possibly exploitive of the farmers. This view seems essentially erroneous. Many higglers are members of farm families. Most very small farmers are directly involved in and profit from higgling. The relationship between higglers and farmers is probably best seen as symbiotic with evidence of strong and beneficial interdependence, an interdependence which has been accompanied during the past decade by a substantial expansion in Jamaica's output of domestic food crops.

In most parts of the world when an area the size of Jamaica receives its food from small, scattered local land holdings, the produce intermediaries tend to be small, to use small facilities and light vehicles. Larger facilities with greater concentrations of produce and market services seem best suited for larger market areas--or in relation to Jamaica, to the larger lowland farm areas rather than to the fragmented farms on steep slopes.

The advocate of large marketing units, larger facilities, and presumed "economies of scale" in intermediary services for this project area must be satisfied as to why higglers, farmers, or outsiders have not themselves expanded to provide such innovations. Only a careful analysis of costs and benefits--guided by competitively determined input and output prices--can provide the answer. This analysis has yet to be performed for this project. Furthermore, once government-linked agencies are introduced into the intermediary chain they will inevitably limit

competitive pressures and the critical analysis of the market based on such pressures will become impossible, the establishment of the facilities precluding a valid determination of their real profitability.

The experiences of the institutions established to buy farm produce in the area--e.g., the HMC, the Christiana Cooperative--are relevant. Their operations have not been profitable despite the fact that they have been given exclusive rights to import certain critical farm inputs, despite the fact that imports competing with their output sales have been officially suppressed, and despite the fact that they have been assisted in various ways by external funding.

Moreover, it is useful to compare the recent history of Jamaica's statutory commodity boards with production experience of unregulated domestic food products. From 1971 to 1981 production for the domestic market increased significantly: condiments 235%, vegetables 77%, legumes 57%, potatoes 34%, cereal 22%, "other tubers" 13%, yams 11%, plantain 3% (Source: MOA). By contrast, production declined for most commodities intended for export, the sale of which was controlled by the commodity boards: "other citrus" -84%, bananas -73%, pimentos -58%, sweet oranges -44%, sugar cane -34%, ortaniques -33%, coffee -27%, cocoa -19%. (Bucking this trend, production of grapefruit and ginger expanded 5% and coconuts 36%. The percentage changes are from 1970 to 1980. The sources are MOA and Department of Statistics.)

The problem in evidence is similar to that which has been encountered elsewhere where there have been efforts to implement "integrated" rural development assistance. The goal of an integrated rural development project is the improved well-being of a rural population, including higher real income for the community with greater (or with no serious lessening of) distributional equity. This goal inevitably includes expanded revenues from the sale of agricultural products and, thus, greater farm outputs, higher output prices or both.

As farm output expands two adverse factors may prevent producers from realizing an increase in their incomes. First, output prices may decline either because of the expanded output being offered for sale or for totally unrelated reasons. Second, providers of services ancillary to the sale of the products (storage, transport, wholesaling, credit, etc.) may not be available to consumate the transfers or may only be available at prices seen by the farmers as excessive.

When an IRD project encounters or anticipates the problem of falling producer prices, its designers are likely to seek means to "stabilize" (i.e. set a floor beneath) those prices--if the political means are at hand. When the problem of inadequate or insufficient ancillary services (storage, transport, grading, etc.) occurs, the project managers will be prompted to provide

such services under their own control or to subsidize the expansion fc those already offering them. If project management acquires control over marketing services, their control may in itself, provide a mechanism by which they can support producer prices.

The extension of an IRD scheme from efforts to expand the physical outputs of farmers into the area of "marketing" and price subsidization raises enormous administrative difficulties for the project and involves serious economic risk.

For competitive rivalry provides an effective safeguard against the abuses which market participants are automatically prompted to impose when the power to do so lies in their hands,. When prices are controlled by an external agency rather than by the impersonal forces of market rivalry, those prices cease to provide their automatic stimulus to efficient product mix, capital allocation and appropriate technology, and the traditionally feared evils of monopoly and monopsony become genuine dangers.

CONCLUSIONS

There has been a tendency--evidenced in project documents and in the oral statements of project personnel--to blame the "marketing system" for many of the difficulties experienced in raising the incomes of project-assisted farmers. According to this line of thought, project efforts to expand farm production are seen as successful even though no buyers appear at the farmgate to purchase that output, and the problem is seen as a deficiency in "marketing." Similarly if farmers feel that their produce brings an inadequate price, again the problem is seen as a fault of the marketing system.

As a consequence of this conceptualization there is a widely expressed but vaguely substantiated hope that new organizations or new institutions such as the proposed assembly and grading stations or the proposed farmers' cooperatives might shift the balance of forces so as to raise farmers incomes.

But it does not seem to have been adequately demonstrated that such new project-related, government-linked institutions are cost-justified in the sense that higher real incomes would result from their activities. It is true that they could serve as vehicles for the transfer of incomes from the Jamaican taxpayer or from existing consumers or middlemen to project-assisted farmers. But if they are thought to be efficient in the sense that overall real benefits would outweigh overall real costs, then the evidence for that conclusion is not apparent. Nor is it apparent why private sector participants have not been motivated to undertake those functions themselves.

Since the establishment of the new institutions contemplated seems inevitably to narrow the range of potential operation of

the competitive private sector they seem ill-advised. And it would seem that the project area should continue to be served by the highly competitive product market which has functioned there in the past. For such a market constitutes a powerful and irreplaceable monitor for efficient allocational decisions. It seems highly unlikely that the functions of such a market could be adequately substituted for by a public or semi-public agency regardless of how skilled, how honest, how competent its personnel.

It may be that certain services desired by the producers are not provided by the private sector even though they can be shown by careful analysis to be cost-justified. In such a case private entrepreneurs should be informed of the opportunities and encouraged to take advantage of them. Carefully planned, temporary loan subsidies might be used as an incentive to this end.

If such functions are not cost-effective they should not be undertaken. This does not mean that farmers served by the project may not be provided assistance if they cannot make what is considered a sufficient income--given the decisions forthcoming from the private marketplace. They might be helped in a variety of ways. For example, farmers might be given more free information and expanded government-sponsored extension and advisory services. They might be provided with free information regarding alternative economic opportunities. They might be given assistance in relocating or retraining. Various social services might be provided them at less than their true cost of production.

But the existing, competitive market system with all of its inherent advantages for efficiency and allocational wisdom should not be intentionally infringed by a new set of semi-public, heavily subsidized intermediaries.

An expanded market potential is apparent for several crops including onions, lettuce and peppers, and there appears to be an increased export potential for pineapples, papayas, mangoes, and other tropical fruits, spices and flowers. Yams and ginger are doing well at present. Adequate air and sea carriers are available at costs compatible with expansion into new overseas markets. The Jamaican tourist industry also provides a potential market for a wide variety of export quality produce much of which now is imported from the U.S.

Both the export trade and the tourist market require high standards of production and efficient market handling. This demands a well developed research program and effective farmer training. It also requires that the private trader maintain a close relationship with the grower. It seems likely that one reason that entrepreneurs do not pursue the export or tourist markets more aggressively is that it is difficult and expensive to work with the required number of small farmers.

The government should act as facilitator in cooperation with private traders. Crop research and farmer training are appropriate functions for government in developing marketable products (although the capability of the MOA to perform these functions is clearly limited). The government would seem ill-advised to attempt to manage markets or control prices. Such efforts invite inefficiencies and market distortions which impede both expanded domestic sales and exports. A judicious encouragement of the entry of private sector firms into an expanded and improved role as intermediaeries would seem a clearly preferable alternative.

OPTION III (MARKETING)

The marketing specialists will have three major responsibilities: (1) The investigation of marketing needs, (2) the collection and dissemination of information responding to those needs, (3) the encouragement of new investment in marketing facilities.

In regard to the <u>investigation of marketing needs</u>, the marketing specialists will include:

* An investigation of higgler operations including the extent and character of capital ownership by higglers, their capital needs, lines of credit available to higglers, facilities available to them for transport, storage, processing, the nature of their contractual relations with other buyers and sellers, the extent of their use of collection sites and other public-sponsored facilities, etc.;

* An investigation of farmers' marketing needs: farmers' relations with higglers and other intermediaries, the possibilities for farmers to enter into forward contracting; the limitations on the intermediary system as seen by the farmers; their efforts to reduce post-harvest losses; their use of government-sponsored facilities including collection sites; possibilities for joint farmer action; the farmers' need for information.

In regard to the <u>collection and dissemination of information</u>, the marketing specialists will include the following activities:

* They will familiarize themselves with information that is available regarding prices of agricultural produce, the demand for farm outputs, and projections regarding future prices and demand;

* Extension officers will be trained to convey relevant information to farmers and others and will communicate to the marketing advisor the responses of the groups;

* Widest possible use will be made of the capabilities of Radio Central and other mass media outlets for the dissemination of price and demand information;

* Farmers voluntary groups will be used where appropriate as vehicles for the dissemination of information.

The marketing specialists will determine whether opportunities exist for the establishment of new intermediary and marketing facilities to serve the project area. Careful cost-benefit analysis will be included as an integral part of such studies. If potentially profitable prospects are identified, their existence will be advertised to representatives of the private sector. If necessary the entry of private firms will be encoureaged by making available to them loans at less than market rates of interest for a limited number of years.

E. CREDIT

OBJECTIVES

In the design of IRDP II, it was determined that one constraint to the use of production inputs (fertilisers, seed materiel, chemicals and hired labor) by small farmers in the project area was the lack of access to production credit. It was further determined that the only appropriate institution in the project area to administer a small-farmer credit program was the People's Cooperative Bank (PCB).

The project design called for the creation of a loan capital fund by the GOJ amounting to 1,600.000 $JA. This fund was to be administered by the 4 branch offices of PCB in the project area and available only toparticipant farmers. Other project inputs into the credit component were to be 160,000 $JA to pay the salaries of 4 branch managers for 4 years; training of PCB staff and IRDP Credit Officers; training of farmers in credit management; changes in loan policies to modify collateral requirements and to make it possible for farmer groups to secure loans.

PERFORMANCE

The PCBanks administer 4 different loan programs through which project area farmers may obtain credit. The Bank's preferred security is a registered title to land or 2 guarantors. They will accept a common law title accompanied by land tax receipts, a certificate of compliance, and a diagram of the farm. The process of obtaining a legal title to land can take 3-4 years and would cost from 300-400 $JA. The PCBanks offer the alternative of using a "certificate of compliance" which costs about 70 $JA - all costs included.

The Self-Supporting Farmer Development Program (SSFDP) which was started in 1973 by the Jamaican Development Bank and is administered by the Agricultural Credit Board (ACB) through the PCBanks makes production loans available to farms of between 5 and 20 acres and with annual incomes of less than 900 $JA. The credit is awarded at 6% interest and upon repayment, half the interest and the principle return to the MOA and the other half reverts to the PCBank.

The Small Farmer Loan Program (SFLP) was started in 1977 by the MOA to promote food production on farms

of less than 5 acres. Administered through the PCBanks, this program charges 9% interest. Upon repayment 4.5% and the principal payment return to the MOA while 4.5% reverts to the PCBank.

It is also possible to obtain loans through PCBanks by using their Share Capital Plan. The present system calls for a 10$ purchase of share capital in PCBank (as well as the other collateral requirements). These loans are intended for purposes other than production inputs, in particular, consumer loans.

A new national program is to start this month which will attempt to harmonize these various programs. For production input loans, all loans will be at 12% with PCBank retaining 4% of the interest and none of the principle. The Share Capital Plan will be changed such that the purchase cost will be 5% of the total amount of the loan.

In this environment, the fourth credit opportunity for project farmers is through the IRDP - supported credit program. The loans are awarded at 7% with 3% returning to the MOA along with the principle and 4% reverting to the PCBank. In order to obtain a loan under this program a farmer must have an approved

farm plan and have worked out his loan application in accordance with that plan. There are short (1-2YRS), medium (2-7YRS) and long (7YRS plus) term loans available.

The application and approval process for IRDP-supported loans is quite long. From the completion of a proposed Farm Plan to approval for disbursement of a loan sometimes has taken more than two years. In 1981, a new mechanism (IRDP Credit Sub-Committee) was installed to speed up the approval process for the loan application. This seems to have been effective and a loan application can be processed in two months or less. The real problem is the approval for the Farm Plan. Although recently this has been improved somewhat, 10 to 12 months is not uncommon still. Approval of the Farm Plan must precede application for a loan.

According to the Project Director's Monthly Report of August 31, 1982, 857,537 $JA of the 1,600,000 has been loaned to project farmers. No detailed records regarding repayment rates were available and it is not clear even that they are kept. What does seem to be kept is one record of loans awarded and disbursed and another record of incoming collections. These two records, it appears, are never compared or analysed.

Given the lack of credit monitoring, it is, nevertheless, possible to get an indication of repayment rates by examining the information which is available. The Bernhart and Mann Evaluation of IRDP II (Sept.81) presents figures for IRDP/PCBank credit activity from April 1, 1979 to August 31, 1981.

By August 31, 1981, a sum total of 596,708 $JA had been loaned to 324 farmers. As of the same date, a total of 40,561 $JA had been collected. This represents 7% of total funds disbursed. This is not an accurate definition of a repayment rate. It would be necessary to know first, the terms of the various loans and their dates of disbursal, in order to calculate how much was theoretically due by August 31, 1981. Only then could a meaningful rate of repayment be calculated by comparing actual collections to the theoretical 100% repayment figures.

Because it is not possible, without a loan by loan analysis, to know the terms of the various loans and the dates of disbursals, it is necessary to make a set of assumptions in order to approximate a repayment rate. These assumptions are:

(1) All the loans were medium-term loans repayable in 5 years (at 7%).

(2) All loan funds were disbursed evenly by quarter (10 quarters).

(3) All loans were, theoretically, to be repaid evenly by quarter (10).

Given those assumptions, it is now possible to calculate what should have been repaid by August 31, 1981, if repayment were 100%.

PCB BRANCH	#LOANS	TOTAL DISBURSED	DISBURSE/ QUARTER	AVE. LOAN
CHRISTIANA	138	281,445	28,145	2,040
KELLITS	81	99,208	9,921	1,225
SPALDINGS	96	208,314	20,831	2,170
CHAPELTON	9	7,740	774	860
TOTAL	324	596,708	59,671	1,842

Given these figures and making the assumptions listed above, theoretical 100% repayment can be compared to actual collections:

ESTIMATED REPAYMENT RATES

PCB BRANCH	THEORETICAL	ACTUAL	%
CHRISTIANA			
Principal	63,315	11,196	18
Interests	12,285	9,077	74
S/Total	75,600	20,273	27
KELLITS			
Principal	22,320	4,216	19
Interests	4,320	4,311	100
S/Total	26,640	8,527	32
SPAULDINGS			
Principal	46,870	6,315	13
Interests	9,065	5,396	60
S/Total	55,935	11,711	21
CHAPELTON			
Principal	1,755	-	0
Interests	315	50	16
S/Total	2,070	50	2
TOTAL IRDP CREDIT PROGRAM TO AUG31,1981			
Principal	134,260	21,727	16
Interests	26,030	18,834	72
Total	160,290	40,561	25

The assumptions made in generating this analysis will not seriously distort reality. If less loans were disbursed early in the program as may in fact be the case, they were on the average twice as large (p. 16, Bernhart & Mann, 1981). The above Table gives a good indication of real recovery rates. It should be noted that on the average 55% of the funds lent out where lent in kind and not in cash.

IRDP is paying the salaries of 4 PCBank Officers and some training of SWS Credit Officers has occured. The training has been very modest, and the course content has not been made available beyond the most general concepts of credit and credit administration. The PCB Branches have no field Loan

Supervisors and their only mechanism for loan collection is to send a quarterly statement to each loan recipient stating the interest payment due and the principal payment due.

If a loan is in arrears, there is no mechanism for affixing a penalty to the loan repayment schedule. The only recourse the PCBank has is the final one; to sue a client in court for his land. The PCBranches do not award second loans to borrowers in arrears and some will not award loans to the

guarantors. There is no record of a farmer being sued for his land, ever. Loans in arrears are just carried on the books at the original interest rate.

EVALUATION

The two central observations to be made concerning the performance of the IRDP credit component are:

(1) At six months from the end of the project, only 37% of the loan funds (597,000 of 1,600,000) have actually been disbursed.

(2) From all indications, repayment rates are somewhere in the neighborhood of 25%.

The evaluation of this performance is related to many aspects of the project and not all of them are directly concerned with the credit component per se. Perhaps the first issue which arises is were these loans credit worthy. They were all production-input loans of various sorts. As has been discussed elsewhere in this evaluation, recommended production packages for small-holder hillside agriculture have not been developed. Those inputs for which the farmer secured a loan may not be what is called for to increase the production of that crop. If a production input loan does not result in the expected increases in production because

the inputs were technically immappropriate, is the farmer accountable?

The approximate repayment rate on IRDP loans is 25%. This is not unusual for small farmer credit in Jamaica. The lack of any penalties to overdue loans short of seizure of secured properties and the fact that there are no PCBank Loan Officers in the field to supervise the use and repayment of loans virtually guarantees low repayment rates. Furthermore, when it is acknowledged that the vast majority of loan funds administered by the PCBank is capital from other sources and that upon repayment that capital returns to its source along with half of the interest payments, PCBank's only incentive in its collection efforts is that portion of the interest payments which reverts to them. Unfortunately, small-farmer crdit (like the subsisy schemes) has become a mechanism for welfare resourse transfers. It is somewhat peculiar that so much energy and time is devoted to the application and approval process by a lending institution and so little into the collection process.

RECOMMENDATIONS

This overall evaluation of IRDP II has presented three options for the future of this project. If any

changes or improvements in the current credit component of IRDP II are to be considered, they apply only to Option III. Nevertheless, under the first two options, certain tasks should be undertaken regarding the project's experience with small farmer credit.

OPTION I

With an end to this project on February 28, 1983, the IRDP Credit Office should conduct a loan by loan audit before that date. The purpose is to be able to accurately describe the credit situation at the end of the project.

OPTION II

With some additional months to gradually phase the project out, the credit component should conduct the loan by loan audit discussed above; no further loans should be awarded; and working in conjunction with the Monitoring and Evaluation farm survey, compare the loans, their amounts, and their repayments to the available farm level information about the borrower. The objective would be to perhaps better understand the reasons for borrowing in the first place and for non-repayment.

OPTION III

If the project should be extended for another two years or so, its objective will no longer be to engage as many farmers as possible in project activities. The purpose of the project extension will be to develop guidelines for a small-holder, hillside agriculture development stategy.

It is apparent from the performance of IRDP's credit component, as well as other farmer credit programs, that the current techniques for administering and monitoring rural credit do not work. In a project extension, the opportunity should be taken to experiment with alternative approaches to the organisation and management rural credit. The objective would be to test, on a pilot basis, ideas that might perform better than the current rural credit system.

During the project extension period, certain basic principles of credit management should guide the program:

(1) Credit institutions are based on the premise that low repayment rates are unacceptable.

(2) Local communities, farmer groups and organisations can be so organised to participate in the administration and collection of rural credit.

(3) Credit institutions should establish direct and frequent relations between loan officers and borrowers. Supervision is a key to administering small-farmer production credit programs.

(4) Rural credit programs need not be limited to production inputs.

(5) Where appropriate, loan repayment should be linked to the marketing of farm outputs.

(6) Access to credit can be used as an incentive for the adoption of a given recommended practice (i.e. preferential interest rates for soil conservation work).

F. FARMER GROUP DEVELOPMENT

OBJECTIVES AND GOALS

The project document states that the overall goal of the programme "is to improve the standard of living of small hillside farmers in rural Jamaica" (p.20). It also states that one of the components of the programme will be farmer organizations such as the Jamaica Agricultural Society (JAS). The JAS groups, totalling thirty-three in the project area, should act as information carriers, pressure groups, other-institution linkages and market, credit and technical information resources for their members. Local JAS group meetings should take on the status of a discussion forum, project facilitator and development consciousness raisers of the project community.

Although the JAS was (and still is) the only national farmer organization and although more than one-third of the target population of farmers are JAS members, the Society's impact on the project area seems to have been minimal. According to Bernhart and Mann (p.23) the "project management apparently made an early decision not to work with small farmers directly through established organizational structures, the JAS branches." Consequently, the JAS did not develop into an effective facilitator of the project and, secondly, the development committee (D.C.) as a project institution came into being. The theory was that the DCs were executive branches of the JAS but praxis has shown that the farmers saw the two organizations as duplications and were reluctant to participate fully in either one or the other. They both dwindled in status recognition, meeting attendance and role performance. One consequence of all this was that farmers focused on the subsidy that they could get and even created fictitious DC branches and claimed benefits for them.

Contrary to the foregoing, Bernhart and Mann (p.25) report that the "Development Committee device <u>is</u> (their emphasis) working and that the "JAS considers them an active part of their own effort and not as competitive organizations." But the two writers go on to say that "at least six and perhaps eight are functioning in significant ways to accomplish the task of involving the farmer and assuring this participatory role in the process." Six or eight out of twenty-six ought not be considered 'significant progress'. A new approach to JAS branches and DCs is currently being tried; an Assistant Project Director has begun an intensive study of the DCs, districts and watersheds of the project area in order to analyze organizational needs. The purpose is to identify an appropriate structure and system consistent with farmer needs and capabilities.

Even the functioning DCs are used by farmers to obtain cash subsidies from the IRDP. There does not appear to be a community committment to a self-managed farmer association which serves the needs of its members.

The farmer groups have in some cases been the objects of political rivalry and unfortunately the project staff has been unable to overcome this interference.

The project paper lacks a clear definition of how farmer participation and commitment are going to occur. Both the design and implementation of the project have been vague and ambiguous about farmers' organizations and group action. These aspects of a small farmer development project are absolutely essential to success. The inadequate handling of these components has contributed in large measure to the lack of success in IRDP II.

Some progress has been made in a few committees in building a sense of commitment to self-help family and community development. Most of this has been accomplished through the women's programs described in the home economic section. However, the overall effect of IRDP II has probably been more negative than positive in this regard. Subsidies have detracted from promoting self-help and have fostered a dependency attitude toward government.

SUMMARY CONCLUSIONS

1. The absence of participation of farmers in the planning and management of the project has contributed to the lack of success.

2. The development of viable farmer organizations has been minimal.

3. Subsidies have had a negative influence on farmer attituoes.

4. Some notable success in a few communities has been achieved by the Home Economics component.

RECOMMENDATIONS

1. Future small farmer development efforts in Jamaica should begin with involving farmers in the design and follow through in implementation.

2. Appropriate farmer and other community groups should be organized by the farmers themselves with the assistance and support of qualified extension agents.

3. The political parties should refrain from politicizing farmer organizations which are organized for self-help development purposes.

G. HOME ECONOMICS

The Home Economics component was not included in the Project Paper; it was added in 1980 as a result of the work at the Girls' Handicraft Centre at Spring Ground, Christiana and the solar drying activity initiated by the Office for Women in Development, AID, Washington.

There are eight subwatersheds in Pindars River and twelve in Two Meetings; each subwatershed is administered by a Home Economics Field Assistant who reports to a Supervisor Home Economics Officer who has two subwatersheds under her charge. The Supervising H.E. Officer reports to the Senior H.E. Officer who finally reports to the Ministry of Agriculture (Central) Region H.E. Officer. IRDP formerly had a coordinating H.E. officer but that position was abolished when the last incumbent left in February 1982. Some positions in the H.E. Officer structure are vacant at present but the hope is that they will be filled at an early date.

The specific objectives of the Home Economics component--to improve agricultural production, family health, sense of self-worth, family resources management, child care quality, income, housing, fuel saving devices and appreciation for women's input fit in perfectly with the overall goal of the Project Paper "to improve the standard of living of small hillside farmers in rural Jamaica" (p.20).

Both the overall goal and the specific (although modest) objectives seem to have been met by Home Economics component. The activities include the following:

1. Vegetable Gardening - Women have learned and are willing to plant traditional as well as new (kale and pak choi) vegetables and have learned new ways of preparing them, thus facilitating both creativity and better nutrition. As one H.E. Officer put it, "They really eat better" (Kellits, October 14). They have also begun to sell excess vegetables and thereby have added to the family income although as yet this addition is minimal.

2. Family Life Education - This deals with inter-relationships within the family, family planning (the more discipline-specific cases are referred to the Health Centre), health care and counselling. It is conducted during home visits as well as at group meetings and with individuals as well as the family group and the community group. Men have been participating during home visits when they are present and have sat with their spouses for simultaneous instruction.

3. Child Care - The H.E. Officer plays a supportive role to the Ministry of Health programmes particularly in promoting breast feeding and improved diets. Participatory obsevation shows definite improvement in these areas, according to the Officers.

4. Solar Drying - This has proven to be a faster and cleaner

method of drying fruits and vegetables.

Goal achievement, although limited in extent, is further suggested by the following socio-psychological and socio-economic indicators;

1. Additional pleasantries to living such as toys for children and pantry towels for the housewife's daily use, better nutrition, novel ways of preparing traditional foods and a greater sense of direction as mother and wife in the home.

2. Increased male interest and participation in food preparation, family planning and family life education; although the prevailing norm among rural folk is to "have out your lot" of children, attitudes have begun to change slowly.

3. Marketable skill development among young women and girls in terms of cookery, baking, handicrafts and vegetable gardening.

4. Improvement in intra-community relationships and especially among the women.

5. As one Officer put it, "people are better able to live with themselves" (Kellits, Oct.14, 1982); that is there is a growing sense of self-worth and self-confidence.

OPTIONS AT PRESENT STAGE

Both Pindars River and Two Meetings Home Economic Officers expressed in the interviews that the home economics component has been a success so far in both tangible and intangible ways although there remains much scope for growth and development. This component needs to sell itself so the entire community will participate in the ideals, aspirations and activities The present sporadic improvements ought to become the way of life for the great majority of the farm families.

The implications of each of these options are described below:

Option One - Close Project on February 28, 1983. As one Officer put it, the programme should continue because "the people have not yet reached a stage where they are able to stand on their own" (Kellits, October 14, 1982). This is understandable since the Home Economics component is new. Training to ensure total internalization of the project is imperative for continuation after the external components (persons, funds and enthusiasm) are withdrawn; a longer time is the essence here.

Option Two - Phase out. The choice of this option would provide more time for the community to fully internalize the programme, to maximize on training and skill opportunities offered and to prepare for the withdrawal of external support. Prolongation would provide the support necessary for the further building up

of the family and the community, the primal and basic institutuions of the society. The question is: would this be enough time?

Option Three - Extend the Project over another two or more years. There is an optimal time limit in the life of every project; after that point, diminishing returns set in. The problem is to determine when that limit is attained. Systematic evaluations, goals checks and measuring of objectives will assist. The tidier approach in this case may be to extend the Project and find the personnel who can make the programme work on a self sustaining basis.

H. TRAINING

Training as discussed in this section refers to the programatic capability of the IRDP II. The substantive aspects of the training and its relation to component activities is discussed in the separate sections: Overseas degree training, out-of-project short courses/observation tours (including out of country), staff training, farmer training, management/problem-solving workshops, are all elements of a programmatic approach to the project's training needs.

Approximately sixty training sessions have been conducted for project staff between April 1979 and March 1982 (the only period for which records were readily available). During this same period approximately 2000 man-days of farmer training was conducted. Six staff members are or have been enrolled in multi-year degree programs in the U.S., while about 20 staff have attended short courses out of country. Several more staff members are attending or plan to attend overseas degree programs under a bonded arrangement wherein the project guarantees their financial liability.

The recent arrival of a technical assistance advisor with skills in a wide range of training methodologies has sparked a keen interest on the part of extension officers for more training and workshops, especially management related. Although this advisor's contracted time with the project has expired his impact and momentum generated should not be lost. The interest and involvement in substantive training was qualitatively improved in training activities observed with this advisor when compared to similar activities observed eighteen months earlier. Widespread revitalization of training methods within the staff is still a challange to be met.

The history of the training activities in IRDP II is rather spotty. Before the renovation of the Brooklyn Training Center (March 1981) there were no convenient facilities for training activities in the project area. Most farmer and staff training was done at the subwatershed level in response to expressed needs. The availability of the Brooklyn Training Center and the arrival on the staff of the Farmer Group Development Officer in early 1981 greatly improved the local training activities.

In addition to 'technical' training, the staff has expressed great interest in management related training and problem solving workshops. Several such activities have been conducted by outside staff, but more importantly the staff of the project have undertaken to meet this need. The Project Director has conducted several sessions aimed at management topics specific to the project. Watershed and subwatershed Extension Officers have participated in many training sessions with the technical assistance advisor that combine management problem solving and extension methodology.

From a programmatic standpoint there are difficulties in the training activities at IRDP II. These stem in part from two recent decisions made by MOA. The Farmer Group Development position was eliminated from the project at a critical time, leaving the bulk of the farmer training to an overworked Extension staff. At about the same time the Training Coordinator function was removed from the project and made a regional responsibility that was to include the project. In effect two important training resources were lost from the project.

Currently no thoughtful and responsive overall training plan is prepared for the project in a coordinated way. Most courses conducted locally are in response to a specific need or issue raised by the farmers or staff. This allows little coordination or matching of resources and needs to get the most project wide benefit. A common complaint is that staff seldom hear about a course or training session in time to arrange to attend. This relates especially to those courses planned and conducted by MOA staff and held at the Brooklyn Center. Part of the rationale of using that facility for regional training was to get wider benefit while including project needs. The project is not able to avail itself of the regional training activities mostly because of administrative delay.

Those training activities initiated by the project are not readily supported by the Brooklyn Center staff. A common complaint is that the project staff have to do most or all of the preparatory work needed to conduct a course, from notifying prospective attendees to arranging any changes in the facilities themselves. On several occasions conflicting schedules for use of the facilities only became apparent at the very last moment.

The responsibility for an effective overall training effort to support the project must reside wholly within the project staff. This might best be centered around the extension-training component to continue the momentum built there recently. If another technical assistance advisor is recruited to fill a roll there, it is strongly urged that programmatic training skills be sought as well as extension-training skills.

THE FUTURE

Again, the role of training in the project will depend greatly on any changes in the 'technical' design. All would agree that the project would continue to do training of staff and farmers even if the focus of that training did change in keeping with revised project goals. In the options discussed below no mention is made of long term overseas degree training. If such new training is undertaken it should be with the understanding that the returning student is not likely to contribute directly to the project. On the other hand such offshore training may be one of the best uses of project funds in support of Jamaica's need for skilled agricultural professionals. In all cases below

support to trainees now studying abroad would continue until completion of their program.

OPTION ONE

In this option the project essentially is allowed to end on its scheduled time of Feb. 28, 1983. If such a decision is made the most that can be done regarding training is to work to see that skills and experience of project staff are transferred to other MOA staff at the Brooklyn Training Center and elsewhere. Specifically, concerned and knowledgeable project staff should work with the MOA training group and the Brooklyn Center staff to develop a one or two year training program for local farmers and remaining Extension staff. This should be as specific as possible and in fact might provide the template for Extension work in the area. Actual dates, places, staff and subject matter for the first six months could be derived. This level of forward planning has not been done before, however under this option it can be the most important thing done to see that effective training continues beyond the project.

OPTION TWO

This assumes the project is terminated over a reasonable length of time, with no new activities begun. The emphasis is on institutionalizing and documenting the experience of IRDP II.

In this case the training function should concentrate on both the planning effort outlined above and a training of trainers effort. Much of the effectiveness of recent training work in the project is due to new methodologies. This recent experience should not be lost. A series of workshops to include project staff and MOA regional/national trainers should be organized to strengthen their training skills. It is likely no new technical assistance advisor would be brought in to fill the vacant role in Extension-Training under this option. If that is the case it is suggested that the now departing advisor be brought back TDY during the close-out to organize and initiate both the planning and training of trainers activities.

OPTION THREE

This option assumes a two to three year extension of the project in a redesigned form. The nature of the training activities under this option will depend greatly on the revised technical design. The planning and training of trainers activities mentioned above would still be usefully carried out. A continuation of technical assistance in the Extension Training area is strongly recommended. As being discussed this option would emphasize Extension in both appropriate soil conservation techniqes as well as agricultural practices. This means a strong

training program is needed to support both staff and farmers, especially since it is envisioned that new information will be extended (integrated soil conservation-agricultural systems, maintenance of soil treatments, etc.)

I. FORESTATION

OBJECTIVES

As an integral component of the soil conservation activities, IRDP includes a project component for the forestation of both government-owned and private lands. The original targets for the forestation activities, as were most of the project's targets, were very ambitious. These targets were revised in late 1979.

ACTIVITY	ORIGINAL TARGET	REVISED TARGET
PUBLIC LANDS		
Plantings	2,000 AC	965 AC
Maintenance	5,000	4,000
Leased Lands	300	247
Acquisition	3,000	236
PRIVATE LANDS		
Plantings	3,000 AC	1,816 AC
Maintenance	3,000	3,000
Bonus	3,000	1,816 (1)
SEEDLINGS	5,000,000	2,781,000

footnote: (1) The original bonus for quick participation in the program seems to have been

discontinued in 1981. There have been no disbursements in 1982.

The objectives of the Forestation component were centered on the use of Carribbean Pine in pure stand and mixed with coffee. Funds were budgeted to cover surveying, land acquisition, subsidies and maintainence of public lands. GOJ was to contribute 1,300,000 $JA and the USAID Loan, 1,500,000 $JA.

PERFORMANCE

The quantitative achievements of the Forestation component are presented in the following table:

ACTIVITY	ACHIEVED SEP13'82	% REVISED TARGETS
PUBLIC LANDS		
Planted	856 A	89 %
Maintenance	4,113	103
Leased Lands	764	309
Acquisitions	65	28
PRIVATE LANDS		
Planted	1,489	82
Maintenance	2,817	94
Bonus	107	6
SEEDLINGS	2,137,890 Units	77

As mentioned in the footnote above, the bonus system for farmers who entered the program quickly was not workable and was abandoned. The very complicated and fragmented land tenure patterns made acquisition of lands by the government extremely difficult.

IRDP attempted to streamline land acquisition and tree planting by signing a 3 year lease with a land owner and planting the trees in the expectation that

within 3 years any problems concerning title to the land could be resolved. This was not the case. The Land Commission insisted that any seller of land should have clear title; legal and registered. As this is the exception rather than the rule, and since it can take 3 to 4 years to obtain a title (plus 300 to 400 $JA), the IRDP acquisition program was abandoned in 1981.

The species being promoted by IRDP are Carribbean Pine and Haitian Mahogany. They have a growth cycle of 17 to 20 years. The financial costs of planting an acre have risen to approximately 1,184 $JA/AC of which 1,104 $JA is shared 50/50 with the farmer (if it's farmer land) but the rest (80 $JA) is paid by the project. This is an effective subsidy of 53%.

The Forestation activity has used 2,695,000 $JA of its total budget of 2,800,000 $JA (96%). It should be remembered that the revised targets are about half the original targets.

EVALUATION

The original estamates of installation costs and 3 years of maintenance in the IRDP design have changed drastically. The following table demonstrates the increasing cost of forestation:

ACTIVITY	1977	1980	1982	%
LandPrep (14m/d)	65 $J	100 $J	224 $J	245 %
Carrying	20	?	86	330
Dig/Plant(16.5m/d)	65	120	264	306
Weed(10m/d * 3)	159	219	480	302
Transport	7	75	22	214
Seedlings (1)	34	30	108	218
TOTAL COST/ACRE	350	544	1,184	238 %

Sources: 1977 - Project Paper

1980 - Curtis,et al, 1980

1982 - Principle Forestry Officer, IRDP

Footnote: Seedlings are purchased from MOA for 20$JA/100. Their real cost exceeds 100$JA/100. This raises total costs to 1,616 $JA/AC, the percent increase from 1977 to 362% and the effective subsidy to 66%.

Aside from inflation and perhaps underestimation in 1977, there is another factor which has introduced major increases in these costs figures. Since IRDP has adopted an employment policy of using laborers on a rotational basis, the Forestation has been required to use them and pay the government minimum wage of 18.80 $JA/day. Previously, when such work

was done on a contract basis, labor rates were much lower. At this time, on a contract basis, wage rates would be about 10$JA/day; a significant cost reduction.

This very high level of subsidy, most of which is a cash payment to the farmer, has been the primary incentive for participation. The two systems of (1) farmer using his own land and (2) a farmer leasing his land to the project work in that the trees are planted and maintained as long as the subsidy payments continue. When the payments stop, farmers neglect or remove the trees. The very small size of the forested farmer plots also mean that the farmer will do most of the work himself and pocket the subsidy payments.

The case for forestation has not been made, at least in the eyes of farmers in the project areas. It is not clear that the design and implementation of the forestation component made much of an attempt to integrate its activities with other project activities. There seems to have been an assumption that forestation was somehow intrinsically good and needed no other justification.

Work in forestation has been limited to work with two, fairly long-cycle tree species. It is not clear why there has been no work with faster growing species. Furthermore, no attempt seems to have been made to incorporate alternative tree species into mixed cropping systems.

A fundamental problem in any activity which calls for an initial investment and defers the returns for a significant time period (20 years in this case), is the inability of the small farmer to tie up his capital or land for that long. Furthermore, in this project area, farmers tend to be fairly old (about 50% over 50YRS) and proposing a 20 year investment scheme may appear even more unreasonable.

RECOMMENDATIONS

In reference to the three options that are being recommended by this evaluation, the only option where any redesign would be appropriate is in the third. However some procedural recommendations are made for the other two.

OPTION I

The last few months of the project should be used to do an inventory of lands reforested by IRDP and their current condition.

OPTION II

With a little more time to phase IRDP Forestation activities back into the Forestry Division of the MOA, time should be taken to better understand why farmers participated in forestation only for the subsidy. A carefully designed questionnaire might be one way to get a more accurate answer. This could be of potential use to the Forestry Division.

OPTION III

With the project extension oriented towards the development of guidelines to a small-holder, hillside agricultural strategy, efforts should be made within the Forestation activity to integrate the choice of tree species and their installation into a comprehensive farming systems strategy. Particular concern should be given to faster-growing species. Species which have potentially more varied market outlets should be considered.

Alternatives to the current subsidy program should also be experimented with. The current program is too expensive and does not promote a sustained forestry activity. On the contrary, the subsidy program promotes short-term participation in

forestation activities. If each of the 4000 farms in the project area planted only one acre each, the total cost to the national budget would exceed 4,000,000$JA.

The objective during the extension should be to first develop forestry packages of economic interest to farmers and integrated into a farming systems approach and second, develop extension mechanisms for their implementation.

J. MONITORING AND EVALUATION

OBJECTIVES

The goal of IRDP II is to improve the living standards of hillside farmers and its sub-goal is to establish an agricultural production model that can be replicated on hillsides elsewhere in Jamaica. In order to document progress towards the project goal and to make possible achievement of the sub-goal, a substantial and continuous program of information collection and analysis was made an integral component of IRDP's design.

Three distinct activities were called for in the design. A baseline survey was to be carried out to establish a quantitative and qualitative description of the area and its population prior to project implementation. Monitoring activities were to be continuously carried out, tracking use of project resources and changes in socio-economic conditions. After two years of project implementation and during the last 6 months of the project, more formal evaluations were to take place.

It was recognised in the project design document (p64) that the data requirements to carry out the above activities could not be fully specified at the outset of the project. However, by initiating a regular and consistent system of record keeping on all project activities from the beginning, it was felt that the necessary information could be progressively collated and analysed.

The IRDP budget allocated 570,000 $JA out of USAID Loan funds for Monitoring and Evaluation activities. These funds were to cover some short-term technical assistance, two evaluations, aerial photo work at end-of-project and survey work during project activities.

PERFORMANCE

Although the framework for monitoring and evaluation activities called for in the project design has not been carefully adhered to, a great deal of data collection and evaluation has occured throughout the history of IRDP's activities.

Aside from numerous evaluations contracted by both the MOA and USAID on all aspects of the project, three specific activities have been undertaken in direct response to the needs of monitoring and

evaluation. These activities have been carried out by the Data Bank and Evaluation Division of the MOA.

An Agro-Socio-Economic Sample Survey: This survey was the original baseline survey carried out in Februaruy - April of 1977. A master list of all farmers in the project area was compiled and a sample of 657 farms was drawn. A single-interview survey was conducted using this sample and 548 farms responded. The raw data on family composition, farm composition, input use, production and incomes was tabulated. No further analysis of the information compiled was done.

Second Integrated Rural Development Project - Baseline Survey: Given the long delay in the implementation of project activities, it was determined that another baseline survey should be taken to assure than no significant changes had occured since the initial survey. A new list of all farmers in the project area was compiled and a sample of 599 farms was drawn. The single-interview survey was carried out during August-November of 1979. The raw data concerning the same subjects as the previous survey only in much more detail was tabulated. Only preliminary analyses were made of this data.

The Farm Survey: As the end of the project's activities approached, it was decided that in order to be able to evaluate the project's impact and to generate guidelines for a replicable agricultural production model, it would be necessary to compile careful and detailed information at the farm level. Such a survey was designed by the technical assistance team and the Data Bank in early 1982. An expatriot specialist in survey design, execution and analysis was brought in to assist the Data Bank. The survey was initiated in August, 1982, and consists of 280 farms and 12 separate questionnaires. Eight of the questionnaires require a single interview and 4 will be repeated every two weeks for a full year. The subjects cover the micro-economics of small farms, farmer participation in project activities and farmer attitudes towards the project and its activities.

EVALUATION

Despite that large amount of raw data compiled in the first two activities, very little use has been made of it by the project. Furthermore, there were many other opportunities through the various project activities to compile relevant information (i.e. credit records, farm plans, agricultural research,

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etc.) that simply was not done. As an example, although each Farm Plan includes a page which is supposed to record progress in executing the plan, not one Farm Plan could be located where this monitoring record had been kept.

The lack of goal achievement in the Monitoring and Evaluation activity is linked in large part to weaknesses in its design and to the methodologies employed. Given the "pilot" character of this project and its sub-goal, the Monitoring and Evaluation component should have been a major project activity. A great deal more design effort should have been devoted to structuring a systematic information gathering and analysis process within the project. Every project component should have had specific reporting responsabilities to the Monitoring and Evaluation unit which went further than the amounts of money spent or acres planted. The lack of this design work meant that responses to monitoring and evaluation needs have been improvised at different times and by different people throughout the project's history. The inconsistent and unstained efforts which have occured make it highly unlikely that the information will be very useful and it cost much more than was necessary.

The current farm survey has benefitted from much more careful preparation and potentially will generate a very useful data bank. However, its late start means its potential usefulness to project implementation and model building will be only through hindsight.

The methodological problems are linked to the single-interview technique and to some of the measuring techniques used. A single interview survey requires extremely careful preparation because, by definition, you will not have the opportunity to ask the question again. To the extent that the questions rely on the respondent's memory, this weakens a single interview's reliability. Unfortunately, the first two surveys did exactly this. They requested farmers to remember as much as 12 months of a particular activity (i.e. labor use).

The techniques employed for measuring quantifiable variables have also lacked careful design and training of staff. Consequently the measurement of those variables is highly questionable. Land area measurements were only paced off in the best case. It is quite apparent that most area measuremnts were simply supplied by extension agents or eye-balled at best. Production and yield measurements were extremely undisciplined. In some cases, conventional

wisdom as to the weight of a banana stem or a box of red peas was used with no attempt to verify the conversion factors. In other cases, MOA Jamaica-wide yield estimates were used to calculate production in the project area.

In summary, the lack of a systematic and sustained approach to compiling information has resulted in very little useful data being available. Data which is available can be used only with great caution. The farm survey just underway is a promising improvement in design, methodology and implementation. Unfortunately, this comes at the end of the project.

RECOMMENDATIONS

It appears that the role of a Monitoring and Evaluation component has not been understood by the project staff, by the MOA or by USAID. Such a component needs to be systematic and sustained in its operations. Perhaps even more important though is that it must be objective. A Monitoring and Evaluation function is not simply to track the use of project resourses and their impact, but to critically evaluate the basic assumptions and justifications of the project.

In Jamaica, the belief that major soil conservation interventions are the salvation of the hillsides and should form the major thrust of all rural development schemes has created an environment where that assumption is never questioned. This attitude persists in spite of continued and repeated failure of such schemes to attain their objectives. In such a context, the design and execution of monitoring and evaluation activities are set up in such a way that they do not ask the essential question; is this strategy, so heavily based on soil conservation, an appropriate approach to the improvement of living standards in rural, hillside Jamaica?

In the framework of the three options recommended by this evaluation, the only option in which Monitoring and Evaluation objectives can be addressed is in option III. However, in the shorter timeframes, some collation of existing data could be accomplished.

OPTION I

In the remaining months of the project, it would be possible to reconcile the records of loan disbursement with records of loan repayment. Each farm with a Farm Plan could be visited and the degree of Farm Plan implementation documented.

OPTION II

With a few more months available, it would be possible to do a more detailed survey of Farm Plan implementation. All the forestation fields could be visited and their condition recorded.

OPTION III

With a project extension, the farm survey will be completed and the data analysed. In that the objective of the project extension will be focused directly on developing guidelines for a hillside agricultural strategy, all project components will include explicit data gathering and collating responsabilities. All such activities will have to be coordinated by the Monitoring and Evaluation project unit both at the design and implementation stages. This coordination is necessary not only to assure that the required informantion is being compiled but also to avoid duplication of effort and expensive costs.

With regard to processing and analysis capacities, it appears that there is a bottleneck in Kingston between the smaller equipment at the MOA Data Bank

and the central GOJ data processing facility. This situation could slow down the rate at which the Data Bank will be able to absorb incoming data from the project. This problem should be examined immediately and solved so that delays do not occur in data processing.

K. MANAGEMENT

The preparation of this section dealing with the management and organization of the IRDP II benefits from two previous involvements with the project and its management by DAI organization and management specialist, one in September 1980 and one in April 1981. Each of the visits was for about three weeks and resulted in active interventions aimed to improve management at several levels while generating reports with detailed recommendations for follow-up actions to be taken. The interested reader is directed to reviewing those reports to understand the background and perspective reflected in the comments below.

HISTORICAL AND PRESENT MANGEMENT AT IRDP II

A review of the Management of this project must take a perspective well beyond the boundries of the IRDP II project staff itself. It must include USAID's role over the years and that of the GOJ/MOA as well. Such a review must acknowledge the changes in both the donor and host governments and the concomitant reordering of policies and priorities. One would be naive to ignore foreign and domestic policy objectives of both governments that on occasion supercede sound development strategy. Any critique of the overall Management (uppercase M for the most inclusive use of the term) must be understood in this light. If these considerations or other more obvious and directly project related ones are at the heart of the problem matters little. The effect is disappointing and the history shows, not really very likely to change.

The quotations and abstractions presented below are not meant to be representative -- they clearly were selected to illustrate the problem of important management issues being raised again and again over the years with little significant change. Many issues in these same reports that are not cited here were dealt with to varying degrees by the project, some quite successfully. Nevertheless, too many critical managment issues have not been answered, as seen in the following chronology:

The following are management issues and recommendations abstracted from: "Evaluation of Pindar River and Two Meetings Integrated Rural Development Project", by Ronald V. Curtis, James B. Lowenthal, Roberto Castro, January 10, 1980, pp.33-35.

...This problem of management overload will also be

extension officers will be the focus of conflicting demands. Role conflict and role ambiguity at this level could produce disorganization and a severely reduced capability for service delivery.

...The rapidly evolving nature of the project's task environment suggests that an assessment or audit of its management strategy is appropriate.

...This training would take the form of management development with training tailored to the level in the organization. Management training workshops could also provide occasions for generating creative solutions to problems which the organization is confronting.

...In addition to the needs for data as input into decisions, the project must simultaneously consider the direction of data flows. Substantial benefits are being foregone by neglecting the use of data as a stimulus for the operational staff.

...What seems to be required, then, is both an information system audit and the development of creative ways to use information.

The following list of recommendations was developed by IRDP mid level staff in a management workshop on May 26, 1980, reported in "Implementing Capacity Building in Jamaica: Field Experience in Human Resource Development", by George Honadle, Thomas Armor, Jerry Van Sant, Paul Crawford, DAI, September 1980:

Communications

Establish and utilize message boards at the various offices for general announcements;

Utilize a technical /extension oriented newsletter for dissemination of information needed by field staff;

Rely less on formal reports and more on one-to-one

contact on important issues;

Establish mail boxes at all offices and a regular mail distribution system;

Prepare and distribute timely and simplified minutes of staff meetings;

Review project newsletter for purpose and timeliness; and

Use more systematic written communication.

Information Systems

Reproduce farm plans before typing and return copy immediately to subwatershed office;

Assemble cumulative data at subwatershed for baseline and forecasting purposes; and

Assemble cumulative data at watershed for improved coordination within watershed and among subwatersheds.

Staffing

Fill senior extension officer vacancy at watershed level for coordination and information sharing; and

Fill exisiting staff vacancies with capable people.

Role Relations

Clarify role of team leader regarding authority relations with other team members and role in enforcing policy;

Eliminate distinction between agriculture extension and soil conservation officers at watershed and subwatershed levels;

Increase senior staff visits to the field;

Explain different roles within the project; and

Have Central and Project office staff attend watershed meetings.

Planning

Develop "bottom-up" planning process for each watershed.

Development Committees

Link up-front project resources to locally provided inputs on a reasonable basis.

The following management issues and recommendations are abstracted from: "Management Support to the Jamaica Ministry of Agriculture Second Integrated Rural Development Project", by Jerry Van Sant, Thomas Armor, Robert Dodd, Beth Jackson, DAI, April 1981, (Annex A, IRDP Management Issues):

Role Definition

...It is remarkable that in a US$26 million project with nearly 300 staff, there are only 3 persons with primary line management roles - the Project Director and the two Assistant Project Directors. All other senior staff are in technical component or staff roles. Subwatershed team leaders do not now have the authority to be considered line managers.

Planning and Coordination

...The planning and coordination functions of managment should be strengthened. This should be done in relation to clarified project goals.

[a detailed 14 step proceedure is outlined to set goals, develop operational plans, and provide cordination, see pp. II-1 to 3, ibid]

Management Follow-up

...But IRDP's success in overcoming recognized management needs has not been satisfactory. At the core it is an issue of management follow-up or, as expressed

by many project staff, turning talk into action.

...By way of example, four representative sets of managment recommendations available to project staff over the last 18 months may be cited as opportunities which were largely lost:

A. The AID (DS/RAD) Evaluation of December, 1979

B. Guidelines on Subwatershed Meetings (uncertain authorship and date, dealt with meetings, work scheduling and reporting)

C. May 1980 Management Workshop recommendations

D. Pindars River Watershed 1981-82 Annual Plan of Work.

The following management issue is abstracted from: "Review of the Second Integrated Rural Development Project", by R.V. Bernhart and Fred L. Mann, September, 1981, p. 35:

...USAID cannot rely on...[contracted technical assistance personnel] for its normal monitoring role. More importantly, an assigned USAID staff officer can assist in advising in the many administrative and management reforms that are underway or being considered. The USAID staffer can be a valuable resource for the project management. By being on-site two or three days each week he/she will soon become a valuable information resource between the farmers and the staff, the staff and senior officers and also the Director and the Board of Management...USAID is actively working on this.

The following recommendations are quoted from the Inspector General's review of October and November, 1981 pp. 41-43:

<u>Recommendation No.6</u>

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.

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.

Recommendation No. 19

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

The current project management has begun to do more staff development and training than indicated in the above litany. Senior management as well as field officers now have more regular workshops to deal with planning and management as well as technical skill development. In this regard there has been positive change along the lines indicated by several previous reports and recommendations. Yet the Training Component was recently recentralized (by MOA) out of the project, effectively cutting in half the time and staff available for project training support.

Many administrative reforms have been implemented. For instance the procedure for processing farm plans has been made more responsive and useful. Yet the emphasis on generating farm plans has decreased markedly as the scheduled end of the project nears. Other nagging administrative problems continue, many of them petty in isolation yet debilitating in practice. For instance, in 1980 field officers urged that some rigorous method of assuring mail was carried between watersheds and subwatersheds be instituted. In a recent (September 1982) set of recommendations from the current field officer group an almost identical recommendation was made.

In discussions with staff who have been working with the project for many years no clear and lasting improvements in the management of the project are evident. This must be seen not as a comment on any person or persons, but as the inevitable result of flux and inconsistant policies. When management improvements are made, the history shows they soon lose impact and follow through is lost as the next wave of change sweeps over the project.

One of the most clear and present difficulties for the effective management of the project is seen in the 'rotational labor' system used for daily hired workers. Regardless of its

original intent and nationwide application, it has served to demoralize most of the professional staff of the IRDP II at all levels. They have seen their authority to assure quality work directly challanged (in some cases with ugly and violent temperament). At the same time the effective cost of the work using this labor pool has increased very significantly because of low productivity. Is this a project management issue or an issue of GOJ policy?

Vehicle maintenance and control is another area of managment concern. A recent policy from the MOA is interpreted by some to require prior approval before the project can order new spare parts. Others say only notification of such purchases is necessary. Until the policy is clarified maintenance is slowed considerably. Aside from this confusion there has been and continues to be poor inventory recordkeeping and control. This seems widespread in MOA motor pool operations and is reflected here as well.

Many of the management issues are directly traceable to an inappropriate project design and to very early failings to support implementation properly. Other sections of this paper deal with the more 'technical' aspects of the overall project design and some of the resulting failures. It is very difficult to manage the most appropriately designed IRD project as recent research has shown [Administration and Organization of IRD, State of the Art Paper, 1981, DAI]. It is almost impossible to manage such a project successfully when the design is heavily flawed and the policy environment is so unstable.

It is proposed here that most of the difficulties in the Management (big M) of this project are outgrowths of a fundamental misconception of this project and its effective purpose. The stated purpose was to increase farm production and soil conservation practices. As ultimately implemented the project is more realistically described as a resource transfer effort. The Management of this project was not equipped to deal with a project, the purpose of which differs significantly from the orginal design.

THE FUTURE

Several options for the future of IRDP II are under discussion. One is to simply let the project end on Feb. 28, 1983 with only the minor adjustments needed to assure an orderly closing down. A second is to actively see that the experience and knowledge of the project staff and participating farmers is documented and institutionalized while closing down the project over several months time. A third is to extend the project for two or more years with existing funding in pursuit of more modest and realistic goals to build a foundation for future research, extension, credit, marketing and appropriate soil conservation activities.

In discussing any of these options it must be understood that this team makes the assumption it will work quite closely with the current staff of the project to plan and/or redesign project activities in accordance with the decisions taken by USAID and GOJ/MOA. Delay or lack of clarity about the decision taken will greatly reduce the effectiveness of the planning/redesign effort.

OPTION ONE

Management considerations under this option are really quite minimal. The bulk of the activities would no doubt fall to the MOA for effective reabsorption. One can predict much anxiety on the part of staff whose jobs with MOA are not secure. Project staff would come under great pressure from farmers for follow through on committments made or implied by the project. Those daily workers who have come to rely on the project for employment will suffer economic hardship unless they receive help from other GOJ programs during the displacement.

A Task Force made up from the Regional, Parrish and Kingston offices of the MOA and other concerned Ministries would be a helpful way of assuring an orderly closing of project activities. Within a week of a decision to let the project expire a clear announcement to that effect should be made and a task force or some other vehicle for managing the closure of the project be defined. Its roles would include: staff job concerns, farmer expectations, ancilliary employment, project records and documentation, short term objectives and accountibility of all staff, plans for integrating functions and experience with local MOA staff, accounting and disposition of project property, etc.

The role of the technical assistance team is a bit more complex. Their contracts end (one assumes) on Feb. 28, 1982. They cannot be expected to remain thereafter, so their activities need to be well defined as early as possible. Some may find their best contribution is to be made with MOA personnel helping to see that important work begun under the project is supported somewhere in the Ministry. USAID would have to be very clear on who was going to carry out the monitoring function during this time of close down when many decisions would be

needed.

OPTION TWO

In this scenario a concerted and thoughtful effort is made to assure that project lessons are documented and low to nil cost activities are continued in some form by MOA staff and funding. The results of this differ only in time and effort from the first option. There is a more realistic chance of extending one or two technical assistance personnel a few months. However this needs careful thought under the circumstances.

The MOA would have more time to manage the orderly transition of remaining activities to local offices. To be balanced against this benefit is the possible negative effect of a lengthy transition period on the IRDP II staff. Given the 'resource transfer' reality of the project in its current form, the question arises wheather the inevitable pressure to spend will create problems which outweigh the benefits of more time. Further, a lengthy time of uncertainty for staff about job security could prove troublesome to the project.

OPTION THREE

This assumes the project is extended about two years and the objectives and activities are made more realistic. The staff requirements would be greatly reduced and concentrated in only a few functions. There would not be the heavy and labor intensive soil conservation work that currently consumes time and resources and thus management. Depending upon the final technical design and resulting activities, the management approach under this option will vary. However, once the heavy expenditure activities are removed from the project many undue pressures on management will fade quickly. As envisioned the redesign exercise itself will include the key project staff that will carry out the redesigned effort. Thus a long step toward making the management more effective will have taken place by the end of December. Goals, objectives, work plans, responsibilities, problem identification methods, team building, and all the aspects of managing this renewed effort will have been given a very big headstart. Recurrent TDY management consulting along the lines of the two previous workshops (May, 1980 and April 1981) could be designed in at this time, if appropriate.

L. RADIO CENTRAL

In early September of 1982 Radio Central began to broadcast two hours daily with programming aimed specifically to the needs of the rural population in and around the IRDP II project area. From its earliest inception Radio Central (RC) has been directly related to the goals of the IRDP II. Capital equipment was funded through IRDP and two staff members of the station are currently paid by project funds.

It is clearly too early to make any assesment of the direct impact of RC programming on the project's activities. However it is quite timely to address several issues that have been raised about the relationship between RC and IRDP II. The following issues have been raised by both RC staff and project staff. They are recounted here for specific attention during the redesign activity. It is suggested these issues be made the agenda for a meeting of the appropriate people to be convened by this redesign team in early November.

* The role of RC as a tool for the project to utilize in reaching the rural population. How the project can plan its activities to best receive support from RC and vice versa. Although much has been writen and discussed about this it now becomes a question of translating it into operational reality.

* Useful guidelines for project staff to observe in reporting 'news' items that might touch on project policy. A balance must be struck between journalistic independence and the project's need for coordinated public information releases.

* Market price information is repeatedly brought up as an example of an immediate need RC should be able to meet. In reality it takes some planning and coordination as well as staff time to gather this information in an accurate and <u>consistent</u> manner. This could be one of the most important opportunities for the project staff and the staff of RC to collaborate.

* Ways to involve a wider range of project staff in the daily programming opportunities available through RC. Currently only one person provides laison between the project and RC, to fully realize the potential of the relationship many more project staff must become aware and involved.

The potential of RC for supporting the extension effort of the IRDP II is very great. In what ever form IRDP II or its succesor activities are extended every effort should be made to include the necessary support of RC. RC has the potential to be self-supporting through the sale of commercial advertising. This also might be an opportunity to begin more involvement of the private sector by creative programming that illustrates opportunities for the small business person.

6. DECISION OPTIONS

Option I. Project Termination February 28, 1983

Project termination in February 1983 involves no new financial commitments for USAID although all commitments made prior to termination would be fulfilled. Uncommitted funds would be returned to the U.S. Treasury.

Beginning immediately USAID, the MOA, the technical assistance team and the project management staff will begin phasing down activities and preparing for an orderly termination. A careful statement of lessons learned from the experience of IRDP II will be compiled and recorded for reference in regard to future rural development and soil conservation projects. The Ministry of Agriculture will phase the Two Meetings and Pindars River watershed areas over to normal operations. Future extension to farmers currently in the program would emphasize improved farm production and maintenance of soil conservation works.

Option II. Project Termination with Six-Month Extension for Phase Out

This option is the same as Option One except the project would be extended for an additional six months to allow for a more orderly phase out. No new commitments would be made for soil conservation, public works, or reforestation. Extension of some of the technical assistance advisors would be considered in order to assist the project managers in recording the lessons learned and phasing over to normal operations.

Option III. Redesigned Extension for Two-Three Years

This alternative implies a complete redesign of IRDP II into a more modest research and development pilot project with the objectives of producing and testing a comprehensive strategy for a soil-conserving, agricultural development program for the small hillside farmers. It would express a commitment by the Ministry of Agriculture with the assistance of A.I.D. to review existing policies and practices with respect to hillside agriculture in order to make optimal use of experiences of the recent past including those of IRDP II.

The financing available for the project on February 28, 1983, according to preliminary estimates, would be sufficient to carry out a scaled down project for two to three years. Savings achieved by eliminating the most costly aspects of the project--subsidies and temporary employment--will provide adequate financing for this purpose. The funds would be sufficient to establish an integrated farming systems, soil conservation, research, extension and training program and initiate pilot

activities in other components: farmer organizations, credit, input supply and marketing.

The redesign team would work with the MOA in designing the project extension during November 1982. The following paragraphs suggest a preliminary outline of such a design.

1. The project would operate in only one watershed and probably not in all of its component subwatersheds.

2. One of the demonstration farms would be selected as a research, extension and training center and project headquarters.

3. Direct linkages would be established with other research centers in Jamaica and elsewhere, including international centers working on relevant crops and farming systems.

4. The technical assistance component would be reconstituted to include short and long-term consultants in farming systems research, extension methodology and training, economic analysis, market system development, credit management, input supply system development, agroforestry and other technical fields. Most importantly, it would include a team leader who is a rural development management specialist who on a full time basis would be a counterpart advisor of a MOA project director. The team leader would coordinate the work of the other consultants and concentrate on developing a viable comprehensive strategy.

5. The research effort would begin by assimilating information available (inside and outside of Jamaica) on crops now grown in Jamaica and those which have potential for hillside agriculture here. Particular attention would be given to potentially profitable perennial crops. Livestock and agroforestry would be included. A soils and leaf analysis laboratory would be established and soil management studies undertaken.

6. A basic set of variety and fertilizer trials would be conducted on the project farm and with cooperating farmers on various soil types. Farmers could be selected to test different farming systems, including annual crops, perennials, pastures, livestock, and agroforestry. Various soil conserving practices would be integrated into the farming systems, and research would be conducted on erosion levels under the different systems.

7. Economic analysis would be conducted on all research to determine profitability to farmers under actual farm conditions.

8. Various methods of providing production credit and medium term farm investment credit would be tested. The objective would be to develop a cost-effective program that serves farmers' needs efficiently and has a high repayment rate. Farmer group, self-managed and mutual liability models would be tested.

9. Studies would be conducted on input supply to learn how

to overcome constraints.

10. The marketing system would be thoroughly analyzed with the objective of learning how farmers, higglers and larger private traders can be assisted in improving output marketing. Potential expanded markets will be explored to identify feasible opportunities for hillside farmers.

11. A pilot program would be initiated to stimulate and assist farmers in organizing and managing appropriate organizations for various functions which they identify as being in their best interests to do collectively.

12. Policy issues relating to the success of hillside agricultural development would be studied and recommendations for change would be made where warranted. Questions such as land use, tenure, price policies would be examined.

13. Appropriate technologies for increasing farmer productivity and improving the quality of life will be tested.

14. Any other constraints to hillside rural development which are identified would be studied and included in the strategy developed.

activities in other components: farmer organizations, credit, input supply and marketing.

The redesign team would work with the MOA in designing the project extension during November 1982. The following paragraphs suggest a preliminary outline of such a design.

1. The project would operate in only one watershed and probably not in all of its component subwatersheds.

2. One of the demonstration farms would be selected as a research, extension and training center and project headquarters.

3. Direct linkages would be established with other research centers in Jamaica and elsewhere, including international centers working on relevant crops and farming systems.

4. The technical assistance component would be reconstituted to include short and long-term consultants in farming systems research, extension methodology and training, economic analysis, market system development, credit management, input supply system development, agroforestry and other technical fields. Most importantly, it would include a team leader who is a rural development management specialist who on a full time basis would be a counterpart advisor of a MOA project director. The team leader would coordinate the work of the other consultants and concentrate on developing a viable comprehensive strategy.

5. The research effort would begin by assimilating information available (inside and outside of Jamaica) on crops now grown in Jamaica and those which have potential for hillside agriculture here. Particular attention would be given to potentially profitable perennial crops. Livestock and agroforestry would be included. A soils and leaf analysis laboratory would be established and soil management studies undertaken.

6. A basic set of variety and fertilizer trials would be conducted on the project farm and with cooperating farmers on various soil types. Farmers could be selected to test different farming systems, including annual crops, perennials, pastures, livestock, and agroforestry. Various soil conserving practices would be integrated into the farming systems, and research would be conducted on erosion levels under the different systems.

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13. Appropriate technologies for increasing farmer productivity and improving the quality of life will be tested.

14. Any other constraints to hillside rural development which are identified would be studied and included in the strategy developed.

7. DESIGN TEAM MEMBERS

The Design Team was composed of the following members:

DEVELOPMENT ALTERNATIVES, INC.

Tony Babb, Team Leader	Project Analyst
Merritt Sargent, Agricultural Economist	Production Economics and Farm Management
Tom Armor, Management Specialist	Organization and Management
Bob Dodd, Agronomist	Farming Systems and Research Extension
Spud Bullard, Agronomist	Horticulture, Research and Extension
Persh Vance, Soil Conservationist	Soil Conservation
Ed Charle, Economist	Market Prices
Harvey Neese, Agribusiness	Marketing Systems
David Warren, Food Wholesaler	Export Markets

MINISTRY OF AGRICULTURE

Dr. Rutty Mitchell	Sociologist
Vivian Rochester	Production and Extension
Alford Harris	Farmer Representative
Vincent Malcomb	Farmer Representative

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